

Peer Review

Review of: "The Interaction Problem and Mental Causation: A Quantum Field Theoretical Perspective"

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Thanks for giving me the opportunity to review this paper. It addresses an important and fascinating problem of mental causation and the interaction between physical and mental factors. It raises interesting issues regarding the mental causation problem, including the semantic problems of the difference between physical and non-physical, the definition of physical, material, and substance, and the nature of the mental causation problem. It is well-written, fluent, and has a good structure. There are some points that the author can address to better clarify and distinguish his perspective on the mental causation problem. These are listed below:

1. Please explain Hempel's dilemma and its relevance to the mental causation problem. The paper provides some references but does not explain what it exactly means.
2. There are many arguments that do not have references. Please add more references with clear explanations to back up the arguments. Here are some examples:

"In physics, the term 'material' encompasses all entities composed of matter—specifically, those that possess mass. Mass serves as a measure of inertia, which is the property of a particle or body that enables it to resist changes in its state of motion. A massive particle can always be accelerated or decelerated, moving at speeds less than the speed of light. In contrast, light has no rest mass—i.e., it lacks inertia (it does not undergo acceleration or deceleration)—and always travels at about 300,000 km/s in any frame of reference. In the framework of special relativity, the concept of rest mass takes on a more abstract role as a relativistic scalar invariant. However, one does not need to pin down rigorous definitions to recognize that physics is replete with entities that are 'immaterial' yet nonetheless real, concrete, and not 'unphysical.'"

“Nonetheless, a characterization in line with contemporary science could be to describe as ‘physical’ anything that can be empirically verified, existing in space and time, and governed by the laws of physics. Spacetime, matter (or energy, according to the mass-energy equivalence), and the laws of physics (or causality) are the ingredients of the typical understanding of classical mechanics, which is often assumed in dualist debates.”

“The fact that massless fields can interact with material particles rarely raises concerns because modern physics takes a pragmatic approach, accepting this state of affairs as a given.”

1. Recent advances in quantum physics and quantum mechanics demonstrate that mental causation exists (Stapp, 2009, 2017). There are several references, some of which are used in this article (e.g., Schwartz et al., 2005; Stapp, 1993). It is important to explicate how this article distinguishes itself and its arguments on the existence of mental causation from the existing body of literature.
2. In addition, a new theory in human motivation, entitled Motivational Congruence Theory, proves the existence of mental causation and free will in human motivation (Hendijani, 2024a, Hendijani, 2024b). The theory resolves the problem of mental causation through the notions of a dialectical relationship between intrinsic and extrinsic motivational mechanisms and a contextual view of their interaction. I suggest that the author reads the related articles and uses them in his conceptualization of the problem of mental causation.

Dialectical and contextualist views are two important explanations for mental causation. From a *dialectical* view, separate and distinctive factors, including mental and physical, material and immaterial, intrinsic and extrinsic, can interact in a mutual, bilateral, and dynamical way with each other (Hendijani & Steel, 2023; Putnam, 2015). Such a relationship integrates complementarity, interdependence, and inconsistency in the relationship between conflicting factors in a dynamic manner (Collinson, 2014). The approach taken in the present paper seems to be related to a dialectical view of mental and physical factors. If not, the author should explain the difference. From a *contextualist* view, the context plays a crucial role in defining the causal efficacy of mental factors in the physical world. Contextualist views in philosophy address the problem of mental causation especially from a semantic and language-based perspective (Maslen et al., 2009; Menzies, 2003; 2007). The author should address this view and explain the similarities and differences between his approach and these viewpoints.

1. The author should expand the conclusion so that it better highlights the contribution of the current paper to the existing literature.

References

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Declarations

Potential competing interests: No potential competing interests to declare.