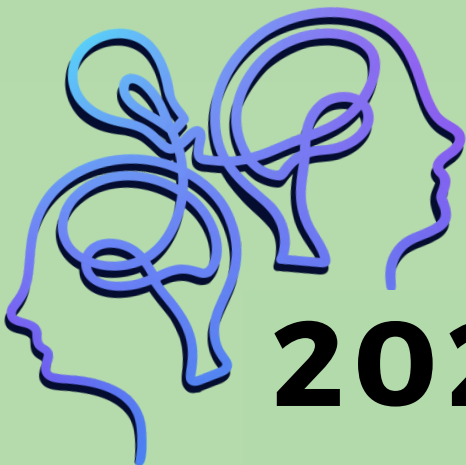




UNIVERSITY OF
TORONTO



PSYCHOLOGY GRADUATE
STUDENT ASSOCIATION:

2023 SYMPOSIUM

May 26, 2023 | Sidney Smith Hall, Toronto, ON

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LAND ACKNOWLEDGEMENT

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years, it has been the traditional land of the Huron-Wendat, the Seneca, and the Mississaugas of the Credit. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

The history of the Toronto Purchase Treaty 13 has been shared online by the Mississaugas of the New Credit First Nation.

To find out more information about the land you are on, please visit:

<https://native-land.ca/>

<https://www.whose.land/en/>

<https://indigenous.utoronto.ca/about/land-acknowledgement/>

<https://www.lspirg.org/knowtheland>



Welcome from the Department Chair

May 9, 2023

Dear Students and Colleagues,

It is my immense pleasure and honour to welcome you all to the second annual Psychology Graduate Student Association (PGSA) Symposium at the University of Toronto. The PGSA Symposium provides a forum for graduate students to present their research in multiple formats, enjoy an illustrious keynote address, and get professional development from intellectual leaders in our field.

The University of Toronto is one of the top institutions for Psychology in the world. Graduate research represents the epitome of innovation, creativity, and curiosity. The interests of graduate students dynamically steer the research conducted here. Students bring fresh perspectives to long-standing questions and are eager to explore new approaches. This fosters an environment ripe for transformative discoveries. Therefore, when the graduate students at the University of Toronto share their work with each other, we all get an insider's sneak peak at next year's biggest research findings.

The PGSA Symposium offers us the important opportunity to network with each other. Please make sure to take advantage of the opportunity to connect with each other as colleagues and learn about the research questions that drive each other.

I want to extend a massive thanks to the PGSA Symposium Committee, especially the PGSA Symposium Chairs, Angela Dou, Tahsin Reza, and Justine Vorvis, and the Committee Leads, Bailey Agard, Inderpreet Gill, Lauren Homann, Alexa Sacchi, Lauren Vomberg, Grace Wang, and Ece Yucer, as well as the other members of the PGSA Symposium Committee, Mryam Ali, Leif Anderson, Eric Cui, Hannah Del Gatto, Elaine Hoan, Sarra Jiwa, Elia Lam, Isabella Lim, Anna Liu, Hanieh Naeimi, Aisling Sampson, Alex Samson, Ruth Tran, Katie Wade Alonso, Yongzhen Xie, and Catalina Yang. I am inspired by your vision, exceptional organization, and the world-class program you developed. On behalf of the Graduate Department of Psychology, thank you for your exceptional work.

Once again, I extend my warmest welcome to all of you. We hope that everyone has a fascinating, fun, and very interesting day!

Respectfully,

Elizabeth Page-Gould
Canada Research Chair in Social Psychophysiology
Chair, Graduate Department of Psychology
Professor, Department of Psychology
University of Toronto

Welcome from the Symposium Chairs

May 26th, 2023

To PGSA members and colleagues,

Welcome to the 2023 Psychology Graduate Students Association (PGSA) Symposium at the University of Toronto! We are thrilled to be hosting the symposium in-person this year at Sidney Smith Hall. Our mission is to showcase the outstanding research currently led by our world-renowned trainees, provide a friendly platform for students to present their research, and engage faculty and trainees across disciplines within the Department of Psychology. Strengthening relationships, fostering research collaborations within our department, and supporting invention and creativity in our work have motivated us since the beginning.

Last year marked the Inaugural PGSA Symposium. At a time when departmental activities remained largely affected by social distancing measures, this student-led symposium was instrumental in connecting our academic community. We hope that our conference today honours the incredible vision realized by Elizaveta Igoshina, Angela Smith, and the 2022 PGSA Symposium team that paved the way for us this year and for many years to come.

We would like to say a huge thank-you to our amazing 2023 PGSA Symposium Executive Team, who have worked tirelessly this year to organize the day's events. To our student and faculty volunteers, presenters, and speakers: we are very grateful to you for taking the time today to share your insights and we thank you for supporting the PGSA. To our Department Chair, Dr. Elizabeth Page-Gould; Director, Dr. Elizabeth Johnson; Graduate Administrator, Jennifer McCallum; and PGSA co-presidents, Leif Anderson and Delaram Farzanfar: this conference would not be possible without your generosity, dedication, and support. And to all attending: thank you so much for offering your time and thoughts today!

This day promises to be something truly special—we look forward to hearing the hum of discussion and the hush of collective thought as we come together for the very first in-person PGSA Symposium. But the symposium is a vehicle for greater things in our department, beyond the event itself. It is the synergy and learning that occurs as committee members plan the event, and as labmates support each other in preparing their presentations. It is the fresh perspective that spurs a student or faculty member down a new trail in their research program. And it's a reminder that we have really interesting, brilliant, and creative colleagues, and that we should pool our efforts more often!

We hope that you have a wonderful day at the 2023 PGSA Symposium!

Respectfully,

Angela Dou, Tahsin Reza, & Justine Vorvis
Co-Chairs, PGSA Symposium



Welcome from the PGSA Co-Presidents

May 26th, 2023

To all 2023 PGSA Symposium attendees,

On behalf of the Psychology Graduate Student Association at the University of Toronto, we are pleased to welcome you to the 2023 PGSA Symposium! We are looking forward to a wonderful day of undergraduate and graduate student posters and presentations on their cutting-edge research in the field of psychology. Given the impact of psychological science on society, we are so excited to learn about the current research that is being done by future leaders of the field right here at U of T. As you participate in this year's symposium, we hope that you can learn about topics outside of your area of study, be inspired to pursue new ideas, and form collaborations with your fellow students.

The keynote address, delivered in-person by the amazing Morgan Barense, will occur at Sidney Smith Hall at 9:00 am on Friday, May 26th, kicking off a day full of presentations, posters, a panel on the journal editing and submission process, and a panel on careers for graduate students within and beyond academia. While some of the events can be attended virtually via Zoom, other events remain exclusively in-person. We hope everyone will take the opportunity to converse and network with the students, professionals, and professors in attendance on campus and online!

This conference would not have been possible without the PGSA Symposium Team, who have been working tirelessly to organize this event and bring all of us together to discuss research and get to know more about one another. We would like to specifically thank our three PGSA Symposium chairs, Justine Vorvis, Tahsin Reza, and Angela Dou for their time, energy, and dedication. Please feel free to approach them throughout the conference with any questions, comments, and/or friendly conversation. Additionally, we would like to thank Jennifer McCallum, for her support and many hours of work to help make the conference happen, Brenda Chow, for her help in funding the symposium, and Elizabeth Page-Gould, for all of her advice and organizing efforts.

We hope that you enjoy the conference and all it has to offer. Chat with current faculty, converse with our keynote speaker Professor Barense about her research, and connect with a group of extremely intelligent and passionate peers. Thank you again for attending the 2023 PGSA Symposium!

Delaram Farzanfar & Leif Anderson
2023 PGSA Co-Presidents



University of Toronto

Psychology
Graduate
Student
Association

ACKNOWLEDGEMENTS

A special thanks to the following for the support of the Psychology Graduate Student Association Symptoms 2023!

This conference is made possible by the generous support from the University of Toronto's Department of Psychology. We are grateful to everyone who volunteered their time to organize the event and ensure we have an excellent program.

Thank you to our keynote speaker, Dr. Morgan Barense; our workshop panellists: Dr. Karl Szpunar, Dr. Isabel Gauthier, and Dr. Nicholas Rule, and our career panellists: Dr. Alexander Barnett, Dr. Stephano Di Domenico, Dr. Joshua Guilfoyle, Dr. Michelle Liu, and Dr. Iska Moxon-Emre for offering their time and expertise to present at our annual symposium.

Thank you to all the talk sessions and poster presenters for generously sharing their exciting work. We also extend our gratitude to the judges for their valuable time and expertise dedicated to evaluating our talk and poster session.

Thank you all for attending the 2nd annual PGSA Symposium! We hope that you have an enjoyable time and we look forward to seeing you again next year!



PGSA SYMPOSIUM COMMITTEE

SYMPOSIUM CHAIRS

Angela Dou
Tahsin Reza
Justine Vorvis

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Eric Cui Hanieh Naeimi
Sarra Jiwa Yongzhen Xie

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Elaine Hoan
Isabella Lim

* denotes committee lead

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CUPE STEWARDS

Prateek Dhamija
Liza Igoshina
Elizabeth Long
Mateja Perovic

Symposium Program Schedule

TIME	EVENT	LOCATION
8:45 AM	Opening Remarks	SS 2102
9:00 AM	Keynote Address by Morgan Barensen	SS 2102
10:00 AM	30 Min Break	
10:30 AM	Publication Workshop	SS 2102
12:30 PM	Lunch Break	
1:30 PM	Talk Sessions	SS 1071 SS 1073
2:30 PM	15 Min Break	
2:45 PM	Poster Session	SS 4043
3:45 PM	15 in Break	
4:00 PM	Career Panel	SS 2102
5:00 PM	Social with Career Panelists	SS 1073
5:00 PM	Closing Remarks & Awards	SS 2102

Symposium Location & Building

Sidney Smith Hall

The PGSA 2023 Symposium will take place at **Sidney Smith Hall**, located at 100 St. George Street.



Please click on this [link](#) or scan the QR below for detailed information on a Transportation Guide to Sidney Smith



The following page details the Symposium events room locations at Sidney Smith

2023 Symposium Location & Rooms

Sidney Smith Hall (SS)

SS 1071

SS 1073
Classrooms

- Enter Sidney Smith building from St. George entrance
- Turn left and walk down the hallway
- The classrooms will be on the left

Talk Sessions

SS 2102
Lecture Room

- Enter Sidney Smith building from St. George entrance
- Turn left and go up the stairs to the 2nd floor
- Walk straight down the hallway on your right
- The lecture room will be on the left

Opening/ Closing remarks
Keynote
Workshop
Career panel
Lunch & breaks

SS 4043
Psychology Lounge

- Enter Sidney Smith building from St. George entrance
- Turn right and go up the stairs or take the elevators to the 4th floor
- The Psychology Lounge is across from the staircase entrance to the 4th floor and on the left of the elevators

Poster Session

Classroom
Finder
link
Scan QR code



9:00 - 10:00 AM

Room 2102

Click here for the [Zoom Link](#)
(password: PGSA2023)

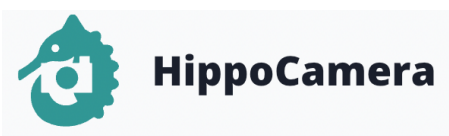
Keynote Address | Morgan Barense, PhD

Enhancing Real-World Event Memory

The act of remembering an everyday experience influences how we interpret the world, how we think about the future, and how we perceive ourselves. It also enhances long-term retention of the recalled content, increasing the likelihood that it will be recalled again. Unfortunately, the ability to recollect event-specific details tends to decline with age, resulting in an impoverished ability to mentally re-experience the past. This shift has been linked to a corresponding decline in the distinctiveness of hippocampal memory representations. Despite these well-established changes, there are few effective cognitive behavioral interventions that target real-world episodic memory.

We addressed this gap by developing a smartphone-based application called **HippoCamera** that allows participants to record labelled videos of everyday events and subsequently replay standardized, high-fidelity autobiographical memory cues. In two experiments with older adults, we found that using HippoCamera to repeatedly reactivate memories for real-world events improved episodic recollection and it evoked more positive autobiographical sentiment at the time of retrieval. Moreover, more detailed recollection was associated with more differentiated memory signals in the hippocampus. In addition to describing our HippoCamera intervention, I will also present research investigating the optimal time to reactivate a memory, as well as which features of distinct memories should be emphasized to maximize their perceived similarity.

HippoCamera Website: <https://hippocamera.com>



Keynote Speaker Bio

Morgan Barense, Ph.D.

Professor & Canada Research Chair in
Cognitive Neuroscience at
University of Toronto



Biography

Morgan received her B.A. from Harvard University and her Ph.D. from the University of Cambridge, UK. She remained in Cambridge for her postdoctoral work to undertake a Peterhouse Research Fellowship. She joined the faculty at the University of Toronto in 2009 and was promoted to Associate Professor in 2014. She currently directs the Toronto Neuroimaging Facility. She has been trained in animal neuroscience, human neuropsychology, fMRI, and cognitive psychology and enjoys bringing these approaches together to study the neural underpinnings of memory.

She has been honoured with a number of domestic and international awards, including a Canada Research Chair in Cognitive Neuroscience, a James S. McDonnell Foundation Scholar Award, an Early Researcher Award from the Province of Ontario, an Early Investigator Award and a Lifetime Fellowship from the Society of Experimental Psychologists, an Early Career Award from the Canadian Society for Brain, Behaviour and Cognitive Science, and a Young Investigator Award from the Cognitive Neuroscience Society.

10:30 AM - 12:30 PM | Room 2102

Click here for the [Zoom Link](#) (password: PGSA2023)

Publication Workshop

Thinking about publishing?

Have questions about the publishing process?

Come join our **hybrid workshop** featuring **journal editors** as panelists!

Meet Our Panelists:



Nicholas Rule, Ph.D.
University of Toronto

Dr. Nicholas Rule is a Professor of Psychology and presently serves as Vice-Principal, Academic and Dean at the University of Toronto Mississauga. His research focuses on how people categorize and process information about others, as well as the implications of these judgments on behaviour. He has served as the **Editor-in-Chief of the Journal of Experimental Social Psychology.**



Isabel Gauthier, Ph.D.
Vanderbilt University

Dr. Isabel Gauthier is the David K. Wilson Chair of Psychology at Vanderbilt University. Her research interests include cognitive neuroscience, perceptual expertise, as well as individual differences in high-level perceptual abilities. She has served as the **Editor of The Journal of Experimental Psychology: Human Perception and Performance** and **The Journal of Experimental Psychology: General.**



Karl Szpunar, Ph.D.
Toronto Metropolitan University

Dr. Karl Szpunar is an Associate Professor and Director of Psychological Science Training at Toronto Metropolitan University. His research focuses on adaptive uses of memory as they pertain to improving the quality of learning experiences in educational settings and understanding how the brain constructs mental simulations of the future. He has served as an **Associate Editor for the Journal of Applied Research in Memory and Cognition.**

4:00 PM - 5:00 PM | Room 2102

Career Panel + Social

Come learn about careers **inside and outside of academia** and how to effectively prepare for different opportunities!

Get to know our amazing panelists and ask more questions after the panel at **our causal social** in Room 1073 (5-5:30pm)

Meet Our Panelists:

Dr. Alex Barnett earned his PhD at UofT and then went on to do postdoctoral research at the UC Davis. He is currently an **Research Stream Assistant Professor** in the Department of Psychology at UofT and leads the **Barnett Lab**.



Alex Barnett, Ph.D.
University of Toronto



Michelle Lui, Ph.D.
University of Toronto

Dr. Michelle Lui earned her PhD at UofT and has held leading positions in the **creative industry**. She is currently an **Assistant Professor** at OISE, where she develops technology solutions to address real-world challenges.



Iska Moxon-Emre, Ph.D.
University of Toronto

Dr. Iska Moxon-Emre earned her PhD at UofT and is currently a **Postdoctoral fellow** at the **Centre for Addiction and Mental Health** and works in the TIGRLAB.



Stefano Di Domenico, Ph.D.
University of Toronto

Dr. Stefano Di Domenico earned his PhD at UofT and then went on to be a **SSHRC Postdoctoral Fellow** at Australian Catholic University. He is currently a **Teaching Stream Assistant Professor** at UofT.



Josh Guifoyle, Ph.D.
York University

Dr. Josh Guifoyle earned his PhD at York University and went on to be a **Visiting Research Fellow** at University of Zurich and Kobe University. He is currently a **Senior UX Researcher** at SkipTheDishes and Just Eat Takeaway.

1:30 PM - 2:30 PM

Talk Sessions Schedule Overview

Talk Room 1: Social & Personality <u>SS 1071 Classroom</u>		
#	Talk Session Title*	Presenter
A1	Pain sensitivity predicts support for moral and political views across the aisle	Cecilia Ma
A2	Studying women's teamwork experiences in STEM Settings	Jacklyn Koyama
A3	Physiological arousal and resilience in response to organizational stress among police managers	Sarah Scott
A4	Time-use in a happy single life	Elaine Hoan

Talk Room 2: Developmental <u>SS 1073 Classroom</u>		
#	Talk Session Title*	Presenter
B1	Research, Outreach, and Study (ROSie): Collecting developmental psychology data through a novel application in a remote and unmoderated setting	Tim Wei-Ting Chao
B2	A new look at infant problem-solving: Using DeepLabCut to investigate exploratory problem-solving approaches	Mia Radovanovic
B3	Infants' concern for fairness in resource collection events	Jaemin Hwang
B4	Cartoons against linguistic bias: Can exposure to foreign-accented heroes influence children's social judgments?	Kaitlyn Harris

**Please see the following pages for full author list & abstracts*

1:30 PM - 2:30 PM | SS 1071

Talk Session Room 1: Social & Personality

10 minute presentation + 4 minute Q&A per talk

A1: Pain sensitivity predicts support for moral and political views across the aisle

(1) Cecilia Ma, Department of Psychology, University of Toronto;

(2) Spike W. S. Lee, Rotman School of Management and Department of Psychology, University of Toronto

We live in a time of exacerbating political polarization. Bridging the ideological divide is hard, especially when little is known about what intrapersonal attributes predict which individuals are more inclined to support their ideological opponent's views. The present work identifies a low-level attribute–sensitivity to physical pain—that robustly predicts individual variations in support for moral and political views typically favored by one's ideological opponent. We first report a psychophysical validation of an established pain sensitivity measure ($n = 260$), then a series of exploratory and preregistered confirmatory studies and replications ($N = 7,360$) finding that more (vs. less) pain-sensitive liberal Americans show greater endorsement of moral foundations typically endorsed by conservatives (Studies 1a–1c), higher likelihood of voting for Trump over Biden in the 2020 Presidential Election, stronger support for conservative politicians and attitudes (Studies 2a–2b). Conservatives show the mirroring pattern. These “cross-aisle” effects of pain sensitivity are driven by heightened harm perception (Study 3) and defy lay intuitions (Study 4). The consistent findings across studies and novel directions highlight the value of deriving integrative predictions from previously unconnected perspectives (social properties of pain, moral foundations theory, dyadic morality theory, principle of multiple determinants in higher mental processes).

A2: Studying women's teamwork experiences in STEM settings

(1) Jacklyn Koyama, Dept. of Psychology, University of Toronto;

(2) Emily Cyr, Dept. of Psychology, University of Waterloo;

(3) Kim Jones, Dept. of Chemical Engineering, McMaster University;

(4) Elizabeth Page-Gould, Dept. of Psychology, University of Toronto;

(5) Hilary Bergsieker, Dept. of Psychology, University of Waterloo

Women are historically underrepresented in STEM fields. Their representation is increasing in recent years, however ample evidence shows that the chilly social climate women face in the school- and workplace persists. We collected data from 386 first year engineering students' in an 8-month project-based course about and during their teamwork experiences. Teamwork is a fundamental part of STEM work and a critical time in which women's social experiences impact their well-being and likelihood of persisting in STEM. At four points during the year we collected survey and social network data reflecting students' experiences working in project teams and physiological and behavioural facial expression data during their team meetings. The next school year, we collected a second wave of survey and social network data ($N = 373$). With this data, we explore how experiences working with teams differentially impacts physiological and behavioural stress responses, and downstream sense of fit in STEM as well as academic outcomes such as course grades. We show that women and men have differential stress responses to team meetings which is associated with reduced fit and greater input of emotional energy and social work for women. Furthermore, we show that this reduced fit has downstream consequences such as higher levels of burnout in women. We discuss implications and potential interventions for improving women's well-being and empowerment in STEM settings.

A3: Physiological arousal and resilience in response to organizational stress among police managers

- (1) Sarah Scott, Dept. of Psychology, University of Toronto,
- (2) Paula Di Nota, Dept. of Psychology, University of Toronto,
- (3) Juha-Matti Huhta, Police University College Finland (Poliisi),
- (4) Judith Andersen, Dept. of Psychology, University of Toronto

Public safety personnel (PSP; i.e., police officers) are often exposed to high levels of operational (i.e., related to physical duties) and organizational (i.e., related to structural aspects of organization) stressors, which negatively impact psychological and physical health, performance, and resilience. Empirical research has shown that training adaptive autonomic responses through heart rate variability biofeedback (HRVBF) effectively improves the aforementioned outcomes in operational police contexts. However, the extent to which organizational contexts elicit autonomic arousal remains to be examined. The current field study delivered a brief HRVBF intervention to 25 police managers. Participants were taught to use HRVBF and adaptive meta-cognitive skills during scenarios that represent a variety of situations typically faced by police managers and that were designed to elicit organizational stress. Although participants did not engage in significant physical or aerobic activity, all scenarios resulted in significant increases in heart rate ($p < 0.003$). The current research provides novel evidence on the physiological impact of organizational stress in a variety of management situations, which has implications for PSP as well as managers in other professions. The current study also demonstrates the feasibility and acceptability of HRVBF in visualizing and modulating physiological arousal in the face of organizational stress.

A4: Time-use in a happy single life

- (1) Elaine Hoan, Dept. of Psychology, University of Toronto;
- (2) Geoff MacDonald, Dept. of Psychology, University of Toronto

Over the past few decades, the number of people living alone in Canada has more than doubled with two thirds of these solo dwellers reporting not being in a committed relationship. This trend is reflected worldwide, suggesting a rising prevalence of single individuals and sparking an increasing interest, both academically and publicly, in understanding well-being in singlehood. One important starting point is to identify how happy singles are spending their time on a daily basis. The limited existing literature has identified mental health, physical health, and family relationships as life domains which singles believe contribute to a happy singlehood. Yet, it remains unclear whether singles who actually invest time within these domains truly experience greater happiness. The current research aims to address this gap by examining how daily assessments of singles' time use predicts well-being in singlehood. I propose that greater happiness will be observed among single individuals who invest more time specifically in solitude, nature, and exercising their autonomy. To test my hypothesis, I will employ a daily diary methodology which repeatedly captures experiences as they occur in natural settings over a defined period. I will also collect baseline measures of attachment style and personality traits. Finally, I will employ Multilevel Modelling, which statistically accounts for the clusters of reports from each participant, to analyze whether happier singles are more frequently engaging in solitude, nature, and autonomy. The results of this project would expand our current understanding of singlehood satisfaction by identifying domains related to happy single lives and begin to clarify the nature of relationships between time investments and singles' well-being.

1:30 PM - 2:30 PM | SS 1073

Talk Session Room 2: Developmental

10 minute presentation + 4 minute Q&A per talk

B1: Research, Outreach, and Study (ROSie): Collecting developmental psychology data through a novel application in a remote and unmoderated setting

- (1) Tim Wei-Ting Chao, Dept. of Psychology, University of Toronto;
- (2) Justin Sehyun Jeong, Dept. of Psychology, University of Toronto;
- (3) Wenyu Lu, Dept. of Psychology, University of Toronto;
- (4) Anicole Tan, Dept. of Psychology, University of Toronto;
- (5) Anita Ding, Dept. of Psychology, University of Toronto;
- (6) Jessica A. Sommerville, Dept. of Psychology, University of Toronto

The COVID-19 pandemic dealt a blow to developmental psychologists, given their reliance on recruiting local community members to participate in in-lab experiments. As a remedy, we partnered with software companies and developed a novel application for mobile computing devices (smartphones and tablets) that will enable families across Canada to participate in online studies with low or no mediation. To validate this approach, we investigated whether various measures of children's cognitive development (e.g., Theory of Mind) differed across three methods of assessment: in-person, video-conference moderated, and online unmoderated. Collaborating with five other institutions (N = 600), we constructed several classical developmental psychology paradigms on the application that collects children's verbal and touchscreen responses, along with questionnaires that record demographic information. Throughout this project, we aim to identify critical factors that must be in place to enable high quality data collection. This will provide a means for recruiting larger samples than researchers typically have access to. It will also deliver research studies on common household devices that are available at any time and place, increasing access to a much broader and diverse range of participants. Ultimately, it will allow us to investigate overlooked factors (e.g., gender, SES) important for cognitive development.

B2: A new look at infant problem-solving: Using DeepLabCut to investigate exploratory problem-solving approaches

- (1) Mia Radovanovic, Dept. of Psychology, University of Toronto
- (2) Hannah Solby, Dept. of Child Studies and Human Development, Tufts University
- (3) Jessica A. Sommerville, Dept. of Psychology, University of Toronto

When confronted with failure during problem-solving, we can either copy a modeled solution or explore our own solutions. While past work has established that infants can learn to solve problems both through independent exploration and imitation, little work has explored the factors that influence which of these approaches infants select to solve a given problem. Here, we applied DeepLabCut to archival videos of 18-month-olds' (n = 96) problem-solving to investigate the influence of the effort and success of an adult's modeled solution, and infants' firsthand experience with failure, on infants' imitative versus exploratory problem-solving approaches. Our results reveal that exploratory tendencies are relatively immune to information from the adult model, but that exploration increased in response to firsthand experience with failure ($t(222) = 13.35$, $p < .001$, $\beta = 2.71$, $SE = 0.20$) and related to key motivational features such as increases in maximum force ($\rho_{pb} = .22$, $p = .003$) and requiring less adult support on a new iteration of the task ($\rho_{pb} = -.37$, $p < .001$). Thus, our results demonstrate that infants generally increase exploration in response to failure and that infants who increased exploration demonstrated several other problem-solving adaptations.

B3: Infants' concern for fairness in resource collection events

- (1) Jaemin Hwang, Dept. of Psychology, University of Toronto;
- (2) Mia Radovanovic, Dept. of Psychology, University of Toronto;
- (3) Jessica Sommerville, Dept. of Psychology, University of Toronto

In North America, children expect resources to be distributed equally by 12 months old, and equitably by 17 months old. However, we not only encounter situations where we need to distribute resources between ourselves and others, but also where resources are taken away and redistributed (i.e., taxation). In the present study, we examine fairness expectations in resource collection events by showing 14- to 17-month-olds short video clips where a collector either takes away cookies from two agents equally or unequally. Data collection is ongoing with 14- to 17-month-olds ($n = 28$), but present results indicate that infants aged 16 to 17 months old look longer to unfair collection events ($\beta = 4.65$, $SE = 1.53$, $p = .02$), suggesting the unfair event violated older infants' expectations for equal taking. However, we did not observe a difference in looking time in younger infants ($p = .43$). Taken together, these results suggest that reasoning about fairness in taking events is emerging in the second year of life. However, as young infants reliably demonstrate fairness preferences for giving events, these results introduce the possibility that reasoning about taking is more complicated and later-developing.

B4: Cartoons against linguistic bias: Can exposure to foreign-accented heroes influence children's social judgments?

- (1) Kaitlyn Harris, Department of Psychology, University of Toronto Mississauga;
- (2) Simran Gujjar, Department of Psychology, University of Toronto Mississauga;
- (3) Thomas St. Pierre, Department of Languages, Literature, and Communication, Utrecht University;
- (4) Elizabeth K. Johnson, Department of Psychology, University of Toronto

Foreign-accented characters are disproportionately represented as villains in children's media (Lippi-Green, 1997), raising the question of how these trends influence viewers' linguistic biases. In Experiment 1, we tested whether children (and adults) actually associate foreign accents with villains. Five- to 14-year old children ($n=249$) and their parents ($n=77$) watched pairs of cartoon clips in which the same voice actor performed both hero and villain. Half of the trials featured a native-accented actor, the other half a foreign-accented one. When asked to select the role that each voice was better for, both children and adults were more likely to associate foreign accents with villains—a trend that increases with age. In Experiment 2, we investigated whether a phase of positive exposure to foreign-accented characters can reduce this effect. Seven- to 9-year-old children (current $n=112$) watched clips featuring either foreign-accented heroes or foreign-accented villains, before proceeding to the test phase described above. Preliminary results show that participants who watched foreign-accented heroes were less likely to associate non-native voices with villains. These findings demonstrate how language biases in media can impact children's attitudes, and suggest that more mindful programming might help reduce the development of negative social views toward foreign accents.

2:45 PM - 3:45 PM

SS 4043 Psychology Lounge

Poster Sessions: Overview

All posters will be presented in the SS 4043 Psychology Lounge. Please find below an overview of the poster titles and their presenters by area of research, along with their corresponding poster numbers.

Behavioural Neurosciences		
#	Poster Presentation*	Presenter
PT2	Age-dependent changes in spatial memory in 5xFAD mouse model of mamial Alzheimer's disease	Kendall Mar
PT3	The impact of white matter microstructure on social-affective function in children and adolescents treated for a brain tumour	Elizaveta Igoshina
PT4	The trisynaptic and monosynaptic pathways encode memories in parallel with different levels of specificity	Cory McKenzie
PT8	Associations of avoidant coping and heart rate fragmentation compared to pre-established measures of heart rate variability	Loridee De Villa
PT9	Exploring 24-hour field recordings of heart rate fragmentation for predicting mental health symptom risk in nonclinical undergraduate students	Apurva Singh
PT10	Alpha-synuclein inoculation in anterior olfactory nucleus and its effects on olfactory function in prodromal Parkinson's Disease	Ruth Tran
PT18	Anxiety-like behaviour, approach-avoidance conflict biases, and the role of the ventral hippocampus-nucleus accumbens circuit in ethanol seeking in rats	Emily A. Collins

**Please see pages 25 - 28 for full author list & abstracts*

Developmental		
#	Poster Presentation*	Presenter
PT6	Ensemble perception in infancy: average size perception in relation to mean identification and heterogeneity	Mikayla Samuel
PT12	I learned it from my parents: parental socialization influences children's development of gendered speech	Danyel Ore
PT16	The development of the end of history illusion	Alexa Sacchi

Perception, Cognition & Cognitive Neuroscience		
#	Poster Presentation*	Presenter
PT1	Repeat after me: exploring what children's speaking and singing reveals about their domain-specific knowledge	Anne Cabildo
PT5	A test of the kin selection hypothesis for female gynephilia in Thailand	Daisy Hu
PT11	Spaced presentation facilitates readily accessible representations	Johnny Dubois
PT13	Learning exceptions to category rules varies across the menstrual cycle	Mateja Perovic
PT15	Men only want one thing...or do they? A gender difference in incentive response to foodporn versus actual porn	Diana Peragine
PT17	Reliability of neural signatures of story listening	Ryan A. Panela

**Please see pages 29 - 33 for full author list & abstracts*

Social & Personality		
#	Poster Presentation*	Presenter
PT7	Believing others can change: does the "person" matter?	Grace (Wujiamei) Sun
PT14	Real-world convenience shapes laboratory food choices even when irrelevant	Hyuna Cho

**Please see page 34 for full author list & abstracts*

The mission of the symposium is to showcase the ongoing research in the Psychology Department, provide a friendly and spirited platform for students to present their research, and engage faculty and trainees across disciplines within the department.

Please join us at the Psychology Lounge, where our distinguished researchers will showcase their remarkable work through engaging poster sessions.

Please find the poster presentation abstracts on the following pages.

Poster Presentation Abstracts

Behavioural Neuroscience

PT2: Age-dependent changes in spatial memory in 5xFAD mouse model of familial Alzheimer's disease

(1) Kendall Mar, Dept. of Psychology, University of Toronto; (2) Junchul Kim, Dept. of Psychology and Dept. of Cell & Systems Biology, University of Toronto; (3) Chanbee So, Dept. of Cell & Systems Biology, University of Toronto; (4) Yixin Hou, Dept. of Cell & Systems Biology, University of Toronto.

Alzheimer's disease (AD) is characterized by age-related memory deficits, cognitive decline, and neuropathology. The 5xFAD mouse line is a model of familial AD that exhibits behavioral deficits in spatial memory and neuropathology, including neurodegeneration, axonopathy, and amyloid beta aggregation. The mammillary bodies (MB) and subiculum (Sub) are particularly susceptible to pathological changes in 5xFAD animals early on. Input from the Sub to the MB play a role in integrating spatial information. The present investigation aimed to characterize age-dependent spatial memory deficits in the 5xFAD mouse model. Both transgenic and wild-type mice were tested at 3 and 5 months using an egocentric spatial navigation task (testing the use of self-motion cues) and a cued conflict task (testing the conflict between egocentric and allocentric cues) on the Barnes maze. The egocentric task required the mice to escape to a familiar shelter in the dark by relying on their sense of body position relative to the shelter's known location. The cued conflict task introduced a LED cue to indicate the shelter location, during a subset of escape trials, the cue was shifted to a different position, creating a conflict between the actual location (based on self-motion cues) and the LED-indicated location. Additionally, we quantified age-related changes in neuropathological markers of AD in the brain.

PT3: The impact of white matter microstructure on social-affective function in children and adolescents treated for a brain tumour

(1) Elizaveta Igoshina, Dept. of Psychology, University of Toronto, ON, Canada; Dept of Neurosciences and Mental Health, The Hospital for Sick Children, ON, Canada; (2) Dr. Iska Moxon-Emre, Centre for Addiction and Mental Health, Dalla Lana School of Public Health, University of Toronto, ON, Canada; (3) Dr. Donald J. Mabbott, Dept. of Psychology, University of Toronto, ON, Canada; Dept of Neurosciences and Mental Health, The Hospital for Sick Children, ON, Canada

Children and youth treated for a brain tumour often experience social-affective problems, such as anxiety and depression, in tandem with white matter microstructural change. White matter is the network of myelinated axons and related cells supporting neural signal transmission and coordination. Changes to social-network white matter are associated with internalizing problems and emotion dysregulation. Crucially, injury to this white matter may lead to poor emotion regulation and perturbed social-affective function. This relationship is understudied, however. This study will use diffusion magnetic resonance imaging to examine white matter within the social-network in children and youth treated for a brain tumour and investigate whether structure relates to emotion regulation using predictive statistical analyses. Compared to typically developing children, we hypothesize that children and youth treated for a brain tumour will demonstrate altered white matter microstructure in social-network tracts (cingulum bundle, inferior fronto-occipital fasciculus, uncinate fasciculus). This will associate with emotion dysregulation and social-affective function. Sixty participants (40 patients, 20 typically developing children) underwent neuroimaging in a Siemens 3T whole-body scanner with a 20-channel head and neck coil at the Hospital for Sick Children. A deep learning-based tract segmentation approach, TractSeg, will be used to identify social-network tract bundles. Data analysis is ongoing.

Poster Presentation Abstracts

Behavioural Neuroscience

PT4: The trisynaptic and monosynaptic pathways encode memories in parallel with different levels of specificity

(1) Cory McKenzie, Dept. of Psychology, University of Toronto, (2) Adam Ramsaran, Dept. of Psychology, University of Toronto, (3) Tianwei Liu, Dept. of Physiology, University of Toronto, (4) Dr. Sheena Josselyn, The Hospital for Sick Children, University of Toronto, (5) Dr. Paul Frankland, The Hospital for Sick Children, University of Toronto

The entorhinal-hippocampal system is crucial for memory and consists of both the trisynaptic and monosynaptic pathways. The specific role of each is poorly understood, but it has been suggested that they operate in parallel with the trisynaptic pathway encoding specific details and the monosynaptic pathway encoding features common between events. The prolonged development of the trisynaptic pathway may also be linked to the phenomenon of infantile generalization. We predicted that silencing the trisynaptic pathway would reinstate a juvenile-like state of memory generalization and that allocating a fear memory to the monosynaptic pathway would allow for the activation of a non-specific fear memory. Here we use a circuit-specific optogenetic approach to selectively silence or activate each pathway during contextual fear conditioning. We found that the trisynaptic pathway supports context specific fear memories while the monosynaptic pathway encodes non-specific memories. This supports the claim that both pathways operate in parallel and encode memories at different levels of specificity.

PT8: Associations of avoidant coping and heart rate fragmentation compared to pre-established measures of heart rate variability

(1) Loridee De Villa, Dept. of Psychology, University of Toronto Mississauga; (2) Scott Hreno, Dept. of Psychology, University of Toronto Mississauga; (3) Jennifer F. Chan, Dept. of Psychology, University of Toronto Mississauga; (4) Dr. Judith P. Andersen, Dept. of Psychology, University of Toronto Mississauga

During times of stress, we use various coping strategies in order to respond and adapt (Mushquash & Grassia, 2022). However, avoidant coping—characterised by dismissive behaviour and evasion of stressors—can be counterproductive, maintaining or increasing physiological and psychological stress (Wenzlaff & Wegner, 2000; Ottaviani, 2018). While previous research has associated higher heart rate variability (HRV) with lower levels of avoidant coping and mental health symptoms (Gillie et al., 2015), the associations between avoidant coping and the emerging biomarker heart rate fragmentation (HRF) has yet to be explored. This preliminary ongoing study explores how HRF integrates into the current knowledge of coping outcomes in comparison to other established HRV measures. Undergraduate students completed self-report questionnaires measuring avoidant coping behaviour (WBSI, Brief COPE) and stress symptoms (DASS-21). Baseline R-R intervals were collected using HR chest-bands while students watched a neutral nature video. R-R intervals were translated into symbolic HRF patterns representing HR acceleration and deceleration (Costa et al., 2017). Hierarchical regression analyses will be used to determine whether avoidant coping styles and subsequent stress is predicted by HRF, compared to other HRV measures (RMSSD, SDNN). If statistically significant, HRF could contribute towards a metric in physiological interventions of ineffective coping styles.

Poster Presentation Abstracts

Behavioural Neuroscience

PT9: Exploring 24-hour field recordings of heart rate fragmentation for predicting mental health symptom risk in nonclinical undergraduate students

(1) Apurva Singh, Dept. of Psychology, UTM; (2) Patrick Fahim, Dept. of Psychology, UTM; (3) Amanda Jani, Dept. of Psychology, UTM; (4) Jennifer F. Chan, Dept. of Psychology, UTM; (5) Dr. Judith P. Andersen, Dept. of Psychology, UTM

Heart rate fragmentation (HRF)—the increase in quantity of heart rate acceleration sign changes—is an emerging biomarker predicting adverse cardiovascular outcomes (Costa et al., 2017, 2018) that has not been examined in relationship to mental health symptoms or field settings. The current pilot study compared field HRF during awake and sleep, and whether 24-hour field HRF differentiates psychological symptom risk. Undergraduate students ($n=28$) completed self-report inventories measuring depression, anxiety (DASS-21), and posttraumatic stress (PCL-5) symptoms. Students were grouped as healthy or symptomatic by k-means clustering their scores. As part of a larger study, students were fitted in the laboratory with commercial-grade HR chest-bands; for the pilot study, students continued wearing the chest-bands to measure 24-hour HRF in the field during awake and sleep. Students displayed 24.34% average HRF, with no significant difference between awake and sleep periods ($w=69$; $p=0.462$). While the larger study shows significant differences in controlled, laboratory-recorded HRF between healthy and symptomatic students, this was not observed in 24-hour field HRF ($w=324$; $p=0.806$). Due to chest-bands fitting a limited range of body types, the resulting high artifact concentration from 24-hour field HRF prompts the need for further exploration in controlled environments, or consideration of different HR equipment.

PT10: Alpha-synuclein inoculation in anterior olfactory nucleus and its effects on olfactory function in prodromal Parkinson's Disease

(1) Ruth Tran, Dept. of Psychology, University of Toronto; (2) Junchul Kim, Dept. of Psychology, University of Toronto

Hyposmia, an impaired sense of smell, is a prevalent preclinical symptom that occurs early in Parkinson's Disease (PD), preceding classic motor symptoms by at least 4 years. Alpha-synuclein (a-syn), the pathological protein aggregates implicated in PD, are deposited in the olfactory system in the earliest stage of PD. A-syn preferentially accumulates in the anterior olfactory nucleus (AON) and spreads to other regions of the brain through neuronal connections. The AON integrates odour sensory information from olfactory bulb inputs and contextual information from hippocampal inputs. This suggests that the AON plays a role in simple odour detection and discrimination, as well as complex cognitive tasks such as olfactory episodic memory. Currently, the pathophysiological mechanisms underlying olfactory dysfunction in the preclinical stages of PD remain elusive. A potential mechanism mediating olfactory deficits in PD is the deposition of a-syn in the AON, triggering neuroinflammatory responses leading to neuron cell loss and impairment of odour function. A preclinical mouse PD model will be used by injecting a-syn fibrils in the AON. The spread of a-syn and the activity of the neuroimmune cells will be analyzed using immunohistochemistry. A robust operant conditioning paradigm will be used to examine the behavioural effects of olfactory detection, discrimination, and episodic memory. Considering hyposmia occurs years prior to the clinical diagnosis of PD, it has the potential to be used as a diagnostic marker. The proposed study can potentially contribute to the development of a reliable and cost-effective diagnostic tool that would be critical for the early detection and intervention of PD.

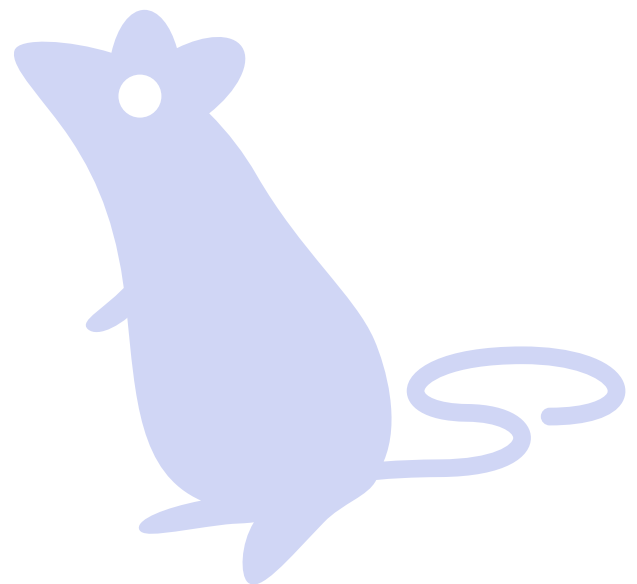
Poster Presentation Abstracts

Behavioural Neuroscience

PT18: Anxiety-like behaviour, approach-avoidance conflict biases, and the role of the ventral hippocampus-nucleus accumbens circuit in ethanol seeking in rats

(1) Emily A. Collins, Dept. of Psychology, University of Toronto Scarborough, (2) Mahmoud Shaat, Dept. of Psychology, University of Toronto Scarborough, (3) Tanner McNamara, Dept. of Psychology, University of Toronto Scarborough, (4) Nisma Kahn, Dept. of Psychology, University of Toronto Scarborough, (5) Dr. Rutsuko Ito, Dept. of Psychology, University of Toronto Scarborough,

Alcohol use disorder (AUD) is characterized by chronic alcohol use and dependency and is often comorbid with anxiety-related disorders. Although AUD has traditionally been most prevalent in men, this gender gap has been closing. Yet, females have been underrepresented in preclinical research, leaving unanswered questions regarding sex-specific dispositional risk factors and neurobiology underlying the condition. Aberrant approach avoidance conflict (AAC) processing has been implicated in psychiatric disorders such as AUD and anxiety-related disorders. AAC processing is arbitrated by the ventral hippocampus (vHC), while addiction-related behaviours are regulated by the nucleus accumbens (NAc). Thus, the vHC-NAc circuit offers a prime target for investigating the role of specific limbic circuits in ethanol seeking. This study used a mixed-sex sample of Long-Evans rats to measure baseline anxiety-like behaviour and AAC biases, then used DREADDs to inhibit vHC-NAc during an operant ethanol drinking task to explore the role of this circuit in drinking-related behaviours. vHC-NAc inhibition delayed extinction of lever press responding for ethanol regardless of sex, but females were more resistant to extinction generally. This study serves to advance our understanding of the dispositional risk factors and neural circuitry underlying drinking-related outcomes in a novel rodent model of AUD.



Poster Presentation Abstracts

Developmental

PT6: Ensemble perception in infancy: average size perception in relation to mean identification and heterogeneity

(1) Mikayla Samuel, Dept. of Psychology, University of Toronto; (2) Dr. Jonathan S. Cant, Dept. of Psychology, University of Toronto; (3) Dr. Mark A. Schmuckler, Dept. of Psychology, University of Toronto

Ensemble perception allows for the gist of a scene to be readily extracted, through the formation of summary representations, rather than representation of the single items that make up a complex scene. Numerous studies have observed quick extraction of global summary information in adults and older children. Thus, the purpose of this study is to investigate this perceptual process in infancy. Here, we employ a paradigm where infants were presented with ensemble set displays, followed by test displays consisting of two circle sizes – one circle having the mean size of the previously displayed ensemble set and the other circle size being a high (familiar) or low (novel) distractor circle size. Results show that infants 7-9 months of age are failing to extract the mean. As a follow-up to this work, we are examining ensemble perception in older infants 11-13 months of age, to determine if the ability to abstract such information emerges later in development. Evidence of discrimination of the mean circle size from the distractor circles would have important implications for an understanding of infants' abstraction abilities, and our knowledge of how infants make sense of the rapidly changing, informationally rich visual environment.

PT12: I learned it from my parents: parental socialization influences children's development of gendered speech

(1) Danyel Ore, Dept. of Psychology, University of Toronto Mississauga; (2) Priscilla Fung, Dept. of Psychology, University of Toronto Mississauga; (3) Jessamyn Schertz, Dept. of Language Studies, University of Toronto Mississauga; (4) Elizabeth Johnson, Dept. of Psychology, University of Toronto Mississauga

Recent research has shown that adult listeners can identify cisgender preschoolers as either boys or girls basely solely on the sound of the children's voices. This suggests that gendered speaking styles are learned early in life through socialization. To date, no study has explored children's perception of gender cues in children's speech. In Study 1, we found that 3.5-to 6-year-olds performed above chance in detecting gender from their age-matched peers' speech, and that performance was moderated by their parents' gender attitudes. In Study 2, we recorded 4-to 6-year-old children and their parents producing a list of words and sentences, and assessed parents' gender attitudes with a questionnaire. We subsequently asked adult listeners (N = 70) to classify gender from these child recordings. We found that children whose parents endorsed stereotypical gender attitudes more strongly were easier to identify as a boy or a girl. Taken together, our findings highlight the role of parental socialization in the development of both gendered speech perception and production. Ongoing analysis is exploring the relationship between the gendered speech production in children and their parents.

Poster Presentation Abstracts

Developmental

PT16: The development of the end of history illusion

(1) Alexa Sacchi, Dept. of Psychology, University of Toronto (2) Jessica Sah, Dept. of Psychology, University of Toronto, (3) Melissa Finlay, Dept. of Psychology, University of Toronto (4) Dr. Christina Starmans, Dept. of Psychology, University of Toronto

Is the person you are today the same as the person you were yesterday, or the person you will be tomorrow? The end of history illusion is a cognitive bias where adults across all ages believe they have experienced significant changes in their past, yet believe that they will not continue changing in the future (Quoidbach et al., 2013). Because this illusion is strongest in young adults, this raises a developmental question: when and how does it emerge? To investigate this, we asked 4- to 11-year-olds to identify ten current preferences (e.g., What is your favorite animal?). Children in the past condition were then asked whether their preferences had changed from one year ago, and children in the future condition were asked whether their preferences would have changed one year in the future. Across all ages, children reported more change when looking back (e.g., a 5-year-old considering when they were 4) than when looking forward (e.g., a 4-year-old considering when they would be 5). Thus, children as young as 4 show a similar end of history illusion as adults, in both a between subjects design (Study 1, N = 175) and a within-subject design (Study 2, N = 81).



Poster Presentation Abstracts

Perception, Cognition and Cognitive Neuroscience

PTI: Repeat after me: exploring what children's speaking and singing reveals about their domain-specific knowledge

(1) Anne Cabildo, Dept. of Psychology, University of Toronto, Mississauga (2) Dr. Christina Vanden Bosch der Nederlanden, Dept. of Psychology, University of Toronto, Mississauga

Music and language are two important forms of communication that share many similarities. While pitch is an integral part of song and the relationships between pitches denote specific melodies, this importance is not mirrored in the domain of speech. In recent developmental studies, it has been shown that perception and categorization of speech and song reach adult-like proficiency by age 8 (Vanden Bosch der Nederlanden et al., 2022). The goal of this study is to explore whether children's pitch production follows the same developmental trajectory as their pitch perception. Adapting the methodology used in recent pitch imitation tasks with adults, we aim to observe how well younger children (4-year-olds) and older children (8-year-olds) spontaneously match pitch for spoken and sung utterances. We predict that younger children will have similar performance for speech and song, which may suggest that they have not yet developed or are unable to apply this domain-specific knowledge. Based on the perceptual work previously mentioned, we predict that older children will spontaneously match pitch better for song than speech which will indicate that they have acquired and are able to apply domain-specific knowledge about the nature of pitch in speech versus song.

PT5*: A test of the kin selection hypothesis for female gynephilia in Thailand

(1) Daisy Hu, Department of Psychology, University of Toronto Mississauga (2) Dr. Francisco Gómez Jiménez, Department of Psychology, University of Toronto Mississauga (3) Dr. Doug VanderLaan, Department of Psychology, University of Toronto Mississauga

Female gynephilia (i.e., sexual attraction to females) is considered an evolutionary paradox because it reduces direct reproduction, yet it is influenced by genetic factors and has persisted throughout human evolutionary history across different cultures. The Kin Selection Hypothesis proposes that same-sex attracted individuals offset their lowered direct reproduction by engaging in kin-directed altruism that increases the reproduction of close genetic relatives, thereby enhancing inclusive fitness. Previous research on male same-sex attraction found evidence to support this hypothesis in some cultures. The present study employed a Thai sample to compare altruistic tendencies towards kin and non-kin children in heterosexual women ($n = 285$), lesbian women ($n = 59$), toms (i.e., masculine gynephilic females who take on a nonbinary gender identity; $n = 181$), and dees (i.e., feminine gynephilic females who are attracted to toms; $n = 154$). The Kin Selection Hypothesis of same-sex attraction would predict that gynephilic groups would show increased kin-directed altruism compared with heterosexual women, but we did not find evidence supporting this prediction. Instead, the tendency to invest more towards kin than non-kin children was more exaggerated in heterosexual women than lesbian women. Alternative explanations regarding the maintenance of genetic factors predisposing individuals to female gynephilia are discussed and require further investigation.

*Due to unforeseen circumstances, Daisy is unable to present in-person.
Please contact daisy.hu@mail.utoronto.ca to learn more about their research

Poster Presentation Abstracts

Perception, Cognition and Cognitive Neuroscience

PT11: Spaced presentation facilitates readily accessible representations

(1) Michael Dubois, Dept. of Psychology, University of Toronto; (2) Marlie Tandoc, Dept. of Psychology, University of Pennsylvania; (3) Dr. Amy S. Finn, Dept. of Psychology, University of Toronto

The ability to sustain attention underpins success in many abilities, from motor skills (like driving) to remembering words for a memory test. But are attentional lapses always bad? Our research (Decker et al., in press, PB&R) suggests that sustained attention lapses can actually boost learning for seemingly-irrelevant information. Here, we explore whether the benefits of these failures extend to category learning, since this knowledge can be used during encounters with novel information. In our study, participants saw images of birds belonging to 6 categories. They were asked to report which direction the bird was facing (left versus right), and also to learn the category to which each bird belonged (in order to complete a subsequent categorization test). At test, participants saw images of birds from the same 6 categories (half novel, and half seen at study). For each image, participants were required to click on the name of the category that bird belonged to. During study, we tracked trial-level fluctuations in sustained attention using a previously validated (Decker et al.) metric of mean reaction time on previous trials. Specifically, any trial with an RT more deviant than a participant's individual mean RT was labeled 'out of the zone'-reflecting a poorer attention state. Our metric of sustained attention was the percentage of trials each participant spent out of the zone. Critically, participants who spent more time out of the zone showed the best categorization ability for novel images. These findings suggest that lapses in attention provide learning benefits for categorical knowledge.

PT13: Learning exceptions to category rules varies across the menstrual cycle

(1) Mateja Perovic, Dept. of Psychology, University of Toronto; (2) Emily Heffernan, Dept. of Psychology, University of Toronto; (3) Gillian Einstein, Dept. of Psychology, University of Toronto, Dalla Lana School of Public Health, Dept. of Psychology, University of Toronto, Neuroscience and Gender Medicine, Linköping University; (4) Michael Mack, Dept. of Psychology, University of Toronto

Ways in which ovarian hormones affect cognition have been long overlooked despite strong evidence of their effects on the brain. We address this gap by studying performance on a rule-plus-exception category learning task, a complex task that requires careful coordination of core cognitive mechanisms, across the menstrual cycle (N=171). Results show that the menstrual cycle affects exception learning in a manner that parallels the typical rise and fall of estradiol across the cycle. Participants in their high-estradiol phase outperform participants in their low-estradiol phase and demonstrate more rapid learning of exceptions than a male comparison group. To characterize potential mechanistic accounts of these effects, we leverage a hippocampus-related clustering model of human learning to simulate exception learning in the context of low and high estradiol. Observed changes in exception learning were best explained by differences in the model's ability to encode a distinct memory trace in response to a surprising event. A likely neural mechanism underlying these effects is estradiol's impact on pattern separation and completion pathways in the hippocampus. Our findings provide evidence for the role of ovarian hormones in category learning, and further our understanding of computational mechanisms behind the observed menstrual cycle effects on category learning.

Poster Presentation Abstracts

Perception, Cognition and Cognitive Neuroscience

PT15: Men only want one thing...or do they? A gender difference in incentive response to foodporn versus actual porn

(1) Diana Peragine, Dept of Psychology, University of Toronto Mississauga; (2) Doug VanderLaan, Dept of Psychology University of Toronto Mississauga

Tests of category-specificity suggest the genders differ in their response to sexual stimuli, with men showing more specific, or cue-differentiated, responses than women, and stronger ones to rewarding, or preferred-gender, stimuli. Yet, sexual reward is not the only category of reward. Nor is it the only one to support a porn industry—or even the only one to support an evolutionary imperative. Indeed, some evidence suggests that, rather than being more interested in sex, men are more interested in primary rewards as a whole, such as eating and sleeping. We compared responses to sex rewards and food rewards, asking if gender differences in category-specificity persist when reward cues are varied over gender cues. Subjective, behavioral and ocular responses to porn and “foodporn” were assessed, and parsed into proceptive responses that reflect the incentive salience of rewards (i.e., wanting/expectation phase of the pleasure cycle), or receptive responses that reflect their hedonic impact (i.e., liking/consummation phase of the pleasure cycle). Results reveal that, while women may lack response differentiation to gender cues, men may lack it to reward cues, challenging claims that men have a singular drive for sex—and that women are the less category-specific gender.

PT17: Reliability of neural signatures of story listening

(1) Ryan A. Panella - Rotman Research Institute, Baycrest Health Sciences; Department of Psychology, University of Toronto, (2) Francesca Copelli - Rotman Research Institute, Baycrest Health Sciences; Department of Psychology, University of Toronto, (3) Dr. Björn Herrman - Rotman Research Institute, Baycrest Health Sciences; Department of Psychology, University of Toronto

MSpeech comprehension difficulties are common among older adults. Recent research has provided an approach to investigate how acoustic features are encoded in the brain during naturalistic speech listening, such as listening to spoken stories. The approach involves regressing acoustic features extracted from the speech materials against the brain signals recorded using electroencephalography (EEG). Time-shifting this regression results in a temporal response function (TRF) – resembling a traditional event-related potential (ERP) – with deflections representing acoustic and semantic processing. Some research has suggested potential applications of the TRF acting as a biomarker for speech encoding in older adults, but reliability is crucial for such a measure to be useful. In the current study, we recorded EEG from younger and older adults while they listened to noise bursts and to spoken stories (in separate blocks) across two sessions separated by at least one week. TRFs were calculated. Reliability was assessed using intra-class correlation (ICC). For neural responses during story listening, our results show ICC values of 0.45 and 0.57 for younger and older adults, respectively, suggesting low to moderate reliability. Reliability of neural responses to noise bursts was substantially larger (ICC ~0.8) and did not differ between younger and older adults. These results suggest that the TRF reflecting acoustic speech feature encoding may not be well suited as a biomarker for inter-individual differences research. Future research could explore the factors affecting reliability and develop ways to improve accuracy. Ultimately, this approach could eventually provide a promising alternative to traditional audiometry by providing a more objective and efficient means of assessment.

Poster Presentation Abstracts

Social and Personality

PT7: Believing others can change: does the "person" matter?

(1) Grace (Wujiamei) Sun, Dept. of Psychology, University of Toronto; (2) Elia Q. Y. Lam, Dept. of Psychology, University of Toronto; (3) Rebecca Neel, Dept. of Psychology, University of Toronto

The study of malleability beliefs has a significant impact on various aspects of psychology, such as inferring traits from behavior and managing relationships. People hold distinct beliefs about people's malleability and these beliefs can vary depending on the specific person being considered. The present study investigated whether who is being judged may affect beliefs, with a specific focus on close others. Participants (N=500) recruited via Prolific reported malleability beliefs for up to 25 close others about one of five attributes: intelligence, moral character, personality, musical ability, and emotions. ICC were calculated to examine the proportion of variance explained by the participant, close others, or the interaction of the two. We found substantial variance by participants, lesser variance by who is being judged, and variable interaction variance. The results provide insights about malleability beliefs, specifically that malleability beliefs may be more specific to targets that previously thought, while suggesting beliefs are still substantially an individual difference.

PT14: Real-world convenience shapes laboratory food choices even when irrelevant

(1) Hyuna Cho, Dept. of Psychology, University of Toronto; (2) Dr. Cendri Hutcherson, Dept. of Psychology, University of Toronto & Dept. of Marketing, Rotman Research Institute

While people report a multitude of factors that determine their food choices (Marcone et al., 2020), laboratory studies often focus on taste and health over other attributes, such as price and convenience, which are often considered irrelevant. In two studies, we found that convenience, a previously overlooked attribute, impacts lab-based food choice. Study 1 (N=118) used a thought-listing paradigm, identifying convenience (22.7%) as a frequently-considered thought during food choice, after taste (43.7%) and health (32.8%). Importantly, in study 2 (N = 94) we found that convenience ($\beta=0.06$, $p<.001$) predicted lab-based food choice, even after controlling for taste ($\beta=0.40$, $p<.001$) and health ($\beta=0.08$, $p<.001$). However, revealed food preferences from lab-based choices were not associated with self-reported preferences from questionnaires, suggesting that integrating more real-world considerations is needed to bridge between laboratory and naturalistic food choices.





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