

Physiological Basis of Empathy and Emotionality in Nursing Practice

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Abstract

Empathy is a form of connection with a cognitive-emotive response that stems from the apprehension of another person's emotional and physical state of distress. The physiological context of empathy as related to emotionality and related behavior in nursing is a motivating challenge into adventures of high-order mental functions. Since our responses are coordinated in the brain, understanding different contexts and processes complete the cycles of initiation, coordination, and memory is essential. The theoretical basis of Emotional Intelligence and Self Determinism for emotionality and empathy related behavior are applied. The pursuit of empathy as a centrally vital competence in healthcare is an interesting discovery and its regulation is a beautiful process. A conceptualized relationship model is illustrated to manifest a candid relationship between and among emotionality and empathy related behavior in nursing. Empathy builds on a likened emotional believe that humans have the capacity to demonstrate empathy or portray empathy-related behavior to self and other people. Emotions and emotionality rule our daily lives. We choose activities and hobbies based on the emotions they incite in us. We make decisions based on whether we are happy, angry, sad, bored, or frustrated. The decisions we make impact to us and to others in a considerable emotional measure. Empathizing means we leave our comfort zones and delve into our clients' phenomena and socialize with them within their imaginary and actual realms. This zone is almost always vulnerable for nurses.

Key Words: empathy; empathy-related behavior; emotionality; nursing practice

Introduction

Dimensions of Emotions and Empathy - Related Behaviors

Empathy is an affective-cognitive concept which has an emotionally mediated set of responses that stem from the apprehension of another person's emotional-physical-social status of distress (Eisenberg & Liew, 2009). To empathize means to understand and share the feelings of another person. Understanding and feeling involves cognition and emotions. Mayer and Salovey (1993) define emotions as "organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems". Researchers and socialists agree that human beings; either sick or well; have the capacity to show empathy and empathy-related behaviour to other people

(Hastings, Zahn-Waxler, & McShane, 2006). In this context therefore, human beings have specific regulators in the brain that are evidence modulators of tendency to demonstrate empathy-related behaviours.

Emotions seem to rule our daily lives. Human beings perceive and portray negative and positive emotions. We make decisions based on whether we are happy, angry, sad, bored, or frustrated. In addition, the decisions we make may result into predisposing the binary nature of emotionality. We can hypothesize that the decisions we make regardless of our prevailing emotions, have the power to evoke positive or negative emotions to us or others. We choose activities and hobbies based on the emotions we harbor and the emotions they incite within us. Emotions can be distinguished from closely related concept of mood in that; emotions are shorter and generally more intense. In daily life perspectives, empathy involves the organized response of emotions as adaptive and as something that can potentially lead to a transformation of personal and social interaction into an empowering experience (Salovey & Mayer, 1993).

Emotional intelligence has been the topic of research in areas such as leadership, performance, workforce issues, health care industry, gender differences, and nursing (Cherniss, 2004). According to Goleman (1995), emotional intelligence involves the elements of self-awareness, empathy, effective handling of emotions, relationships, managing feelings, and finding stable sources of individual and social group motivation. Emotional intelligence helps in developing empathy. Empathy is a powerful communication skill that is often misunderstood and underused. Empathetic communication is a teachable, learnable skill that has tangible benefits for patients (Ioannidou & Konstantikaki, 2008). Although empathy-related behavior tends to increase in both frequency and complexity with age and experience (Eisenberg, Fabes, & Spinrad, 2006), much remains to be learned about the physiological regulations of empathy and their role in emotional support in healthcare. Showing empathy can be impaired by persistence in negative emotionality (fearfulness, anxiety, anger, distress, and hopelessness) and undesired empathy-related social behavior. Physiological regulation of empathy mentions that our actions and behaviour are centrally coordinated in the brain. The plethora of variations of our brains makes understanding the perspectives essential. An understanding of neurological substrates has critical implications for how people can best learn; develop strengths and sustain empathetic range of behavioural competencies in the healthcare, specifically in nursing practice. The objectives was to describe emotionality and empathy related behavior in different perspectives in healthcare.

The Origin and Physiological Context of Empathy

Empathy has its phylogenetic origins tracing back to development of autonomic nervous system and how it relates to emotionality (Decety, 2007). The evolution of the autonomic nervous system provides a means to which we understand the adaptive significance of mammalian affective processes and establishment of lasting social bonds (Porges, 2001). At a rudimentary level, appetitive and aversive behavioral responses are modulated by specific neural circuits in the brain that share common neuroarchitectures among mammals (Parr & Waller, 2007). Brain studies have revealed that the limbic system, which includes the

hypothalamus, the parahippocampal cortex, the amygdala, and several interconnected areas (septum, basal ganglia, nucleus accumbens, anterior insula cortex, retrosplenial cingulate cortex, and prefrontal cortex), are primarily responsible for processing of emotions (Decety, 2011). Emotions are mostly either positive or negative depending on the perceived behaviour or evoked responses.

Recent developmental neuroscience research indicates that the affective, cognitive, and regulatory aspects of empathy involve interacting, yet partially non-overlapping, neural circuits with distinct developmental trajectories (Decety, 2011). The discovery of mirror neurons provides a physiological mechanism for this direct link between perception and behavior towards self and others can be explained (Fogassi et al., 2005). The motor neurons activity has been demonstrated to represent a critical information processing function, translating perception into action (Pineda, 2005).

In nursing, the professionals adopt the models of care as prescribed and the cope defined by the policies of care in the hospitals, patient's needs, scope of training, practice oaths, theoretical foundations, and modalities of care, induction, state laws and hospital policies. The interplay of all the factors, and more so, special motivational values of altruism and empathy is a measure of quality of social-therapeutic relationships in healthcare. Empathy and altruistic motivation may lead to people becoming more likely to engage in helping behavior. Indeed, altruistic motivation to help relieve patient distress is seen as a defining attribute among nurses (Odom-Forren, 2007).

Emotions and Social Behavior

Self-Determinism (social signaling)

Self-determination identifies autonomy as a psychophysiological need which refers to the degree to which behaviors are perceived to be caused by the self-versus directed by others (Deci & Ryan, 2000). In autonomy, the subjects are perceived as able and rightful to choose what they do or believe. The persons are subject to their own choices of thoughts, actions or behaviors. Here the autonomous organism is self-directed and feels free from external force or coercion to think or act. The concept explains that when organism shows affective expression to a member of a particular species can trigger similar responses in other members of that species (Basch, 1983). When an autonomous organism shows affective expression or emotional connection, a satisfaction of relatedness needs are somewhat met; whereby one feels connected to others (Deci & Ryan, 2000). In this context therefore, we propose the concept of 'social signaling' in human behaviour to mean that people send and receive signals for emotional connection and a set of behaviors to display to others. The nature of the signal is self-determined and relies of different social-psychological status of the person sending or receiving the social cues.

Emotional Intelligence (accurate social imagination)

Emotional intelligence is the ability to accurately imagine, hear and respond to other people's situation. This accuracy is subject or related to: (a) understand own feelings, (b) listen to others and to hear them, and (c) express own emotions in a productive manner (Goleman, 1995). Emotional Intelligence (EI) has

been an area of interest over the last two decades with many authors and scholars argue whether it is different from Intelligence Quotient (IQ). The difference is, Emotional Intelligence is the ability to control self or own wishes and to delay their fulfilment, to regulate own mood, to isolate feelings from thinking, to place self into another person's situation (situation is commonly called; the other person's shoes) and to reflect in another person's perspective. This social positioning is vulnerable and exposing to risk of judgment, psychological injury and emotional fatigue for the person subverting into another person's perspectives. According to Goleman (2006), emotional intelligence involves the elements of effectively recognizing and handling own feelings, emotions and relationships, empathy, and finding stable sources of individual and social group motivation. Emotional intelligence has influence from and in areas such as leadership, performance, workforce issues, health care industry, gender responsiveness, and nursing (Cherniss, 2004). Emotional intelligence provides the benchmarks essential in developing and portray empathy related behaviours. Empathy is a powerful communication skill that is often misunderstood and underused. Initially, empathy was referred to as "bedside manner"; now, however, authors and educators consider empathetic communication a teachable, learnable skill that has tangible benefits for both healthcare providers and patients (Ioannidou & Konstantikaki, 2008). Empathy is highly related to emotional intelligence of persons showing and receiving empathetic concern. We therefore suggest that the nature of social cues identified from persons can be guide in determining the accuracy of social imagination and emotional connection. Nurses need highly accuracy in social and professional imagination in developing, demonstrating and sustaining empathy.

Emotionality and Empathy related behaviors (social imagery and intervention)

There are three models that describe emotional perspectives that determine emotionality. The first model is based on Bar-On's (1997) work on Emotional Quotient (EQ) and is called the Personality Trait Model. The model built on his studies of personality traits or set of traits that he originally related to wellbeing. The second model is the Ability-Intelligence Model by Mayer and Salovey (1993), which focused on abilities related to identifying and understanding emotions in self and others, and explains how the individuals engage in emotional problem solving exercises. The third model is called the Mixed or Performance Model by Goleman (1995). It is a blend of personality traits from the first model and emotional abilities from the second model, focusing on performance as outcome. There are four domains of emotional intelligence that are shared by all three models; self-awareness, self-management, social awareness, and social/relationship management. However, each model uses slightly different words to describe the domains. A variety of tools have been developed to measure aspects of emotionality.

The Concept of Emotionality and Empathy related behavior

The authors posit that empathy is a diversely modulated humanistic quality. The diversification is sensitive to universality of human emotions and emotionality. The constructs of the proposed model are interrelated in moderating empathy and empathy related behavioral concerns. The constructs are; understanding own emotions and pains, positive and negative emotionality, understanding other's painful situations, taking action to meet healthcare needs of others and consistently portraying empathy related

behavior when situations demand so. The relationship between and amongst constructs is illustrated in Fig. 1

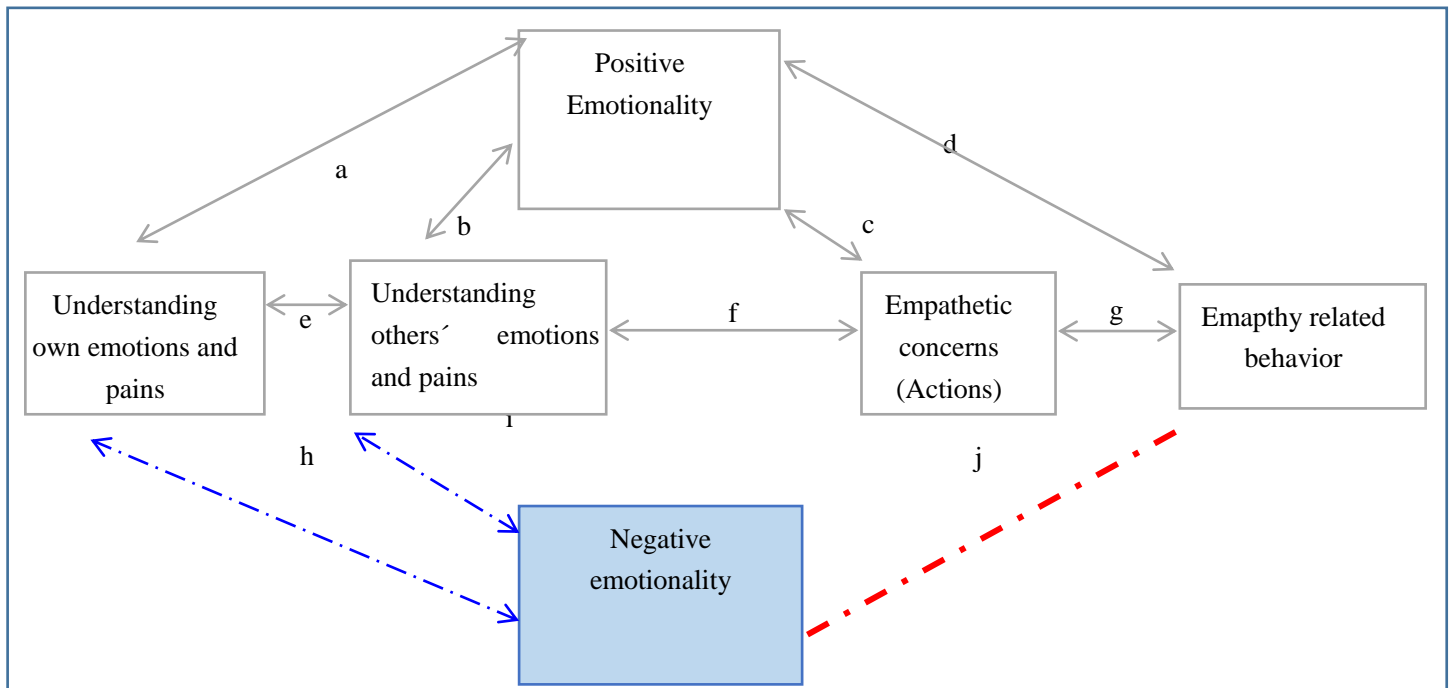


Figure 1: Concept of Emotionality and empathy-related behavior (Gitonga, Karani and Kimani, 2016)

Description of figure 1

Positive emotionality helps individuals understand own (a) and other’s emotions and pains (b, e), motivates persons to take actions (c, f) and have a consistent empathy-related behavior (d, g).

Empathy has constructs in the process and steps indicated in e, f and g on figure above

Negative emotionality is a hindering quality to understanding own (h) and other’s emotions and pains (i). Individuals harboring negative emotionality do not easily show empathy, do not take actions when persons are suffering and are generally not empathetic (j).

Psychophysiological focus on empathy - related behavior

Research in the newly emerging field of affective neuroscience offers a fine-grained view of the neural substrates of emotionality and allows us to see a bridge between brain functions and the behaviors toward self and towards others. From the perspective of affective neuroscience, the defining boundary in brain activity between emotional intelligence and cognitive intelligence is the distinction between capacities that are purely neocortical and those that integrate neocortical and limbic circuitry (Mayer and Salovey, 1998).

Intellectual abilities like verbal fluency, spatial logic, and abstract reasoning; in other words, the components of IQ are based primarily in specific areas of the neocortex. When these neocortical areas are damaged, the corresponding intellectual ability suffers malfunctions (Decety, 2011). In contrast,

empathy-related behavior encompasses the behavioral manifestations of underlying neurological circuitry that primarily links the limbic areas for emotion, focusing on the amygdala and its extended networks throughout the brain, to areas in the prefrontal cortex, the brain's executive center (Goleman, 2006). This circuitry is essential for the development of skills in social relationships and Empathy. Key components of this circuitry include the dorsolateral, ventromedial, and orbitofrontal sectors of the prefrontal cortex (with important functional differences between left and right sides in each sector) and the amygdala and hippocampus (Davidson, Jackson, & Kalin, 2000).

Empathy-Related Behaviors as professional values in Nursing Care

Healthcare constitutes of interdisciplinary interactions. Giving an ardent example in nursing, nurses altruistically offer their care empathetically within the therapeutic environments; nursing homes, hospitals, schools clinics and other clinical encounters. In each clinical encounter, the nurse's behaviour can be easily accepted if she uses the concept of emotional reasoning more than often. Emotional reasoning is a type of connection between the care provider and care giver that is used to inform clinical empathy. In relation to nurses' practice and delivery of healthcare, Coulehan et al. (2001) defines empathy-related behaviours as the efforts and the ability to understand the patient's situation, perspective and feelings and to communicate that understanding to the patient and check its accuracy; and, or to act (empathetically respond) on that understanding with the patient in a helpful (therapeutic) way. Empathetic responses can be influenced by a number of variables; gender, personality traits, interpersonal style, social culture, status of the working environment and the effectiveness of communication skills that have been applied across the healthcare delivery system (Alligood, 2000). In medicine, nursing and other healthcare professions, a good deal of learning the skill and competences goes into the preparation before certification or licensure to practice. Practicing medicine or related disciplines requires proficiency level or expertise to build social-therapeutic relationships. Social relationships rely on emotional communication of needs, care and ability to thrive in a peaceful environment. Empathy related behaviours include and are not limited to kindness, gentleness, effective listening and communication, accurate social imagination, peacefulness, compassion and a caring attitude.

Challenges in Empathy - related behaviours

Emotional support is not an easy task to do. Although it is easier said than done, we are scared by emotions and unwilling to acknowledge the difficulty of assuming another person's situation temporarily. No matter how temporarily it may seem, it leaves some untoward sub-conscious after taste. Several encounters and prolonged performance in the emotionally demanding environments like hospitals predisposes to emotional fatigue. It is possible that sometimes painful feelings that are often part of caring for patients cross over to the healthcare provider (Gray, 2009). The main challenge in emotional support for persons in patient care is that emotions are professionalized to present an impersonal approach of medicine to staff, colleagues, patients and wider society. This professionalization is certainly one strategy to cope with: difficult professional experiences, particularly death and dying (Kelly, 2000). In some occasions, it can progress to emotional guarding or emotional numbness. This status of

numbness is associated with continual hurt, loss and frustration acquired from investing into other people's situations without the adequate skill for maintaining a professional distance from the situation. However, some situation are so contagious that we have little option but to delve completely into them.

In nursing practice, there are isolated cases of massive trivialization of nursing efforts by public and some patients with accusatory, relatives of patients and meanwhile, nurses' efforts to provide interpersonal and emotional support are swept under the carpet, taken for granted and devalued (Gray, 2009). It can be a worse experience in circumstances when the doctors, hospital administrators and the general public take nurses for granted. Healthcare providers have emotional needs, too. When the provider is overwhelmed by emotional burden of caring for patients, s/he may not be as unsupportive as usual. We need to make everyone understand that even the strongest amongst us needs support, sometimes.

Conclusion

Empathy has a diversified and highly specialized modulation of human responses to constantly yield a functional relationship among humans. While emotions are organized responses human beings have demonstrated capacity to show empathy to other people. Every humanistic interaction has emotional load and perspectives. Empathy is closely related to special motivational values of altruism and empathetic responses. Humans are well described as self-determining their actions and behaviors. The ability to understand own feelings, listen to others and express own emotions in a productive manner has a great influence on emotionality. Positive and negative emotionality have an impact on empathy and empathy related behavior towards self or others. Socialization as a process requires self-awareness to be a founding feature and value for forming relationships amongst humans.

Declaration of Interests

The authors declare that there are no conflicting interests.

References

- Alligood, M., & May, B. (2000). A nursing theory of personal system empathy: Interpreting a conceptualization of empathy in King's interacting systems. *Nursing Science Quarterly* 13: 243–7.
- Basch, M. F. (1983). Empathic understanding: A review of the concept and some theoretical considerations. *Journal of the American Psychoanalytic Association*, 31, 101–126.
- Cherniss, C. (2004). The business case for emotional intelligence. The consortium for research on emotional intelligence in organizations. Retrieved December 10, 2015, from <http://www.eiconsortium.org>
- Coulehan, J.L., Platt, F.W., & Egner, B. (2001). 'Let me see if I have this right...': Words that build empathy. *Ann Intern Med* 2000; 135(3): 221-227. 28. Halpern J.

- Davidson, R.J., Jackson, D.C., & Kalin, N.H. (2000). Emotion, Plasticity, Context, and Regulation: Perspectives From Affective Neuroscience. American Psychological Association, Inc. Vol. 126, No. 6, 890-909 0033-2909/00/\$5.00 DOI: 10.1037//0033-2909.126.6.890
- Decety, J. (2011). *Dissecting the Neural Mechanisms Mediating Empathy*. New York: Sage.
- Decety, J. (2007). A social cognitive neuroscience model of human empathy. In E. Harmon-Jones & P. Winkielman (Eds.), *Social neuroscience: Integrating biological and psychological explanations of social behavior* (pp. 246–270). New York: Guilford Press.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268.
- Eisenberg, N., & Liew, J. (2009). Empathy. In R. A. Shweder, T. R. Bidell, A. C. Dailey, S. D. Dixon, P. J. Miller, & J. Modell (Eds.), *The child: An encyclopedia companion* (pp. 316–318). Chicago, IL: University of Chicago Press.
- Fogassi, L., Ferrari, P. F., Gesierich, B., Rozzi, S., Chersi, F., & Rizzolatti, G. (2005). Parietal lobe: From action organization to intention understanding. *Science*, 308, 662–667.
- Goleman, D. (2006). *Emotional intelligence: Why it can matter more than IQ* (10th ed.). New York, NY: Random House Digital.
- Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ*. New York: Bantam
- Gray, B. (2009). The emotional labour in nursing 1: exploring the concept. *Nursing Times*; 105: 8, 26–29.
- Hastings, P. D., Zahn-Waxler, C., & McShane, K. (2006). We are by nature moral creatures: Biological bases of concern for others. In M. Killen, & J. Smetana (Eds.), *Handbook on moral development* (pp. 483–516). Mahwah, NJ: Lawrence Erlbaum Associates Publishers
- Ioannidou, F., & Konstantikaki, V. (2008). Empathy and emotional intelligence: What is it really about? *International Journal of Caring Sciences*, 1(3):118–123. Retrieved September 12, 2014, from: <http://www.internationaljournalofcaringsciences.org>
- Kelly, D. (2000). Death, dying and emotional labour: problematic dimensions of the bone marrow transplant nursing role? *Journal of Advanced Nursing*;32: 952–960.
- Mayer, J. D., & Salovey, P. (1993). The intelligence of emotional intelligence. *Intelligence*, 17, 443–450. New York, NY: Cambridge University Press.
- Salovey, P., & Mayer, J.D. (1990). "Emotional intelligence" *Imagination, Cognition, and Personality*, 9, 185-211
- Odom-Forren, J. (2007). Nurses: angels of mercy or competent professionals. *Journal of Perianesthesia*, 22(2), 81-83.
- Parr, L. A., & Waller, B. (2007). The evolution of human emotion. In J. Kaas (Ed.), *Evolution of the nervous system* (Vol. 5, pp. 447–472). New York: Elsevier.
- Pineda, J. A. (2005). The functional significance of mu rhythms: Translating seeing and hearing into doing. *Brain Research Review*, 50, 57–68.
- Porges, S. W. (2001). The polyvagal theory: Phylogenetic substrates of a social nervous system. *International Journal of Psychophysiology*, 42, 123–146.