

PSYC23: Developmental Psychobiology

SYLLABUS (Fall 2024)

Course Instructor	David Haley (d.haley@utoronto.ca)
Class Meetings	Fridays, 11:00 am–1:00 pm (Room SW 309 and Zoom)
Delivery Modes	In-person and live-streaming on Zoom: utoronto.zoom.us/my/davidhaley
Office Hours (online)	Tuesdays, 1:00–2:00 pm utoronto.zoom.us/my/davidhaley

For all questions about the course, please e-mail psyc23.fall24@gmail.com

Course Description

This course examines developmental psychobiology across the lifespan, from infancy and childhood to adulthood. We examine the interplay of psychosocial and biological processes on attachment, stress, and parenting, with a focus on social adversities. Applied topics are discussed throughout the course (e.g., spanking, cry-it-out sleep training, parental incarceration, child poverty, LGBTQ+ Parent Rights, stress in university, pandemic stress, reparations for slavery, universal basic income, etc), with an emphasis on how science can inform practices and policy decisions that have an impact on human development.

Course Format

You may attend class meetings in person or remotely over Zoom.

Course Preparation

To prepare for each weekly meeting, you will be asked to do readings and watch recorded lecture videos prior to class meetings. The recorded lectures run between 15 to 60 mins/week. Class meetings will be used for discussion and activities so that we can reflect on the nuances and wider significance of the recorded lectures and weekly readings. Therefore, it is important that you watch the recorded lectures and complete the readings before attending each class meeting.

Learning Objectives

Upon successful completion of this course, you should be able to:

- Understand:
 - the development of dyadic regulation and attachment in infancy
 - the biology of adversity and prosocial behavior across the lifespan
 - the role of stress, epigenetics, and telomeres in mental health across the lifespan and from one generation to the next
- Relate and link the effects of:
 - socialization and parenting on human development

- social practices and social policies on human development
- Articulate, evaluate, and propose:
 - novel research hypotheses
 - science-based arguments, opinions, and practices

Teaching Team

Who is my instructor?

I am David Haley, Associate Professor in the Psychology Department at UTSC, and I am your instructor. I'm a developmental psychologist with research interests in stress, parenting, and child development, with a focus on social and cognitive neuroscience in children and in parents. I love this course in part because it addresses aspects of social development that are rooted in the latest science with an eye to how society and individuals shape human development.

Who are my TAs?

The TAs for this course are TBA.

Email policy

For all communications about the course, including Instructor and TAs, please send a message to our class email address: psyc23.fall24@gmail.com. We will endeavor to respond within 48 hours, not including weekends or holidays. Students with complex questions are encouraged to attend office hours or arrange virtual meetings. Please don't send emails to TAs the same day that a quiz or assignment is due.

When are office hours?

I will hold office hours by over Zoom on Tuesdays, 1:00–2:00 pm (see Quercus Home Page Virtual Office Hours for Zoom link). If you need to talk to a TA, please send your request by email and they will schedule a Zoom call with you.

Course Prerequisites

Prerequisites

Enrollment in this course is restricted to students in the Specialists and Major programs in Psychology and Mental Health Studies. Students in the Minor program in Psychology will be admitted if space permits. The course builds on material learned in PSYB20, which is the prerequisite for the course.

Can I take the course without the prerequisite?

The department is very strict about prerequisites. If you do not have the prerequisite course (PSYB20), you will be removed from the course several weeks after the semester begins—which is when the Psychology office conducts/completes the course checks for prerequisites. Getting yanked out of the course could be a real pain, as it would be difficult for you to find a substitute course to enroll in several weeks into the semester. So please don't stay enrolled in this course if you know you don't have the prerequisite. Thank you!

Grading

Online participation	10%
Project: Group presentation + facilitated discussion	10%
Quizzes	30%
Final exam	50%

Online Participation (10%)

Your participation consists of two components: Contributing to pre-class discussion boards (5%) and participating in class polls and/or discussion activities on Quercus (5%).

- *Pre-class discussion boards* (5%) will help set the stage for the in-class discussions and will be due on Quercus Tuesday night by 11:59 pm (several days before class). You are asked to make at least 5 weekly contributions to pre-class discussion boards (50-word maximum limit per contribution, not including URLs). Each contribution must include a link to a newspaper/magazine or scientific research article to support the comment. Contributions will be evaluated on a 3-point scale (0, 1, or 2).
- *In-class contributions* (5%). Each week you will have the option to participate in a brief Quercus poll or discussion activity. These in-class activities will be evaluated on a credit/no credit basis. To receive full credit, you must participate in at least 7 of 12 such activities.

Project: Group presentation + facilitated discussion (10%)

- Group presentation + facilitated discussion (10%): The group presentation and facilitated discussion consists of a short group slide presentation (8–10 minutes) to the class followed by a structured, group-facilitated class discussion (12–15 minutes).
 - The slide presentation should include background information and present 2–3 sources of evidence supporting two differing or opposing perspectives on an assigned topic.
 - A facilitated discussion is a structured discussion; structures you may choose to guide the class discussion could include question prompts, Zoom polls, and/or breakout groups with assigned topics/questions.
 - Presentations and discussions will take place during our synchronous (live) weekly Zoom meetings, typically with two group presentations and discussions per class meeting.
 - Students will sign up for groups and discussion topics on Quercus by the second week of the semester (the weekly discussion topics are listed in this syllabus under Discussion Topics)
 - Each group will be graded based on a detailed rubric that will be made available on Quercus.
 - Each discussion group will be asked to submit their presentation slides as a PDF on Quercus by 11:59 pm on the day of their presentation.

Please note: The group presentation slides will be posted on Quercus, to be shared with your classmates as part of the course materials.

Quizzes and Exams (3 quizzes 30%, Final Exam 50%)

- Quizzes (3 quizzes x 10% each = 30%): Quizzes will be based on the lectures, assigned readings, and weekly discussions and will consist of true/false questions, multiple-choice questions, and/or short-answer questions. Quizzes will be open-book and based on conceptual application of the ideas presented in class rather than on rote memorization. Although the duration of each quiz is limited (20–30 mins), you may start each quiz anytime during a designated 3-day window. See the weekly calendar below for quiz release and due dates.
- Final Exam (50%): This exam will be based on the lectures, assigned readings, and weekly discussions and will consist of true/false questions, multiple-choice questions, and short-answer questions. The exam will cover weeks 1 to 14 with an emphasis on weeks 7-14. The registrar will schedule the final exam, which will be held in person. Check Quercus for more details.

Because the quizzes are offered within a 3-day window, there will be no make-up quizzes, but if a student is exempt under the missed term work policy then the weight of a missed quiz will be transferred to another quiz.

Course Materials

Quercus: All of your course materials (pre-recorded lecture videos, pre-class activities, and assignments), are available on the course website on Quercus. You can access the course website on Quercus (<https://q.utoronto.ca>) using your UTORID. The course website will be organized by modules. Your weekly lecture videos and slides will be in your weekly Lecture module. The Zoom links for our weekly synchronous classes will on this web site as well as for office hours. Please note that I am still working on some of the discussion topics/assigned readings. I will announcement when these are updated on our course web site.

Required Readings/Viewings: Please note that one of the goals of this course is to give you a rich and diverse view of developmental psychobiology. This will enable you to become familiar with the work of some of the leading scientists in the field and with some major topics of study. You will dig deeper into the data than you might normally do in your other textbook courses. In addition, we want to explore real-world issues and discuss some of the social implications of the science we are studying. Accordingly, you will be assigned a mixture of science review articles, original research papers, and documentaries.

Lecture Topics, Readings, and Due Dates

Week	Date/Topic	Pre-Class Recorded Lecture Videos	In-class topics and activities	Readings	Group Presentations	Quizzes
1	Sep 6 Introduction		-Syllabus, overview -Introductions -Myths about G x E interactions			
2	Sep 13 Mutual regulation and stress	-Social emotional development (39:41) -Parent responsiveness and infant stress (13:48)	-Physiological substrates of early social emotions -Mothering stress and emotional contagion	Shin et al (2024) Lewis & Ramsay (2005) Haley & Stansbury (2001)		
3	Sep 20 Attachment and infant stress	-Attachment theory development (26:44) -Attachment research methods (9:18)	-Attachment and infant stress -Temperament and infant stress -Attachment survey	Ahnert et al (2004) Berlin et al (2019)	Group 1 Group 2	
4	Sep 27 Maternal brains, infant salience, and parenting effects	-Mothering effects: Maternal cortical circuits and mothering effects (14:44) - Mothering and cognition (15:00)	- <i>The Nature of Things</i> on infant cries and laughs -Infant salience and attention bias to infant cues	Martinez-Garcia et al (2022) Rilling & Young (2014) Dudek et al (2016)	Group 3 Group 4	Quiz 1 released Sep 27 at 11:59 pm and due Sept 30 at 11:59 pm
5	Oct 4 Daddy brains	-Attachment and pair bonding chemicals (27:10)	-Mommy and daddy brains	Hrdy (2024), chapters 4 & 6	Group 5 Group 6	
6	Oct 11 Reducing social threat responses in kids & rats	-Tend and befriend (15:54)	-Us vs them -Reducing social bias in in-groups and out-groups	Seltzer et al (2010)	Group 7 Group 8	
7	Oct 18 Stress in mental health and prenatal stress	-Sick of Stress (10:30) -Prenatal Stress and Stress Physiology (30:12)	-SES and brain development	Sapolsky (2003)	Group 9 Group 10	Quiz 2 released Oct 18 at 11:59 pm and due Oct 21 at 11:59 pm
8	Oct 25 SES and sleep	-Social Satus (32:11) -Sleep (19:06)	-Sleep debt and sleep problems in children -Sleep survey	Walker (2017) chapters 7 & 8	Group 11 Group 12	
9	Nov 1		READING WEEK—NO CLASS			
10	Nov 8 Early adversity and recalibration	-The ACE study and the Bucharest Project	-ACE questionnaire	Gunnar (2019)	Group 13 Group 14	

		(17:12) Child Abuse, suicides, and epigenetics (26:40)				
11	Nov 15 Inherited trauma	-Transmission and continuity of trauma, abuse, adversity (26:58)	-Trauma	Curry (2019)	Group 15 Group 16	Quiz 3 released Nov 15 at 11:59 pm and due Nov 18 at 11:59 pm
12	Nov 22 G x E interactions and child aggression & Review	-Gene x Environment Interaction: Born Sensitive (21:50) Toxic masculinity and roots of aggression (9:00)	-Aggression -Review: Weeks 1-8	Music (2017)	Group 17 Group 18 Group 19	
13	Nov 29 Self-Control & Review	John Henryism (32.38)	-Self-Control and grit Review: Weeks 10-13	Adler (2015) Miller et al (2015)	Group 20 Group 21 Group 22	
Dec 4 to 5		STUDY BREAK				
Dec 6 to 21		FINAL EXAM PERIOD				

Readings

Week 1 Introduction – No reading

Week 2 Mutual regulation and infant stress

1. Shin, E., Lytle, M. N., Zhou, A. M., LoBue, V., Buss, K. A., & Pérez-Edgar, K. (2024). Bidirectional Relations Among Maternal Positive Emotion, Infant Positive Emotionality, and Infant Physiological Regulation Across the First 18 Months of Life. *Developmental Psychobiology*, 66(7), e22537-. <https://doi.org/10.1002/dev.22537>
2. Lewis, M., & Ramsay, D. (2005). Infant Emotional and Cortisol Responses to Goal Blockage. *Child Development*, 76(2), 518–530. <https://doi.org/10.1111/j.1467-8624.2005.00860.x>
3. Haley, D. W., & Stansbury, K. (2003). Infant Stress and Parent Responsiveness: Regulation of Physiology and Behavior During Still-Face and Reunion. *Child Development*, 74(5), 1534–1546. <https://doi.org/10.1111/1467-8624.00621>

Week 3 Attachment and infant stress

4. Ahnert, L., Gunnar, M. R., Lamb, M. E., & Barthel, M. (2004). Transition to Child Care: Associations With Infant-Mother Attachment, Infant Negative Emotion, and Cortisol Elevations. *Child Development*, 75(3), 639–650. <https://doi.org/10.1111/j.1467-8624.2004.00698.x>
5. Berlin, L. J., Martoccio, T. L., Bryce, C. I., & Jones Harden, B. (2019). Improving infants' stress-induced cortisol regulation through attachment-based intervention: A randomized controlled trial. *Psychoneuroendocrinology*, 103, 225–232. <https://doi.org/10.1016/j.psyneuen.2019.01.005>

Week 4 Maternal brains, infant salience, and parenting effects

6. Dudek, J., Faress, A., Bornstein, M. H., & Haley, D. W. (2016). Infant Cries Rattle Adult Cognition. *PLoS One*, 11(5), e0154283–e0154283. <https://doi.org/10.1371/journal.pone.0154283>
7. Martínez-García, M., Cardenas, S.I., Pawluski, J., Carmona, S., Saxbe, D.E. (2022). Recent Neuroscience Advances in Human Parenting. In: González-Mariscal, G. (eds) Patterns of Parental Behavior. Advances in Neurobiology, vol 27. Springer, Cham. https://doi.org/10.1007/978-3-030-97762-7_8
8. Rilling & Young (2014). The biology of mammalian parenting and its effect on offspring social development. *Science*, 345, 771–776.

Week 5 Daddy brains

9. Hrdy, S. B. (2024). *Father Time : A Natural History of Men and Babies*. (1st ed.). Princeton University Press. <https://doi.org/10.1515/9780691238784>. Chapters 4 & 6.

Week 6 Reducing social threats in kids and rats

10. Seltzer, L. J., Ziegler, T.E., & Pollak S.D. (2010). Social vocalizations can release oxytocin in humans. *Proc. R. Soc. B*, 277, 2661-2666.

Week 7 Stress in mental health and prenatal stress

11. Sapolsky, R. (2003). Taming stress. *Scientific American*, 86-95.

Week 8 SES and sleep

12. Walker, M. P. (2017). *Why we sleep: unlocking the power of sleep and dreams* (First Scribner hardcover edition.). Scribner. Chapters 6 & 8.

Week 9 Reading Week

Week 10 Early adversity and recalibration

13. Gunnar, M. R., DePasquale, C. E., Reid, B. M., & Donzella, B. (2019). Pubertal stress recalibration reverses the effects of early life stress in postinstitutionalized children. *Proceedings of the National Academy of Sciences - PNAS*, 116(48), 23984–23988. <https://doi.org/10.1073/pnas.1909699116>

Week 11 Inherited trauma

14. Curry (2019). Parents' emotional trauma may change their children's biology. Studies in mice show how suffering triggers changes in gene expression that last for generations. *Science*, July 18.

Week 12 G x E interactions and child aggression

15. Music (2017) *Nurturing Natures*. Routledge, pages 123 to 132, Epigenetics, evolution, and how nature meets nurture.

Week 13 Self-control

1. Adler, N. E. (2015). Disadvantage, self-control, and health. *PNAS*, 112 (33) 10078-10079.
2. Miller, G. E., Yu, T., Chen, E., & Brody, G. H. (2015). Self-control forecasts better psychosocial outcomes but faster epigenetic aging in low-SES youth. *Proceedings of*

the National Academy of Sciences - PNAS, 112(33), 10325–10330.
<https://doi.org/10.1073/pnas.1505063112>

Policies

Announcements, Changes or Clarifications

I plan to make all announcements in class. I will endeavor to consult with students about any potential change or clarification that may be needed in the syllabus. In keeping with university policy, if there is any substantial change, we will vote on it. Accordingly, after making or adopting any minor or major changes/clarifications affecting the syllabus, I will provide an updated version of it in class and upload a copy to our Quercus web site.

Late Work Policy

Late work is not accepted in PSYC23. Any work submitted after the due date and time will receive a score of 0%. For work missed due to extenuating circumstances, please see the Psychology Department Missed Term Work Policy below.

AccessAbility Services

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability or health consideration that may require accommodation, please feel free to approach the instructor and/or the AccessAbility Services Office (in SW-302) as soon as possible. Your instructor will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff members are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations.

AccessAbility Services contact information Phone: (416) 287-7560

Email: ability@utsc.utoronto.ca

Academic Integrity

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. Behaviours that constitute academic dishonesty and the processes for addressing academic offences are outlined in The University of Toronto's Code of Behaviour on Academic Matters:

<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>

Potential offences include, but are not limited to:

- On tests and exams: (a) Using or possessing unauthorized aids; (b) Looking at someone else's answers during an exam or test; (c) Misrepresenting your identity.
- In academic work: (a) Falsifying institutional documents or grades; (b) Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters.
Psychology Department Missed Term Work Policy, Winter 2023

For missed term work (assignments and term tests) due to illness, emergency, or other mitigating circumstances, please follow the procedures outlined below.

- The following reasons are not considered sufficient for missed term work: travel for leisure, weddings, personal commitments, work commitments, human error.
- Missed Final Exams are handled by the Registrar's Office and should be declared on eService: <http://www.utsc.utoronto.ca/registrar/missing-examination>
- Instructors cannot accept term work any later than five business days after the last day of class. Beyond this date, you would need to file a petition with the Registrar's Office: <https://www.utsc.utoronto.ca/registrar/term-work>

Accommodations for Illness or Emergency:

For missed work due to ILLNESS OR EMERGENCY, complete the following three-step process:

1. Complete the Request for Missed Term Work Accommodations Form (<http://uoft.me/PSY-MTW>)
2. Declare your absence on ACORN (Profile & Settings > Absence Declaration)
3. Email both the Request for Missed Term Work Accommodations Form AND a screenshot of your Self-Declared Absence on ACORN to the email address provided by your instructor on the course syllabus within 2 business days of the missed work.

Note: If you are unable to submit your documents within 2-business days, you must still email your instructor within the 2-business day window to explain the nature of the delay and must indicate when you will be able to provide your documents. Exceptions to the documentation deadline will be made only under exceptional circumstances.

Note: For this semester, we do not require any additional supporting documentation (e.g. medical notes) to support your missed term work accommodation request.

Accommodations for Academic Conflicts:

For missed term work due to an ACADEMIC CONFLICT (i.e. two midterms scheduled at the same time), please complete the following process:

1. Complete the Request for Missed Term Work Accommodations Form (<http://uoft.me/PSY-MTW>), choosing "Other" and explaining the conflict in the space provided.
2. Take screenshots of your course homepages that demonstrate the conflict.
3. Email the form and screenshots to your course instructor at least two weeks (10 business days) before the date of the activity, or as soon as possible if it was not possible to identify the conflict earlier.

Note: Multiple assignments due on the same day are not considered conflicts. Accommodations may only be possible in the case of quizzes and tests that are both

scheduled during the same discrete period. Back-to-back tests/quizzes are not considered conflicts.

Note: Students are responsible for keeping their course timetables conflict-free. Students who choose to register in two synchronous courses with overlapping lecture/tutorial/lab schedules may not necessarily be accommodated.

Accommodations for Religious Conflicts:

For missed term work due to a RELIGIOUS CONFLICT, please complete the following process:

1. Complete the Request for Missed Term Work Accommodations Form (<http://uoft.me/PSY-MTW>), choosing "Other" and noting "Religious conflict" in the space provided.
2. Email the form to your course instructor at least two weeks (10 business days) before the date of the activity, or as soon as possible if it was not possible to identify the conflict earlier.

Accommodations for Time Zone Conflicts:

If you are physically in a different time zone and a quiz or midterm is scheduled outside of 7:00am to midnight in your local time, please complete the following process:

1. Complete the Time Zone Conflict Form (<https://uoft.me/PSY-TimeZone>), and
2. Email the form to your course instructor at least two weeks (10 business days) before the date of the activity, or as soon as possible, if it was not possible to identify the conflict earlier.

Accommodations for Students Registered with AccessAbility Services:

For missed TERM TESTS due to ACCESSABILITY REASONS:

- Contact your AccessAbility consultant and have them email your instructor detailing accommodations required.

For missed ASSIGNMENTS due to ACCESSABILITY REASONS:

- If your desired accommodation is within the scope of your Accommodation Letter (e.g. your letter includes "extensions of up to 7 days" and you need 3 days):
 1. Complete the Request for Missed Term Work Accommodations Form.
 2. Email the form and your Accommodation Letter to your instructor, specifying how many days extension you are requesting.
- If your desired accommodation is outside the scope of your Accommodation Letter (e.g. your letter includes "extensions of up to 7 days" but you need more time than that):
 1. Contact your AccessAbility consultant and have them email your instructor detailing the accommodations required.

Accommodation Procedure:

After submitting your documentation, you will receive a response from your instructor or TA. This form does not guarantee that you will be accommodated. The course instructor reserves the right to decide what accommodations (if any) will be made. Failure to adhere to any aspect of this policy may result in a denial of your request for accommodation. You are

responsible for checking your official U of T email and Quercus course announcements daily, as accommodations may be time-critical.

- (1.) For missed assignments, do not wait for an instructor response to resume work on your assignment. Extension accommodations may be as short as one business day, depending on the nature of the illness/emergency. You should complete your assignment as soon as you are able and email it your instructor.
- (2.) For an anticipated event (e.g. scheduled surgery or an illness with a prolonged recovery period), submit a Verification of Illness Form completed by your doctor, AND this form to your instructor if you would like to request accommodations in advance of the assignment deadline or midterm date. Declare your future absence on ACORN (absences can be declared up to 14 days in the future).

Missed Accommodations

If an accommodation is granted but a continued illness/emergency prevents you from meeting the requirements of your accommodation, you must repeat the missed term work procedure to request additional accommodations. Please make it clear in your subject line that you are requesting a second accommodation. For example, if you are given an extension but are still sick and need more time, or if you miss a make-up midterm, you must submit another request 'Missed Term Work Accommodations' form and declare your extended absence on ACORN.

***Note: In the case of a missed make-up test, an opportunity to write a second make-up test may not be provided.