

Therapist's Empathy, Attachment, and Therapeutic Alliance: Neurobiological Perspective

Seongjun Kim

Department of Family and Community Medicine, Saint Louis University, 1 N. Grand Blvd., St. Louis, MO 63103, United States

Abstract

This paper discussed the relationships between therapist's empathy, attachment between therapist and client, and therapeutic alliance in a neurobiological context. There are some interrelated areas of brain function such as mirror neurons, the middle prefrontal cortex, and the ventrolateral prefrontal cortex regarding the relationships between empathy, attachment between therapist and clients, and therapeutic alliance. Clinical implications were also discussed. Understanding the interrelationships between therapist's empathy, attachment, and therapeutic alliance in therapy in brain function may contribute to better treatment for clients. Also, a therapist may have more confidence based on understandings of these interrelationships.

Introduction

A therapist's ability to provide empathy may develop an attachment between the therapist and their client, which may build a strong therapeutic alliance. In general, a secure base in therapy may be an environment where clients remain involved with their therapists. This may lead to a working therapeutic alliance. Therapeutic alliance may be an essential component in order for a therapist to work with his or her client(s) that may lead to successful therapy. This study examines the empathetic influences of a therapist upon his or her client(s). In this context, if a therapist's empathy influences an attachment between the therapist and the client, then empathic understanding and attachment may develop a strong therapeutic alliance.

This study explores the relationship between the therapist's empathy, attachment, and therapeutic alliance with the neurobiological perspective. These components are mutually interactive with one another in therapy. To understand the relationship between the therapist's empathy, attachment, and therapeutic alliance with the neurobiological perspective, there is need to understand the interrelationships and brain functions for the relationships. These interrelationships in neurobiology means that the areas of the brain that function empathy, attachment, and therapeutic alliances may work together in the process of therapy.

Understanding the neurobiological perspective in therapy may help clinicians provide better treatment for their clients and gain confidence in therapy. That is, understanding brain functions that are related to empathy and attachment, and how therapeutic alliance function in brain the relationship provides an opportunity to confirm that their efforts for attachment from empathic understandings for clients, which may lead to therapeutic alliance. Thus, this study considered the relationship between empathy, attachment, and therapeutic alliance by examining the interrelationships in neurobiological function based on literature review. This study suggested that interrelationships among the three elements in neurobiological function show that therapist's empathy, attachment, and therapeutic alliance are influenced by one another.

Empathy

Empathy refers to "the ability to perceive accurately the internal frames of reference of others in terms of their meanings and emotional components" [1]. Another definition of empathy is "the capacity to understand and respond to the unique affective

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experiences of another person" [2]. Empathy can be emotional communication [3]. Seigel [4] explained that the capacity of perceiving another's emotions is important to understand social interactions. Empathic processes may be described as intersubjectivity based on attachment process, which may mean responsiveness between individuals. Specifically, responsiveness in the relationship between child and caregiver may be a basic factor in the process of empathy. In this regard, empathy may be a crucial component in the process of attachment.

Several research studies have indicated that empathy is associated with attachment. Quinn [5] argued that an ability to be empathetic is an important component which leads to sensitive responsiveness. A mother's sensitive response has been strongly related with the child's attachment [6]. In this regard, a therapist's empathic understanding may provide responsiveness with their clients, which leads to a secure base in therapy. Siegel [3] argued that children who have experienced secure attachments with their caregivers, are able to regulate their emotions well and provide empathic understanding with others.

In addition, a therapist's ability to provide empathy may be an important component for successful therapy. Therapeutic empathy is a basic qualification to develop a working alliance with clients and an important component for change to be facilitated [7]. Empathic understanding of a therapist refers to a genuine and warm feeling of concern that is not based techniques; but on a respectful and nonjudgmental attitude toward clients [7]. For example, when a therapist understands a client's issues and shares this understanding, the therapist provides the safe environment for clients which may lead to therapeutic alliance [8].

Empathy and Neurobiology

There are several areas of the brain which provide understanding of empathic behavior and development of empathy. Research has indicated that specific brain regions such as the limbic system, the

Corresponding Author: Seongjun Kim, Department of Family and Community Medicine, Saint Louis University, 1 N. Grand Blvd., St. Louis, MO 63103, United States; E-mail: peacehope731@gmail.com

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insular, the anterior cingulate cortex, and the right temporoparietal region explains our human capacity for empathy [2]. However, other researchers have recently argued that the anterior insular cortex is necessary for empathetic pain perception [9].

Siegel discussed empathy in relation to mirroring. A mirror means that “there is mirroring of action and perception” [4]. Mirror neurons interact with many areas of the brain to explain empathy. Even though mirror neurons are not directly related to empathic feelings, they may function as a medium of connection between our own experiences and those of others [10]. Siegel [4] argued that mirror neurons only function to act with others’ intention and the brain can make neural maps that symbolize others’ intentions. The neural map explains

how an individual’s brain enacts the others’ same behaviors. That is, the individual maps out another’s intentional states and prepares to mimic the intentional states. Siegel [4] explained that the process of empathy is related to the function of neurobiology. For example, when we perceive other’s nonverbal expressions, the perception interacts with the subcortical regions that enable us to change our body via the limbic system. The subcortical processes then move through the insula in the middle prefrontal cortex, an area of brain that functions self-awareness. This middle prefrontal cortex (e.g., the anterior portion of the cingulate, the orbitofrontal cortex, the dorsal and ventral aspects of the medial prefrontal area, and the ventrolateral prefrontal cortex) helps us feel another person’s emotions as we feel our own [3]. Siegel [4] argued that these steps are neurobiological processes for empathy.

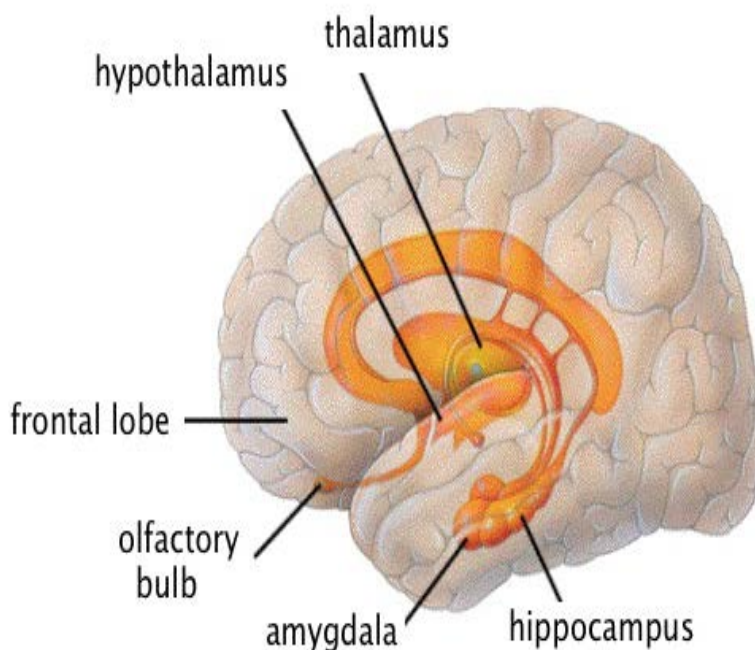


Figure 1: The Limbic Region (Google)

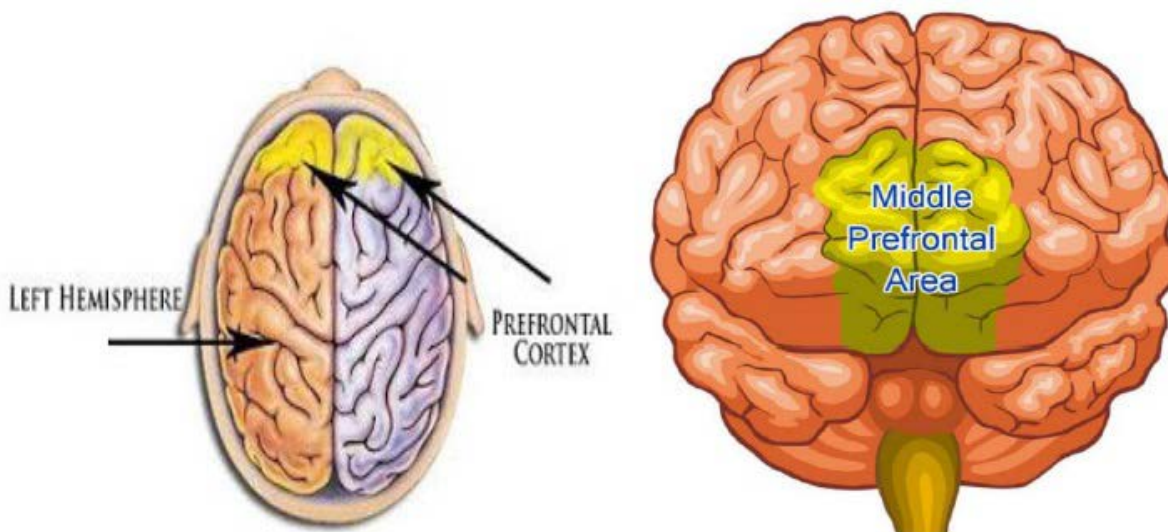


Figure 2: The Middle Prefrontal Cortex (Google)

Attachment

Attachment theory has traditionally focused on the mother-child emotional connection to describe the attachment bond. The child seeks proximity to the mother during times of perceived danger and feels secure in her presence [11-13]. Based on the attachment bond, the child develops attachment strategies to promote ideal physical or psychological proximity, protection, and safety [14,11].

Responsiveness may be a critical component for the process of attachment. Siegel [3] explained parental sensitivity as a way in which "a parent perceives the child's communication signals, makes sense of those signals by understanding their meaning for the child's internal mental world, and then responds in a timely and effective manner to meet the child's needs." Hughes [15] described this parental sensitivity as the concept of intersubjectivity.

Intersubjective process reflects that parents and children co-regulate affective states, co-create meaning of the outside world, and develop the autonomy regarding their own beliefs [15]. Hughes [15] explained the existence of both primary and secondary intersubjectivity. For children, the primary intersubjectivity describes the reciprocal process where a child's view of self emerges from his or her experiences of what parents are responding to Hughes [16] described the primary intersubjectivity as the process in which the infant and parents discover each other, which produces the person-to-person relationship. He also described the secondary intersubjectivity as the process of the infant's discovery of the world which refers to the person-to-person-to-object relationship. Through the primary and secondary intersubjectivity, an infant and parents co-regulate their affect and co-create the meanings of their lives [15].

Hughes' intersubjectivity processes can be attributed to what Bowlby described as the internal working model. Bowlby [11] described that an infant who continues to be treated sensitively grows to perceive the world as good and responsive, and that the self was deserving of such consideration. On the other hand, an infant who is treated harshly, erratically learns to see the world as unpredictable and insensitive and will likely think that the self does not deserve better treatment [17]. Thus, an infant who experiences insecure intersubjectivity with his or her parents may form a dysfunctional internal working model, which may lead to problems with others in later relationships.

Several research studies have indicated that early attachment impacts relationships later in adulthood. Berlin and Cassidy [18] held that children who have early secure attachments are more likely to have harmonious and supportive relationships with others. Thus, if children do not experience intersubjectivity and secure attachment, parents and children may experience one another in a misunderstood way in not understanding the other's frame of reference.

In line of this view, therapists may develop their attachment relationships based on their early attachment with their caregivers. Therapeutic relationships may be understood as attachment relationships between therapist and the client in that the therapist provides a secure base and a safe haven with clients [8]. Thus, therapists' attachment relationships in therapy may affect their therapy in interpersonal processes with their clients. This interpersonal process based on attachment may influence a successful therapeutic alliance.

However, recent research has indicated that attachment patterns which were previously formed may be changed throughout the

lifespan [19]. According to the process of neuroplasticity, although a secure attachment was not formed in early attachment, attachment patterns may be altered, and secure attachments can be formed with new attachment process at any time [20]. In this regard, therapists who did not experience secure attachment in their early relationships can alter their attachment patterns through new secure attachment processes in order to provide a safe experience for clients. Also, the concept of neuroplasticity suggests that clients may change their attachment patterns through interpersonal processes with therapists who have experienced secure attachments.

Attachment and Neurobiology

Attachment theory has provided an important framework that accounts for the process of affect regulation [11,12]. Bowlby [11,12] described that proximity seeking is a primary intrinsic strategy for regulating affect. Also, he suggested that interpersonal process of the attachment figure with particular experiences of attachment affects the development of other strategies for regulating affect. When it comes to the function of brain regarding affect regulation, studies have indicated that the prefrontal cortex and limbic system function to affect regulation [3,21]. Beer [22] explained that the orbitofrontal cortex, in the prefrontal cortex, functions as emotional and social processing with the amygdala, anterior cingulate, and somatosensory areas as well as the role of self- and person-perception process. The orbitofrontal cortex plays a role of the co-created environment of evolutionary adaptiveness [23] and emotional processes and a control system in the brain that regulates affectively driven instinctive behavior [24]. Also, Beer [22] described that damage of the orbitofrontal cortex may be selectively related to poorly regulated social behavior. Siegel [4] stated that "the first eight of the nine middle prefrontal cortex functions are created by attuned, integrative communication between parent and child." In this regard, the areas of functioning affect regulations which explain the process of attachment may be middle prefrontal cortex, orbitofrontal cortex, and limbic system. Also, mirror neurons, as above mentioned, are indirectly related to affect regulations by interacting with middle prefrontal cortex including the anterior portion of the cingulate, the orbitofrontal cortex, the dorsal and ventral aspects of the medial prefrontal area, and the ventrolateral prefrontal cortex [4].

Therapeutic Alliance

A foundation of trust between therapist and client that builds the therapeutic alliance is a basic factor for therapy [7]. Previous research has indicated that a collaborative engagement in the relationship between the therapist and client is a fundamental component in therapy and encourages the client's motivation and commitment for successful therapy [25]. Also, one of the most common component is an ability of the therapist to build a therapeutic alliance early in therapy [26]. In order to build the therapeutic alliance based on trusting relationships between therapist and client, the therapist's sensitive responses and empathic understandings for the client's unique experiences may be crucial. In the process of building a working alliance between therapist and client, the therapist provides a secure base with clients. For example, therapist may build a therapeutic alliance based on secure attachment and responsiveness between clients and therapists. Also, therapists provide active listening and empathic understanding of their clients. Therapeutic alliance is formed based on the client's perception about the therapist's capability and trustworthiness [7].

Therapeutic Alliance and Neurobiology

Studies have been conducted for the relationships between the therapeutic alliance and the brain function in the perspective of neurobiology. Stratford, Lal, and Meara [27] assessed neurophysiological correlates, particularly brain activity of the prefrontal, temporal, parietal, and occipital sites during therapeutic alliance using electroencephalography (EEG). The results are prefrontal, parietal and occipital sites are related to therapeutic alliance [27]. Another study examined the association between putting feelings into words (i.e., affect labeling) and negative emotional experiences using functional magnetic resonance imaging (fMRI). The result showed that labeling decreased the response of negative emotional images in the amygdala and other limbic areas, and affected increased activity in a single brain region, right ventrolateral prefrontal cortex. These findings indicated that how putting negative feelings into words may regulate negative affect that may lead to better mental health [28]. In line with these findings, a therapist's effort to provide secure attachment with clients may help clients discuss their negative emotions and experiences that may contribute to building therapeutic alliance in that affect labeling decreases negative emotional images.

Meyer [20] described that the therapeutic relationship is similar to the early attachment bond and three components such as the role of implicit memory, attunement, and affect regulation. The process of neuroplasticity that refers to the ability of brain to reframe itself explain individuals can build new attachment pattern [20]. The concept of neuroplasticity implies that therapist's efforts to provide a secure environment and reframe attachment pattern of clients in therapy that help clients build new attachment experiences. The process of neuroplasticity may build the new secure attachment between the therapist and client because the therapist as the new attachment figure may build new attachment pattern for clients. This means that attachment in therapy is an ongoing process to change the function of the brain through therapeutic alliance.

Interrelationship between Empathy, Attachment, and Therapeutic Alliance

This study explored interrelationships between the therapist's empathy, attachment, and therapeutic alliance by discussing neurobiological interrelationships among these concepts. Several research studies have shown that empathic understanding has a positive relationship with attachment between therapist and client. The therapist's empathic understanding expresses sensitivity toward the client. This in turn may develop a secure attachment between therapist and client and thus developing the therapeutic alliance.

The relationships among the concepts such as therapist's empathy, attachment between therapist and client, and therapeutic alliance may be an ongoing process in therapy. Meyer [20] explained that the process of neuroplasticity suggests this ongoing process of the brain function. In this regard, therapists contribute to changing the brain function of their clients, by providing empathic understandings toward clients and secure attachment with them. Figure 3 shows that these components are interrelated to influence with one another which may continuously develop one another.

In addition, there are some neurobiological interrelationships that account for the interrelationships among empathy, attachment, and therapeutic alliance. First, neurobiological common areas between empathy and attachment may be mirror neurons as well as middle

prefrontal area [4,21]. However, mirror neurons are indirectly related to the relationship between empathy and attachment. Secondly, the common areas of the brain regarding relationships between attachment and therapeutic alliance are the ventrolateral prefrontal cortex [4] including the prefrontal cortex [27]. Finally, the commonalties among the three elements are the prefrontal cortex.

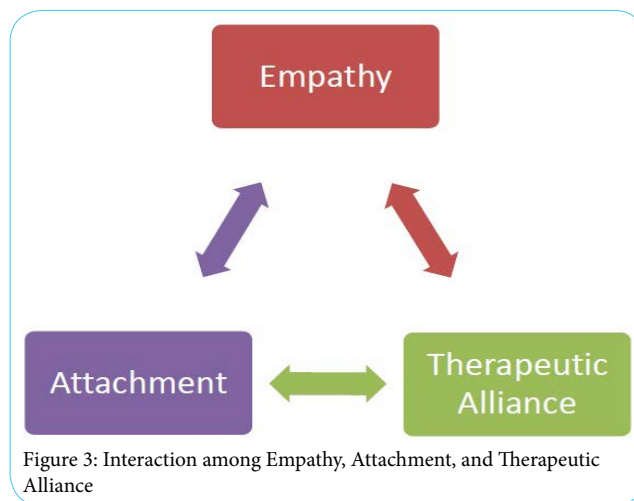


Figure 3: Interaction among Empathy, Attachment, and Therapeutic Alliance

Clinical Implications

Empathic understanding and secure attachment between child and parents may be similar to the process in therapy. When a therapist provides a secure base for clients and empathic understandings of clients, the client may be motivated for therapeutic working alliance with his or her therapist. Therapeutic alliance may be a basic component for effective treatment which leads to successful therapy. In general, the therapist's empathy and secure attachment may be essential to facilitate therapeutic alliance. Also, the relationship between attachment and therapeutic alliance may be an ongoing process. Based on this study, clinicians may recognize neurobiological functions regarding empathy, attachment, and therapeutic alliance in the relationships with their clients. Thus, clinician's understanding about the neurobiological interrelating areas that explains how these three components function in brain activity may facilitate clinician's efforts to provide empathy for clients. It is also important to build secure attachments for therapeutic alliance that may lead to better treatment for clients. In addition, based on the process of neuroplasticity, the counseling process plays an important role in changing brain function. The implications of this may lead to positive mental health and well-being of clients.

Conclusion

This study explored the relationship between therapist's empathy, attachment, and therapeutic alliance from a neurobiological perspective. The finding of this study indicated that these components such as therapist's empathy, attachment between therapist and client and therapeutic alliance in therapy can be interrelated. Also, the interrelated areas of brain for the relationships between empathy, attachment, and therapeutic alliance were examined in this study. For example, in terms of the relationship between empathy and attachment, interrelated areas of brain function are mirror neuron and middle prefrontal area [4,21]. In addition, the interrelated areas of neurobiology in the relationship between attachment and therapeutic alliance are the ventrolateral prefrontal cortex [4]

including the prefrontal cortex [27]. The prefrontal cortex serves as the interrelationships among three components such as empathy, attachment, and therapeutic alliance.

This study has some clinical implications. The interrelated areas of the brain may help clinicians understand how the relationships between therapist's empathy, attachment, and therapeutic alliance play a key role in therapy. Also, understanding the relationships between these components and interrelationships between the areas of the brain function for the components may also help clinicians provide better treatment with clients. In addition, the relationships among these three elements such as therapist's empathy, attachment between therapist and client, and therapeutic alliance are an ongoing process. For future research, empirical study is recommended to be conducted using fMRI to assess brain functions for the examination of how therapist's empathy, attachment, and therapeutic alliance function in areas of brain during therapy. Also, attachment style between therapist and client in the neurobiological perspective will be helpful for the therapist to provide more quality treatment for their clients.

Competing Interests

The authors declare that they have no competing interests.

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[Dr. Michelle Lopez](#)
Department of Undergraduate Psychology
Alliant International University-San Diego
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