

A New Pyramid Model of Empathy: The Role of ICTs and Robotics on Empathy

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Abstract—Empathy and compassion have become a major focus for international research and appear to be important concepts in human development. There are several definitions and models of empathy and compassion available in the literature. Based on theoretical foundations, a new model of empathy – compassion – love is proposed in the present article. This new model emphasizes the evolution of the concept of empathy, which, at higher levels, takes the form of compassion, which will then be transformed into even higher universal love making empathy and compassion a creative and significant process for the gradual evolution of individuals. In addition, emphasis is placed on ICT tools that contribute to the development of empathy and compassion.

Keywords—empathy, compassion, sympathy, love, pyramid model, emotional intelligence

1 Introduction

Empathy is considered a key dimension of Emotional Intelligence. It is our attempt to put ourselves in the other person’s shoes and understand the world through others’ eyes [1]. This means that we try to understand others’ feelings, beliefs, experiences, and expectations, everything that has shaped and is shaping his/her attitude in life. It is a deep communication process, through which we try to ‘listen’ to the other.

Empathy has been an influential concept in ethics and moral theory, aesthetics theory, social/developmental psychology, clinical psychology, neuroscience, and artificial intelligence which all have followed the foundational work in philosophy [2–7]. Contributions from this rich variety of fields have resulted in several definitions [8], functions, proposed components, theories, and models of empathy [7, 9,10].

Empathy comes from the Greek word *εμπάθεια*, however, in colloquial this term has a negative content and does not convey the scientific meaning of the term empathy. The word empathy was first introduced into English by Edward B. Titchener (1909) [11], as a translation of the German word *Einfühlung* (*föhlung* = sense + *ein* = within), which was suggested by Robert Vischer in 1872 [12]. Robert Vischer was strongly influenced by Hermann Lotze, who in 1858 proposed a mechanism by which humans can perceive

material objects and other species of animals “by putting themselves in them” [13]. The word *Einfühlung* was interpreted as the process by which an observer projects himself into the object he/she is observing. When Titchener coined the word *Einfühlung* in English as empathy, he defined it as the process by which we humanize objects, read, or feel ourselves within them [14].

The psychologist Theodor Lipps, in his own *Asthetik* (1906) chose empathy (*Einfühlung*) as the basis of his aesthetics and description of the other’s mental state [15]. His work turned empathy into an important object of philosophy and the humanities. Lipps extended the concept of empathy so that it not only refers to the aesthetic appreciation of objects but also forms the basis for recognizing other people as intelligent creatures [14]. In 1934 George Herbert Mead gave one of the first conceptual definitions of empathy as we understand it today: “empathy is the ability to take on the role of another and to adopt alternative perspectives on oneself.” [16]. One of the pioneers in the use of the concept of empathy in the 1950s was the psychoanalyst Heinz Kohut, who gave two definitions of empathy, one more abstract and one more applied. According to the abstract, empathy is a “vicarious introspection” [17], while in the applied, empathy was defined as “the ability of a person to think and feel himself in the inner life of another person” [18].

Philosophical and psychological interest in empathy was revived in the 1990s with the discovery of mirror neurons. These neurons and circuits of neurons within the cortex and limbic system are activated either when we perform certain actions or feel certain basic emotions or when we see other people perform an activity [19–21]. Empathic communication results from myriad processes occurring in the brain [22]. It is a synthesis of complex information processing at multiple levels that facilitates human interaction and survival. Empathy is essential to interpersonal communication in every relationship, it reduces aggression as you put yourself in the other person’s shoes and explore their intentions and the way they think, and is a highly sophisticated skill [23, 24].

Empathy is a concept that has three aspects, cognitive, emotional, and motor [25, 26]. Cognitive refers to the understanding on a mental level of another person, that is, the ability that the person has to perceive the thoughts and feelings of others without the necessary emotional response. On the other hand, the emotional aspect of empathy concerns an emotional response of one person to the feelings of another. Such an emotional understanding can make one aware of another person’s well-being, or it can lead to feelings of personal discomfort. Combined, these two processes enable the observer to understand another person’s beliefs, desires, and feelings, and both are considered important factors in the experience of empathy. Motor empathy refers to a type of bodily reaction in response to what someone else is experiencing. There is another dimension, the communicative one that concerns the transfer, with precision and sensitivity to the other, the understanding of his emotional world [27].

On the other hand, there is compassion. The etymology of compassion comes from the prefix “com” and the Latin root “pati” meaning together suffering [28]. Compassion, although marginalized for many years by the scientific practices of Western Psychology, in the Eastern traditions, plays a very central role as it is a concept that seems to free the mind from the power of emotions such as fear, anger, and jealousy [29]. Compassion is not only a process that supports the building of social relationships with others, but also has a significant impact on the mental and physical health of the individual. In Eastern traditions, compassion is associated with the love of goodness. This form of love is not

related to the desire of the other or the search for bonds. Compassion involves openness to pain in a way free from criticism and aggression. It is important to emphasize that compassion, in addition to containing the element of awareness and understanding of the causes of pain and the behaviors of the sufferer, also involves the desire to alleviate it [30]. Compassion consists of six components: mobilization, sensitivity, sympathy, tolerance for anxiety, empathy, and avoidance of criticism [31].

Buddhist approaches and the motivational theorist focus less on emotion and more on compassion, as they are rooted in a motivational care system [32]. Combining Eastern and Western traditions of compassion, Gilbert defined compassion as the motivation for the following: ‘... a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it’ [33]. This definition includes the issue of others and self and also includes the issue of compassion as focused on prevention. In Buddhism, compassion is expressed as kindness (Metta), joy for the life and well-being of others (Muditta), compassion in the context of moral conduct and generosity (Karuna), and social cohesion (Upekkha) [34]. Compassion can be universal, focusing on valuing, tolerating, and protecting the well-being of all people and nature [35]. Compassion is therefore a quality that is expressed both with warmth and understanding, as well as with courage, strength, and daring [36].

Through compassion we learn our interest shifts to the problems and difficulties of others, looking for energy reserves and alternatives to help them. We also arm ourselves with coping techniques for our problems, stopping to deal with painful situations with passivity [37]. Feldman & Kuyken (2011) refer to compassion as an orientation that recognizes pain and the universality of pain in the human experience and can respond to that pain with kindness, empathy, composure, and patience [38]. Gilbert (2005) understands compassion in evolutionary terms by focusing on the interaction between three systems with a neuropsychological basis: a) threat system, b) motivational system, and c) soothing system [39]. Studies of the subjective experience of compassion reveal that the momentary experience of compassion motivates altruistic and affectionate behavior [40].

Finally, it comes to be added love which is a supreme and superior force can be considered the highest result of true empathy and compassion. Love is a human virtue that represents kindness, compassion, empathy, selfless closeness to a fellow human being, loyalty, and well-intentioned concern for other living beings [41], but also the desire for the good of other people. Love is also an essential survival factor for all ages [41]. It nourishes human existence, gives meaning to life, and gives color and regularity to interpersonal relationships. Plato, in the speech of Socrates, points out that love is the motivation or impulse that leads us to try to know and think about beauty itself [42]. For this philosopher, love comes from the desire to discover and admire the beauty. The process begins when one appreciates the natural beauty and then proceeds to the spiritual beauty. Love forces us to acknowledge the other with the same absolute central significance we have for ourselves. It is the transfer of all our interests in life from ourselves to the other. According to Kant, the feeling of love in the “Doctrine of Virtue” includes “pleasure in the perfection of others.” [43].

We then present the construction of a 9-layer pyramid model of empathy – compassion – love which aims to show the levels a human being must pass to reach the upper level of Unity Empathy – Compassion – Love for self and social improvement and actualization. As we also live in the digital age there is a reference to digital technologies that

contribute positively to the cultivation of empathetic and compassionate skills alongside any other strategies and techniques.

2 The pyramid of empathy: The nine-layer model

Taking into consideration the concepts of sympathy, empathy, and compassion we analyze the levels of our pyramid step by step (Figure 1), their characteristics, their importance, and the course of their development to conquer the upper levels, transcendence empathy compassion, and unity empathy-compassion-love pointing out the significance of these concepts in our life in every sector. The levels are built on top of each other, hierarchically and stratified, as in the construction of our other theoretical pyramid model of emotional intelligence [44]. But to have the ability to empathize or show compassion, we need to start, first and foremost with ourselves. Each level is higher performance than the previous one which represents the levels of empathetic and compassionate behavior that are connected through evolutionary processes.

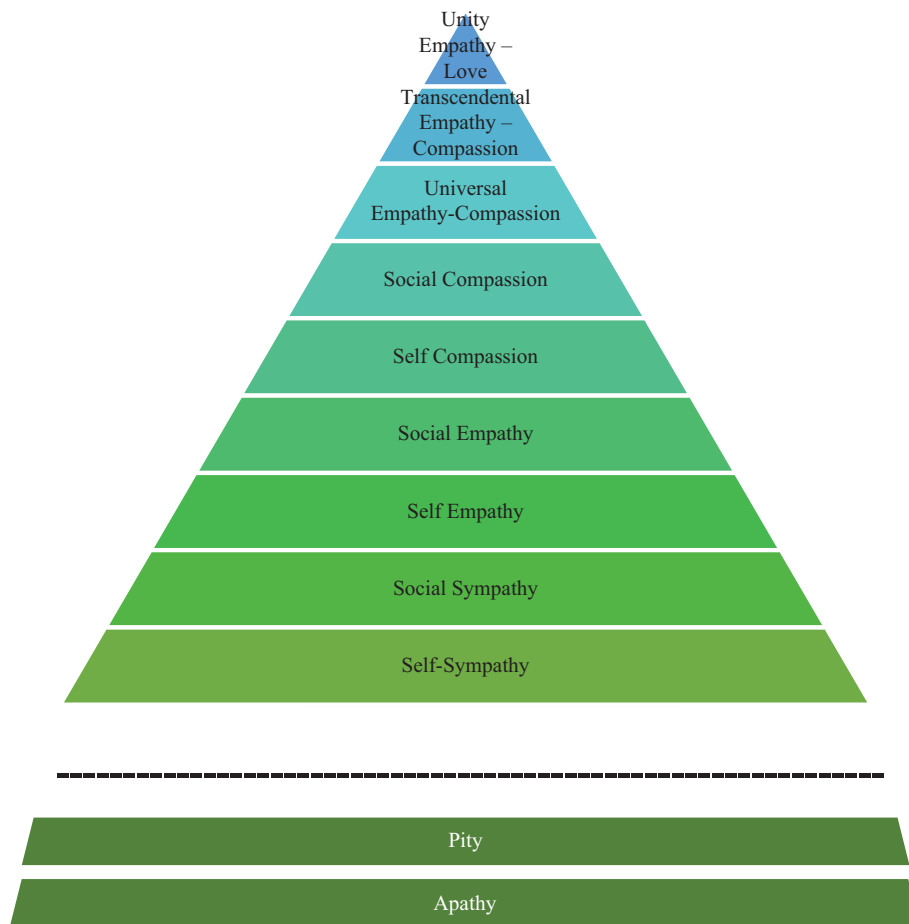


Fig. 1. The empathy pyramid model (9-layer model)

2.1 Apathy

Apathy is outside the main levels of the pyramid to demonstrate the negative connotation of not having emotions so by extension empathy. The concept of apathy is referred to the absence of passion and emotion. Apathy is a form of executive cognitive dysfunction [45, 46] which includes psychological as well as behavioral aspects such as mood, personality, and cognitive function [47]. It is a generalized state of indifference to which we do not respond to aspects of our emotional, social or physical life. Signs of apathy include abstinence from normal daily activities, limited expression of emotions, and lack of energy. The range of characteristics of apathy includes a decrease in the initiative, goal-directed behavior, interest, motivation and mobilization, spontaneity, tenderness, energy, enthusiasm, emotions, and perseverance, as well as emotional alleviation [48–50]. Ang et al. (2017) developed the Apathy-Motivation Index and labeled three different subtypes of apathy: behavioral, social, and emotional apathy where each one is defined by different characteristics and mechanisms [51].

2.2 Pity

Pity is still not included in the main pyramid but it is the beginning to enter into a first and minimal effort to acquire sympathetic and empathetic abilities both for ourselves and for others. Pity is just a feeling of sadness. It leads us to see the pain of others from an emotional and psychological distance that makes us feel on a higher level as if we are somehow safe from the misfortune of others [52]. Pity is more spectator-like. Whoever feels pity for you, usually only cares about himself, and offers you his help to make him feel good. It is the expression of our pity, sorrow, and inward desire not to be in the place of what we have in front of us. In many cases of pity, we could offer substantial help, but we realize that we are not in a position or obliged to do so [53]. Self-pity involves thinking only of one's own difficulties, problems, etc. [54]. There is a healthy dose of sadness, grief, or interest in oneself. However, we distinguish self-pity from other emotions as it involves the concept of absolute attachment to (negative) thoughts about yourself. In self-pity, you have the belief that no one cares about you. With self-pity he denies his power to create something more in his life and indirectly holds others responsible for it, thus accepting his weakness [55]. Moreover, if pity and self-pity involve paying attention to the suffering rather than the success of others and ourselves, it can ultimately lead to some improvement. With pity, we overcome our natural tendency to look away from people who are suffering. This is undoubtedly socially useful and morally commendable. But simple recognition is not enough. Real help is often needed.

2.3 Self-sympathy

Self-sympathy constitutes the base of the pyramid model and it is the first level. Self-sympathy has an emotional basis at a very early stage. The prefix “self” is common to the meanings and implies something self-causal that comes and is regulated from within [56]. The roots of the word sympathy are the Greek words sym (συν), which means “together”, and pathos, which refers to feeling or emotion. With self-sympathy

begins a manifestation of altruistic and moral behavior in general. Self-sympathy can allow us to better balance immediate emotional relief and marks a person's desire to see oneself positively. It is a means to comfort when self-esteem is poor and spiritual distress is felt [57]. Self-sympathy means that one will try to apply the same affection and kindness that he shows to his loved ones when in trouble with oneself. Self-sympathy also involves minimizing the suffering of a person in the future. Lack of self-sympathy increases the avoidance function [58]. According to this hypothesis, people who have lower levels of self-sympathy are more likely to ruminate [59].

2.4 Social-sympathy

The word sympathy comes from the ancient Greek *συμπάθεια*, *sympatheia*, which literally means "to suffer with." [60]. While throughout the 20th century sympathy continued to be used to describe the ability to feel what others feel, its potential for social reform was increasingly discarded and replaced by a growing sense of cynicism [61]. Sympathy is defined as showing concern, sorrow, or pity for the other person's suffering and emotional state in general [53, 62]. Sympathy is also described as an emotional reaction consisting of feelings of bitterness or anxiety about another who is in a state of distress or need (rather than similar feelings to another). The concept of sympathy very briefly means a positive, emotional, attitude towards someone which can also create an emotional bond activating the social self [63] but does not include the intensity of love. Sympathy can lead to short-term action as the emotional state subsides, as well as excessive emotional involvement that can deplete the self-caregiver [64]. One person may sympathize with the other's experiencing mental pain, but may not perceive the emotions that cause or result from that pain. Sometimes, sympathy is born and enhanced by common passions with other people and being positively attached to them without any effort. Generally, in sympathy, the attention of the person is focused on his own feelings and their supposed resemblance to those of the other.

2.5 Self-empathy

Self-empathy is the following step in the pyramid after having conquered the previous two. The first step toward empathizing with someone else is to empathize with yourself [65]. The existence of self-empathy leads to the good self-perception of the individual. The person who feels familiar with the subjective disturbances of his inner existence tends to perceive with sensitivity the inner world of others and not be afraid to respond from this position of awareness. A basic precondition for self-empathy is to achieve inner listening with respect, readiness, and openness so that all messages are accepted. Self-empathy simply requires you to notice and recognize what is happening in you. Attentive self-empathy provides both affective and cognitive empathic access to your lifeworld. It provides an opportunity for you to integrate aspects of your current and past experiences and doesn't necessarily require reinvention or radical conversion of those experiences [66]. Self-empathy means that an aspect of yourself observes, in an empathic manner, the aspect of yourself that experiences. This is done with an attitude of suspended judgment and openness towards yourself [67].

2.6 Social-empathy

Social empathy is a higher level of empathy, which is usually intended to refer to a set of mental activities that seek to achieve a qualitative and experiential understanding of what it means to be another person or what it means to be in his or her situation [21]. To have social empathy means that we observe and try to understand the people around us. By trying to understand others we gain insight into solutions. It is the ability to understand what another person is feeling and thinking. Social empathy is the ability to understand people by perceiving or experiencing their life situations and as a result gain insight into structural inequalities and disparities. Social empathy applies empathy to social systems to better understand the experiences of different people, communities, and cultures. It is the combination of 1) experiencing empathy to its fullest extent; 2) gaining deep insight and knowledge about historical and socioeconomic contexts, particularly about inequality and disparity; and 3) embracing the importance of social responsibility [68, 69]. Social empathy is associated with the ability to recognize, understand and express emotionally the feelings and condition of an individual, reserving the social desire for help and action aimed at relieving pain in compassion [70]. Social empathy includes understanding the pain of others, but also perceiving the joy of other people.

2.7 Self-compassion

Self-compassion, as defined by Neff (2003), refers to an attitude of warmth and acceptance towards the sides of ourselves in moments of pain or failure [36]. For Germer (2011) self-compassion means taking care of oneself as we would do for a loved one [71]. Self-compassion refers to the ability to be kind and helpful to one's self at times of error or despair [72]. It is a sign of strength, care, concern, and benevolence to oneself [73]. Having self-compassion means managing feelings of inadequacy, gaining healthy self-esteem and self-confidence, drawing strength from the obstacles and difficulties we encounter every day, and building a harmonious relationship with ourselves. It is an attitude of life towards ourselves for self-improvement and evolution. A self-compassionate mind state entails being kinder and more supportive toward oneself and less harshly judgmental. It includes greater mindfulness of personal suffering and less rumination about negative aspects of oneself or one's life experience [74]. Its important features are self-kindness, in contrast to the attitude of criticism, common humanity which is the recognition of failure and mistakes as part of the human condition, and mindfulness which is the ability to be fully aware of painful feelings and thoughts instead of avoiding and covering them up [36, 75]. Self-compassion is positively associated with happiness, life satisfaction, optimism, social cohesion, wisdom, learning goals, and emotional endurance and strength [76].

2.8 Social-compassion

For a person who wants to create genuine compassion for others, it is necessary to have a base, where compassion will develop. Since you have cultivated the ability for self-compassion, you are ready to move on to the next step of social compassion for the

people around you. Kanov et al. (2004) argue that compassion consists of three facets: noticing, feeling, and responding [77]. Social compassion contains emotion and beneficial action or a desire to help [78]. It is a response to another person's difficulty and the will to do something to actively alleviate another person's pain, often at some personal cost to the respondent [70]. Social compassion is a stronger state, in which we seek the good of others. Social compassion consists of six components: mobilization, sensitivity, sympathy, tolerance for anxiety, empathy, and avoidance of criticism [79]. It is the process or results where, the awareness of the pain that someone else feels, or the suffering that afflicts someone else in combination with the desire, with all your soul, to relieve him of these sufferings. In Buddhism, however, compassion is seen not only as an emotional response but also as a response based on reason and wisdom embedded in a moral framework of selfless intent to free others from suffering [80]. To have true compassion for our fellow human beings, we need to keep our distance from their pain, to truly help them. We need to be more energetic than the one we are going to help, because otherwise if we identify completely with his pain, we will not be able to give him positive energy, good wishes, and spiritual strength, which he needs to feel better.

2.9 Universal empathy – compassion

The seventh layer of the pyramid is that of universal empathy – compassion. Universal empathy – compassion can be seen as evolving from a focus on protecting oneself and one's family and social environment to a broader focus on protecting others. Having empathy for other humans promotes a feeling of emotional connection between individuals, groups, families, and communities. It includes compassion for the natural environment, for the animals, and all the living beings of creation. It is not only directed toward our loved ones but also to strangers and ultimately, to all humankind. The concept of universal empathy is similar to the notion of interconnectedness, which highlights that individuality and separation are false beliefs [81]. For some authors, this sense of interconnection is what frequently motivates compassion and compassionate behaviors [62, 81]. Universal empathy entails emotions of concern for other people, and that altruism is comprised of genuine (not egoistic) pro-social values and behaviors [82]. Universal compassion extends the concept of neighbor to anyone in need, including strangers and members of outgroups [83]. These teachings explain how all living beings are equally important and help create a world that does not discriminate based on people's background, faith, sexual orientation, and so on [84]. Universal compassion stands "for" everyone [85].

2.10 Transcendental empathy – compassion (Trans-empathy-compassion)

In the eighth level, transcendental empathy is perceived as the recognition that we are re-creating the world since we are trapped in the systems we have created and as the ability to see connections over time so that we can know that we are the ones making the world in which our children and grandchildren will live in [86]. Transcendental compassion stands out as the supreme good, the transcendental element that can unite people and break down ideologies and imaginary dividing lines leading people to focus

less on self-image and more on constructive relationships and to contribute to something greater than themselves [87]. It is ultimately that characteristic that leads to self-sacrifice and heroic transgressions. Transcendental empathy and compassion transcend negative constraints such as an enemy, a stranger, creatures that at first glance may not contribute or be harmful to humans thinking that they also need help and going to help them equally [88]. It is the desire to alleviate the grief and difficulties of others regardless of the effort required and is considered one of the necessary paths to be happy [89]. We lead to connectedness because it involves transforming from one state to a more enlightened state, what they call ‘self-expansiveness’ that transcends the boundary demarcating the self from the non-self [90]. As Rogers (1980) described, “it seems that my inner spirit has reached out and touched the inner spirit of the other [91]. Our relationship transcends itself and becomes part of something larger”. As the gap between subject and object (or, self and other) is crossed and we become more available to the world at large, we may discover that our empathic meeting is not limited to the person sitting in front of us. For example, we may experience empathy for another at a distance, experience others that do not seem to be available to our senses and be open to the world in general. In deep empathy, one opens the self to the other and transcends personal boundaries [92]. Furthermore, in transcendental empathy – compassion one helps others to feel empathy and compassion for other human beings, animals, etc. Cultivating transcendental empathy and compassion could make the difference in finding the wisdom to shape future prosperity for the whole where the ego transcends, and we will see and feel larger systems [64, 86].

2.11 Unity empathy – love

Unity empathy-compassion-love is the final level in the pyramid model and is very important for human survival and a more connected and peaceful world. If we are to move in the direction of a more empathic society and a more compassionate world, it is clear that working to enhance our native capacities to empathize is critical to strengthening individual, community, national, and international bonds. As the Dalai Lama so succinctly stated, “Love and compassion are necessities, not luxuries. Without them humanity cannot survive” [93]. The way to attain enlightenment is to cultivate your present mind of empathy and compassion and develop it to the full [94] to have unbiased empathy-compassion-love for all living things. We must first extend our minds to cherishing others until we feel cherishing love for all living beings. This movement indicates a paradigm shift from the individual to the collective. In his last main work in moral philosophy, the *Metaphysics of Morals* of 1797, Kant included the ‘love of human beings’ that is needed to perform beneficent actions [95]. Underwood (2002) uses the term compassionate love to imply a deeper “investment of self” and that such an investment requires self-knowledge and a free choice to set aside our agenda for the sake of the good of another person [96]. Unity empathy-compassion-love includes feelings of connectedness or oneness with others and reality, and agape, or unselfish love [97, 98]. The Buddhist notion of loving-kindness entails that one transcends one’s concerns and engages in an experience of universal love and care for others. The cohorts of unity empathy-compassion include love (sometimes described as communion), realness or

authenticity, a sense of appreciation, and an unconditional, non-judgmental acceptance. Again, this is the experience of moving from “It” to “Thou” [92]. Unity empathy-compassion-love is the highest form of mindful being in the world and an effort of ourselves to move forward and grow.

3 Digital technologies and robotics for the development of empathy and compassion

There are practices and strategies suitable for cultivating empathetic and compassionate skills [99–102]. Some of them are easily applicable and contribute to the achievement of more general goals. The individual through empathy and compassion achieves not only better knowledge of others, but above all greater understanding of oneself, which leads to his continuous self-improvement.

But living in the age of technology, great importance has been given to the development and cultivation of empathy and compassion through digital technologies and robotics. According to Farber and Schrier (2017), video games can support socio-emotional learning (SEL) and related skills [103]. Video games and digital technologies are interconnected in our daily lives and more than 2.5 billion people around the world play video games [104]. This number shows that digital skills as a whole are very important in today’s world. Therefore, schools and learning environments should impart the skills and knowledge required for the 21st century.

According to Happ (2013), video games immerse players in fantasy stories. This immersion creates stronger emotional and personal experiences [104, 105]. Recently, there has been more research on how video games can enhance social skills and empathy in young people (Hamilton, 2019). In any case, playing a video game activates emotions, which means that video games can be used as a tool to cultivate empathy (Walunsari et al., 2019). Marks (2018) stated that: “A book or a movie can show us what it is like to be in the position of a character, but the video game is what can put us in that position.” Therefore, video games have properties for supporting and cultivating empathy [103]. In addition, some game developers specialize in finding ways to integrate empathy-building processes into their video games [106]. According to Wulansari et al. (2019), video games have great potential for raising awareness of different issues facing today’s society [104]. Therefore, virtual worlds can help students learn about the real world [107]. This makes video games suitable for use in educational and learning environments.

In addition, many digital games and serious ones have been created in a general effort to develop empathy and compassion for various social issues, as well as in an effort to cultivate empathic behaviors on a personal level [108, 109]. Virtual and augmented reality follow the same line in terms of developing empathy and compassion skills [110–113].

Moreover, educational robotics will play a crucial role in the development and creation of robots to feel and cultivate emotions, empathy, and compassion [114–116]. Robots are built to take on a variety of roles and can therefore be used as tools, avatars, and even social media tools. Robots with empathy and compassion will be able to recognize and understand their emotions, as well as the emotions of people who interact,

will be able to modify their behavior, and will be empathetic by creating natural cooperation and communication between robots and humans. At the same time, they will contribute to the development of empathetic and sympathetic skills in the children/adults they come in contact with.

Through digital technologies, games, and robotics, students can experience different cultures, societies, and perspectives, allowing them to relate to something unknown to them.

4 Discussion

Empathy is included as a form of pro-social behavior [28]. It is a multidimensional process that combines emotions, cognitive perspective, and personal agony [117]. On the other hand, compassion in general has a catalytic effect on all areas of our lives [118]. It makes us more productive, and more creative and transforms our relationships with others whether they are personal or professional.

The concept of empathy is used to refer to a wide range of psychological abilities that are considered to be central elements for a person to be able to perceive what other people think and feel, participate emotionally with them, share thoughts and feelings and take care of their well-being. Empathy has a metacognitive dimension [2, 119]. The individual must have a cognitive sense of self and others, as separate beings, with independent internal states, which are partly reflected in externalized behavior as well as separate living conditions. Compassion, also, requires a particular set of cognitive competencies. They include a range of complex reasoning abilities that enable various forms of self-awareness, symbolic and systemic thinking, mentalizing, reflection on the past, and behaviorally contingent predictions of the future called ‘mental time travel’ (‘if I do that, then this is likely to be the outcome’) [32, 120].

According to the literature, there are many benefits to being able to experience empathy and compassion. They allow people to build social connections with others. By understanding what people think and feel, individuals can respond appropriately to social situations. Research has shown that the existence of social bonds is important for both the physical and psychological well-being of people. Empathy and compassion help individuals regulate their emotions and manage what they feel, even in times of great stress, while at the same time promoting supportive behaviors and a better quality of life, encouraging altruistic behavior, increasing cooperation and forgiveness, strengthening relationships, decreasing aggression and judgment, and even improve mental and physical health [121–123]. Another area in which compassion is proposed as a tool with positive results in education. Goleman (2006) emphasizes the imbalance of education which thoroughly takes care of academic skills and leaves almost to chance the cultivation of social skills for healthy socializing with peers resulting in manifestations of the school bullying phenomenon [124]. Peterson (2017) mentions exercises in the formal lesson that could develop in children empathy and compassion, and push them to take the place of the other (e.g., write a small text as if they were in the same position) [125].

Empathy and compassion, although it is something to which we have a natural susceptibility, must be cultivated and strengthened – it does not flow directly from cognition.

Many studies show that people can enhance (cultivate) or reduce their natural predisposition to empathy and compassion [1, 126]. Empathy and compassion are skills that we can learn through hard work, years, and experience. The will of the person, to put himself in the place of the other and to try to understand the feelings and needs of each person helps him to develop emotionally. Also, recently, social-cognitive neuroscience has been arguing that adult empathy can be enhanced through appropriate educational programs, with the accumulation of more and more empirical data, such as findings showing a change in the socio-emotional brain through the differential plasticity of neural networks after training [127].

The application of the principles of empathy and compassion covers a wider range: it is a need/ability to take the place of the other and to understand how he feels, not to judge an emotion, to want to help, to respect each other's personal space, to decode hidden emotions behind certain behaviors. They include a strong social element. This is particularly important, especially in the current context of multiculturalism, where the coexistence of individuals with different cultural identities can create friction and problems. Empathy and compassion are not just static mental states, but emotional and mental motivations. In its light, views, attitudes, and behaviors can be defined and changed. The individual achieves better knowledge of others, but also a greater understanding of himself which leads to his continuous self-improvement.

The technique of active listening is a basic condition for cultivating empathy and compassion. Eye contact, nods, verbal encouragement, and open-ended questions make it much easier to achieve active listening. When the other person speaks to us, we do not think about our answer, we do not change the subject and we do not focus the discussion on ourselves. Instead, we let him express himself freely. Moreover, studies of loving-kindness meditation demonstrated that a brief practice was able to increase feelings of social connectedness and affiliation toward strangers [128] and that repeated weekly training sessions led to increasing positive emotions, mindfulness, feelings of purpose in life and social support as well as to decrease illness symptoms [129]. Training compassion and empathy through mind training and meditation are very helpful [32, 85, 88].

Nowadays, the exploitation of ICTs in the education domain is very productive, and successful, facilitating and improving the educational procedures via Mobiles [130–139], various ICTs applications [140–159], AI & STEM [160–168], and games [169–173]. Additionally, the combination of ICTs with theories and models of meta-cognition, mindfulness, meditation and emotional intelligence cultivation [174–184] accelerates and improves more over educational practices and results.

More specifically, since empathy is so important to social interactions, the integration of empathic capability for computational systems would also be useful. It could enhance interactive systems such as educational applications, medical assistants, companions, psychotherapy, and gaming applications where social capabilities are of great importance [7]. Various games have been developed to enhance empathy and pro-social behavior explicitly or implicitly in different contexts [185–187]. In addition, efforts have been made to model empathy in social robots, which involves the capacity to recognize another's affect and respond appropriately, establish and maintain a positive relationship with users and cultivate empathy [188].

As we rise through the levels of the pyramid of empathy, compassion, and love that we have presented we step closer to their development to the fullest extent. At each level, one cultivates significant skills that are important resources for success in one's personal life, professional life, interpersonal relationships, and in life in general.

Love that is placed at the top of the pyramid model is the desire of all beings to be happy and to have the causes of happiness. It is the manifestation of the capacity to transcend the borders of our factual phenomenal being, in our capacity to live not only in ourselves but also in another [189]. This desire includes all beings without exception, both our friends, neutral people, and our "enemies". Plato defines love as "the desire for the eternal possession of the good." Plato wrote and spoke about love in most of his works such as the Symposium [190]. With true Platonic love, the beautiful other person inspires the mind and soul and directs one's attention to spiritual things. It was a love that focused on the beauty of a person's character and intelligence and not on his physical appearance. However, it is a love uniquely present in the world of ideas, where it is considered perfect and indestructible.

The model of empathy, compassion, and love has been created with a better distinct classification. It is a more structured evaluation and intervention model with hierarchical levels to indicate what are the levels through which one must rise to have empathy and compassion for oneself and others and to reach even higher at the level of unity and love. It is a methodology for the further development and evolution of the individual. This model can have practical applications as an evaluation, assessment, and training tool in any aspect of life such as interpersonal relationships, work, health, special education, general education, and academic success. The ultimate goal should be to develop empathy-compassion-love for oneself, for others, for living creatures, for nature, and for the world.

Empathy and compassion call us to a small effort so that we can put ourselves in the other person's shoes without losing the integrity of our own existence. They play a critical role both on an interpersonal and social level, providing an emotional bridge between individuals, experiences, needs, and desires. The more people practice compassion, the more the community benefits from it. Compassion is altruism carried out in the service of social life. As Nussbaum argues, it is an attitude that bears in mind how a community is not supported and shaped by rights and duties alone, but also by generosity [191].

In this paper, we presented the pyramid of Empathy-Compassion-Love as an attempt to create a new layer model based on these concepts. In essence, each higher level of the pyramid is an improvement toward one's personal growth and a higher state of awareness, regulation, consciousness, mindfulness, benevolence, openness, motivation, happiness, kindness, and love.

5 Strengths – limitations – future research

A strong point of this article is its contribution to demonstrating a better gradual transition to gaining empathy, compassion, and skills at the highest levels of the pyramid starting first and foremost with ourselves. This pyramid can be used as a model, evaluation, assessment, and training tool in many areas such as education to cultivate empathy

and compassion starting with ourselves and then with others. This clarity contributes positively to locating at what level we are in the pyramid so that with training we can move on to the next level. Future research will show the emotional, cognitive, and meta-cognitive skills and functioning processes required for the progressive development of each level of the pyramid of empathy – compassion – love, and its strengthening.

6 Conclusion

The existence of empathy and compassion makes us more tolerant of diversity and opens the horizons of our thinking, as it makes us more receptive to different thoughts and feelings, even if they are far from ours. On a daily, practical level the importance of empathy begins and is increasingly found in real life, in business, and in our relationships with others. Research has shown that empathy makes people better managers and workers, and better family members and friends. But it's bigger than just its personal effect. We're all in this together, and researchers say that connection and compassion are crucial to a sustainable and humane future. Because the neural circuitry of our brain is malleable and can be reconnected through its neuroplastic tendency, the individual's tendency for empathy and compassion is never constant. We all need to practice ourselves, and put ourselves in someone else's shoes to strengthen the neural networks that allow us to love the other as ourselves and do to others what we would do for ourselves. Interestingly, empathy and compassion are reciprocal because while we help others, we help ourselves. This genuine approach to souls creates a state of prosperity, gratitude, and happiness.

7 References

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