

## Curriculum Vitae

### Annalise Aleta LaPlume (née D'Souza)

www.annaliselaplume.com

#### RESEARCH FOCUS

##### Areas of expertise

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Statistical modeling of lifespan cognitive aging (episodic memory, executive function); Risk and protective factors for dementia (cognitive reserve, modifiable risk factors); Pre-clinical Alzheimer's disease (subjective cognitive decline, mild cognitive impairment); Sex differences in cognition and Alzheimer's disease; Inter-individual and intra-individual variability; Processing and analysis of large-scale datasets

##### Research Questions

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- How does cognition change over the lifespan and in prodromal Alzheimer's disease?
- Why do some people show less age-related decline than others?
- How do sex and cognitive reserve influence cognitive aging and prodromal Alzheimer's disease?

#### EDUCATION & TRAINING

##### Academic Positions

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- 2021 – **Postdoctoral researcher**  
Supervisors: Dr Natasha Rajah, Dr Sylvie Belleville  
Douglas Institute Research Centre (affiliated with McGill University)  
Research Centre at the Institute for Geriatrics at the University of Montreal (CRIUGM)  
Canadian Consortium on Neurodegeneration in Aging (CCNA)
- 2019–2021 **Postdoctoral researcher**  
Supervisors: Dr. Nicole Anderson, Dr. Angela Troyer, & Dr. Brian Levine  
Rotman Research Institute, Baycrest (affiliated with the University of Toronto)
- 2018 **Visiting scholar**  
City, University of London, UK  
Supervisor: Dr. Stian Reimers

##### Education

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- 2019 **PhD. in Psychology (Cognition)**, York University, Canada  
Supervisor: Dr. Melody Wiseheart
- 2019 **Graduate Diploma in Quantitative Methods**, York University, Canada  
Supervisors: Dr. Robert Cribbie, Dr. David Flora

- 2018      **Graduate Diploma in Neuroscience**, York University, Canada  
Supervisor: Dr. Shayna Rosenbaum
- 2013      **M.A. in Psychology (Cognition)**, York University, Canada  
Supervisor: Dr. Melody Wiseheart
- 2011      **B.Sc. (Hons) in Psychology**, University of Nottingham, UK  
Supervisor: Dr. Roger Newport

## **SCHOLARSHIPS, HONOURS, & AWARDS**

### **Funding**

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- 2021–2022      Consortium for Early Identification of Alzheimer’s Disease Quebec (CIMA-Q) & Lemaire Family Foundation postdoctoral fellowship (Ranked 1<sup>st</sup>, \$ 40,000)
- 2019–2021      Alzheimer Society of Canada fellowship (National competition, \$ 83,000)
- 2018–2019      Mamdouh and Susan Shoukri Graduate Fellowship (York University, \$ 10,000)

### **Honours & Awards**

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- 2021      Canadian Institute of Health Research (CIHR), Acceptance to Summer Program in Aging, National Competition, Ranked in top 25% of applications
- 2020      Soupcoff Postdoctoral Research Funding Award (\$4,330)
- 2019      Nominated for the York university PhD dissertation award
- 2018      First-place winner (\$1,000) and People’s Choice Award winner (\$ 250), Three-Minute Thesis (3MT) competition, York University;
- 2017      LaMarsh Research Centre Scholarship (\$ 5,000)
- 2015      LaMarsh Research Centre Scholarship (\$ 3,000)
- 2012/4      Faculty of Graduate Studies Research and Conference Grants (\$ 2,200)
- 2012      LaMarsh Research Centre Student Leadership Award (\$ 5,000)
- 2010      Competitive Research Internship, University of Nottingham, UK (\$1,700)
- 2008–2011      University of Nottingham Scholarship (\$ 10,500)
- 2008      University of Nottingham High Achiever Scholarship (\$ 5,700)

Awarded for the highest GPA of incoming students

2008 University of Nottingham Top-Achieving Student book prize (\$ 1,000)  
Awarded for the highest GPA of incoming Psychology students

2006 – 2008 Padworth Sixth Form Academic Scholarship (\$ 28,300)

## PUBLICATIONS

### Published Manuscripts

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*Note.* Former name: D'Souza, A. A.

1. **LaPlume, A. A.**, Paterson, T., Gardner, S., Stokes, K., Freedman, M., Levine, B., Troyer, A., & Anderson, N. D. (2021). Inter- and intra-individual variability in amnesic mild cognitive impairment (aMCI). *Journal of Clinical and Experimental Neuropsychology*. Advance Online Publication. <http://dx.doi.org/10.1080/13803395.2021.1982867>
2. **LaPlume, A. A.**, Anderson, N. D., McKetton, L., Levine, B., & Troyer, A. (2021). *Journal of Gerontology: Psychological Sciences*. When I'm 64: Effects of age on memory and attention in over 40,000 online participants. Advance Online Publication. <https://doi.org/10.1093/geronb/gbab143>
3. **LaPlume, A. A.** (2021; Accepted). Challenges and Solutions for Data Analysis in an Adult Lifespan Study of over 100,000 Online Cognitive Test Completions. *SAGE Research Methods: Cases*. <http://dx.doi.org/10.31234/osf.io/j76eg>
4. Parsons, S., Azevedo, F., Elsherif, M. M., Guay, S., Shahim, O. N., Govaart, G. H., Norris, E., O'Mahony, A., Parker, A. J., Todorovic, A., Pennington, C. R., Garcia-Pelegrin, E., Lazić, A., Robertson, O. M., Middleton, S. L., Valentini, B., McCuaig, J., Baker, B. J., **LaPlume, A. A.**, Aczel, B. et al. (2021; Accepted). A Community-Sourced Glossary of Open Scholarship Terms. *Nature Human Behaviour*.
5. Baum, M. A., Hart, A., Dokokvova, M., Elsherif, M., Ilchovska, Z., Krautter, K., **LaPlume, A. A.**, Moreau, D., & Staal, J. (2021; Accepted). Research without borders: How to identify and overcome potential pitfalls in international large-team online research projects. *SAGE Research Methods: Cases*.
6. Johnson, K., **D'Souza, A. A.**, & Wiseheart, M. (2020). Art training in dementia: A randomized controlled trial. *Frontiers in Psychology: Psychology for Clinical Settings*. <https://doi.org/10.3389/fpsyg.2020.585508>
7. **D'Souza, A. A.**, Moradzadeh, L., & Wiseheart, M. (2018). Musical training, bilingualism, and executive function: Working memory and inhibitory control. *Cognitive Research: Principles and Implications*, 3, 11. <https://doi.org/10.1186/s41235-018-0095-6>

8. **D'Souza, A. A., & Wiseheart, M.** (2018). Cognitive effects of music and dance training in children. *Archives of Scientific Psychology*, 6(1), 178-192. <http://dx.doi.org/10.1037/arc0000048>
9. Wiseheart, M., **D'Souza, A. A., & Chae, J.** (2017). Lack of spacing effects during piano learning. *PLOS ONE*, 12, e0182986. <https://doi.org/10.1371/journal.pone.0182986>

### **Forthcoming Manuscripts**

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10. **LaPlume, A. A., McKetton, L., Levine, B., Troyer, A., & Anderson, N. D.** (In review). The adverse effect of modifiable dementia risk factors on cognition amplify across the adult lifespan. <https://doi.org/10.31234/osf.io/j9cge>
11. **LaPlume, A. A., McKetton, L., Levine, B., Anderson, N. D., & Troyer, A.** (In review). Sex differences and modifiable risk factors for dementia synergistically influence cognition over the adult lifespan. <https://doi.org/10.31234/osf.io/j9cge>
12. **LaPlume, A. A., Reimers, S., & Wiseheart, M.** (In review). Component processes for a cue switch cost in task switching.
13. **LaPlume, A. A., Wiseheart, M., & Reimers, S.** (In review). Effects of age on task switching across the lifespan.
14. Stein, E., **LaPlume, A. A., & Wiseheart, M.** (In review). Effects of yoga on cognition: A randomized controlled trial.
15. **LaPlume, A. A.** (In review). Analysis of speed-accuracy tradeoffs using the Wiener diffusion model for choice reaction times. <https://doi.org/10.31234/osf.io/b84ru>

### **Published Instructional Documents (Statistics Methodology & Software)**

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1. **LaPlume, A. A.** (2021). Data Visualization in R. <https://doi.org/10.5281/zenodo.4599639>

### **PRESENTATIONS**

#### **Invited Talks**

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1. **LaPlume, A. A.** (Oct. 2021). *Diversity and Variability in Cognitive Aging over the Adult Lifespan*. BIPOC Scholar Seminar Series, Ohio State University, Ohio, US.
2. **D'Souza, A. A.** (Oct. 2020). *When I'm 64: Age-related Change in Memory and Attention in over 40,000 Cogniciti participants*. Neuropsychology & Cognitive Health Rounds, Baycrest Hospital. Toronto, ON, Canada.

3. **D'Souza, A. A.** (Jun. 2020). *Segmented Regression of Cognitive Aging*. Biostatistics Research Series, Baycrest Hospital. Toronto, Canada.
4. **D'Souza, A. A.** (Apr. 2020). *Statistical modelling of Age-related Change in Memory and Attention*. Data Blitz, Rotman Research Institute Rounds, Baycrest Hospital. Toronto, Canada.
5. **D'Souza, A. A.** (Jan. 2020). *Statistical modelling of Cognitive Aging using an Online Cognitive Assessment*. Data Blitz, Rotman Research Institute Rounds, Baycrest Hospital.
6. **D'Souza, A. A.** (Dec. 2019). *Age-related variability in an Online Cognitive Assessment*. Rotman Research Institute Speak-Easy Speaker Series, Rotman Research Institute, Baycrest Hospital.
7. **D'Souza, A. A.** (Sept. 2018). *Aging and Brain Health* (over 100 attendees, tickets sold out) York University Scholars Hub and Markham Library. Markham, Canada.
8. **D'Souza, A. A.** (May 2014). *Executive function benefits of music and dance training: A randomized-controlled trial*. Development Conference. Ottawa, Canada.
9. **D'Souza, A. A.** (Jun. 2013). *Developmental Research in Action*. LaMarsh Research Centre Annual Conference. Toronto, Canada.

### **Published Conference Abstracts**

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1. Stein, E., Lauwers, R., **D'Souza, A. A.**, Gunthathi, B. R., & Wiseheart, M. (May 2016). The effect of an 8-week Hatha Yoga intervention on inhibitory control: A randomized controlled trial. *Personality and Individual Differences, 101*, 517. Presented at the Annual Ontario Psychology Thesis Conference, London, Canada.
2. Puckering, E.A., **D'Souza, A. A.**, & Wiseheart, M. (Jul. 2014). Improving Task Switching Performance in Children Through Music and Dance Training. *Canadian Journal of Experimental Psychology, 68*(4), 275-276. Presented at the Canadian Society for Brain, Behavior, and Cognitive Science (CSBBCS) 24<sup>th</sup> Annual Meeting, Toronto, Canada. Citations: 4

### **Conference Poster or Video Presentations**

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3. **LaPlume, A. A.**, Paterson, T., Gardner, S., Stokes, K., Freedman, M., Levine, B., Troyer, A., & Anderson, N. (Mar. 2021). *Variability across online cognitive tests in amnesic mild cognitive impairment (aMCI)*. Presented at the virtual poster session for the Rotman Research Institute Annual Conference, Aging and Brain Health.
4. **D'Souza, A. A.**, Anderson, N. D., McKetton, L., Levine, B., & Troyer, A. (Nov. 2020). *When I'm 64: Effects of age on memory and attention in over 40,000 online participants*. Presented at the virtual poster session for the Psychonomic Society International Annual Meeting.

5. **D'Souza, A. A.**, Anderson, N. D., McKetton, L., Levine, B., & Troyer, A. (Mar. 2020). *Statistical modelling of age-related change in memory and attention in over 60,000 Cogniciti participants*. Presented at the virtual poster session for the Rotman Research Institute Annual Conference, Aging and Brain Health.
6. McKetton, L., **D'Souza, A. A.**, Levine, B., & Troyer, A. (Mar. 2020). *Demographics and psychometric characteristics on the Cogniciti Brain Health Assessment*. Presented at the virtual poster session for the Rotman Research Institute Annual Conference, Aging and Brain Health.
7. Wiseheart, M., **D'Souza, A. A.**, & Reimers, S. (Nov. 2016). *Deconstructing task switching. A detailed theoretical analysis of lifespan developmental change*. Presented at the Psychonomic Society International Annual Meeting, Boston, USA.
8. Lauwers, R., Stein, E., **D'Souza, A. A.**, & Wiseheart, M. (May 2015). *Yoga as an attentional bias modification technique: A randomized controlled trial*. Presented at the Annual Ontario Psychology Thesis Conference, London, Canada.
9. Matthews, K., **D'Souza, A. A.**, & Wiseheart, M. (Jun. 2015). *The Impact of Arts Training in dementia patients*. Poster session presented at the LaMarsh Research Centre Annual Conference, York University, Toronto, Canada.
10. Chae, J., **D'Souza, A. A.**, & Wiseheart, M. (Jun. 2015). *Spacing effect on complex motor skill acquisition*. Poster session presented at the LaMarsh Research Centre Annual Conference, York University, Toronto, Canada.
11. **D'Souza, A. A.**, Blumenthal, G., Moradzadeh, L., & Wiseheart, M. (Nov. 2013). *The Influence of Dance and Music Training on Task Switching in Children*. Presented at the Psychonomic Society International Annual Meeting, Toronto, Canada.
12. **D'Souza, A. A.**, Moradzadeh, L., Blumenthal, G., & Wiseheart, M. (Aug. 2013). *Effects of Music and Dance Education on Working Memory*. Presented at Society for Music Perception and Cognition (SMPC) International Biennial Meeting, Toronto, Canada.
13. Blumenthal, G., **D'Souza, A. A.**, Moradzadeh, L., Rahn, J., & Wiseheart, M. (Aug. 2013). *Mix 'n' Match: Validating a new musical working memory task*. Presented at the Society for Music Perception and Cognition International Biennial Meeting, Toronto, ON.
14. Moradzadeh, L., Blumenthal, G., **D'Souza, A. A.**, & Cepeda, N.J. (May 2012). *The Impact of Musical Training and Bilingualism on Dual Task Performance*. Presented at the Association for Psychological Science (APS) Annual Convention, Chicago, IL, USA.

## TEACHING EXPERIENCE

### Teaching Positions

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- 2018      **Course Director**, Infancy (120 students), York University
- 2012–2018      **Tutorial Instructor and Teaching Assistant**, Statistical Methods (60 – 80 students), York University
- 2013–2017      **Teaching Assistant**, Statistical Methods I and II (70 – 100 students)
- 2015–2014      **Teaching Assistant**, Honours thesis course (10 students)
- 2011–2012      **Teaching Assistant**, Introduction to Psychology (1000 students)

### Guest Lectures

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- Mar 2021      *Data Visualization*, Professional Psychology (36 graduate students), University of Toronto
- Mar 2020      *Data Visualization*, Professional Psychology (38 graduate students), University of Toronto
- 2012 – 2018      Various topics (*Linear Regression, Review of Statistics*, etc.), Statistical Methods (60 – 80 undergraduate students), York University
- 2014      *Research Methodology in Cognitive Psychology*, Developmental Neuropsychology (30 graduate students), York University
- 2013      *Teaching statistics to older adults in the classroom*, York University Teaching Commons (20 graduate students)

### Teaching Accreditations/Professional Development

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- 2018      Teaching Squares Program, Program where course directors attend and evaluate peers' lectures, York University Teaching Commons
- 2013      Teaching Assistant Certificate in Teaching, York University Teaching Commons (Accredited by the International Staff and Education Development Association; SEDA)

### Lectures & Workshops

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- Apr. 2021      *Pre-registration: The Arguments for and against*, Open Science Methodology Series, Rotman Research Institute, Baycrest
- Feb. 2021      *Measurement Practices in Psychological Science*, Open Science Methodology Series, Rotman Research Institute, Baycrest e

Nov. 2020 *False Positive Psychology, Examining Analytical Flexibility*,  
Open Science Methodology Series, Rotman Research Institute, Baycrest

Sept. 2020 *A Manifesto for Reproducible Science*,  
Open Science Methodology Series, Rotman Research Institute, Baycrest

### **Professional Statistics Courses/Accreditations**

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(All courses were in-person, formally accredited, and external to academic degrees/credits)

2016 Psychometric methods (Dr. D. Flora), York University

2014 Structural equation modeling (SEM, Dr. D. Flora), The Institute for Social Research (ISR),  
York University

2014 Matlab programming environment, EEG/ERP analysis (Dr. S. Segalowitz), Brock University

2013 Longitudinal and Hierarchical Mixed Model data analysis (Dr. G. Monette), ISR

2013 Structural Equation Modeling (Dr J. Fox, creator of the SEM package), McMaster University

2012 The R statistical programming environment (A. Counsell), ISR, York University

### **Student Supervision**

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2018-2019 Sarit Winstok, Connor LaForge (Research Assistants; Supervised and trained in data  
entry by myself)

2014–2017 Katie Matthews (M.A. Thesis Student)

2015-2017 Negar Mazloum, Anthony Fallico, Lysianne Buie, Orly Taub (Research Assistants;  
Recruited and supervised in neuropsychological testing and research intervention  
delivery to Alzheimer's patients)

2015-2016 Joelle Koo, Uliana Yerokhina, Zunaira Amin, Kareena Gurbaxani (Research Assistants;  
Recruited, trained, and supervised in neuropsychological testing)

2014–2015 Jacey Chae (B.Sc., Sp. Hons Thesis Student)

2014–2015 Eliana Stein (B.A., Sp. Hons Thesis Student)

2014–2015 Helena Brown, Jacey Chae, Victor Nueng, Kristi Mellom, Susan Zeman, Eliana Stein  
(Research Assistants; Recruited, trained, and supervised in neuropsychological testing)

2013–2014 Emilie-Ann Puckering (B.Sc., Hons Thesis Student)

2011–2013 Marlene Almeida, Nooshin Davar, Kayla Dawson, Mahta Kakvan, Nakeesa Kooshafar,  
Pariah Mirazimi, Andrea Murua, Mearon Namans, Andrew Oh, Zina Rakhamilova,  
Pouya Rostami, Rachita Saini, Sahar Tabrizi, Rida Waseem, and Ariella Winter (  
Research Assistants; Recruited, trained, and supervised in delivering research  
interventions to children)



## PROFESSIONAL SERVICE

### Ad hoc Reviewer

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Neuropsychology; Journal of Experimental Psychology: General; Journal of Alzheimer's disease: Diagnosis, Assessment, and Disease Monitoring; Quarterly Journal of Experimental Psychology; Journal of Gerontology: Psychological Science

### Institutional Service

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- 2020 – 2021      **Co-founder and Organizer**, Open Science/Methodology series, Rotman Research Institute (Coordinate bimonthly talks or journal club readings on topics pertaining to open science and research reproducibility)
- 2020 – 2021      **Steering Committee member**, Rotman Research Training Centre (Coordinate events for graduate and postdoctoral trainees, e.g., workshops on Sex and Gender in Aging and Dementia research, Aging and Inequity, Data Analysis, Imaging, etc.)
- 2018              **President's Ambassador**, York University (Met the president of York University to give feedback and discuss student issues, Represent the president at public events)
- 2012 – 2016      **Executive Member**, Psychology Graduate Student Association (Represent graduate students at faculty meetings)
- 2014              **Student Member**, Graduate Program Director Interview Committee
- 2012 – 2018      **Poster judge**, Undergraduate thesis conference, York University
- 2008 – 2011      **Student Representative**, Faculty-Student department committee (Represent undergraduate students in meetings with faculty; Won gold and bronze awards for service to the department as a student)
- 2009 – 2010      **Welfare Director**, Executive Committee (Planned welfare resources and activities for over 9000 international students, International Student Bureau, University of Nottingham)
- 2012 – 2016      **Co-organizer**, Orientation for incoming graduate students
- Jun. 2012        **Co-organizer**, LaMarsh Conference on Youth Research
- May 2012        **Symposium leader**, Ontario Undergraduate Thesis Conference
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## **Public/Community Service**

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- 2021 **Skype-A-Scientist**, Visit local school classrooms to speak about neuroscience research methods and findings
- 2021 **‘Women in STEM’** day, Participated in public outreach activities
- 2016–2018 **Mental health/Well-being coordinator**, Ran events (talks, book clubs) for students
- 2012–2013 **Science Rendezvous Volunteer**, Helped with running easy and fun science experiments in local community events for families and children