Jason Locklin, Ph.D.

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PROFILE
SUMMARY

Community research scientist with extensive applied experience in healthcare and public education sectors. A high degree of technical training and expertise regarding data collection, management and advanced statistical analysis. Extensive experience working with stakeholders and administration for program evaluation, knowledge translation, and supporting organization goals and achievements.

EDUCATION

University of Waterloo:

Ph.D., Cognitive Neuroscience   2015
- *Perceptual and Memory Deficits in Unilateral Neglect*
- Area of Study: Stroke, Perception, and Memory.

M.A., Behavioural and Cognitive Neuroscience   2009
- *Development of a Measure of Visuomotor Control for Assessing the Long-term Effects of Concussion*
- Area of Study: Fine Motor Control, Concussion Research.

B.Sc. (Honours), Psychology, Biology (minor)   2007
- Course load including strong mix of Psychology with Natural and Life Sciences.

PROFESSIONAL
EXPERIENCE

Research Officer, Waterloo Region District School Board   2019 to Present
- Spearheaded the development and implementation of system-level measurements aligned with WRDSB's strategic goals, focusing on enhancing educational outcomes and operational efficiency through evidence-based practices.
- Collaborated with senior administrators and key stakeholders to provide actionable insights through comprehensive reports, facilitating data-driven decision-making to improve program effectiveness and student well-being.
- Managed and guided multiple research projects from conception through to completion, employing both quantitative and qualitative methodologies to assess and address complex educational challenges.
- Facilitated professional development workshops for WRDSB staff, focusing on the integration of research findings into practical teaching strategies and the development of a culture of continuous improvement and reflective practice.
- Responsible for a major, district-wide longitudinal student well-being research project that involves tens of thousands of students completing both a normed, standardized measurement and WRDSB developed questions that provide ongoing feedback to administration about school climate.

Research Associate, Centre for Family Medicine Family Health Team 2016 - 2019
- Responsible for working as part of a multi-disciplinary team of researchers and healthcare professionals with a culture of inquiry and creative thinking, to develop, evaluate, and disseminate innovative primary-care programs to improve quality-of-care for persons with dementia, frailty, and related geriatric issues.
- Manage and achieve successful completion of an innovative pilot frailty screening measure for the Waterloo Region Local Health Network

- Develop a collaboration between a family health organization (family doctor's office) with a community pharmacy to deliver an empathetic screening program to all patients 75+ years old, using a human-centred approach.
- Field tested the screening measure with medical professionals and adjusted the screening measure for better strategy implementation (e.g., booking procedures were adjusted to better meet the needs of patients and administration)
- Utilized qualitative research methods to evaluate the successful improvements in confidence, self-report competence, and capacity of clinicians after participation in a memory-clinic training program.
  - Trained and supervised undergraduate co-op students and volunteer research assistants.

Statistical Consultant, Centre for Family Medicine Family Health Team   2016
- Collected, tracked and made use of identity based data from clinical and administrative databases, outcome data, survey methodologies, and clinical measures for statistical analysis to evaluate new and existing procedures in primary care.
- Completed statistical reports with R, including data cleaning and validation, as well as visualization.

Graduate and Undergraduate Research, Department of Psychology, University of Waterloo:

Perception, action and brain injury: Research Assistant.   2007 - 2015
Supervisor: Dr. James Danckert
- Develop a motor-accuracy task for the measurement of concussion symptoms.
- Test neurological patients using a variety of neuropsychological tests and procedures, including Prism Adaptation.
- Develop and test a gaze-contingent task using real-time eye-tracking equipment.

Decision making: Research Assistant.   2007
- Supervisor: Dr. Jon Fugelsang
- Develop web-based decision making experiments and collect data.

Psychophysics. Research Assistant.   2005 - 2006
- Supervisor: Dr. James Danckert
- Develop a computer-based task for a graduate student's project.

Attention and clincal depression. Laboratory Coordinator   2005 - 2006
- Supervisor: Dr. Scott McCabe
- Train research assistants, coordinate several covert-orienting experiments.

Attention and clincal depression. Research Assistant. (volunteer)   2004 - 2005
- Supervisor: Dr. Scott McCabe
- Conduct experimental psychology research experiments.

PROFESSIONAL
AFFILIATIONS

Member, Association of Educational Researchers of Ontario   2018 - 2024
Member, Danckert Attention and Action Group   2008 - 2015
Advisory Council, Bad Science Watch   2012
Member, Vision Sciences Society   2006

SERVICE
ACTIVITIES

Executive Member at Large, Association of Educational Researchers of Ontario (AERO-AOCE)   2023 - Present

- Serving as an executive member at large for AERO-AOCE, helping to drive the promotion and improvement of research, evaluation, planning, and development within Ontario's school systems.
- Contributing to initiatives that underscore the importance and impact of educational research in enhancing board of education strategies and outcomes.

AERO-AOCE Fall Conference on the Student Census, focusing on the analysis, reporting and community engagement phases of the project (Conference overview) 2023

- Contributing organization and conference delivery and introduction of speakers.

AERO-AOCE Spring Special Interest Group; Climate Surveys: Student, Staff & Parent. (Overview) 2023

- Contributing organization and program delivery, including MC role.

Science Advisor, Advisory Committee: Bad Science Watch. 2012

- Non-profit public interest advocacy group.

President: U.W. Undergraduate Psychology Society. 2005 - 2007

- Student organization, administration of 8, over 600 members.

FUNDING AND AWARDS

Grants

R-Consortium.org RUGS Program grant 2024
- Association of Education Researchers of Ontario R User Group funding grant for founding and delivering a summer workshop.

Canadian Frailty Network Catalyst Grant Program 2018
- "C5-75": A primary care program to identify and support older adults living with frailty.

- Contributed to authoring successful grant application.
- Developed plan for collecting and analysing the data from the project.
- Project plan was to determine the most effective and valued aspects of the C5-75 program for identifying frailty in the community, guiding refinement and improving efficiency and applicability across primary care practice settings.

Scholarships

Government of Ontario

Ontario Graduate Scholarship	2010–2011
Aiming for the Top Tuition Scholarship	2002–2003

University of Waterloo

University of Waterloo Graduate Scholarship	2012
President's Graduate Scholarship	2010–2011
UW/Faculty of Arts Graduate Scholarship	2010
Psychology Memorial Fund Scholarship	2010
Arts Graduate Enhancement Scholarship	2009
University of Waterloo Merit Scholarship	2009
MERIT/Faculty of Arts Graduate Scholarship	2008–2009
Arts Grad Enhancement Scholarship	2007–2008

PROFESSIONAL DEVELOPMENT

Go Analytics; WRDSB Microsoft Power BI Hands-On Training 2023

- Mastered the full spectrum of Power BI tools, from data connection to publishing dynamic dashboards.
- Learned from Microsoft Certified instructor Klayton Gonçalves, leveraging his extensive data analytics expertise.
- Gained proficiency in Power Query for data transformation and DAX for creating calculated columns and measures.
- Developed skills in building interactive visualizations and employing best practices for effective data presentation.

SickKids; The Scientist Knowledge Translation Training (SKTT™) course
2018
- Completed intense 2-day workshop focused on effective research dissemination across fields like health, education, and social sciences.
- Learned from Dr. Melanie Barwick, an expert in implementation science and knowledge translation, on enhancing research impact.
- Acquired strategies for making complex scientific information accessible to non-academic audiences.
- Developed skills in creating impactful knowledge translation plans tailored to diverse user groups.

University of Waterloo, selected examples follow:

Technical
- Multiple Regression (Psychology 632)
- Analysis of Variance (Psychology 630)
- Experimental Design (Statistics 830)
- Computer Vision (Systems Design Engineering 677)
- Data Analysis in Neuroscience (Biology 681)

Non-technical
- Visual Perception (Psychology 287)
- Neurobehavioral Analysis of Perceptual and Motor Deficits (Kinesiology 656)
- Nature & Computational Correlations of Intelligence (Psychology 670)
- Cognitive Neuropsychology I (Psychology 779A)
- Human Neuroanatomy and Neuropathology (Psychology 784)

TEACHING

Department of Psychology, University of Waterloo:

Physiological Psychology: T.A.   2011 & 2014
- Provide weekly office hour extra instruction to students.

Human Neuropsychology: T.A.   2012
- Provide weekly office hour extra instruction to students.

Res. in Human Cognitive Neuroscience: T.A.   2010
- Provide assistance and feedback to students developing a research paper.

Physiological Psychology: T.A.   2009
- Provide weekly office hour extra instruction to students.

Cognitive Processes: T.A.   2008
- Provide extra instruction during office hours, grade term papers, give feedback to students.

Basic Data Analysis: T.A. & Lab Instructor   2008
- Instruct a weekly tutorial for 30 students, consisting of a 30 minute review lecture of the week's topic, and 30 minutes of practical instruction on solving data analytic problems.
- Develop weekly tutorial lesson plans in cooperation with other teaching assistants.

Advanced Data Analysis: T.A. & Lab Instructor 2007

- Develop and lead regular 1 hour tutorials instructing 30 students to utilize the statistical software package SPSS in analyzing real world experimental and observational data.

PUBLICATIONS

Refereed:

Lee, L., **Locklin, J.**, Patel, T., Lu, S. K., Hillier, L. M. (2022) Recruitment of participants for dementia research: interprofessional perspectives from primary care-based memory clinics. Neurodegenerative Disease Management. 12 (3), 117-127 doi:10.2217/nmt-2021-0053

Lee, L., Hillier, L., **Locklin, J.**, Lee, J., Slonim, K. (2019) Advanced care planning for persons with dementia in primary care: Attitudes and barriers among health-care professionals. Journal of palliative care, 34 (4), 248-254. doi:10.1177/0825859718812463

Lee, L., Hillier, L., **Locklin, J.**, Lumley-Leger, K., Molnar, F. (2019) Specialist and family physician collaboration: Insights from primary care-based memory clinics. Health & Social Care in the Community. 27 (4), e522-e533. doi:10.1111/hsc.12751

Lee, L., Patel, T., **Locklin, J.**, Milligan., J., Pefanis, J., Costa, A., Lee, J., Slonim, K., Giangregorio, L., Hunter, S., Keller, H., Boscart, V. (2018). Frailty screening and case-finding for complex chronic conditions in older adults in primary care. Geriatrics, 3 (3), 39. doi:10.3390/geriatrics3030039

Locklin, J. (2015). *Perceptual and Memory Deficits in Unilateral Neglect.* (Dissertation, University of Waterloo, Waterloo, Canada).
Retrieve from hdl.handle.net/10012/9590

Locklin, J., Bunn, L., Roy, E. & Danckert, J. (2010). Measuring Deficits in Visually Guided Action Post-Concussion. *Sports Medicine, 40,* 183-187.
doi:10.2165/11319440-000000000-00000

Locklin, J. (2009). *Development of a measure of visuomotor control for assessing the long-term effects of concussion.* (Master's thesis, University of Waterloo, Waterloo, Canada).
Retrieve from hdl.handle.net/10012/4740

Striemer, C., **Locklin, J.**, Blangero, A., Rossetti, Y., Pisella, L. & Danckert, J. (2008). Attention for action? Examining the link between attention and visuomotor control deficits in a patient with optic ataxia. *Neuropsychologia, 47,* 1491-1499.
doi:10.1016/j.neuropsychologia.2008.12.021

Non-Refereed:

2022-2023 Safe, Caring and Inclusive School Survey – Summary Report (2024). Public report produced by the Waterloo Region District School Board. Retrieve from wrdsb.ca/about-the-wrdsb/research/reports/scis/2022-2023-safe-caring-and-inclusive-school-survey-summary-report/

Newman, G., Duffy, C., Powell, A., Gray, R., & **Locklin, J.** (2012). Position Paper on Electromagnetic Hypersensitivity (Idiopathic Environmental Intolerance Attributed to

Electromagnetic Fields). Canada: *Bad Science Watch*.
Retrieve from www.badsciencewatch.ca/projects/investigation-of-anti-wifi-activism-in-canada

Locklin, J., & Danckert, J. (2010). Do we have Independent Visual Streams for Perception and Action? a Response. Preprint.
Retrieve from cogprints.org/6854/

Locklin, J., Danckert, J. (2009). Changes in Visuomotor Performance of Concussed Individuals. Poster. Abstract published in *Journal of Vision*, *9:8*, 1103-1103.
doi:10.1167/9.8.1103

Law, A., McCabe, S., **Locklin, J.**, Tan, C., & Morris, S. (2006). Perceptions of social rank as a predictor of anger and depression symptoms. Poster presented at the Graduate Student Research Conference, University of Waterloo, Waterloo, Canada.

MATHEMATICAL
EXPERTISE

Basic Statistics and Data Analysis
- Hypothesis testing via means comparisons and correlations, including techniques for the prevention of elevated experiment-wise error.
- Data reduction and simplification using measures of central tendency, variance, and periodicity.
- Data visualization, including experience with the problem of communicating high-dimensional data on paper/screen.
- Experiment power and effect size calculations.
- Experimental design optimization.

Advanced Statistics
- Analysis of Variance and Covariance, as well as Logistic Regression (Generalized Linear Models).
- Multiple Regression, including model comparisons and variable coding for non-typical data sets.
- Bayesian hypothesis testing.

TECHNICAL
SKILLS

Statistical / Data Analytical Software
- R, statistics programming, data visualization.
- SPSS, statistical analysis for social sciences.
- Power BI, Data modelling and dashboarding.
- SAS, data management and advanced statistical analysis.
- Scipy/Pylab, Python library for scientific computation, data visualization.
- Matlab, high-level technical computing language.

Laboratory Equipment and Software
- EyeLink II host control (For controlling eye-tracking equipment).
- Psychopy, Python library for building psychopysics and cognitive psychology experiments.
- Trained in lesion overlay analysis (Analysis of MRI brain imaging data)
- AcqKnowlege software in combination with BIOPAC laboratory equipment for physiological measurement (Electromyography (EMG) and Galvanic Skin Response (GSR))

- E-Prime for data collection in Psychology Research.

Programming and Scripting Languages
- Day-to-day familiarity with several scripting languages including Python, UNIX shell scripting (BASH).
- Experience using a variety of programming languages (C, Pascal, and Java).
- Experience using PHP with HTML and CSS in the development of web-based research experiments.

Typesetting Software
- Comfortable writing with TeX, LaTeX, and BibTeX for technical and scientific documents, as well as common office suites such as Microsoft Office and LibreOffice.