

Transfer of variability-reducing mechanisms in goal-oriented movements

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Sensorimotor processes are always affected by unavoidable fluctuations. Nevertheless, actors achieve goals with great reliability in highly practiced skills. In open-loop controlled tasks, there are 3 separate factors which can be used to reduce goal variability: reduction of stochastic noise, exploitation of task tolerance, and covariation of central variables (Müller & Sternad, 2004). The aim of the present study is to examine which of these components can be transferred to unpracticed effectors in an intermanual transfer design.

Subjects practiced a virtual throwing task with their right and their left arm respectively and were required to perform the task under different transfer conditions. The amount of transfer of throwing accuracy to the unpracticed effectors as well as the contribution of the factors noise, tolerance, and covariation are analyzed.

Reference

Müller, H., & Sternad, D. (2004). Decomposition of variability in the execution of goal-oriented tasks: Three components of skill improvement. *Journal of Experimental Psychology: Human Perception and Performance*, 30, 212–233.