CultureCase

The impact of dance and music training on our brains

This research was conducted by **Chiara Giacosa and four others** at the **Université de Montréal, Canada.**

Summary

Dance and music are universal forms of human expression that have common and distinct features. Dance engages the whole body and requires the integration of visual, auditory and motor information. Music engages specific parts of the body (typically hands and fingers) and primarily requires the integration of auditory and motor information. Do they impact our brains in a similar manner? Dance and music training produce opposite effects on some brain structures. As a consequence, they may have different long-term effects.

The study compared brain structures of dancers and musicians

Both dance and music training require long, intense and quantifiable training to master. However, they have slightly different requirements on the body and the senses. This study examined the relationship between dance and music training-induced brain changes, finding that they impact some brain structures in a different fashion. Groups of professional dancers and musicians matched for years of experience were tested by a battery of dance and music tasks (which included dance imitation, melody discrimination, and rhythm synchronisation) and brain scans to examine their influence in different brain structures.

The study looked at the lasting effects of long-term training on brain structure and function

In dancing, whole body training showed increased fanning of fibres connecting different brain regions and/or increased interconnections. By contrast, musicians developed more focused enhancements of connections in specific pathways. These findings increase our understanding of brain plasticity and highlight that different types of training may have dissimilar long-lasting effects on the brain.

This summary was written by **Ailin Buzzi, King's Knowledge Exchange Associate**

Keywords

music **experiment** **Training** **Canada** **dance** **brain**

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