

Expert birders show more compact attention brain areas, study finds

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Research shows that as individuals learn and acquire a new skill, their brain structure and activity changes. But how do more complex skills involving multiple learning processes influence the brain? In a study appearing in *JNeurosci*, researchers led by Erik Wing, from Baycrest Hospital, compared the brains of 29 expert birders with 29 age- and sex-matched beginners. Because birding requires a keen eye, attention, and strong memory, this work may have implications for experts of skills using similar processes.

The researchers found that expert birders had more structurally compact attention- and perception-related brain areas, which was linked to more accurate bird identification.

Wing elaborates, "The measure we used is the diffusion of water molecules in the brain. One way of putting it is that there's less constraint on where water goes in the brains of experts." Some of these more compact brain areas supported identification and memory for less familiar birds that were not local to the area.

These [structural changes](#) in attention- and perception-related brain areas persisted in older birders. Speculating on what this might mean, says Wing, "Acquiring skills from birding could be beneficial for cognition as people age."

The researchers continue to probe this idea by exploring whether older adults draw on the skills acquired from birding during other cognitive tasks. They've discovered that older birders can remember arbitrary faces paired with birds better than beginners. Thus, [linking arbitrary items](#) to established knowledge in specific domains may enhance recall of information outside of known domains.

The Tuned Cortex: Convergent Expertise-Related Structural and Functional Remodeling Across the Adult Lifespan, *JNeurosci* (2026). [DOI: 10.1523/JNEUROSCI.1307-25.2026](#)