Humanizing the working environment in health care through music and movement – The importance of embodied leadership

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Abstract

In the workplaces of our health care institutions today, stress and burnout are common issues and pressing ones to be addressed by organisational leaders. The chapter considers how the development of empathy can help ease not simply the symptoms of stress and burnout but the causes of it. Drawing on theories of mirroring, emotional brain and embodiment, I examine how the combination of music and movement facilitates access to the emotions of others and helps us to better understand their experiences. I also discuss

how the training of empathy can be introduced into health care through programmes of cultural activities that facilitate an exploration of how the body can be used to increase awareness of one's own emotions, and those of others. This work contributes to the growing body of evidence for how artistic programmes offer value to health care. By promoting greater empathy as a practice of embodied leadership within the organisation, we seek to create a working environment that is humanized through a culture of care.

Keywords: Arts in health, Embodiment, Empathy, Health Care, Leadership, Workplace

Introduction

Work-related stress is thought to be one of the main causes of burnout (Golkar et al. 2014, Nordlund et al. 2010, Norlund et al. 2010, Zoni & Lucchini 2012, Åsberg et al. 2010). In Sweden today, a significant portion of health care personnel report high levels of work-related stress, fatigue and mental disorders, including burnout (Grossi et al. 2015, Swedish Social Insurance Agency 2016). As yet, there are very few interventions in place that effectively prevent or ameliorate this worrying state of affairs. If health care personnel are experiencing high levels of stress and burnout, this is likely to negatively impact the quality of care that they can provide and subsequently affect patient satisfaction (Hayes et al. 2010, Kutney-Lee et al. 2013, Shanafelt et al. 2015). Moreover, work-related stress is also responsible for costly sick-leave, especially in the health care sector (Moss et al. 2016).

Organisational leadership plays a key role in any attempt to reduce work-related stress. In the concept of leadership, we speak on one hand, about those in formal leadership roles within an organisation, who have a responsibility to shape the direction and culture of it; and on the other hand, about a process of taking care of those within the organisation and assuming a "responsibility for the wellbeing of organizations and people" (Romanowska et al 2016). There has been a growing interest in how an empathetic environment can be of great importance for successful leadership: both empathy towards oneself and empathy towards others (Bojner Horwitz & Huss 2016). It can be easy to take for granted that the health care leaders have inner qualities that enable them to understand themselves and others. Instead, it may be that further knowledge of how to develop such empathy may be needed.

The concept of alexithymia was introduced by Sifneos (1973), who observed that certain people had difficulties in recognizing emotions and finding appropriate words to label them. In Greek, the word *alexithymia* means "no words for feelings". The prevalence of alexithymia has been shown to be 5-10 % for women and 9-17% for men in a Finnish working age population (Mattila et al. 2007). Alexithymia is related to an impairment of both emotional awareness and emotional regulation (Taylor et al. 1997). An individual who can operationalize and symbolize emotional responses, and who can regulate emotions, is said to be "less alexithymic" (Thompson 1994). Thinking about the dynamics of workplace, and the demands of leadership in particular, the possibility of alexithymia is important to be aware of because if we cannot recognize and regulate our own emotions, it is unlikely that we achieve this in our relations with others. In the long term, a lack, or insufficient level, of empathetic capability is problematic beyond the individual and could affect the community of the organisation since the suppression and non-communication of feelings (especially negative feelings) can trigger defensive behaviours and stress reactions. Although there are not so

many studies on empathy and alexithymia, we have seen that different creative achievements are related to less alexithymia (Lennartsson et al 2017) With a focus on music, this chapter explores the way in which cultural activities can help to foster empathy and creativity. It discusses how health care can be `humanized´, that is, transformed into a system where its participants are gentler, kinder or more trusting toward each other.

The arts have long been used by humans to express the incomprehensible: creative practices have been tools with which we have explored different levels of our consciousness, and even to transform our experiences of life. Music and other forms of art used to be integral to our daily lives: our songs, rituals, paintings, sculptures and dances were an essential part of communicating, remembering, community formation, food production and hunting (Sonke-Hendersen 2007). Artistic expressions have been important for maintaining social order within institutions – norms, rules, and codes of conduct – and cultural activities such as games were a form of creative problem solving, helping tribes, villages and families to find solutions to new challenges and to improve the quality of their lives. We seek to understand how music and other artistic practices relate to the development of emotional awareness, and how this might be harnessed to foster empathy in health care leaders, empathetic relations among staff, and between staff and patients in a health care setting. Of particular interest is the relationship between the physical and mental processes that are involved in undertaking music and other arts-related activities.

Embodying Empathy

Embodied knowledge and cognition

Scientists have discussed knowledge as being grounded in the body as "embodied". Although the term embodiment has been used in various ways (Niedenthal et al.2005) definitions of embodiment share a theoretical focus on the brain´s modality-specific systems that are constituted by:

1) the sensory system, which regulates perception of a current situation
2) the motor systems, which make action possible
3) the introspective systems, which govern cognitive operations and conscious experiences of emotion

These systems allow us to describe the ways in which cognition is embodied, or in other words, has its basis in the physical. This means that the way we perceive and make sense of the world is a function not only of our brain's cognitive function but also of our sensory and motor functions as well. There are likely no socially meaningful processes without a physical component; that are not embodied (Niedenthal et al. 2005).

This framework is helpful in conceptualising "empathy". Empathy can be defined in many different ways but emotional identification with another person is usually included as a criterion. Empathy is not only the ability to understand another person's emotional state, but is also process of understanding another person´s feelings *in* ourselves (De Vignemont and

Singer 2006). This implies that empathy is manifest at least partly as a physical sensation, a bodily or “embodied” identification of another person's emotional state. As Russo describes, "Empathy is a visceral and cognitive understanding of another's emotions or motivations" (Mcgarry and Russo 2011, Gallese 2005, Rizzolatti & Arbib 1998). Stern describes empathy as an "embodied affective resonance" which suggests that, together with the cognitive processes, the body mind is always involved in the empathy response (Stern 1985/2000).

Mirror Neuron Activity

It is common refrain that someone else’s mood, happy or sad, can “rub off” on others. Even in the 18th century, moral philosophers recognized the phenomenon of emotional mirroring; observing another (person) expressing emotion can evoke not only sympathy for their situation, but also a visceral emotional identification. Adam Smith is often credited with describing this phenomenon as a “mirroring” effect, whereby we actually imagine ourselves in another person’s situation and feel what she feels (1959). Smith argued that this ability for empathy (though he described it as sympathy) is an innately human quality that is essential for the maintenance of social order. Indeed, the capacity for empathy is, according to Smith, the bedrock of human society.

Smith’s theories regarding mirroring were generally ignored (except for William James in the late 19th century, along with Wolfgang Prinz and others in the 1980s) until recently when scientists began to uncover neurophysiological evidence of changes in brain activity as a result of observing another person’s emotions or movements. In the mid-1990s, a group of

Italian neuroscientists working with non-human primates made a discovery of great significance for our understanding of interpersonal interaction (Gallese, Fadiga, Fogassi and Rizzolatti 1996). They studied the brain activity in monkeys as they performed simple reaching and grasping movements and found that a monkey's hand motions activated not only the monkey's own sensorimotor neurons, but also similar neurons within the brain of the monkey who had witnessed the movement (Umilta et al. 2001). Some years later, the researchers used the knowledge from the discovery of the innate mirroring processes at play within sensorimotor brain regions to try to explain the social, kinesthetic and emotional reading abilities of humans (Gallese 2005). When we observe gestures, facial expressions and other movements, evidence suggests that some of the same parts of our brains are activated as those of the person that we watched move. Perhaps surprisingly, this suggests that there is an automated physical dimension to our response to others. Some neurophysiological work has to be done to reliably demonstrate that there are specific mirror neurons per se, in the human brain. With the help of an FMRI camera, researchers have illustrated how mirror neuron-like systems are linked to various human reactions (Wicker et al. 2003). For example, when subjects were asked to watch a person's different facial expressions when he smelled something pleasurable and then smelled something foul, the subjects were found to have the same emotional response, in the same parts of the brain (amygdala), as the person who actually experienced the smells.

So, how does this sensorimotor mirroring relate to empathy, what we might describe as emotional mirroring? Mirror neuron activation always takes place in relation to someone else; it is so called “relational-activated”. Paul Ekman (2003) saw facial expressions as something universal that affect our emotional reading of and identification with another person. People who automatically respond with a greater number of facial expressions in social contexts,

who have higher “mimic capacity,” also score higher on empathy scales (Chartrand and Bargh 1999). This is why therapists helping people with reduced mimic capacity, such as those suffering from autism, increasingly use movement and facial expression exercises to activate empathy. Approaching emotion and empathy regulation via facial expressions may increase the activity of mirror neurons and their link to the limbic system (Chartrand and Bargh 1999). The study shows that people who rate highly for empathy also exhibit high mirror neuron activity in their emotional brain. There are of course a population of people, for example those diagnosed with psychopathy, who may have learned which facial expressions are expected in certain social situations, but lack the feelings behind them. Psychopaths have indeed been found to have a reduced capacity for empathy as well as dysfunction in the mirror neuron system when observing others expressing emotions (McGarry and Russo 2011).

It followers to consider whether our automated physical response to others be harnessed in other ways to foster empathy: Some evidence suggests that the mirroring of another person’s movements can be used to access their emotions. Mirror neurons in non-human primates have been located near areas in the human homologue brain that support not only visual an audio sensory information but also tactile sensations. Stern's understanding of empathy suggests that mirror neurons are linked to both the prefrontal cortex (the part of the human brain associated with higher cognitive functions and reasoning) and the limbic system (the network of brain structures associated with emotional processing) (Stern 1985/2000). This means that a mirrored motion may also provide a way of manifesting the mirrored person's emotions within oneself.

Training Emotion and Empathy

Research into the functioning of mirror system neurons indicates that there are possibilities for training our emotional repertoire and building empathy. Visual observations which can be used in these exercises include body movement and/or various facial expressions such as fear, joy, disgust, and so on (Rizzolatti & Arbib 1998). Some mirror neurons are activated because of previous experience to which we can refer. This means that in an empathetic event, it may be important that we have former experience in order to provide a reference that allows the process of mirroring to be activated. Researchers therefore believe that it is possible to 'train' mirror system neurons to activate in a way that will promote empathetic responses to others (Gallese, 2005; Stern 1985/2000). We might argue that an awareness of how our own knowledge is shaped by sensations, and a greater connection to our inner world through practice of mirroring, is important in fostering empathy, which seeks to expand our awareness to incorporate others.

A group of researchers in Toronto (Russo´s SMART LAB 2006) have created an "emotional bank" of different emotions expressed through movements, facial expressions and gestures. The emotional bank can be used to train individuals who have difficulties reading both their own emotions and those of others. It uses films of actors who perform emotions. The films are used therapeutically to train and develop individual capacity for emotional differentiation, which means that a certain emotion can be expressed by more or less explicitly through mimicry.

In the same way, as in facial expression experiments, movements in an emotional bank are powerful tools for helping individuals improve their capacity for empathy towards themselves and others. One reason for this is that the mimicry of movements may contribute to an embodied sense of belonging. This sense of belonging is also linked to the mirror neuron activity in our brains that occurs after watching our own movements mimicked (mirrored) by another person (Berrol 2006). Mirroring exercises have also been developed from Berrol´s research to promote capacity for empathy: The exercise involves exaggerated sequences of movement that are linked to different emotional expressions, much like in the emotional bank. In the mirror exercise, patients are asked to gradually scale down the movements that they are mimicking so that they become more natural. This training has been used with stroke patients with aphasia who have difficulties expressing or interpreting speech (Schlaug, Marchina and Norton, 2008).

Cultivating empathy through cultural activities

Think of all the times you have experienced an emotional response to a song, work of art, or ballet, without really being able to articulate why it affected you so deeply. Engaging with cultural activities allows us to "sneak through the back door into the brain", reaching the emotional brain regions without first passing through the brain structures involved with rational or cognitive processes (such as the prefrontal cortex): Le Doux (1998) calls this the "surprise effect" of cultural activities. Le Doux argues that some responses go on a "fast track" directly from the thalamus down to the amygdala nuclei without first passing through

parts of the brain associated with rational thought. We become affected by stimuli without engaging in a rational process to understand why. In the same way, body movements – seen or experienced – can invoke emotional responses, reaching parts of the limbic system via sensorimotor neurons, thus bypassing cognitive systems. Music, integrated with two related forms of cultural activity – dance and theatre – was used as part of an experiment designed to promote empathy people working in a health care setting – *The Cultural Palette*. Here I discuss how music plays a vital role in facilitating an engagement in mirroring through the use of cultural activities.

Our focus theoretically so far has been on movement and its potential to access and develop an embodied empathetic response, but music can play a key role in enhancing this process. It is known that areas within the brain that involve rhythm and pulse perception overlap areas that control our movements in group of subcortical nuclei termed the basal ganglia (Grahn & Brett 2007). This means that music has the potential to enhance empathetic movements; in particular, the rhythm of music can facilitate the reading of another person´s movement pattern. By dancing, we can improve our ability to become more aware of our own emotions and the emotions of others: the more we dance the more we train our mirror systems and their links to the limbic system (Calvo-Merino 2005). By watching someone else dance, our sensorimotor brain regions are activated (Bläsing et al. 2012). Interestingly, with regard to reading other´s emotions, we have seen in a large Swedish population sample, that engagement in dance is associated with emotional competence in interplay with others (Bojner Horwitz et al 2015). In other research, we also explored the effects of non-participative experience of movement through the use of theatre. We asked patients who were experiencing pain to act in the play *Medea* and then to watch the same piece performed by professional actors (Bojner Horwitz et al. 2010). Patients were found to react more strongly

to watching the play (passive consumption) than to acting out the play themselves (active participation). It appeared as though the patients in the study were more alert when passively viewing and could more easily identify with the actor, which fostered a stronger reaction than when they were preoccupied with acting out the piece themselves.

Although this area of research is still in its early stages, there is increasing evidence that we have sophisticated mechanisms for the "emotional reading" of movements and that we can even improve this capacity through training (McGarry & Russo, 2011, Cross et al. 2009). Music plays a crucial role in artistic expressions that involve movement, such as dance. Try watching a dance video with the sound off. Does it seem flatter, less evocative? We all know that music can on its own arouse strong feelings, but combining it with dance can have a reinforcing function, enhancing our emotional experience. This phenomenon implies that a person who has difficulty reading emotions in a dance alone may be better able to understand its gestures when accompanied by music (Bojner Horwitz 2004).

Music and dance used in combination also strengthen what we call multimodality in perception of an experience. Multimodality is when different modalities such as movement, vision, somato-sensation, or sound are experienced at the same time. Recent evidence from brain scans suggests that the greater number of modalities through which a novice dancer has learned a new dance sequence: the greater engagement of sensorimotor brain regions is seen when these the dancer watches those movements back (Kirsch & Cross, 2015). It has also been suggested that music enhances our emotional response to observed movements (Moreno & Mayer, 2007). This suggests that music forms a significant part of the library of emotional references that we build up and which help us to empathise with others.

Cultural Activities and Modalities of Consciousness

Different individuals are likely to have different code systems to access this "back door" to the emotional brain, and so it is important to find a way to evaluate which stimuli work best for which individuals. Moreover, it appears that different cultural activities can code different levels of our conscious mind (Bojner Horwitz 2011). By being aware of these preferences, we find ourselves in a better position to select an appropriate empathetic cultural activity for use in empathy training. George Downing (1996) categorised conscious awareness into different modalities of consciousness: physical, emotional, sensory, visual and intellectual. He argued that an understanding of the modality of consciousness that we are using can help increase our understanding of the possibilities of empathetic coding; the code for how we can access our emotional brain most directly. According to Downing, increasing awareness itself is therefore an essential part of training – if we can train ourselves to open up as many modalities of consciousness as possible we can broaden our susceptibility to empathy, what we might think of as our empathetic repertoire.

Implementing music and movement in Swedish health care

In Sweden, we have implemented and used the knowledge from the different areas of theory presented above: mixed modalities, mirror system, emotional brain, embodiment and emotional reading; in three research projects that sought to transform the working environment of the health care system through engagement with cultural activities.

The first project was the *Cultural Palette* (Grape Viding et al 2015): a randomized controlled study, wherein we demonstrated that cultural activities have a positive effect in treating symptoms of burnout in female patients. Six different activities (theatre, movie, singing, dancing, mindfulness, and taking part in a musical show) were offered once a week, lasting 90 minutes per session. The results showed decreased levels of exhaustion, increased ability to express emotions (decrease in alexithymia), and increased levels of self-rated health in the patient group. After four separate interventions at four different health care centres, focus group interviews were also conducted (Grape et al. 2017). From the focus groups, we observed a ripple effect of both trust and empathy within both the patients and the health care staff, even though members of staff were not actively participating in the palette of activities.

A second study targeted staff specifically – the *Cultural Palette for staff* – (Bojner Horwitz 2017), which incorporated music, also sought to promote empathy through embodiment and mirroring emotions. In this study, the impact of self-chosen arts-based activities such as qi-gong, yoga, line-dancing and baking was evaluated over ten weeks in three different health care centres. The study's findings showed that the arts-based activities a) helped to reduce individual stress and to enhance mood over time, b) helped to transform work place relationships within wards and c) humanized the overall work-climate in the health care setting. We found that the arts-based activities introduced to the health care workers were

transformative of the individual, group and work culture. We argued that these transformations, which promoted greater care among and for the staff, are also a step towards providing better care for patients.

Finally, we conducted the *Playmäker project* in Södertälje (Bojner Horwitz et al. 2016). The *Playmäker* project was a multi-purpose, arts-based intervention for young adults. Young people were asked to interact with members of the elderly population who have dementia. The project aimed to harness the technological sophistication of young adults (who were named *Playmäkers*) in order to offer elderly people suffering from dementia a way of accessing music (involving movies and other visual arts) reminiscent of their own youth. *Playmäkers* used iPads to access these cultural products and the technology served to mediate communication between members of the two generations. The process also included nurses and patients' relatives. Interactive outcomes of the *Playmäker* project were analysed with qualitative data and were theorised with regards to non-verbal and embodied communication, the emotional brain, and the role of the arts in health. The project found that both dementia sufferers and their relatives were emotionally stimulated. And that the activities provided a mediated space within which to connect to others. For those health care workers tasked with caring for dementia patients, the activities were found to humanize the heavy work load of caring. For the *Playmäkers*, the intervention helped to mitigate a culture that is heavily reliant on technology and technologically-mediated communication, by facilitating an experience that involves technology *and* human interaction, empathy and emotional intelligence. Despite these positive results, an important finding with regards to the implementation of such interventions in health care is that, for some health care workers, the *Playmäker* activity was also experienced as a threat to their role, as something that prevented them from meaningful

emotional interactions with their patients. Some also felt that, although the activities were meaningful, they had no time to participate in them because of their heavy workload.

Future directions for empathy and the arts in health care

In modern workplaces stress and burnout are pressing issues to be considered by organisational leaders, no context more so than that of health care in which the safety of patients is at stake. In the face of financial pressures and the challenge of already demanding workloads, it will be essential that any interventions are able to tackle a given problem on multiple levels. By seeking to address the problem of stress and burnout through the development of empathy, it becomes possible to create a working environment that is not only less stressful and more satisfying for both staff and patients, but which is also permeated with a culture of care and is more *human*. Staff and patient care need to go hand in hand – in the words of one of the patients involved in our *Cultural Palette* study, 'you can't feel better than your caregiver'. In this way, empathy becomes a way of practising leadership through taking responsibility for the wellbeing of those in the organisation. The task is to find a way to transform our health care centres and hospitals holistically as an organism of intertwined stakeholders who are not abstracted objects, but subjects with feelings and needs. In seeking to find ways to promote empathy, we have considered both the embodied experience of emotion and the embodied reaction that we have to the emotions of others. By harnessing the powerful emotional interaction between music and movement, we have built programmes of

cultural activities to explore how the body can be used to a) increase awareness of one's own emotions, and b) increase one's understanding of the experiences of others. As evidence builds for the ways in which engagement with artistic programmes offer a great deal of value to health care, it is important that we consider the variations in the experience of these programmes between individuals, staff groups, and types of organisation; and how programmes such as those described can be best implemented with the use of combined resources.

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