

How Vulnerability Embodiment Shapes Perceived Empathy Toward Artificial Intelligence in Healthcare

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Abstract

As artificial intelligence becomes increasingly integrated into healthcare, questions emerge about its ability to express empathy in ways that align with patients' needs. This work examines how the embodiment of vulnerability shapes perceptions of empathy and satisfaction in human–AI healthcare service interactions. Building on Embodiment Theory and Mind–Body Dualism, we conceptualise vulnerability embodiment as the degree to which distress is rooted in the body or the mind. Three studies – two controlled experiments and a large-scale field analysis – show that humans are perceived as more empathetic in embodied vulnerability contexts involving physical pain and, consequently, generate higher satisfaction. In contrast, in disembodied vulnerability contexts involving psychological distress, AI systems perform comparably to human agents. These results identify vulnerability embodiment as a boundary condition for the human–AI empathy gap, reshaping expectations for AI-driven healthcare.

Track: Service Marketing & Service Innovation