

**Alexandra L. Decker**

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## Employment

<b>Assistant Professor, Washington University in St. Louis</b> Department of Psychological and Brain Sciences	2026-
<b>Post-doctoral Fellow, Massachusetts Institute of Technology</b> Department of Brain and Cognitive Sciences Advisor: John D.E. Gabrieli	2022-2025

## Education

<b>Ph.D., University of Toronto</b> Department of Psychology Advisors: Katherine Duncan, Amy Finn Committee: Keisuke Fukuda, Lynn Hasher, Michael Esterman, Jay Pratt	2022
<b>M.A., University of Toronto, and the Hospital for Sick Children</b> Department of Psychology Advisor: Donald Mabbott Committee: Morgan Barense, Amy Finn	2016
<b>B.A., McGill University</b> Major: Psychology and Behavioural Science	2013

## Research Interests

Social Determinants of Health, Socioeconomic Status, Academic Achievement, Cognitive and Brain Development, Learning and Memory, Sustained and Selective Attention, ADHD, Neural Plasticity, Neuromodulators (acetylcholine, norepinephrine)

## Awards, Scholarships, and Grants

MIT Building 46 Community Impact Award	2025
Banting Postdoctoral Fellowship (\$140,000; 10% success rate)	2025-2027
Flux "People's Choice" Poster Award	2024
Flux Travel Award (Conference Registration + \$500)	2024
MIT Spot Award (for community members who enhance the workplace)	2024
Natural Sciences and Engineering Research Council of Canada (\$90,000) <i>(Top 20% of awarded proposals)</i>	2022-2024
William Line Memorial Graduate Scholarship, University of Toronto (\$8000)	2020-2021

Doctoral Completion Award (\$8000), University of Toronto	2020-2021
Ontario Graduate Scholarship (\$15,000), Ontario, Canada	2020-2021
Dataquest Underrepresented Genders Scholarship	2020
Ontario Graduate Scholarship (\$15,000), Ontario, Canada	2019-2020
Canadian Institutes of Health Research Project Grant (\$1,147,500)	2018-2022
Brain Canada-Kids Brain Health Network Training Award (\$70,000)	2018-2020
School of Graduate Studies Conference Grant (\$450), University of Toronto	2017
School of Graduate Studies Conference Grant (\$1,100), University of Toronto	2016

## Peer-Reviewed Publications

<sup>\*</sup>equal contributions

<sup>^</sup>trainees

Biba, T., **Decker, A.**, Herrmann, B., Fukuda, K., Katz, C., Valiante, T., Duncan, K. Memory's pulse: episodic memory formation is theta rhythmic. 2025. Accepted at *Nature Human Behaviour*

**Decker A.**, Tandoc, M., Cho, H.<sup>^</sup>, Rebello, G., Mabbott, D., Duncan, K.<sup>\*</sup>, Finn, A.S.<sup>\*</sup> Children's Darting (Not Diffuse) Attentional Spotlight Reduces Memory Selectivity for Relevant Content. 2025. Accepted at *Developmental Science*.

**Decker, A. L.**, Leonard, J., Romeo, R., Itiat, J., Hubbard, N. A., Bauer, C. C. C., Grotzinger, H., Giebler, M. A., Torres, Y. C., Imhof, A., & Gabrieli, J. D. E. (2025). Exploration is associated with socioeconomic disparities in learning and academic achievement in adolescence. *Nature Communications*, 16(1), 6342. <https://doi.org/10.1038/s41467-025-61746-6>

Treves, I. N., Marusak, H. A., **Decker, A.**, Kucyi, A., Hubbard, N. A., Bauer, C. C. C., Leonard, J., Grotzinger, H., Giebler, M. A., Torres, Y. C., Imhof, A., Romeo, R., Calhoun, V. D., & Gabrieli, J. D. E. (2024). Dynamic functional connectivity correlates of trait mindfulness in early adolescence. *Biological Psychiatry Global Open Science*, 100367. <https://doi.org/10.1016/j.bpsgos.2024.100367>

**Decker, A. L.**, Meisler, S. L., Hubbard, N. A., Bauer, C. C. C., Leonard, J., Grotzinger, H., Giebler, M. A., Torres, Y. C., Imhof, A., Romeo, R., & Gabrieli, J. D. E. (2024). Striatal and Behavioral Responses to Reward Vary by Socioeconomic Status in Adolescents. *Journal of Neuroscience*. <https://doi.org/10.1523/JNEUROSCI.1633-23.2023>

Hurtado, H.<sup>\*</sup>, Hansen, M.<sup>\*</sup>, Strack, J.<sup>\*</sup>, Vainik, U., **Decker, A. L.**, Khundrakpam, B., Duncan, K., Finn, A. S., Mabbott, D. J., & Merz, E. C. (2024). Polygenic risk for depression and anterior and posterior hippocampal volume in children and adolescents. *Journal of Affective Disorders*, 344, 619–627. <https://doi.org/10.1016/j.jad.2023.10.068>

**Decker, A. L.**, Duncan, K.<sup>+</sup>, & Finn, A. S.<sup>+</sup> (2023). Fluctuations in Sustained Attention Explain Moment-to-Moment Shifts in Children's Memory Formation. *Psychological Science*, 34(12), 1377–1389. <https://doi.org/10.1177/09567976231206767>

**Decker, A.**<sup>+</sup>, Dubois, M.<sup>+</sup>, Duncan, K.<sup>+</sup>, & Finn, A. S.<sup>+</sup> (2023). Pay attention and you might miss it: Greater learning during attentional lapses. *Psychonomic Bulletin & Review*, 30(3), 1041–1052. <https://doi.org/10.3758/s13423-022-02226-6>

**Decker, A.**, Duncan, K.<sup>+</sup>, Finn, A. S.<sup>+</sup>, & Mabbott, D. J.<sup>+</sup> (2020). Children's family income is associated with cognitive function and volume of anterior not posterior hippocampus. *Nature Communications*, 11(1), 4040. <https://doi.org/10.1038/s41467-020-17854-6>

**Decker, A.**, Finn, A.<sup>+</sup>, & Duncan, K.<sup>+</sup> (2020). Errors lead to transient impairments in memory formation. *Cognition*, 204, 104338. <https://doi.org/10.1016/j.cognition.2020.104338>

**Decker, A.**, & Duncan, K. (2020). Acetylcholine and the complex interdependence of memory and attention. *Current Opinion in Behavioral Sciences*, 32, 21–28. <https://doi.org/10.1016/j.cobeha.2020.01.013>

Medeiros, C. B. de, Moxon-Emre, I., Scantlebury, N., Malkin, D., Ramaswamy, V., **Decker, A.**, Law, N., Kumabe, T., Leonard, J., Rubin, J., Jung, S., Kim, S.-K., Gupta, N., Weiss, W., Faria, C. C., Vibhakar, R., Lafay-Cousin, L., Chan, J., Kros, J. M., ... Mabbott, D. J. (accepted). Medulloblastoma has a global impact on health-related quality of life: Findings from an international cohort. *Cancer Medicine*. <https://doi.org/10.1002/cam4.2701>

Sekeres, M. J., Riggs, L., **Decker, A.**, Medeiros, C. B. de, Bacopoulos, A., Skocic, J., ... Frankland, P. W. (2018). Impaired recent, but preserved remote, autobiographical memory in pediatric brain tumor patients. *Journal of Neuroscience*, 1056–18. <https://doi.org/10.1523/JNEUROSCI.1056-18.2018>

Oyefiade, A. A., Ameis, S., Lerch, J. P., Rockel, C., Szulc, K. U., Scantlebury, N., **Decker, A.**, Jefferson, J., Spichak, S., & Mabbott, D. J. (2018). Development of short-range white matter in healthy children and adolescents. *Human Brain Mapping*, 39(1), 204–217. <https://doi.org/10.1002/hbm.23836>

**Decker, A.**, Szulc, K. U., Bouffet, E., Laughlin, S., Chakravarty, M. M., Skocic, J., Mabbott, D. J. (2017). Smaller hippocampal subfield volumes predict verbal associative memory in pediatric brain tumor survivors. *Hippocampus*. <https://doi.org/10.1002/hipo.22758>