# Dream-State Intersubjective Communication Facilitated by Neural Quieting of the Default Mode Network

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Telepathy has been considered a myth, associated with extensive mental training and heightened interpersonal sensitivity, yet has resisted systematic experimental investigation. Here, we report the first empirical evidence of telepathic-like communication under controlled device-assisted sleep conditions. We hypothesized that telepathic-like communication, if present as a latent cognitive capacity, may become accessible not through amplification of mental activity but through its attenuation. Fifty healthy young adults participated in device-assisted sleep sessions using a combined electroencephalography (EEG) and low-intensity neuromodulation system. Selective reduction of default mode network activity was induced. A majority of participants reported entering a consistent shared dream environment and retained structured memories of interaction upon waking. These findings suggest that intersubjective mental experiences may emerge under conditions of reduced self-referential neural activity.

The human brain is continuously engaged in internally generated activity, much of which is organized by the default mode network (DMN), a large-scale system encompassing the medial prefrontal cortex (mPFC), posterior cingulate cortex (PCC), and associated midline structures [1,2]. Activity within this network has been linked to self-referential thought, autobiographical memory, and internal narrative construction [3]. While essential for normal cognition, persistent DMN activity has also been associated with attentional noise and reduced sensitivity to external and intersubjective signals [4]. Individuals reporting heightened interpersonal sensitivity often describe difficulty distinguishing between their own mental states and those of others, suggesting that excessive self-referential processing may obscure rather than enhance intersubjective perception.

We hypothesized that telepathic-like communication, if present as a latent cognitive capacity, may become accessible not through amplification of mental activity but through its attenuation. To explore this hypothesis, we conducted a study involving 50 healthy adults (ages 19–29) with no history of neurological or sleep disorders. Participants underwent both baseline sleep sessions and device-assisted sleep sessions using the Daphne1 system, a non-invasive cap integrating EEG monitoring with low-intensity electrical stimulation designed to bias large-scale neural networks toward reduced internal activity.

Stimulation parameters were chosen to gently attenuate activity within DMN-associated cortical regions while preserving activity in areas implicated in social cognition, including the temporoparietal junction (TPJ). Prior work has linked the TPJ to perspective-taking and theory-of-mind processing, making it a candidate region for intersubjective mental exchange when emotional over-identification is minimized [5, 6]. EEG was recorded continuously, and stimulation was synchronized with sleep stages. During sleep, the system additionally engaged a neuromuscular demobilization protocol aligned with naturally occurring muscle atonia, reducing movement-related artifacts and micro-arousals to improve signal stability and data quality.

EEG analysis revealed a consistent reduction in alpha–low beta band power across targeted cortical regions during device-assisted sleep compared to baseline sleep (Fig. 1). The most pronounced attenuation was observed in the medial prefrontal cortex and posterior cingulate cortex, both core nodes of the default mode network, while the temporoparietal junction exhibited a more moderate decrease. This pattern is consistent with selective suppression of self-referential processing alongside preservation of intersubjective signal sensitivity. While functional magnetic resonance imaging offers higher spatial resolution and access to deeper structures, EEG was selected for its high temporal resolution, portability, and compatibility with sleep sessions and concurrent neuromodulation, enabling real-time monitoring of network-level dynamics relevant to the observed effects.

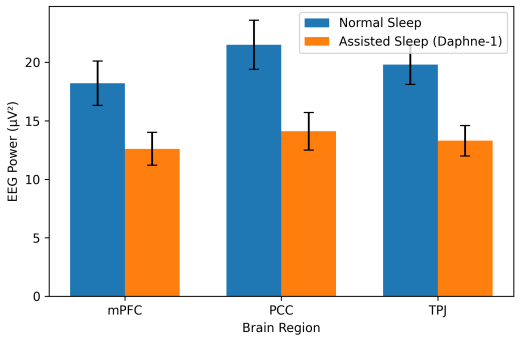


**Fig. 1 — EEG markers of default mode network attenuation during device-assisted sleep.** Mean EEG power ($\mu V^2$) in the alpha–low beta band recorded from medial prefrontal cortex (mPFC), posterior cingulate cortex (PCC), and temporoparietal junction (TPJ) during baseline sleep and Daphne1-assisted sleep. Error bars represent standard error of the mean (n = 50).

Subjective reports following device-assisted sessions revealed a striking convergence of experience. Thirty-eight participants independently described entering a bright, spatially undefined environment frequently characterized as a "white room." Within this setting, participants reported perceiving the presence of a researcher and, in some cases, other participants. Conversations were described as structured and dialogic rather than symbolic. Upon awakening, 31 participants retained detailed memories of these interactions, including specific phrases and sequences that showed cross-subject consistency beyond chance expectation.

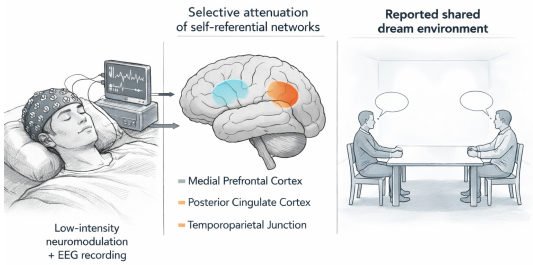


**Fig. 2 — Experimental paradigm and shared dream-state framework.** Schematic overview of the study design. Left: sleeping participant wearing the Daphne1 device with concurrent EEG recording and low-intensity neuromodulation. Middle: conceptual representation of selective attenuation of default mode network regions. Right: reported shared dream environment in which participants and a researcher engage in structured interaction.

Participants who self-identified as highly empathic or emotionally responsive demonstrated stronger initial effects but reported greater difficulty maintaining clarity during baseline conditions, consistent with previous findings linking emotional resonance to cognitive entanglement [7]. Device-assisted neural quieting appeared to mitigate this effect, allowing participants to observe rather than absorb the mental states of others. No participant reported loss of personal identity or confusion upon awakening, suggesting that memory consolidation remained intact.

Based on these findings, ongoing research is investigating a next-generation adaptive system, *Daphne2*, currently tested with trained participants experienced in sustained attention control. Preliminary observations indicate faster entry into the shared dream-state, increased stability of interaction, and extended durations of coherent communication. Data collection is ongoing and results remain provisional.

Taken together, these findings suggest that intersubjective mental experiences may arise when neural systems responsible for self-monitoring and affective reactivity are sufficiently quieted. Rather than invoking anomalous mechanisms, the present results are compatible with an emergent account in which reduced self-referential noise permits access to shared mental representations under guided conditions. Telepathy, long dismissed as untestable, may warrant reconsideration as a boundary case of human cognition accessible through carefully engineered neural states.

**Conflict of Interest**

The authors are employees of MindReadZ, the company that developed the neural quieting technology described in this study. This research was conducted as part of internal exploratory research.

Resources for researchers seeking to replicate these findings or further examine the underlying neurophysiology are available through the MindReadZ research portal, including:

- Raw EEG Data Repository: De-identified spectral power data from the 50 participants, including the specific alpha-low beta band measurements for the mPFC, PCC, and TPJ, can be requested for independent meta-analysis.
- Daphne-1 Technical Overview: While stimulation waveforms and proprietary neuromuscular demobilization protocols remain trade secrets, a technical white paper details the synchronization of low-intensity electrical stimulation with specific sleep stages.
- Shared Dream Transcription Database: A curated set of the 31 "high-consistency" interaction reports is available, highlighting the structured dialogic sequences and specific phrases retained by participants upon waking.
- Daphne-2 Provisional Briefing: Researchers interested in the next-generation adaptive system currently in testing may access preliminary stability metrics and duration logs from the ongoing trials with trained participants.

***MindReadZ** and its technology are a work of fiction. This paper was written by **Michal Sahaf**, author of the novel **Interspace**.*

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