



# Alexa Ruel

PHD CANDIDATE IN EXPERIMENTAL PSYCHOLOGY

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## Summary

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- PhD Candidate in Experimental Psychology at Concordia University studying decision-making strategies & cognitive control in aging adults.
- Skills: Programming, Electroencephalography, Advanced Analysis Techniques, Teaching, Event Organization & Science communication
- Other interests: Baking, Yoga and Hiking.

## Education

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### Concordia University

DOCTOR OF PHILOSOPHY IN EXPERIMENTAL PSYCHOLOGY

Montreal, Canada

2018-Present

### Concordia University

MASTER OF ARTS, EXPERIMENTAL PSYCHOLOGY

Montreal, Canada

2016-2018

### McGill University

BACHELOR OF ARTS, PSYCHOLOGY

Montreal, Canada

2012-2016

## Awards and Grants

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**Total value:** \$98 666

### Knowledge Mobilization Award

IN RECOGNITION OF: FINANCIAL SUPPORT FOR STUDENTS WHO PRESENT THEIR FINDINGS ABROAD TO A PUBLIC AUDIENCE.

EngAGE

December 2022

- Value: 1000\$

### Research Competition, 3rd place

IN RECOGNITION OF: PARTICIPANTS PRESENT THEIR RESEARCH PROJECTS TO A PANEL OF NON-SPECIALIST JUDGES, WHO POSE QUESTIONS, ADJUDICATE, AND EVALUATE THEIR RESEARCH PRESENTATION. PRIZES ARE AWARDED ON THE BASIS OF THE JUDGES' FINAL DECISION.

EngAGE

May 2022

- Value: 166\$

### Featured Student December 2021

IN RECOGNITION OF: STAND OUT STUDENTS IN THE FIELD OF AGING RESEARCH.

EngAGE Concordia's Centre for  
Research on Aging

December 2021

- Value: \$0

### Scientific Citizenship Award

IN RECOGNITION OF: RECOGNIZES TRAINEES WHO HAVE SHOWN EXEMPLARY SCIENTIFIC CITIZENSHIP THROUGH A RANGE OF UNDERRECOGNIZED ACTIVITIES SUCH AS HELPING OTHERS, EXEMPLARY ETHICAL CONDUCT, INFORMAL TEACHING ACTIVITIES, OUTREACH, OR ACTIVITIES THAT BUILD COMMUNITY..

Center for Research in Human  
Development

2021

- Value: \$500

### Public Scholar

IN RECOGNITION OF: TEN PHD CANDIDATES REPRESENTING THE FACE OF GRADUATE EDUCATION AND EXCELLENCE IN RESEARCH AT CONCORDIA UNIVERSITY .

Public Scholar Program

2021-2022

- Value: \$10 000

## Postgraduate Scholarship

IN RECOGNITION OF: DOCTORAL STUDENTS' ACADEMIC SUCCESS AND RESEARCH POTENTIAL.

- Value: \$63 000

NSERC

2020-2023

## Faculty of Arts and Science Graduate Fellowship

IN RECOGNITION OF: ACADEMIC SUCCESS AND RESEARCH POTENTIAL.

- Value: \$6 000

Concordia University

2016, 2017, 2018 & 2019

## Teaching Experience

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### Teaching Assistant

LIFESPAN DEVELOPMENT

Summer 2021

- Hold weekly classes teaching students material to complement lectures.
- Answer any questions students may have about class material and grade assignments.

### Teaching Assistant

RESEARCH METHODS AND DESIGNS

Winter 2018 & 2019

- Hold weekly classes teaching students material to complement lectures.
- Answer any questions students may have about class material and grade assignments.

### Teaching Assistant

INTRODUCTION TO STATISTICS 1

Winter 2018 & 2019

- Hold weekly classes teaching students material to complement lectures.
- Answer any questions students may have about class material and grade assignments.

### Student Supervision

HONOURS PROJECT

2018-2019

- Help the student with the design of their study, testing, data analysis & interpretation
- Correct and evaluate the student's thesis.

## Publications

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Eppinger, B., **Ruel, A.**, Bolenz, F.(Under Review). Diminished state Space theory of human aging.

**Ruel, A.**, Bolenz, F., Li, S-C., Fischer, A., Eppinger, B. (2022). Neural evidence for age-related deficits in the representation of state spaces. *Cerebral Cortex*, 1-14.

**Ruel, A.**, Devine, S., Eppinger, B. (2021). Resource-rational approach to meta-control problems across the lifespan. *Wiley Interdisciplinary Reviews Cognitive Science*.

**Ruel, A.**, Chiarella, S.S., Crivello, C., Poulin-Dubois, D. (2020) Concurrent Validity of the Modified Checklist for Autism in Toddlers (M-CHAT): Socio-cognitive and Verbal Skills in 18-Month-Old Infants. *Journal of Autism and Developmental Disorders*, 1-17.

Poulin-Dubois, D., Hastings, P.D., Chiarella, S.S., Geangu, E., Hauf, P. **Ruel, A.**, Johnson, A. (2018).The eyes know it: Toddlers' visual scanning of sad faces is predicted by their theory of mind skills. *PLOS ONE*, 13(12), e0208524.

Burnside, K., **Ruel, A.**, Azar, N., Poulin-Dubois, D. (2017). Implicit False Belief Accross the Lifespan: Non-replication of an Anticipatory Looking Paradigm. *Cognitive Development*, 46, 4-11.

## Conference Presentations

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### PUBLISHED ABSTRACTS

**Ruel A.**, Köster, M. & Eppinger, B. (2022, June). Neural correlates of State Prediction Errors during reversal learning. Poster session presented at RLDM, Providence, Rhode Island, USA.

**Ruel A.**, Bolenz, F., Li, S-C., Eppinger, B. (2019, July). Adult Age Differences in Dynamics of Model-based Decision-making. Poster session presented at RLDM, Montreal, QC.

### CONFERENCE TALKS

Sean Devine, Cassandra Neumann, & **Alexa Ruel**. Life of the mind: Judgment and decision making in human ageing. Speech given at *First Annual CRDH Webinar Series*, Montreal, Canada, April 2020.

## POSTER PRESENTATIONS

**Ruel A.**, Köster, M. & Eppinger, B. (2022, June). Neural correlates of State Prediction Errors during reversal learning. Poster session presented at RLDM, Providence, Rhode Island.

**Ruel A.**, Bolenz, F., Li, S-C., Eppinger, B. (2021, November). Neural evidence for age-related deficits in the representation of state spaces. Poster session presented at SfN, Online.

**Ruel A.**, Bolenz, F., Li, S-C., Eppinger, B. (2019, September). Older Adults Demonstrate Model-based Decision-making when Task Demands are Reduced. Poster session presented at MCC, Berlin, Germany.

**Ruel, A.**, Crivello, C., Chiarella, S., Burdman-Villa, J., & Poulin-Dubois, D. (2019, May). Testing the concurrent validity of the modified checklist for autism in toddlers (M-CHAT) in 18-month-olds. Poster session presented at SRCD, Baltimore, MD.

Delisle, A., Burdman-Villa, J., Rene, J.L., **Ruel, A.**, & Poulin-Dubois, D. (2019, March). Qui sait quoi? L'apprentissage social selectif est lie aux competences metacognitives et a la theorie de l'esprit chez les enfants d'age prescolaire. Poster session presented at SQRP, Mont-Tremblant, QC.

**Ruel, A.**, Poulin-Dubois, D. (2018, May). Labels as an invitation to form categories in infancy. Poster session presented at APS Annual Convention, San Francisco, CA.

**Ruel, A.**, Olineck-Jolin, K., Corbit, J., & Poulin-Dubois, D. (2018, May). Infants' reactions to a social, humanoid robot. Poster session presented at Development 2018, St-Catharine's, ON.

**Ruel, A.**, & Poulin-Dubois, D. (2018, March). Do words facilitate the formation of categories in infancy? Poster session presented at Montreal Cognitive Science Day, Montreal, QC.

Poulin-Dubois, D., Olineck-Jolin, K., Corbit, J., & **Ruel, A.** (2017, October) Can Infants discern the Goals and Intentions of a Humanoid Robot? Poster session presented at CDS, Portland, OR.

**Ruel, A.**, Burnside, K., Azar, N. Poulin-Dubois, D. (2017, March). L'attribution implicite de fausses croyances: Une non-replication de l'epreuve de regard anticipatoire. Poster session presented at SQRP, Montreal, QC.

## Research Experience

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### Lifespan Decision-Making Lab

PHD STUDENT

- Examine the neural mechanism supporting changes in decision-making strategies across the lifespan
- Teaching Assistant & Undergraduate Student Supervision

Concordia University

2018-present

### Cognitive and Language Development Lab

MASTER'S STUDENT

- Examine the impact of language development on category formation in infancy
- Teaching Assisan & Undergraduate Student Supervision

Concordia University

2016-2018

### McGill Youth Study Team

RESEARCH ASSISTANT

- Data Entry and Coding
- Assist in the organization of questionnaire measures for administration to first nations children

McGill University

2014-2016

### Centre de Jour en Pedopsychiatrie

RESEARCH ASSISTANT

- Film the administration of several tasks and protocols
- Interact with parents and their children

Universite de Montreal

Summer 2015

### McGill Infant Development Center

RESEARCH ASSISTANT

- Interact with parents and their infants & act in the studies.
- Data entry and coding

McGill University

2013-2014

## SKILLS

### Programming

EXPERIMENTAL DESIGN, DATA VISUALIZATION & ANALYSIS AND WEBSITE CREATION

- R, Matlab, Python, Javascript & HTML

### Imaging

NEURAL IMAGING TECHNIQUES FOR RESEARCH

- Electroencephalography (EEG)

### Teaching

IN PERSON & ONLINE TEACHING

- Microsoft Office, Zoom, Moodle

## Summer Schools

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### Summer School in Social Neuroscience & Neuroeconomics

*Duke University*

ATTENDEE

*June 2021*

- Decision making, Risk taking, Moral judgements

### Virtual Summer School in Pattern Recognition in Neuroimaging

*University of Vienna*

ATTENDEE

*September 2020*

- Bayesian Statistics, Calcium Imaging, Causal Inference, Deep Learning, EEG & MEG, fMRI, Machine Learning

## Reviewer Experience

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### Journal of Neuroscience

*January 2023*

### Psychological Science

*June 2022*

### Developmental Science

*September 2020*

### Journal of Trial and Error

*January 2020*

### Biological Psychiatry

*January 2020*

### Nature Communications

*January 2020*

### Cognitive and Affective Behavioral Neuroscience

*July 2019*

### Plos ONE

*February 2019*

## Leadership & Outreach

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### Concordia Psychology Journals (CJAP & CJPN)

*Concordia University*

JOURNALS COORDINATOR

*2021-2022*

- Ensure coordination between journals & accounting

### PsychOut!

*Concordia University*

STUDENT ORGANIZER

*2021-2022*

- Event planning, Advertisement and Coordination

### Outreach Event at Dr W Keon School (NSERC Ambassador's Award Event)

*Dr W Keon School*

PRESENTER

*December 3, 2021*

- Present the field of research in psychology to high school students

## **Outreach Event at Pontiac High School (NSERC Ambassador's Award Event)**

PRESENTER

- Present the field of research in psychology to high school students

*Pontiac High School*

*November 4, 2021*

## **Communicating Science Conference 2021 (ComSciCon21)**

ATTENDEE

- Share, learn from and connect with other science communication enthusiasts

*Online*

*August 4-7, 2021*

## **CSBBCS conference 2021**

STUDENT ORGANIZER

- Assist with various tasks as part of organizing of the CSBBCS conference

*Montreal, QC*

*June 17-18th 2021*

## **Concordia's Journal of Psychology and Neuroscience (CJPN)**

CO-FOUNDER AND LIAISON

- Work with Editors-in-Chief of CJPN to ensure the journal runs smoothly

*Concordia University*

*2021-present*

## **Brownbag Meetings on Cognition**

COORDINATOR

- Organize weekly meetings with faculty and graduate students interested in Cognition

*Concordia University*

*2019-present*

## **Concordia's Journal of Accessible Psychology (CJAP)**

FOUNDER & EDITOR-IN-CHIEF

- Plan workshops on the topic of science communication, supervise all CJAP team members, supervise yearly online publication

*Concordia University*

*2019-present*

## **Concordia's Yoga Club**

YOGA INSTRUCTOR

- Organize bi-weekly yoga classes for graduate and undergraduate students

*Concordia University*

*2019-2020*

# **Science Communication**

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## **TALKS & INTERVIEWS**

### **University Women's Club Montreal**

GUEST SPEAKER

- UWCM is among the most active advocates for a gender-equal society and for the rights of girls and women to an education of quality and life-long learning

*November 16, 2022*

### **CUPA Case Competition 2022**

JUDGE

- Annual Inter-university competition in which undergraduate student teams are given 60 minutes to answer a research question

*March 12, 2022*

### **Brainstorm: Exploring Minds and Behaviors Podcast: Episode 1, Memory**

CO-HOST

- Memory with Dr. Signy Sheldon, Dr. Blake Richards & Felicity Hamer

*January 21, 2022*

### **In Plain English Podcast**

GUEST

- How Estrogen Affects Prostate Cancer

*December 7, 2021*

### **Engage Creative Science Shop**

SPEAKER

- Decision-Making across Lifespan New Findings and Emerging Technologies

*November 25, 2021*

### **4th Space Event**

MODERATOR & INTERVIEWEE

- Decision-Making and the Brain with Nathaniel Daw, Yael Niv, Oriol FeldmanHall & Anne Collins

*November 19, 2021*

### **4th Space Event**

GUEST

- Is feeling grateful always great?

*November 2, 2021*

### **In Plain English Podcast**

INTERVIEWEE

- Are Humans Rational?

*October 5, 2021*

## Brainstorm: Exploring Minds and Behaviors Podcast

Co-Host

September - Present

- Alexander Bailey and Alexa Ruel, two Montreal-based graduate students, share their passion for all things brain-related through invigorating interdisciplinary expert panel discussions on topics traditionally thought of as psychology and neuroscience. By interacting with other graduate students and professors from across Canada and beyond, Brainstorm hopes to build a community where anyone interested in psychology and neuroscience can learn more by simply tuning in.

## McGill Center for Lifelong Learning

LECTURER

September 17, 2021

- Effects of aging on learning and decision-making abilities

## CJAD 800, Montreal Now

INTERVIEWEE

July 23, 2021

- Adapting technology to our seniors

## Abstract: The Future of Science Podcast

GUEST

June 6, 2021

- Decision-Making

## WRITTEN

### Concordia Blog

BLOG POST

February 10, 2022

- How to avoid biting off more than you can chew

### Concordia Magazine

ALUMNI MAGAZINE

Fall 2021

- Everything you need to know about Decision-Making in Older Adults

### Concordia Blog

PODCAST

November 18, 2021

- Careers Outside Academia Podcast

### Concordia Blog

VLOG

September 23, 2021

- Tips to use your e-Calendar Optimally

### Concordia Blog

BLOG POST

August 12, 2021

- A letter to my past self

### Montreal Gazette

OPINION ARTICLE

July 21, 2021

- It's time seniors had technology tailored to them

### Concordia Blog

BLOG POST

June 24, 2021

- Deciding, choosing and learning: What's the difference?

### Concordia Blog

BLOG POST

May 13, 2021

- Deciding what to decide is no easy task

## VIDEO

### Concordia Blog

VLOG POST

September 23, 2021

- Tips to use your e-calendar optimally

## Employment

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### Tutor

LIBERTY TUTORING

2017-2022

- Plan weekly tutoring sessions in math, science or French for elementary and/or high school students.
- Give weekly feedback to the students' parents about their child's progress.

## **Receptionist**

OM WEST WELLNESS (AND MASSAGE)

2019-2020

- Book client appointments for wellness treatments & check all clients in yoga classes
- Process payemnts & answer emails

## **Front Desk Receptionist**

BEACONSFIELD RECREATION CENTER

2014-2016

- Ensure all participants register and pay for their desired activities.
- Create new files for residents and non-residents