

Parallel group craft activities proven effective in occupational therapy

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Parasympathetic activity, which indicates relaxation, significantly increases when two individuals engage in separate craft activities compared to when working alone. Credit: Ryouhei Ishii, Osaka Metropolitan University

A research team from the Graduate School of Rehabilitation Science at Osaka Metropolitan University investigated the electrophysiological benefits of working in the presence of others from the perspectives of brain and autonomic nervous system activity. The researchers found that parasympathetic activity—which indicates relaxation—was significantly higher when two individuals were working separately than when one individual was working alone.

This suggests that arranging the former condition in occupational therapy for [individuals](#) with high levels of tension or anxiety in [clinical settings](#) may potentially help alleviate these feelings.

In psychiatry, occupational therapy encompasses not only the individual-therapist relationship but also occupational activities and [group work](#). In [clinical practice](#), having multiple individuals engage in separate activities within the same room has been deemed effective as part of occupational therapy. However, there has been a dearth of clear electrophysiological evidence supporting this approach.

Meanwhile, previous studies have shown that performing craft activities alone can lead to a state of focused attention, as evident from specific [brainwave](#) patterns associated with concentration. Individuals exhibiting such brainwave patterns were also found to experience an increase in parasympathetic activity, which predominates in relaxation conditions.

Combining these two aspects, a research team led by Professor Ryouhei Ishii and graduate student Junya Orui, from the Graduate School of Rehabilitation Science at Osaka Metropolitan University, examined the electrophysiological effectiveness of performing craft activities in the presence of others. The study was published online in *Neuropsychobiology*.

The team measured and analyzed brainwaves and autonomic nervous

system activity during craft activities in 30 healthy young adults under the following three conditions: an individual performed the craft activity alone (alone condition); two individuals engaged in separate craft activities independently (parallel condition); and two individuals participated, during which one individual performed the craft activity while the other observed (nonparallel condition).

The experiment results revealed that parasympathetic activity was significantly higher in the parallel condition than in the alone condition. Additionally, in all conditions, individuals who exhibited concentration-related brainwave patterns during craft activities showed a significant increase in parasympathetic activity compared to those who did not exhibit such brainwave patterns.

"This study provides electrophysiological evidence that working in the presence of peers and the focus on craft activities can boost parasympathetic activity, even without [physical contact](#) or verbal interaction," said Orui. "In the future, we aim to investigate the structures and environments for more effective [occupational therapy](#) based on these findings."

More information: Junya Orui et al, Social Buffering Effects during Craft Activities in Parallel Group Session Revealed by EEG Analysis and Parasympathetic Activity, *Neuropsychobiology* (2023). [DOI: 10.1159/000531005](#)

Provided by Osaka Metropolitan University

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