

JEFFREY D. WAMMES

Curriculum Vitae (as of Mar 2024)

Contact Information

Department of Psychology, Queen's University
56 Arch St, Kingston, ON K7L 3L3

Email: jeffrey.wammes@queensu.ca
Phone: 613-533-6414

Academic & Training History

Assistant Professor, Queen's University Department of Psychology, Centre for Neuroscience	2020 - present
Postdoctoral Fellow, Yale University Advisor: Dr. Nicholas Turk-Browne	2017 - 2020
Doctor of Philosophy, University of Waterloo Advisor: Dr. Myra Fernandes	2014 - 2017
Visiting Researcher, Western University Advisor: Dr. Stefan Köhler	2015 - 2017
Master of Arts, University of Waterloo Advisor: Dr. Myra Fernandes	2012 - 2014
Honours Bachelor of Arts, Western University Advisor: Dr. Ken McRae	2007 - 2011

Research Interests

Learning | Memory | Education | Attention | Thought Patterns | Statistical Learning | Knowledge Organization | Machine Learning | Functional Neuroimaging | Computational Analysis | Technology Use & Media Multitasking | Ecological Design | Conceptual Learning

Published Works

Summary

34 peer-reviewed publications

03 invited chapters

02 technical reports and non-academic writing

1. Nick, Q., Gale, D. J., Areshenkoff, C., Brouwer, A. D., Nashed, J., **Wammes, J.D.**, Flanagan, J. R., Smallwood, J. & Gallivan, J. (in revision). Reconfigurations of cortical manifold structure during reward-based motor learning. *eLife (bioRxiv)*, 2023-07.
2. Jalava, S. & **Wammes J. D.** (in revision). Slow and steady: Speed and variance independently predict lapses in attention during rhythmic responding. *Behavior Research Methods*.
3. Krzys, K., Man, L. L. Y., **Wammes, J. D.**, Castelhana, M. S. (in revision). Foreground bias: semantic inconsistency effects reduced when searching across depth. *Psychonomic Bulletin & Review*.
4. Jalava, S. & **Wammes J. D.** (under review). Predictive links between markers of mind wandering and memory are dictated by task demands. *Journal of Experimental Psychology: Learning, Memory & Cognition*.
5. Norris, M. E., Stewart, J. & **Wammes, J. D.** (under review). Large introductory course design: providing examples of how to implement flexible, high-impact learning practices. *Frontiers in Education*.
6. Zhou, S. S., Rowchan, K., Mckeown, B., Smallwood, J. & **Wammes, J. D.** (under review). Drawing behaviour influences ongoing thought patterns and subsequent memory. *Cognition (bioRxiv)*.
7. Peng, K., **Wammes, J. D.**, Nguyen, A., Jordan, M. C., Norman, K. A., & Turk-Browne, N. B. (under review). Inducing representational change through real-time neurofeedback. *Philosophical Transactions of The Royal Society B*.
8. Chitiz, L., Mckeown, B., Mulholland, B., Wallace, R., Goodall-Halliwel, I., Ho, N. S. P., Konu, D., Poerio, G., **Wammes, J. D.**, Milham, M., Klein, A., Jefferies, B., Leech, R., & Smallwood, J. (under review). Mapping cognition across lab and daily life using experience-sampling.
9. Wallace, R. S., Mckeown, B., Goodall-Halliwel, I., Chitiz, L., Forest, P., Karapanagiotidis, T., Mulholland, B., Turnbull, A. G., Vanderwal, T., Hardikar, S., Gonzalez Alam, T., Bernhardt, B., Wang, H., Strawson, W., Milham, M., Xu, T., Margulies, D., Poerio, G., Jefferies, E. S., Skipper, J. I., **Wammes, J. D.**, Leech, R., & Smallwood, J. (under review). Mapping patterns of thought onto brain activity during movie-watching. *bioRxiv*, 2024-01.

Peer-Reviewed Publications

1. McKeown, B., Strawson, W. H., Zhang, M., Turnbull, A., Konu, D., Karapanagiotidis, T., Wang, H.-T., Leech, R., Xu, T., Hardikar, S., Bernhardt, B., Margulies, D., Jefferies, E., **Wammes, J. D.**, Smallwood, J. (under review) Using a state-space derived from dimensions

of brain variation to understand the role of association cortex in covert and overt behaviour. *Nature: Scientific Reports*, 13(1), p.21710.

2. Pereira, E., Ayers-Glassey, S., **Wammes, J. D.**, & Smilek, D. (2023). Attention in hindsight: Using stimulated recall to capture dynamic fluctuations in attentional engagement. *Behavior Research Methods*, 1-32.
3. **[invited article]** Fan, J. E., Bainbridge, W. A., Chamberlain, R., & **Wammes, J. D.** (2023) Drawing as a cognitive tool for understanding the mind. *Nature Reviews Psychology*, 1-13.
4. Laursen, S. J., **Wammes, J. D.** & Fiacconi, C. (2023). Examining the effect of expected test format and test difficulty on the frequency and mnemonic costs of mind wandering. *Quarterly Journal of Experimental Psychology*.
5. Mulholland, B., Goodall-Halliwell, I., Wallace, R., Chitiz, L., Mckeown, B., Rastan, A., Poerio, G., Leech, R., Turnbull, A., Klein, A., Milham, M., **Wammes, J. D.**, Jefferies, E., Smallwood, J. (2023). Patterns of ongoing thought in the real world. *Consciousness & Cognition*, 114, 103530.
6. Jalava, S. & Cheng, K., & **Wammes J. D.** (2023). Drawing your way to an A: Long-lasting improvements in classroom quiz performance following drawing. *Psychonomic Bulletin & Review*.
7. Smith, A. C., Smilek, D. & **Wammes, J. D.** (2023). The relation between trait flow and engagement, understanding, and grades in undergraduate lectures. *British Journal of Educational Psychology*.
8. **Wammes, J. D.**, Norman, K. A. & Turk-Browne, N. B. (2022). Increasing stimulus similarity drives nonmonotonic representational change in hippocampus. *eLife*.
9. Roberts, B. R. & **Wammes, J. D.** (2021). Drawing and memory: Using visual production to alleviate concreteness effects. *Psychonomic Bulletin & Review*. 28, 259-267.
10. Gliser, I., Mills, C, Bosch, N., Smith, S., Smilek, D. & **Wammes, J. D.** (2020). The sound of inattention: Predicting mind wandering with automatically derived features of instructor speech. *Proceedings of the 21th International Conference on Artificial Intelligence in Education (AIED 2020)*.
11. Fan, J. E., **Wammes, J. D.**, Gunn, J. B., Yamins, D. L. K., Norman, K. A. & Turk-Browne, N. B. (2020). Relating visual production and recognition of objects in human visual cortex. *Journal of Neuroscience*. 40, 1710-1721.
12. **Wammes, J. D.**, Jonker, T. R., & Fernandes, M. A (2019). Drawing improves memory: The importance of multimodal encoding context. *Cognition*, 191, 103955.
13. Meade, M. E., **Wammes, J. D.**, & Fernandes, M. A. (2019). Comparing the influence of doodling, drawing, and writing at encoding on memory. *Canadian Journal of Experimental Psychology*, 73, 28-36.
14. **Wammes, J. D.**, Ralph, B. C. W., Mills, C., Bosch, N., Duncan, T. L., & Smilek, D. (2019). Disengagement during lectures: Media multitasking and mind wandering in university classrooms. *Computers & Education*, 132, 76-89.

15. **Wammes, J. D.**, Roberts, B. R., & Fernandes, M. A. (2018). Task preparation as a mnemonic: The benefits of drawing (and not drawing). *Psychonomic Bulletin and Review*, *25*, 2365-2372.
16. Jonker, T. R., **Wammes, J. D.**, & MacLeod, C. M. (2019). Drawing enhances item information but undermines sequence information in memory. *Journal of Experimental Psychology: Learning, Memory and Cognition*, *45*, 689-699.
17. Meade, M. E., **Wammes, J. D.**, & Fernandes, M. A. (2018). Drawing as an encoding tool: Memorial benefits in younger and older adults. *Experimental Aging Research*, *44*, 369-396.
18. Fernandes, M. A., **Wammes, J. D.** & Meade, M. E. (2018). The surprisingly powerful influence of drawing on memory. *Current Directions in Psychological Science*, *27*, 302-308.
19. **Wammes, J. D.**, Meade, M. E., & Fernandes, M. A. (2018). Creating a recollection-based memory through drawing. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *44*, 734-751.
20. Bosch, N., Mills, C., **Wammes, J.D.**, & Smilek, D. (2018). Quantifying classroom instructor dynamics with computer vision. In C. Rosé, R. Martínez-Maldonado, H. U. Hoppe, R. Luckin, M. Mavrikis, K. Porayska-Pomsta, ... B. du Boulay (Eds.), *Proceedings of the 19th International Conference on Artificial Intelligence in Education (AIED 2018)*. (pp. 30-42). Cham, CH: Springer.
21. Seli, P., Carriere, J., **Wammes, J. D.**, Risko, E. F., Schacter, D. L., & Smilek, D. (2018). On the Clock: Evidence for the Rapid and Strategic Modulation of Mind Wandering. *Psychological Science*, *29*, 1247-1256.
22. **Wammes, J. D.**, Meade, M. E., & Fernandes, M. A. (2017). Learning terms and definitions: Drawing and the role of elaborative encoding. *Acta Psychologica*, *179*, 104-113.
23. **Wammes, J. D.**, & Fernandes, M. A. (2017). The residual protective effects of enactment. *Cognition*, *184*, 87-101.
24. **Wammes, J. D.**, & Smilek, D. (2017). Examining the influence of lecture format on degree of mind wandering. *Journal of Applied Research in Memory and Cognition*, *6*, 174-184.
25. Ralph, B. C. W., **Wammes, J. D.**, Barr, N., & Smilek, D. (2017). Wandering minds and wavering goals: Examining the relation between mind wandering and grit in everyday life, the laboratory, and the classroom. *Canadian Journal of Experimental Psychology*, *71*, 120-132.
26. **Wammes, J. D.**, Good, T. J., & Fernandes, M. A. (2017). Autobiographical and episodic memory deficits in mild traumatic brain injury. *Brain and Cognition*, *111*, 112-126.
27. Fernandes, M. A., **Wammes, J. D.**, Priselac, S. & Moscovitch, M. (2016). Interfering with free recall of words: Detrimental effects of phonological competition. *Neuropsychologia*, *90*, 59-71.

28. **Wammes, J. D.**, Boucher, P. O., Seli, P., Cheyne, J. A., & Smilek, D. (2016). Mind wandering during lectures I: Changes in rates across an entire semester. *Scholarship of Teaching and Learning in Psychology*, 2, 13-32.
29. **Wammes, J. D.**, Seli, P., Cheyne, J. A., Boucher, P. O., & Smilek, D. (2016). Mind wandering during lectures II: Relation to academic performance. *Scholarship of Teaching and Learning in Psychology*, 2, 33-48.
30. **Wammes, J. D.**, Meade, M. E., & Fernandes, M. A. (2016). The drawing effect: Evidence for reliable and robust memory benefits in free recall. *The Quarterly Journal of Experimental Psychology*, 69, 1752-1776.
31. Seli, P., **Wammes, J. D.**, Risko, E. F., & Smilek, D. (2016). On the relation between motivation and retention in educational contexts: The role of intentional and unintentional mind wandering. *Psychonomic Bulletin & Review*, 23, 1280-1287.
32. **Wammes, J. D.**, & Fernandes, M. A. (2016). Interfering with memory for faces: The cost of doing two things at once. *Memory*, 24, 184-203.
33. Fernandes, M. A., **Wammes, J. D.**, Hsiao, J. H. (2013). Representation of linguistic information determines its susceptibility to memory interference. *Brain Sciences*, 3, 1244-1260.
34. Khalkhali, S., **Wammes, J.**, & McRae, K. (2012). Integrating words that refer to typical sequences of events. *Canadian Journal of Experimental Psychology*, 66, 106-114.

Invited Chapters

1. **Wammes, J. D.**, Lin, Q., Norman, K. A., Turk-Browne, N. B. (2021). Studying episodic memory using real-time fMRI. In M. Hampson (Ed.) *fMRI Neurofeedback*.
2. **Wammes, J. D.**, Seli, P., & Smilek, D. (2018). Mind wandering in educational settings. In K. Christoff & K. Fox (Eds.) *Oxford Handbook on Spontaneous Thought*.
3. Fernandes, M. A., & **Wammes, J. D.** (2015). Memory and memory theory. In S. Krauss Whitbourne & L. Yang (Eds.) *Encyclopedia of Adulthood and Aging*.

Technical Reports & Non-Academic Contributions

4. Norris, M. E., **Wammes, J. D.**, Grant, S. E. (2021). Transitioning to Post-Secondary [Video]. <https://www.youtube.com/watch?v=SAJVs14QAVM>
5. Fernandes, M. A., **Wammes, J. D.**, Sklair, N., & Francis, T. J. (2006, revised 2007, 2008, 2010, 2015, **2017**). *Building Computer-based Methods into Research in Memory: a Laboratory Manual*. Waterloo, ON: University of Waterloo CoursewARES (Lab manual for Psychology 398 – Research Methods in Memory)

6. **Wammes, J. D.** (2016, July 25). Are your students paying attention? [Blog post]. Retrieved from <http://nobaproject.com/blog/2016-07-25-are-your-students-paying-attention>

Scholarly Presentations

Summary

52 conference presentations (39 first or last author)

23 invited talks and lectures (23 first or last author)

Conference Presentations

(first author is presenting author)

1. Ignatius, T., Manson, G., Flanagan, R. J., & **Wammes, J. D.** (2024, Feb). *Exploring the impact of motor reinstatement on memory performance*. Poster presented at the Lake Ontario Visionary Establishment, Niagara Falls, ON, CA.
2. Rowchan, K., Gale, D. J., Nick, Q., Gallivan J. P. & **Wammes, J. D.** (2024, Feb). *Reorganization of brain states along a task-based manifold underlie visual statistical learning*. Poster presented at the Lake Ontario Visionary Establishment, Niagara Falls, ON, CA.
3. Rahman, H., Abdulrabba, S., Manson, G., & **Wammes, J. D.** (2024, Feb). *Capturing mind wandering via ongoing objective measures during statistical learning*. Poster presented at the Lake Ontario Visionary Establishment, Niagara Falls, ON, CA.
4. Zhou, S., Rowchan, K., Mckeown, B., Smallwood, J., & **Wammes, J. D.** (2024, Feb). *Drawing behaviour elicits elaborative visual thoughts and benefits subsequent memory*. Poster presented at the Lake Ontario Visionary Establishment, Niagara Falls, ON, CA.
5. Nick, Q., Gale, D. J., Areshenkoff, A., DeBrouwer, A., Nashed, J. Y., **Wammes, J. D.**, Flagan, J. R., Smallwood, J., Gallivan, J. G. (2023, Nov). *Reconfigurations of cortical manifold structure during reward-based motor learning*. Poster presented at Society for Neuroscience, Washington DC, USA.
6. Ignatius, T., Manson, G., **Wammes, J. D.**, & Flanagan, R. J. (2023, Oct). *Going through the motions: The influence of motor reinstatement on recognition memory*. Poster presented at the Canadian Society for Psychomotor Learning and Sports Psychology, Kingston, ON, CA.
7. Zhou, S., Rowchan, K., Mckeown, B., Smallwood, J., & **Wammes, J. D.** (2023, Jun). *Ongoing thought patterns during encoding predict subsequent memory and drawing-related benefits*. Poster presented at the Canadian Society for Brain, Behaviour and Cognitive Sciences, Guelph, ON, CA.
8. Rowchan, K., Gale, D. J., Nick, Q., Gallivan J. P. & **Wammes, J. D.** (2023, Jun). *Expansions of visual and attention-related regions along a whole-brain cortical manifold underlie visual statistical learning*. Poster presented at the Canadian Society for Brain, Behaviour and Cognitive Sciences, Guelph, ON, CA.

9. Rahman, H. & **Wammes, J. D.** (2023, Jun). *Mind wandering is associated with impaired higher-order abstraction following statistical learning*. Poster presented at the Canadian Society for Brain, Behaviour and Cognitive Sciences, Guelph, ON, CA.
10. Goldring, L., Fudge, J., Alexandru, A., **Wammes, J. D.**, & Dringenberg, H. (2023, Jun). *Napping and statistical learning: A pilot study*. Poster presented at the Canadian Society for Brain, Behaviour and Cognitive Sciences, Guelph, ON, CA.
11. Peng, K., **Wammes, J. D.**, Nguyen, A., Jordan, M. C., Norman, K. A., & Turk-Browne, N. B. (2023, May). *Non-monotonic plasticity from real-time inception of competition between object representations*. Poster presented at Vision Sciences Society. St. Pete Beach, FL, USA.
12. Bamdad Rowchan, K., & **Wammes, J. D.** (2022, Jun). *The effect of collaborative sketches on distinctiveness and memory*. Poster presented at Annual Ontario Psychology Undergraduate Thesis Conference, virtual.
13. Zhou, S., & **Wammes, J. D.** (2022, Jun). *Drawing to learn: quantifying patterns of thought that drive successful recall*. Poster presented at Annual Ontario Psychology Undergraduate Thesis Conference, virtual.
14. Ali, Y., & **Wammes, J. D.** (2022, May). *Differential mechanisms of learning-related change*. Poster presented at Vision Sciences Society, St. Pete Beach, FL, USA.
15. Jalava, S. T., & **Wammes, J. D.** (2022, May). *Subjective reports of mind wandering during encoding predict recognition memory for scenes*. Poster presented at Vision Sciences Society, St. Pete Beach, FL, USA.
16. **Wammes, J. D.** (2021, Jun). *Learning through drawing: Evidence from the brain and the classroom*. Talk presented at Canadian Society for Brain, Behaviour and Cognitive Science, virtual.
17. Pereira, E., Ayers-Glassey, S., **Wammes, J. D.**, & Smilek, D. (2021, Jun). *Interested minds are predictable minds: Establishing a link between individual traits and temporal fluctuations of attentional engagement*. Talk presented at Canadian Society for Brain, Behaviour and Cognitive Science, virtual.
18. Ayers-Glassey, S., Pereira, E., **Wammes, J. D.**, & Smilek, D. (2021, Jun). *Attention in hindsight: Using video-stimulated recall as a novel approach to capturing fluctuations in self-reported attentional engagement*. Poster presented at Canadian Society for Brain, Behaviour and Cognitive Science, virtual.
19. Jalava, S. & **Wammes, J. D.** (2021, Jun). *Slow and steady: Response time variability (and speed) predict depth of mind wandering*. Poster presented at Canadian Society for Brain, Behaviour and Cognitive Science, virtual.
20. **Wammes, J. D.**, K. Peng, Norman, K. A., & Turk-Browne, N. B. (2020, Jun). *Synthesizing images from deep neural networks to map the hierarchy of feature complexity in human visual cortex*. Poster presented at Virtual Vision Sciences Society.

21. **Wammes, J. D.**, K. Peng, D. L. K. Yamins, Norman, K. A., & Turk-Browne, N. B. (2019, Oct). *Model-based multivariate mapping of the visual hierarchy with image synthesis*. Poster presented at Society for Neuroscience, Chicago, IL, YSA.
22. **Wammes, J. D.**, Norman, K. A., & Turk-Browne, N. B. (2019, Jun). *Competition between overlapping stimuli predict learning-induced representational change*. Talk presented at Canadian Society for Brain, Behaviour and Cognitive Science, Waterloo, ON, CA.
23. Roberts, B. R. T. & **Wammes, J. D.** (2019, Jun). *Drawing and memory: Using visual production to alleviate concreteness effects*. Poster presented at Canadian Society for Brain, Behaviour and Cognitive Science, Waterloo, ON, CA.
24. **Wammes, J. D.**, Norman, K. A., & Turk-Browne, N. B. (2019, May). *Synthesizing images with deep neural networks to manipulate representational similarity and induce representational change*. Poster presented at Vision Sciences Society, St. Pete Beach, FL, USA.
25. **Wammes, J. D.**, Norman, K. A., & Turk-Browne, N. B. (2018, Nov). *Impact of representational overlap on learning-induced representational change*. Poster presented at Society for Neuroscience, San Diego, CA, USA.
26. **Wammes, J. D.**, Fan, J. E., Lee, R., Gunn, G., Yamins, D., Norman, K. A., & Turk-Browne, N. B. (2018, May). *Changing object representations during visual production training*. Talk presented at Manhattan Area Memory Meeting, New York, NY, USA.
27. **Wammes, J. D.**, Fan, J. E., Lee, R., Gunn, G., Yamins, D., Norman, K. A., & Turk-Browne, N. B. (2018, May). *Changing object representations during visual production training*. Poster presented at Vision Sciences Society, St. Pete Beach, FL, USA.
28. Fan, J. E., Gunn, G., Lee, R., **Wammes, J. D.**, Yamins, D., Norman, K. A., & Turk-Browne, N. B. (2017, November). *Consequence of visual production training on object representations*. Poster presented at Society for Neuroscience, Washington, DC, USA.
29. **Wammes, J. D.**, Ralph, B. C. W., Duncan, T. L., & Smilek, D. (2017, July). *Attention lapses during lectures: Mind wandering and media multitasking in the university classroom*. Poster presented at the McMaster Symposium on Education & Cognition, Hamilton, ON, CA.
30. Smilek, D., **Wammes, J. D.**, & Seli, P. (2017, June). *Some surprising findings about mind wandering and inattention during undergraduate lectures*. Talk presented at the mind Wandering Symposium, Vancouver, BC, CA.
31. Meade, M. E., **Wammes, J. D.**, & Fernandes, M. A. (2016, November). *What Does Doodling Do? Evidence for Free Recall Impairments*. Talk presented at the Psychonomic Society Annual Meeting, Boston, MA, USA.
32. **Wammes, J. D.**, Meade, M. E. & Fernandes, M. A. (2016, June). *Creating a vivid recollection-based memory trace through drawing*. Talk presented at the Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) 26th Annual Meeting, Ottawa, ON, CA.
33. **Wammes, J. D.** (2016, May). *Preventing long-term dual-task interference*. Talk presented at the Toronto Area Memory Group (TAMeG) 2nd Annual Meeting, Toronto, ON, CA.

34. **Wammes, J. D.** & Fernandes, M. A. (2016, April). *On making a more resilient memory trace*. Poster presented at the *Graduate Psychology Discovery Conference*, Waterloo, ON, CA.
35. **Wammes, J. D.**, & Fernandes, M. A. (2015, November). *Enactment protects studied words from long-term dual-task interference*. Poster presented at the *Psychonomic Society Annual Meeting*, Chicago, IL, USA.
36. Smilek, D., **Wammes, J. D.**, & Seli, P. (2015, October). Mind wandering and performance in live undergraduate lectures. Paper presented at *Engaging the Wandering Mind: Exploring the Cognitive, Neural and Applied Consequences of Boredom*, Waterloo, ON, CA.
37. Smilek, D., **Wammes, J. D.**, & Seli, P. (2015, Aug). The prevalence and consequences of mind wandering during live undergraduate lectures. Invited presentation at the *McMaster Symposium on Education & Cognition*, Hamilton, ON, CA.
38. Smilek, D., **Wammes, J. D.**, & Seli, P. (2015, June). Mind wandering and learning in live lectures across an entire semester. Invited symposium presentation at a meeting of the *Society for Applied Research in Memory and Cognition*, Victoria, BC, CA.
39. Seli, P., **Wammes, J. D.**, & Smilek, D. (2015, June). *Can people strategically mind-wander?* Poster presented at the *Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) 25th Annual Meeting*, Ottawa, ON, CA.
***Honourable mention – D.O. Hebb Award for Graduate Student presentation**
40. **Wammes, J. D.**, Meade, M. E. & Fernandes, M. A. (2015, June). *The drawing effect: Evidence for reliable and robust memorial benefits*. Poster presented at the *Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) 25th Annual Meeting*, Ottawa, ON, CA.
***Winner – D.O. Hebb Award for Graduate Student presentation**
41. **Wammes, J. D.**, Good, T. J. Fernandes, M. A. (2015, May). *The influence of ageing and mild traumatic brain injury on episodic and semantic memory*. Poster presented at the *Association for Psychological Science (APS), 27th Annual Meeting*, New York, NY, USA.
42. **Wammes, J. D.** (2015, May). *Complex and novel concepts are best learned by Drawing*. Data Blitz presented at the *Toronto Area Memory Group (TAMeG) 1st Annual Meeting*. Toronto, ON, CA.
43. **Wammes, J. D.**, Meade, M. E., Fernandes, M. A. (2014, November). *Drawing boosts memory for words: Specifying the source of the effect*. Poster presented at the *Psychonomic Society Annual Meeting*, Long Beach, CA, USA.
44. **Wammes, J. D.**, Boucher, P., Smilek, D. (2014, Aug). *An ecologically valid exploration of mind wandering and academic performance*. Poster presented at the *McMaster Symposium on Education & Cognition*, Hamilton, ON, CA.
45. **Wammes, J. D.**, Boucher, P., Smilek, D. (2014, July). *Mind wandering during lectures: An ecologically valid exploration*. Poster presented at the *Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) 24th Annual Meeting*, Toronto, ON, CA.

46. **Wammes, J. D.**, Fernandes, M. A., Hsiao, J. H. (2014, July). *The residual protective effects of enactment*. Poster presented at the *Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) 24th Annual Meeting*, Toronto, ON, CA.
47. **Wammes, J. D.**, Meade, M., Fernandes, M. A. (2014, April). *The drawing effect: Memory is better for drawn words than for written*. Poster presented at the *Graduate Psychology Discovery Conference*, Waterloo, ON, CA.
48. **Wammes, J. D.**, Fernandes, M. A. (2013, November). *Interference with face memory under divided attention at retrieval depends on visual processing demands of concurrent tasks*. Poster presented at the *Psychonomic Society Annual Meeting*, Toronto, ON, CA.
49. **Wammes, J. D.**, Fernandes, M. A., Hsiao, J. H. (2013, June). *Language experience shapes cognition: Comparing memory for Chinese and English words*. Poster presented at the *Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) 23rd Annual Meeting*, Calgary, AB, CA
***Honourable mention – D.O. Hebb Award for Graduate Student presentation**
50. **Wammes, J. D.**, Fernandes, M. A., Hsiao, J. H. (2013, June). *Language experience shapes cognition: Comparing memory for Chinese and English words*. Poster presented at the *Canada-Israel Symposium on Brain Plasticity, Learning and Education*, London, ON, CA.
51. McRae, K., Khalkhali, S., & **Wammes, J.** (2011, November). *Integrating words that refer to temporally sequenced events*. Paper presented at the *Forty-first Meeting of the Society for Computers in Psychology*, Seattle, WA, USA.
52. McRae, K., Khalkhali, S., & **Wammes, J.** (2011, June). *Integrating event concepts*. Festschrift in Honour of Douglas Mewhort, 21st Annual Meeting of the *Canadian Society for Brain, Behavior, and Cognitive Science*, Winnipeg, AB, CA.

Invited Talks & Lectures

(first author is presenting author)

1. **Wammes, J. D.** (2023, Apr). *Multimodal encoding: Improving memory in the lab and real world via drawing*. Talk presented at Brooklyn College CUNY's Cognitive and Comparative Psychology colloquium.
2. **Wammes, J. D.** (2023, Apr). *Multimodal encoding: Improving memory in the lab and real world via drawing*. Talk presented in PSYC 203: Research Methods in Psychology, Kingston, ON, CA.
3. **Wammes, J. D.** (2022, Dec). *Solving the puzzle of memory function*. Public lecture presented at Revera Living's St Lawrence Place Retirement location.
4. **Wammes, J. D.** (2022, Apr). *Career path through academia*. Talk presented at a jointly held session for the University of Waterloo Department of Psychology's Cognitive Neuroscience, and Cognition divisions.

5. **Wammes, J. D.** (2022, Apr). *Investigating improvements and reorganization in memory*. Talk presented at the University of Waterloo Department of Psychology's Cognitive Neuroscience seminar.
6. **Wammes, J. D.** (2022, Mar). *Delineating dynamics in attentional states in the lab and the real-world*. Talk presented at the California State University: Northridge Department of Psychology Colloquium.
7. **Wammes, J. D.** (2021, Mar). *Mind wandering in the wild: Measuring disengagement during university lectures*. Talk presented at University of North Carolina at Greensboro's Department of Psychology seminar.
8. **Wammes, J. D.** (2021, Feb). *Representational dynamics in memory*. Talk presented at University of Toronto's 'Ebbinghaus Empire' talk series.
9. **Wammes, J. D.** Talk given at McMaster Conference on Education & Cognition. *Documenting the wandering mind during university lectures*. Virtual, Jul 2020.
10. **Wammes, J. D.** Talk given in McMaster University's Department of Psychology Neuroscience & Behaviour Colloquium. *Mind wandering in the wild: Measuring engagement during university lectures*. Hamilton, ON, CA, Mar 2020.
11. **Wammes, J. D.** *Multivariate pattern analysis*. Lecture given in Yale University's 'Neuroimaging for the Clinical Neuroscientist' course. Instructors: Sule Tinaz and Hal Blumenfeld. New Haven, CT, USA, Apr 2019.
12. **Wammes, J. D.** *On drawing to remember*. Lecture given in Yale University's 'Classical Tradition: From Roman to Renaissance Art' course. Instructor: Felicity Harley. New Haven, CT, USA, Feb 2019.
13. **Wammes, J. D.** *On drawing to remember*. Lecture given in Yale University's 'Classical Tradition: From Roman to Renaissance Art' course. Instructor: Felicity Harley. New Haven, CT, USA, Feb 2019.
14. **Wammes, J. D.** (2017, March) *Encoding a more robust memory*. Talk presented at University of California at Davis, Davis, CA, USA, Mar 2017.
15. **Wammes, J. D.** Memory and emotion. Lecture given in Western University's 'Memory' course. Instructor: Dr. Stefan Kohler. London, ON, CA, Mar 2017.
16. **Wammes, J. D.** *Mind wandering during lectures*. Lecture given in Fanshawe College's 'Psychobabble, Biobunk & Pop-Psych' course. Instructor: Michael Wammes. London, ON, CA, Feb 2017.
17. **Wammes, J. D.** *On the role of engagement in memory*. Talk presented at Princeton University, Princeton, NJ, USA, Dec 2016.
18. **Wammes, J. D.** *Statistics review session*. Lecture given in University of Waterloo's 'Basic Data Analysis' course. Instructor: Candice Graydon, Apr 2014.

19. **Wammes, J. D.** *Research in attention and memory*. Lecture given in University of Waterloo's 'Research in Memory' course. Instructor: Dr. Evan Risko, Apr 2014.
20. **Wammes, J. D.** *Building a memory experiment*. Lecture given in University of Waterloo's 'Research in Memory' course. Instructor: Nathaniel Barr, Mar 2014.
21. **Wammes, J. D.** *Interfering with memory retrieval*. Lecture given in Redeemer University College's 'Research Methods' course. Instructor: Bethany Delleman, Mar 2014.
22. **Wammes, J. D.** *Plasticity after brain damage*. Lecture given in University of Waterloo's 'Physiological Psychology' course. Instructor: Dr. Daniel Smilek, Feb 2014.
23. **Wammes, J. D.** *Memory*. Lecture given in University of Waterloo's Physiological Psychology course. Instructor: Candice Graydon, Oct 2013.

Research Funding

New Frontiers in Research Fund Special Call: Innovative Approaches to Research in the Pandemic Context	\$223 097 2022-2024
Canada Foundation for Innovation John R. Evans Leaders Fund	\$250 000 2020-2024
Natural Sciences and Engineering Research Council of Canada Discovery Grant	\$152 500 2020-2026
Natural Sciences and Engineering Research Council of Canada Research Tools and Instruments	\$148 729 2020-2021
Social Sciences and Humanities Research Council of Canada Banting Postdoctoral Fellowship	\$140 000 2019-2020
Learning Innovation and Teaching Enhancement (LITE), Full Grant	\$30 000 2018-2020
Natural Sciences and Engineering Research Council of Canada Postdoctoral Fellowship	\$90 000 2017 - 2019
Natural Sciences and Engineering Research Council of Canada Alexander Graham Bell Canada Graduate Scholarship – Doctoral	\$105 000 2014 - 2017
University of Waterloo President's Graduate Scholarship	\$30 000 2014 - 2017

Awards & Honours

Society for Experimental Psychology and Cognitive Science (SEPCS) American Psychological Association, New Investigator Award	2019
University of Waterloo Outstanding Achievement in Graduate Studies Award	2017
Donald O. Hebb Graduate Student Award Winner for Best Poster [\$500]	2015
Donald O. Hebb Graduate Student Award Honourable Mention for Best Poster [\$100]	2013, 2015

Teaching & Instruction History

Course Instructor – Principles of Memory Queen’s University	2023-present
Course Instructor – Principles of Psychology Queen’s University	2021-present
Course Instructor – Research in Memory Queen’s University	2021-present
Course Development – Research in Memory University of Waterloo (Dr. Myra Fernandes)	2016 - 2017
Laboratory Instructor – Human Neuropsychology University of Waterloo (Dr. James Danckert)	2016
Course Instructor – Physiological Psychology University of Waterloo	2015
Head Teaching Assistant – Basic Data Analysis University of Waterloo (Candice Graydon)	2013 - 2014
Tutorial Instructor – Basic Data Analysis University of Waterloo (Dr. Derek Koehler, Candice Graydon)	2012 - 2014
Completed University of Waterloo’s ‘Fundamentals of University Teaching’ certification	2013
Teaching Assistant – Physiological Psychology, Basic Data Analysis, Human Neuropsychology, Introduction to Psychology, Basic Research Methods University of Waterloo (various)	2012 - 2017

Ad Hoc Reviewer

Proceedings of the National Academy of Sciences | eLife | Scientific Reports | Neuroimage | Cognition | Behavior Research Methods | Emotion | Journal of Experimental Psychology: Learning, Memory, & Cognition | Quarterly Journal of Experimental Psychology | Applied Cognitive Psychology | Contemporary Educational Psychology | Memory & Cognition | Scholarship of Teaching and Learning in Psychology | Learning and Individual Differences | Journal of Pediatric Epilepsy | Canadian Journal of Experimental Psychology

Editorships

Editorial Board

Technology, Mind & Behaviour (special issue on Understanding involuntary thought and affect through big data and AI)

Guest Editor

Memory & Cognition (special issue on Drawing as a means to quantify memory and cognition)

Mentorship & Training

Summary

- 06** Graduate students supervised
- 10** Undergraduate Honour's theses supervised
- 12** Directed Lab students supervised
- 30+** Research assistants and research apprentices trained

Graduate Students

Youssef Ali, MSc student Queen's University	2020 - 2022
Shaela Jalava, PhD Candidate Queen's University	2020 - 2023
Keanna Bamdad Rowchan, MSc Candidate Queen's University	2022 - present
Hala Abdul-Rahman, MSc Candidate Queen's University	2022 - present

Silvia Shiwei Zhou, MSc Candidate
Queen's University

2023 - present

Tasha Ignatius, MSc Candidate
Queen's University

2023 - present

Advisory and Examination Committees

Supervisory committee membership:

<u>Name of Student</u>	<u>Department</u>	<u>University</u>	<u>Years</u>	<u>Stage</u>
1. Anna McCarter	Psychology	UMass	2023-present	PhD
2. Ali Rezaei	Neuroscience	Queen's	2023-present	MSc
3. Rachel Pitman	Psychology	Queen's	2023-present	MSc
4. Raven Wallace	Psychology	Queen's	2023-present	MSc
5. Louis Chitiz	Psychology	Queen's	2023-present	MSc
6. Adam Falah	Neuroscience	Queen's	2022-present	MSc
7. Daniela Kalinda	Media & Design	TMU	2022-present	MSc
8. Anisa Hassan	Kinesiology	Queen's	2022-present	MSc
9. Aaron Ruberto	Psychology	Queen's	2021-present	MSc
10. Karolina Krzys	Psychology	Queen's	2020-present	PhD
11. Lindsay Simourd	Psychology	Queen's	2022-2023	MSc
12. Laura (Sikun) Li	Psychology	Queen's	2022-2023	MSc
13. Lisa Crocco	Psychology	Queen's	2022-2023	MSc
14. Qasem Niksefat	Psychology	Queen's	2022-2023	MSc
15. Maeve McCreary	Psychology	Queen's	2022-2023	MSc
16. Ian Goodall-Halliwel	Neuroscience	Queen's	2022-2023	MSc
17. Bridget Mulholland	Neuroscience	Queen's	2022-2023	MSc
18. Samantha Tigchelaar	Psychology	Queen's	2020-2022	MSc
19. Daniel Gale	Neuroscience	Queen's	2020-2022	PhD
20. Geoff Harrison	Psychology	Queen's	2021-2022	PhD
21. Daniel Nault	Psychology	Queen's	2020-2021	MSc
22. Michelle Blumberg	Psychology	Queen's	2020-2021	MSc

Comprehensive examining committee membership:

<u>Name of Student</u>	<u>Department</u>	<u>University</u>	<u>Year</u>	<u>Stage</u>
1. Tianyao Zhu	Neuroscience	Queen's	2021	PhD
2. Michael McGarity-Shipley	Neuroscience	Queen's	2021	PhD
3. Shacla Jalava	Psychology	Queen's	2020	PhD
4. Daniel Gale	Psychology	Queen's	2020	PhD

Thesis examining committee membership:

<u>Name of Student</u>	<u>Department</u>	<u>University</u>	<u>Year</u>	<u>Stage</u>
1. Lindsay Simourd	Psychology	Queen's	2023	MSc
2. Qasem Niksefat	Neuroscience	Queen's	2023	MSc
3. Laura (Sikun) Li	Psychology	Queen's	2023	MSc
4. Lisa Crocco	Psychology	Queen's	2023	MSc
5. Maeve McCreary	Psychology	Queen's	2023	MSc
6. Ian Goodall-Halliwell	Neuroscience	Queen's	2023	MSc
7. Bridget Mulholland	Neuroscience	Queen's	2023	MSc
8. Samantha Tigchelaar	Psychology	Queen's	2023	MSc
9. Daniel Gale	Psychology	Queen's	2022	PhD
10. Geoff Harrison	Neuroscience	Queen's	2022	PhD
11. Michelle Blumberg	Psychology	Queen's	2021	MSc
12. Daniel Nault	Psychology	Queen's	2021	MSc

Service and Administration

University Animal Care Committee member Queen's University	2022-present
Renewal Tenure and Promotion Committee member Department of Psychology, Queen's University	2022-present
Website Strategic Review Committee member Department of Psychology, Queen's University	2022-present
Psychology Research Ethics Board Member Department of Psychology, Queen's University	2021, 2023
Advisory Committee member (for faculty hire) Department of Psychology, Queen's University	2021
Merit Committee member Department of Psychology, Queen's University	2021
Fellowship committee member (reviewing NSERC USRA) Department of Psychology, Queen's University	2021
Fellowship committee member (reviewing NSERC CGS-D) Department of Psychology, Queen's University	2020
Online experiments working group facilitator Department of Psychology, Queen's University	2020

Professional Affiliations (past and present)

Association for Psychological Science (APS) | Canadian Society for Brain, Behaviour, & Cognitive Sciences (CSBBCS) | Psychonomic Society | Vision Sciences Society | Society for Neuroscience | American Psychological Association

References

Available upon request