

## **ASSESSING THE EFFECT OF MEDITATION ON PERIPERSONAL SPACE: DOES MINDFULNESS AFFECTS SOCIAL SKILLS BY DISSOLVING THE SELF-BOUNDARIES?**

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**Background:** Mindfulness, defined as the non-judgmental, accepting awareness of the present moment, can be cultivated through meditation. This practice focuses on enhancing bodily awareness, mental clarity, and equanimity. Mindfulness profoundly influences interoception, body awareness, and even the perception of personal space. However, the link between this self-centered practice and its impact on social skills remains enigmatic. In fact, the interoceptive and bodily effects are clearly related to the nature of the basic meditation practice, i.e., paying attention to breathing and body sensations, how such a solipsistic practice can affect social skills remains largely unexplained.

**Aims:** Our study proposes a novel hypothesis suggesting that mindfulness enhances social skills by primarily reshaping body perception and its boundaries. We posit that improved interoceptive abilities, a product of mindfulness meditation, lead to alterations in peripersonal space (PPS) perception. This transformation of PPS, the spatial domain where social interactions occur, is hypothesized to influence how individuals relate to others and their surrounding personal space. Our framework aims to bridge the gap between body awareness, interoception, and social aptitude, with PPS as the intermediary. We explore the static and dynamic effects of meditation on PPS extent.

**Method:** We conducted two experiments to investigate our hypotheses. In both studies, we evaluated PPS extension using the audio-tactile task developed by Serino and colleagues and personal space boundaries using either the stop-distance procedure or a simplified computerized version. These assessments were performed before and after a meditation session. In the experiments, we compared data from 20 experienced meditators (Study 1) with 50 non-meditators (Study 2). The second study, in particular, examined the impact of two distinct meditation practices on peripersonal and personal space. We also gathered data on participants' meditation expertise and trait measures such as mindfulness, interoception, and social skills.

**Results:** Across both experiments, we found that mindfulness meditation dynamically alters PPS only after an active mindfulness session, with no discernible static impact on PPS boundaries. The degree of PPS modification is influenced by both meditation experience, where experts exhibit a more pronounced change in PPS extension and rigidity compared to non-meditators, and the type of meditation. Focus-attention meditation significantly altered PPS, while open-monitoring meditation did not affect non-meditators. Additionally, meditators reported a reduced personal space extension in the stop-distance task, indicating that meditation narrows self-boundaries and allows more room for others.

**Conclusions:** Our findings partially support our hypothesis, suggesting that mindfulness exerts a "dynamic" influence on PPS and social skills, necessitating consistent practice to maintain its psychological effects. This study advances our understanding of how mindfulness and meditation practices influence our perception of the self and others in a social context.

**Keywords:** Mindfulness, Meditation, Peripersonal space, Social skills, Interoception

**Publications:**

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