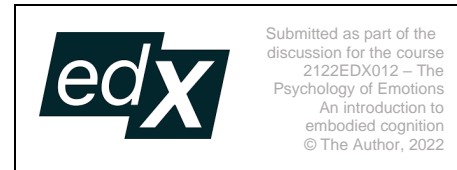


Embodied Cognition and Emotional Intelligence. A brief discussion

David Tomasi, DSc HC, PhD, EdD-PhD, MA, MCS, AAT¹



Abstract

This brief essay examines the basic parameters of the neuroscientific and philosophical understanding at the basis of emotional and cognitive processes in the broader context of Embodied cognition. More in detail, the discussion follows a series of areas of investigation, structured via responses to basic questions, namely:

- A) Impact of mind-body dualism in everyday life,
- B) Possible Preferred Perspective (PPP) under the lenses of Emotional Intelligence,
- C) Simulation-Theory vs. Theory-Theory
- D) Neuropsychological paired-deficits vs. Physiological Investigations
- E) Influence of social distancing on the ability to recognize and understand emotions
- F) Conclusion

Keywords: Neuroscience, Philosophy, Psychology, Psychiatry, Psychotherapy, Emotion, Cognition, Perception

Corresponding Author

David Tomasi, Vermont State Colleges /
Community College of Vermont (CCV),
Winooski, VT, USA.
Email: david.tomasi@ccv.edu

Citation: Tomasi, D. (2022). *Embodied Cognition and Emotional Intelligence: A brief discussion*. Cambridge, UK: Cambridge University / EdX -2122EDX012 – The Psychology of Emotions. An introduction to embodied cognition.

¹ Vermont Academy of Arts and Sciences (VAAS); Nortades Psychotherapy, Vermont State Colleges / Community College of Vermont (CCV) - David.Tomasi@ccv.edu; info@nortades.eu

Practical Applications and Theoretical Frameworks - Impact of mind-body dualism in everyday life

One would assume that “the mind is always present,” at least to the extent that we are aware of it, at the very least following Descartes, and unless we are witnessing – despite the possible lack of full or partial awareness in this very example – a minor/major cognitive issue due to neurological or psychological (mal)function. It might be sufficient to say, that when not explicitly and outwardly demonstrated, we go through life assuming that our mind is to a very big extent a good representation of our self, and not just every self, but our self, so that we can fully identify (and, to this extent, embody) our own sense of personality, of individuality, even of identity. Whether the body exists as a fully separated or interacting element with the mind it should be (and is) the area of investigation of (mainly) philosophy and neuroscience, and whether we opt for a fully dualistic or monistic option, and whether the distinguishing lines (monism, physicalism, idealism, etc.) make one area over representative, or even causal factor, for the other, as in the usual saying “What is the mind? It doesn’t matter / What’s the matter? Never mind.” Of course, these differences are of fundamental, an ontological, significance not only in the speculative areas of the aforementioned subjects, but in the way we interact every day, for instance when discussing the value and purpose of one’s mind and body (a very timely example would be the debate around abortion, euthanasia, and sexuality vs. gender), or when deciding the bioethical parameters for advanced directives, brain/heart death clinical determination, comatose states, and assumed Near-Death Experiences vs. Out-of-Body Experiences. Furthermore, the practical application of these premises determines in full how clinical interventions such as psychotherapy is constructed, conducted, and ultimately yields positive progress and significant clinical results.

Possible Preferred Perspective (PPP) under the lens of Emotional Intelligence

Given the current scientific understanding obtained through peer-reviewed research in the fields of neuroscience, medicine, and psychology (with related fields such as cognitive science, linguistics, computer science, and without forgetting that any study requires philosophy and a philosophical examination to be fully valid), we could argue that the separation between mind and body is both an artificial yet necessary assumption for each field to draw useful study data. On these premises both the claim that the mind “it’s just a body” (thus, following a reductionist-materialistic viewpoint) is just as senseless as the claim that the mind is entirely separated from the body, and it thus does not require -in spite of the evidence- and neural and/or endocrine (or chemical, mechanical, etc.) underpinning to function. While one might argue that comparing the mind to the soul or to the spirit (thus doing the incredible damage of confounding each of these terms) might be based on a mistaken spiritualistic (pseudo) interpretation of science, which would eject even the most basic understanding of cognitivism, behaviorism, evolutionary neuroscience, and even Thomistic philosophy, or Theology of the Body. In this sense we would argue that yes, a primary dualism should still be embraced, but only in the sense of a rationally-modulated belief in the furtherance, in the continuation, in the enduring (and endurance) of the mind beyond physical death, but not in the sense of a mind whose cognition is not embodied.

Simulation-Theory vs. Theory-Theory

When deciding which framework makes more sense scientifically and empirically (in the latter case, thus applied to every day out-of-laboratory contexts), it is proper to link the aforementioned consideration to the very descriptors of each theory. “Theory-Theory” is a conceptual model first introduced, albeit

on previous premises, by Adam Morton in the early 1980s, claiming that people's everyday understanding of others' and their own behavior is predicated upon a "partially inexperienced," "naïve," or even theory of "folk psychology"-based notion of understanding, which makes their interpretation of beliefs, emotions, actions, intentions, and other processes vs. traits imprecise. Beside the quite disputable notion of "folk psychology," the theory does not properly explain the connection between our perceptual understanding of ourselves and / through others (also in the sense coined by Levinas in "the Other"-ness) which is much more clearly described in Simulation-Theory, also due to the similarities (in causal/explanatory terms) between the assumptions of the latter theory with the neuroscientific findings in the last 30 years of research, especially in the areas of Mirror Neurons.

Neuropsychological paired-deficits vs. Physiological Investigations

How can we compare the data obtained via neuropsychological paired-deficits with physiological (EEG & EMG in particular) findings -as a comparative observation from baseline- in the general population? To provide an example, an important consideration is that both neuropathological and neuroradiological examination of patients have found evidence of multiple vs. diffuse neural damages in patients who have sustained a mild traumatic brain injury (TBI), more specifically in areas such as corpus callosum, fornices, and temporal lobes. One of the major problems in this type of investigation, is that these assessments often fail to examine relatively minor issues in cognitive-information-processing deficits due to diffuse damage in the frontotemporal regions of the brain, white matter pathology etc. In any case, this type of investigation produces a stronger evidence, in the etymological sense of the term applied to empirical data, i.e. the direct observation of the connection between emotion perception and

experience at the neuro-functional-and-anatomical level, in particular due to the fact that these patients present with impaired experience and abnormal recognition of emotions like anger, disgust, and fear, which are important determinants even in the most basic theories and application, for instance in the work by Ekman.

Influence of social distancing on the ability to recognize and understand emotions

The recent pandemic has caused a variety of issues both in psychological and physiological terms to the general population. Of course, among the most immediate damages we found the very activation of viral components, to the single individual and the community, and to a much bigger extent (not in etiological terms, but simply due to the wave-like effect of the continuation of psychological effectors in combination with multiple changes in protocol at the local, state/country, federative/union, and global level) to the emotional, cognitive, and behavioral components of social interactions. We previously discussed these aspects (Tomasi, 2020b & Tomasi, 2020c) from an epidemiological and neuropsychological perspective, and we can only hope that the future will bring improvement in all these areas.

Conclusion

Combining such complex and, relatively speaking, diverse topics such as embodied cognition and emotional intelligence is indeed impossible within the margins of a brief analysis. However, the underlying message is that solid scientific evidence has been found in the causal determinants of the embodiment-based aspects of cognition, behavior, and emotion, with the latter concept being particularly relevant, also in the theorization process, which in itself is indicative of a future-oriented rehearsal capacity, to understand oneself and others in more profound ways that superficial-

empirical analysis might reveal. Furthermore, the importance of neurological (more specifically neuroimaging-based) data should not be underestimated given the intrinsic problems of misaligned, misinterpreted, misconstrued and thus falsified notions of self which can be predicated upon neurological and/or psychological issues underlying a false image of self and of others.

Limitations

The primary limitation of this study is the nature of this analysis, which constitutes a brief examination, in the form of a course discussion, of the relation between embodied cognition and emotional intelligence in multiple areas, the content of which is not intended to be a substitute for professional medical advice, diagnosis, or treatment, and does not constitute medical or other professional advice.

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Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for authorship, and/or publication of this article.

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