

Basics of Cognitive Empathy

Theofilidis Antonis

Aegean college of Thessaloniki, Thessaloniki, Greece

***Corresponding Author:** Theofilidis Antonis, Aegean college of Thessaloniki, Thessaloniki, Greece.

Submitted: 27 March 2026

Accepted: 16 April 2026

Published: 20 April 2026

Citation: Antonis, T. (2026). Basics of Cognitive Empathy. Journal of Advanced Neurology and Neuroscience, 1(1), 1-5.
DOI: 10.67927/JAdvNeuroNeurosci/2026(1)104.

Abstract

Cognitive empathy refers specifically to the ability to understand and recognize another person's thoughts, feelings, and perspectives intellectually, without necessarily feeling or sharing their emotional experience. It involves mental processes such as perspective-taking and comprehension of someone else's internal states. In contrast, empathy more broadly encompasses both cognitive and emotional components. Emotional empathy, sometimes called affective empathy, involves actually sharing or resonating with another person's emotional experience—feeling what they feel on an emotional level. Cognitive empathy: Understanding someone's mental state and perspective intellectually. Empathy (general): Encompasses both cognitive understanding and emotional sharing of another's feelings. This distinction helps clarify why someone might understand another's feelings without necessarily experiencing them emotionally themselves. The main objective of this study is to present the basic elements of empathy.

Keywords: Empathy, Cognitive Empathy, Emotional Empathy.

Introduction

Empathy is the term used mainly as a translation of the English word empathy. The English word empathy, in turn, comes from the ancient Greek word *empathie*. In ancient Greek, the word *empathie* expressed intense emotion or passion, while in modern Greek it means intense negative emotions. The word *empathie* (en + syn + esthisi) has been chosen to convey the meaning of “feeling inside someone else”. Empathy is a multidimensional and abstract concept, which is why it has been given many and often conflicting definitions. If a general definition had to be chosen, it might be “the ability to understand the emotions of another and to tune in to them, that is, to experience similar emotions ourselves”. The concept sympathy, although similar, is not semantically identical to empathy. Someone can empathize, for example, by experiencing the mental pain of another, without perceiving or sharing the emotions that cause or stem from this pain. On the contrary, a person with developed empathy can recognize the emotions that distinguish the other, experience them and react accordingly. Other concepts that are often mistakenly confused with empathy are projection, identification, mimicry and emotional contagion. Regarding projection, some scholars have argued that not only is it not the same as empathy, but in some way it constitutes an opposite process, that is, during projection we project our own emotional or mental state onto the other, while during empathy we do the opposite. Identification constitutes the adoption of a role, lasts longer than empathy and is more emotional, but occurs less frequently. Also, during identification, the person's strong desire to become exactly like someone else

dominates, creating a very close emotional bond with them. Mimicry and emotional susceptibility are two mechanisms that, although they often contribute to the phenomenon of empathy, are neither necessary nor sufficient to produce it. Mimicry is the tendency to automatically synchronize with the facial expressions, body postures, or movements of someone else, thus facilitating an emotional connection with them. Emotional susceptibility is the tendency to “catch” the emotions of others and has been characterized as the stage between mimicry and empathy [1,2]. The concept of empathy has been utilized by many different scientific disciplines, such as psychotherapy evolution, history, education, ethics and artificial intelligence [3-9].

Historical Review

The word empathy was first introduced into the English language by Edward B. Titchener 1909, as a translation of the German word *Einfühlung* (*föhlung*=feeling + *ein*=into), which was introduced by Robert Vischer in 1873. Robert Vischer was strongly influenced by Hermann Lotze, who in 1858 had proposed a mechanism by which humans are able to perceive material objects and other species of animals by “putting themselves into them” (“*sich mitlebend ... versetzen*”) [10]. The word *Einfühlung* was interpreted as the process by which an observer projects himself into the object he is observing. When Titchener translated the word *Einfühlung* into English as empathy, he defined it as the process by which we humanize objects, read or feel ourselves in them [11]. Before Titchener's translation, the word that had been used - mainly by David Hume (2014) and Adam Smith - to

express the communicability of affect and emotional contagion was sympathy, which comes from the Greek word *sympathie*. With the introduction of the word empathy, more layers of meaning were added to the concept of emotional contagion and the assessment of the difference between simply a method of gathering information about the experiences of others and the processing and use of this information came to the fore [12]. The psychologist Theodor Lipps, who translated Hume's *Treatise on Human Nature* (2014) into German, chose empathy (*Einfühlung*) in his *Asthetik* (1903) – rather than sympathy (*sympathie* in German) – as the foundation of his aesthetics and his account of other minds. His work transformed empathy into an important subject in philosophy and the humanities. Lipps extended the concept of empathy so that it did not refer only to the aesthetic appreciation of objects, but also to the recognition of other people as intelligent [11,12]. In 1934, George Herbert Mead provided one of the first conceptual definitions of empathy as we understand it today: “empathy is the ability to take the role of another and to adopt alternative perspectives about oneself.” One of the pioneers in the use of the concept of empathy in the 1950s was the psychoanalyst Heinz Kohut, who saw it as an “immersion in the emotional, experiential, and mental life of another person” or, in other words, “introspection of another” (heterointrospection) [7]. To date, there is no commonly accepted definition of empathy. A common element, however, of almost all the definitions given is the conscious effort to feel the emotions of another. In recent years, developments in neuroscience, cognitive science, and evolutionary psychology have shed more and more light on the mechanisms that support the empathetic process in humans, as well as in other species, which may help to make the concept of empathy more concrete.

Nature of Empathy

Empathy is usually divided into two main parts or levels: affective empathy and cognitive empathy. Affective empathy involves our direct interaction with the emotions of those around us. Cognitive empathy is the cognitive process in which we construct a mental model of someone else's emotional or mental state and try to put ourselves in their shoes, taking their perspective.

Emotional Empathy

The most basic level of the empathic process is that in which one is affected by the emotions of another. Emotional connection with those around us greatly facilitates most types of social interactions. The ability to listen to the emotions of others is very useful for easier coexistence with those around us, but also for our survival. The evolutionary pressure to quickly develop emotional connections with others probably began, long before the appearance of the human species, within the environment of parental care. Infants, by communicating their condition through smiling or crying, urge the parent to take action. Similar mechanisms operate in all species where reproduction relies on nursing, cleaning and warming the young [13]. The most basic mechanism that allows us to get in touch with the emotions of others is mimicry, that is, automatic synchronization with movements, facial expressions, vocal expressions, and body postures. Mimicry, especially with regard to facial expressions, is usually instantaneous and it has been observed that people can track even the most subtle changes, from moment to moment, in the expressions of another [1,2]. Mimicry of emotional expressions begins in infants almost immediately after birth and continues throughout their lives [1]. Mimicry is also called primitive emotional contagion. Emotional contagion or primitive empathy is the phenomenon in which we

“catch” the emotions of others, that is, we are influenced, that is, by an emotionally aroused state of someone else and we tend towards a similarly aroused state. The emotional interconnection between humans begins almost from birth and the same happens with monkeys and other animal species: A flock of birds that abruptly changes direction homogeneously, when one of them is startled, shows a reflexive, highly adaptive spread of fear, without the need to perceive the cause that caused it. Similarly, when a room full of infants burst into tears, there is an automatic spread of discomfort [13]. Emotional contagion in humans and monkeys operates at young ages completely spontaneously and indiscriminately, but becomes more selective gradually. Monkeys, for example, learn to recognize even the faintest signs of distress around them, especially if they involve friends or relatives [14]. Mirror neurons have been proposed as a neurological basis for the phenomena of mimicry and emotional susceptibility [11,15,16]. Mirror neurons (or mirror systems) are a class of neurons (or neural systems) discovered by Giacomo Rizzolatti and his research group at the University of Parma, during experiments on macaque monkeys. These neurons are activated not only when an individual (monkey, human, etc.) makes a movement, but also when they see another individual performing the same or similar movement. The human mirror system has evolved to understand the actions of others, as well as the intentions behind them [17]. This extends to the fact that mirror neurons are activated both when someone experiences a mental or emotional state endogenously and when they observe one. There is also evidence to support the hypothesis that when we observe people and when we observe objects we use different neurobiological mechanisms [11]. This means that, even at this very basic level, we distinguish between material objects and forms that resemble us. In addition to emotional susceptibility, another form of reaction to the emotions of others is personal distress, that is, the discomfort that someone feels when they see someone else in an unpleasant situation. This distress does not necessarily reflect the other person's feelings. For example, when we see someone being injured, we feel discomfort, but not physical pain.

Cognitive Empathy

Empathy is based on self-awareness and the distinction between self and other. Imitation and emotional receptivity are important mechanisms, but they are not sufficient to produce the full experience of empathy, since they do not require the observer to distinguish whether the source of his emotions is internal or caused by some external stimulus. The part of empathy that refers to the observer's ability to guess the thoughts and feelings of another and to adopt their perspective, but without losing a sense of self, is called cognitive empathy. Cognitive empathy is inextricably linked to the development of theory of mind, that is, the ability to attribute mental states to others and to understand that their thoughts may differ from our own. The other is recognized not as an extension of the self, but as a separate entity. Cognitive empathy appears developmentally and phylogenetically together with abilities such as mirror recognition, tool use, and deception [18]. Regarding the way in which cognitive empathy is achieved, two main theories have been proposed: simulation theory and theoretical theory. According to simulation theory, in order to draw conclusions about the mental state of another, one uses oneself as a model, that is, imagines oneself in that person's place. On the other hand, theoretical theory argues that people develop theories about human thought and behavior, which they use, together with knowledge of some theoretical principles, to predict and explain the actions and all kinds of externalizations of others. A third

theory, which refers to the overall experience of empathy, is the perception-action model [18]. The perception-action model, which was originally based on shared neural representations during the observation and execution of a movement, has been easily extended to explain how an observer can feel the emotions they observe in another. According to the perception-action model is compatible with both simulation theory and theoretic theory [18].

Characteristics of Cognitive Empathy

Cognitive empathy, also known as perspective-taking, involves understanding another person's perspective, including their thoughts, feelings, and beliefs, even if you don't share them. Key characteristics include:

- **Perspective-Taking:** The core of cognitive empathy is the ability to step into another person's shoes and see the situation from their point of view. This includes considering their background, experiences, and motivations.
- **Mentalizing:** This involves understanding the mental states of others, such as their beliefs, desires, intentions, and emotions. It's about recognizing that people have internal worlds that may differ from your own.
- **Theory of Mind:** A closely related concept, theory of mind refers to the ability to understand that other people have different beliefs, desires, and intentions than your own, and that these can influence their behavior.
- **Impartiality:** Cognitive empathy doesn't necessarily require agreement or emotional resonance with the other person's perspective. It's about understanding, not necessarily endorsing.
- **Accurate Attribution:** Attempting to understand the other person's thoughts and feelings accurately based on observable cues, such as their body language, tone of voice, and verbal expressions. This involves recognizing potential biases and limitations in one's own understanding.
- **Understanding Motivations:** Going beyond simply understanding the other person's thoughts and feelings to trying to grasp why they think and feel the way they do. This involves considering their past experiences, values, and goals.
- **Recognizing Emotional Cues:** While not emotional empathy, cognitive empathy involves recognizing emotional cues in others (e.g., facial expressions, tone of voice) as potential indicators of their internal state, even if you don't fully grasp the emotional experience itself.
- **Non-Judgmental Stance:** Cognitive empathy requires suspending judgment and avoiding the tendency to immediately evaluate or criticize the other person's perspective.
- **Flexible Thinking:** Recognizing that there may be multiple valid perspectives on a situation and adjusting your own understanding accordingly.

It's important to note that cognitive empathy is distinct from emotional empathy, which involves sharing and experiencing the emotions of another person. While they can be related, cognitive empathy is more focused on understanding the reasoning behind a person's actions and feelings.

Altruism and Empathy

The intermediate step between emotional and cognitive empathy is called empathic concern or sympathy and is defined as an emotional response to another person's demonstrated need or distress. Sympathy relies on a clear distinction between one's own feelings and the feelings of others. Although it presupposes this distinction, sympathy is quite different from empathy. Sympathy

is often characterized by pity for the other person, which is not the case with empathy. Whereas in empathy the observer's feelings are isomorphic with the observed feelings, sympathy does not require the observer to share the feelings of the other. As in the case of personal distress, the emotional response does not necessarily simulate the observed emotional state. However, unlike personal distress, which causes the observer to have a selfish desire to improve his own situation, sympathy is characterized by the observer's motivation to improve the emotional state of the other [13].

According to the empathy-altruism hypothesis, empathic concern produces altruistic motivations [19]. In the context of this hypothesis, empathic concern encompasses the emotional concepts of sympathy, compassion, tenderness, sadness, distress, upset, concern, and grief. Also in the context of Batson's hypothesis, altruistic motivations refer to a motivational state with the ultimate goal of increasing the well-being of another. It should be noted that this specific definition is not entirely consistent with the common use of the term "altruism", which is associated with personal cost - or indifference to potential personal cost - to the person helping. The opposite of altruism is egoism, which refers to a motivational state with the ultimate goal of increasing one's own well-being [20]. Philosophers and psychologists have long believed that helping behavior toward others can most often be attributed to selfish motives. However, the hypothesis that individuals who experience higher levels of empathic concern for others in need are more likely to exhibit helping tendencies is largely supported by research. Various experiments have been conducted over time to study the connection between helping tendencies and the phenomenon of empathy and empathic concern or personal distress [21-25]. The results of some of these studies show that the empathy-altruism hypothesis is valid while the results of some other studies are not indicative of a particularly strong connection between empathy and altruism [21-24,26,27]. An alternative theory to explain the source of altruistic behavior is the negative-state-relief model [26]. This model was developed, based on their experiments, by Robert Cialdini and his colleagues, who tried to provide a selfish explanation for the results of other studies linking altruism with empathy. According to this theory, an observer's heightened empathy for someone who is suffering causes personal distress, and it is the selfish desire to relieve this distress that motivates helping behavior, rather than a selfless desire to relieve the other [26].

Measuring Empathy

Several methods have been developed to measure empathy, which have two distinct directions: the measurement of situational empathy, i.e. empathetic reactions in specific circumstances, and the measurement of dispositional empathy, i.e. empathy as a characteristic of an individual. Most methods of measuring empathy are based on self-report, usually through questionnaires, such as the Interpersonal Reactivity Index, the Empathy Quotient and the Basic Empathy Scale [27-31]. There are also methods for assessing situational emotional empathy that study empathic responses expressed through facial expressions, voice, and gestures, or that use physiological measurements, such as heart rate or skin conductance. Brain imaging techniques, such as electroencephalography, have also been used to explore the mirror systems that are activated when someone shares another person's emotional experiences. Finally, a method that combines elements of self-report and physiological measurements is the Multifaceted Empathy Test. None of the aforementioned

measures are perfect. They present problems since self-report measures can obviously be influenced by various factors, such as the respondent's ability to articulate his or her thoughts with descriptive accuracy. Physiological measures do not have such risks, but they also do not ensure that what is being measured is empathy and not sympathy or personal distress. While developed emotional empathy is associated with more intense emotions, developed cognitive empathy (empathic accuracy) implies a more complete and accurate knowledge about the thoughts, intentions, and feelings of others. Two categories of people who show extreme displays of cognitive and emotional empathy are people with high levels of autism and people with psychopathy [28]. People with high levels of autism show significantly reduced cognitive empathy while psychopaths have a large deficit in emotional empathy [28,32]. Although psychopaths have problems sharing the emotions of others, they do not appear to have difficulty perceiving and describing these emotions [32-34]. In fact, they often demonstrate higher than average cognitive empathy, with the aim of exploiting those around them [32].

Conclusions

Cognitive empathy refers to the ability to understand and intellectually grasp another person's perspective, thoughts, and feelings. In conclusion, it involves the mental process of recognizing and comprehending someone else's emotional state without necessarily sharing or feeling those emotions oneself. This form of empathy is essential for effective communication, social interactions, and conflict resolution, as it allows individuals to respond appropriately and with understanding to others' experiences. It's important to note that cognitive empathy is distinct from emotional empathy, which involves sharing and experiencing the emotions of another person. While they can be related, cognitive empathy is more focused on understanding the reasoning behind a person's actions and feelings.

References

- Hatfield, E., Cacioppo, J., Rapson, R. (1993). Emotional contagion. *Current Directions in Psychological Science*, 2(3), 96-99.
- Singer, T., Lamm, C. (2009). The social neuroscience of empathy. *Annals of the New York Academy of Sciences*, 1156(1), 81-96.
- Bartal, I., Decety, J., Mason, P. (2011). Empathy and pro-social behavior in rats. *Science*, 334(6061), 1427-1430.
- Cooper, B. (2004). Empathy, interaction and caring: Teachers' roles in a constrained environment. *Pastoral Care in Education*, 22(3), 12-21.
- Endacott, J. (2013). An updated theoretical and practical model for promoting historical empathy. *Social Studies Research and Practice*.
- Hoepper, B. (2009). Stand inside my shoes: Developing historical empathy. *Q History*, 34-39.
- Kohut, H. (1959). Introspection, empathy, and psychoanalysis: An examination of the relationship between mode of observation and theory. *Journal of the American Psychoanalytic Association*, 7(3), 459-483.
- Picard, R. (1995). Affective computing. MIT Media Laboratory Technical Report No. 321. Massachusetts Institute of Technology.
- Slote, M. (2007). *The ethics of care and empathy*. Routledge.
- Gallese, V. (2005). Being-like-me: Self-other identity, mirror neurons, and empathy. In S. Hurley N. Chater (Eds.), *Perspectives on imitation* (Vol. 1, pp. 101-118). MIT Press.
- Stueber, K. (2014). Empathy. *Stanford Encyclopedia of Philosophy*.
- Agosta, L. (2011). Empathy and sympathy in ethics. *Internet Encyclopedia of Philosophy*.
- de Waal, F. (2008). Putting the altruism back into altruism: The evolution of empathy. *Annual Review of Psychology*, 59(1), 279-300.
- de Waal, F. (1996). *Good natured*. Harvard University Press.
- Kaplan, J., Iacoboni, M. (2006). Getting a grip on other minds: Mirror neurons, intention understanding, and cognitive empathy. *Social Neuroscience*, 1(3-4), 175-183.
- Goldman, A. (2007). Mirroring, mindreading, and simulation. In J. Pineda (Ed.), *Mirror neuron systems: The role of mirroring processes in social cognition*. Humana Press.
- Rizzolatti, G., Craighero, L. (2004). The mirror-neuron system. *Annual Review of Neuroscience*, 27(1), 169-192.
- Preston, S., de Waal, F. (2002). Empathy: Its ultimate and proximate bases. *Behavioral and Brain Sciences*, 25(1), 1-20.
- Batson, C. (2010). Empathy-altruism hypothesis. In *Altruism in humans*. Oxford University Press.
- Lishner, D., Stocks, E. (2007). Empathy-altruism hypothesis. In R. Baumeister K. Vohs (Eds.), *Encyclopedia of Social Psychology* (pp. 298-299). Sage Publications.
- Batson, C., Duncan, B., Ackerman, P., Buckley, T., Birch, K. (1981). Is empathic emotion a source of altruistic motivation? *Journal of Personality and Social Psychology*, 40(2), 290-302.
- Bierhoff, H., Rohmann, E. (2004). Altruistic personality in the context of the empathy-altruism hypothesis. *European Journal of Personality*, 18(4), 351-365.
- Stutz, F., Crispino, M. (2007). Empathy as an indicator of subsequent altruistic behavior. *Journal of Undergraduate Psychological Research*, 2, 6-10.
- Van Lange, P. (2008). Does empathy trigger only altruistic motivation? How about selflessness or justice? *Emotion*, 8(6), 766-774.
- Welp, L., Brown, C. (2013). Self-compassion, empathy, and helping intentions. *The Journal of Positive Psychology*, 9(1), 54-65.
- Cialdini, R., Brown, S., Lewis, B., Luce, C., Neuberg, S. (1997). Reinterpreting the empathy-altruism relationship: When one into one equals oneness. *Journal of Personality and Social Psychology*, 73(3), 481-494.
- Harrington, B., Bramham, J., O'Connell, M. (2015). The developmental course of the empathy-altruism hypothesis: The relationship between the development of children's empathic concern and altruistic behaviours. *Cork Journal of Applied Psychology*, 14-26.
- Baron-Cohen, S., Wheelwright, S. (2004). The empathy quotient: An investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences. *Journal of Autism and Developmental Disorders*, 34(2), 163-175.
- Carré, A., Stefaniak, N., D'Ambrosio, F., Bensalah, L., Besche-Richard, C. (2013). The Basic Empathy Scale in Adults (BES-A): Factor structure of a revised form. *Psychological Assessment*, 25(3), 679-691.
- Davis, M. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113-126.
- Jolliffe, D., Farrington, D. (2006). Development and validation of the Basic Empathy Scale. *Journal of Adolescence*, 29(4), 589-611.
- Lockwood, P., Bird, G., Bridge, M., Viding, E. (2013).

Dissecting empathy: High levels of psychopathic and autistic traits are characterized by difficulties in different social information processing domains. *Frontiers in Human Neuroscience*, 7.

33. Dadds, M., Hawes, D., Frost, A., Vassallo, S., Bunn, P., Hunter, K., Merz, S. (2009). Learning to talk the talk: The

relationship of psychopathic traits to deficits in empathy across childhood. *Journal of Child Psychology and Psychiatry*, 50(5), 599-606.

34. Theofilidis, A. (2021). Theories on the brain function of people with learning disabilities. *Journal of Clinical and Medical Images*, 5(6), 1-8.

Copyright: ©2026 Theofilidis Antonis. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.