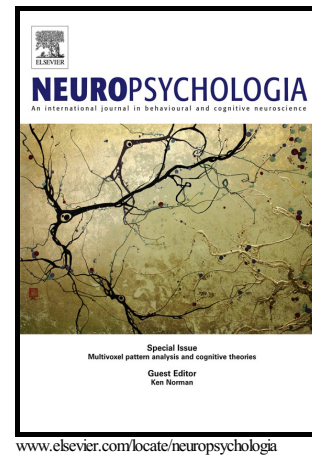


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of observational learning

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Developmental differences in the neural dynamics of observational learningJulia M. Rodriguez Buritica^{1,2,3*}, Hauke R. Heekeren^{1,3}, Shu-Chen Li^{2,3,4}, Ben Eppinger^{4,5}¹Department of Education and Psychology, Freie Universität Berlin, Berlin, Germany²Center of Lifespan Psychology, Max-Planck-Institute for Human Development, Berlin, Germany³Berlin School of Mind and Brain, Berlin, Germany⁴Chair of Lifespan Developmental Neuroscience, Department of Psychology, TU Dresden, Dresden, Germany⁵Department of Psychology, Concordia University, Montreal, Canada

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Abstract

Learning from vicarious experience is central for educational practice, but not well understood with respect to its ontogenetic development and underlying neural dynamics. In this age-comparative study we compared behavioral and electrophysiological markers of learning from vicarious and one's own experience in children (age 8-10) and young adults. Behaviorally both groups benefitted from integrating vicarious experience into their own choices however, adults learned much faster from social information than children. The electrophysiological results show learning-related changes in the P300 to experienced and observed rewards in adults, but not in children, indicating that adults were more efficient in integrating observed and experienced information during learning. In comparison to adults, children showed an enhanced FRN for observed and experienced feedback, indicating that they focus more on valence information than adults. Taken together, children compared to adults seem to be less able to rapidly assess the informational value of observed and

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