



Differentiating Theories for the Human involvement in Neuroscience

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Abstract

Neuroscience research has exploded in the psychological sciences as a result of the introduction of fMRI techniques, and it has been shown that many psychological phenomena that are thought to be fundamental to the human experience have brain connections. Meanwhile, discussions about the soul and the mind-body distinction have returned due to the advancement of neuroscience. While some researchers utilise neuroscience to support a material explanation of consciousness, others support dualism and a spiritual understanding of the mind by citing unexplained brain events. We look at the effects of exposure to neuroscience research on soul-belief in two trials. When neuroscience offers compelling mechanistic explanations for the mind; we discover that believing in the soul declines. However, when explanatory holes in neuroscience studies are highlighted, faith in the soul is increased, indicating that physical and metaphysical explanations may be automatically adopted as alternative hypotheses for mind. Neuroscience research implications and the future of soul believing are examined.

Keywords: Neuroscience; Psychological sciences; fMRI techniques; Mechanistic explanations

Introduction

For thousands of years, philosophy and science have focused heavily on the idea that a person's soul or non-physical essence is what makes them who they are. Some academics have lately proposed that agency detecting cognitive processes are hard-wired in all cultures and share the belief in souls. But more than just a means of comprehending other minds, faith in the existence of the soul aids individuals in explaining the experiences of their own minds. Subjective experience appears to appear magically whenever one thinks, feels emotion, or exercises free will and is not obviously connected to any physical event [1, 2]. It appears that humans are formed of two parts: mind and body since the act of reflecting reveals a qualitative distinction between the mental and the physical. Although the origin of the body's physical makeup is intuitively recognised, the origin of the mind is less certain; in fact, the mind appears to be the product of some force that is not physical, and the idea of the soul is frequently invoked as the source of this intangible aspect of self.

Physical explanations for the mind could jeopardise the belief in the soul, to the extent that it serves as a metaphysical justification for the mind. The current study investigates the impact of neuroscience findings that suggest a physical origin for the mind on soul belief. Numerous psychological processes that are considered to be essential to the human experience, such as moral judgements, emotion, and personal agency, have been linked to brain activity in fMRI research [3]. fMRI study appears to finally offer concrete proof that the mind is rooted in the physical, accompanied with striking visuals of the brain "lighting up" during mental activity. Additionally, the appeal of fMRI research transcends the academic community and has attracted the interest of the general public. Even though the inclusion of neuroscience material in psychology study does not contribute to the body of evidence supporting the hypothesis, laypeople show increased interest and belief in it. General perceptions of the soul may be significantly impacted by the widespread adoption of fMRI as an explanatory technique. Studies on causal discounting show that several theories for the same phenomenon can compete with one another cognitively, so that growing conviction in one causes decreasing belief in the other [4]. Reading scientific explanations for significant phenomena, for instance, tends to diminish faith in religious explanations, but when scientific explanations are presented as inadequate, they tend to increase faith

in paranormal explanations. In our hypothesis, a comparable reflexive link between physical and metaphysical explanations of the mind may also exist, with consequences for future neuroscience studies on the concept of the soul. The brain may overtake the soul as the dominant explanation for the mind as neuroscience continues to identify neurological correlates of ever-more-crucial psychological functions.

However, exposure to that data may strengthen belief in the existence of the soul if neuroscience appears to be unable to adequately explain psychological experiences. There is one epistemological dilemma of the mind that neuroscience may not be able to resolve, known as the "hard problem of consciousness" or the "explanatory gap," in spite of the numerous spectacular advances made by fMRI investigations. In conclusion, although neuroscientists can pinpoint the neurological bases of mental processes, they are still unable to pinpoint how brain activity generates the experience of these mental events. Regarding the concept of the soul, this question may have very significant ramifications [5, 6]. If fMRI's ability to record brain activity helps to demystify the mind, then being aware of an explanatory gap might only serve to re-mystify it. Indeed, although some scientists cite unsolved brain phenomena to support a materialistic theory of consciousness, others defend dualism and a spiritual approach to the mind by citing unexplained neurological phenomena. An seeming explanatory gap leaves some parts of the mind unsolved, whether or not this is a valid concern, and this re-opens the intuitive plausibility of metaphysical explanations.

Discussion and Results

Recent study has concentrated the gender analysis on particular domains, such as nanoscience and nanotechnology, computing

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research, software engineering, materials science, medical literature, or psychology, in addition to large-scale studies about worldwide gender imbalance in science. According to the category description from Web of Science, "covers information on all aspects of basic research on the brain, neural physiology, and function in health and illness," neuroscience, or the scientific study of the brain and nervous system, is a tremendously active and increasing research topic [7, 8]. Neurotransmitters, neuropeptides, neurochemistry, brain development, and neural behaviour are the main topics of study. Resources on the neuro-endocrine, neuro-immune, somatosensory, motor, and sensory-motor integration systems, as well as on nervous system illnesses, are also covered. As a result, it is an interdisciplinary field that works in tandem with many other disciplines and has an expanding influence on modern science and society. No publication, to our knowledge, has conducted a quantitative analysis of women's participation in contemporary neuroscience. Several scientometric analyses without gender distinctions have concentrated on the study of neuroscience production in various nations, such as India, Italy, Sweden, or China.

Women have made major contributions to the advancement of neurosciences for many years, yet there is still a sizable gender gap in the field today. Only one out of every five papers published in the prestigious journal *Nature Neuroscience* had a female corresponding author in 2006, and the editorial's authors expressed concern about whether this asymmetry was simply a reflection of reality or whether it "could also contribute to perpetuating the problem." There has been a considerable interest in promoting their contribution to current neuroscience since *Women in Neuroscience*, an international organisation founded in 1980, "whose principal purpose is to encourage the professional growth of women neuroscientists," was founded [9, 10]. The Society for Neuroscience prioritises this objective and is now working to increase the number of women working in neuroscience, both in academia and research.

We propose a bibliometric analysis of the most significant neuroscience publications in order to quantitatively analyse the current participation of women in scientific production in this research field, given the significance of knowing what women's representation is within the brain sciences [11]. To achieve this goal, a gender perspective is used to the analysis of the scientific production, the pattern of research collaboration, the content, and the scientific impact (or the quantity of citations an article receives).

Conclusions

Long ago, people held the idea that the soul was where the mind and consciousness came from. However, new advances in neuroscience have raised questions about these long-held notions about how the brain functions during crucial psychological experiences. According to the findings of the current study, the availability of neuroscience explanations of the mind was inversely correlated with believing in the soul. Importantly, how a change was viewed determined its course.

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