UNIVERSITY OF VICTORIA
DEPARTMENT OF PSYCHOLOGY

PSYC 435e/565 (A01)
Cognitive Development in Adulthood and Aging
CRN 22808/22827

Spring 2026

Time: Mondays 13:00-15:50
Room: [redacted]
Zoom: [redacted]

Instructor: Stuart MacDonald, PhD
Office Hours: Flexible (e.g., prior/following class); by appointment
Office: [redacted]
Phone: [redacted]
E-mail: [redacted]

We acknowledge and respect the Lək̓ʷəŋən (Songhees and Xʷsepsəm/Esquimalt) Peoples on whose territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical relationships with the land continue to this day.

Course Description

This *combined undergraduate/graduate seminar* is designed to review important topics and research on the progression of age-related cognitive change. Our discussions will focus on cognitive functioning for three periods: normative cognitive aging, the transition from normative to pathological cognitive aging, and pathological cognitive aging. Although a useful heuristic, the boundaries between such transitions are blurred and the associated mechanisms of change are not well understood. To better understand the transitions, we will explore key topics in the cognitive aging literature including theories of cognitive decline, patterns and predictors (e.g., genetics, lifestyle) of cognitive change, mild cognitive impairment and dementia, confounds of aging research, and even methodological approaches for analyzing lifespan data. I am excited about the opportunity to dialogue with each of you on these important topics!

Course Prerequisites

Prerequisites for PSYC 435e include PSYC 300A/B, PSYC 339, and PSYC 335 (or PSYC 336).

There are no official prerequisites for PSYC 565. However, class participation and successful completion of the course assignments presupposes some knowledge of cognitive psychology as well as statistics and methods of lifespan development. If you have no previous experience in these areas, please contact me to discuss your background. I would be happy to provide suggestions for supplementary reading material that will prepare you for concepts and topics that we will discuss in class.

Course Format and Learning Goals

The class is structured as an advanced honours/graduate seminar; the format presupposes that you have read the relevant material *prior to attending* class. This seminar on cognitive development in adulthood and aging is specifically designed to promote learning through dialogue and sharing of ideas. During each meeting, we will hold in-depth discussions of issues (e.g., definitions of constructs, methodological approaches and problems,

theoretical strengths and weaknesses) with the goal of forming conclusions about a given week's topic, rather than on the presentation of information to be recalled at a later date. Given the emphasis on interactive learning, the success of the course is predicated upon our lively exchanges. I invite each of you to participate in group discussions to your fullest extent -- your perspective is important to the collective learning experience! As detailed in the *evaluation* section of the syllabus, opportunities will be provided to further enhance both your written and spoken skills.

Upon completion of the course, my goal is for you to achieve the following learning outcomes:

1. to better understand some common late-life transitions of cognitive functioning and to be able to communicate this knowledge to professionals and members of the community

2. to be able to apply "critical thought" (i.e., evaluate an issue from different perspectives, identify limitations or confounding factors) to topics related to cognitive development in adulthood and aging, and to work as a group to evaluate ideas

3. to enhance your communication skills (e.g., sharing ideas with others, critical thinking, explaining psychological concepts, presentation skills) and confidence when speaking among your peers

4. to further develop your scientific writing (e.g., synthesizing ideas from numerous articles), and in particular your ability to (a) write a critical review of a key topic in cognitive aging and (b) form your own conclusions about select topics in the literature (as opposed to summarizing views of others)

ACADEMIC EXPECTATIONS

As noted, your contributions to class discussions are required to achieve the learning outcomes. Thus, I expect you to attend class. Should circumstances prevent your attendance, please inform me (in advance if possible). If you are unable to submit a written assignment on the specified date due to illness, accident, or family affliction, you should inform me as soon as possible, preferably in advance. Under normal circumstances, I will arrange for a brief extension of the deadline. For those registered in PSYC 435E, if you are unable to complete the required course work within the term, you should apply to the Associate Dean, Undergraduate Studies (PSYC 435e) for an academic concession (see https://www.uvic.ca/students/academics/academic-concessions-accommodations/request-for-academic-concession/index.php). In accordance with the University's policy on academic concessions, "A student who completes all course requirements is not eligible for an academic concession". Consequently, students can only request deferrals for the completion of required course components and not for non-essential course components.

The University of Victoria is committed to creating a learning experience that is as accessible as possible. If you are registered with the Centre for Accessible Learning and anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with me. If you are a student with a disability or chronic health condition, you can meet with a CAL advisor to discuss access and accommodations.

You are expected to abide by the University's policy on plagiarism and cheating (*see final few pages of this syllabus*).

COURSE REGISTRATION

You are personally responsible for checking your registration status before the end of the course-add period (Wednesday, January 21, 2026). Please verify and confirm your registration status with me as, according to University policy, I am unable to facilitate a course addition after this date even if you have been attending class. Also note that Saturday, February 28, 2026 is the last day for officially withdrawing from PSYC 435e/565 without academic penalty. University policy states that failing to attend lectures does not constitute official withdrawal.

EVALUATION

Evaluation of your progress toward the course objectives will be based upon several graded requirements including your: (a) class participation, (b) weekly brightspace forum contributions or email questions, (c) performance as seminar facilitator (435e) or leader (565), (d) review paper outline, and (e) written review paper. The expectations and rationale for each are briefly outlined below.

Class Participation and Weekly Brightspace Forum or Email Questions

Reading and reflecting upon assigned articles prior to class is essential; I ask that each of you come to class prepared for a critical discussion of each week's topic. Observations from the readings, questions about the readings, and related personal observations are all relevant. To facilitate weekly group discussions, I also ask that each of you circulate several (2-3) interesting questions by email to each class member 48 hours prior to class (*I will compile a list of email addresses and circulate them shortly after the first class*). Rather than rote repetition of the content that you read, the questions should instead address theoretical, methodological, or applied issues. I am excited about learning each of your personal observations, comments, and questions on the weekly readings. In evaluating your class participation, I will consider attendance, the level of participation (e.g., poses and answers questions, builds on others' views, shows creativity), and regular circulation of email questions prior to class. Please note that **submitting your questions 2 days** in advance is not intended as a burden, but rather a **courtesy to facilitate seminar leader planning (*see below*)** for that week.

Seminar Facilitator/Leader

You will be asked to serve in the role of *seminar facilitator (435e) or leader (565)* for one of the weekly sessions. **During the first class, a sign-up list will be circulated for you to choose your topic and presentation date. No more than one seminar leader (PSYC 565) or two seminar facilitators (PSYC 435E) may sign up for a given weekly topic.**

As seminar leader (565), you will be expected to:

(1) lead the entire 3-hour seminar for the weekly topic/theme that you have selected. Your oral presentation may focus on: (a) identifying key issues related to the topic of the class, (b) summarizing some of the major conclusions that have been drawn to date in this area of investigation, and (c) proposing questions/controversies that remain to be addressed both in research and as a focus for our discussion. *It is expected that you will consult literature beyond the assigned readings in developing this presentation*. Please note that the oral presentation need not be continuous (e.g., feel free to integrate summary and discussion, as well as the assistance of your PSYC 435e seminar facilitator (see section below)).

(2) to use questions circulated via email as well as your own critical insights to facilitate group discussion of the issues identified in your oral presentation.

(3) to employ strategies that ensure lively group discussion and debate. This may involve application of a number of strategies such as asking the group to respond to one or more of the submitted questions,

asking the group to generate a list of items, splitting the group into sub-groups to argue opposing theoretical positions, or dividing the group into several small groups with instructions to generate positions or questions and report back.

(4) to guide and moderate the discussion as required. The goal is to provide guidance to the group so that major points are covered and the discussion does not become too tangential.

As seminar facilitator (435e), you will be expected to:

(1) lead an oral presentation and discussion of approximately 40 minutes that overviews some aspect (e.g., summarizing key findings or theories, identifying controversies) of the weekly topic/theme that you have selected. You should plan to coordinate closely with the other assigned seminar facilitator(s) (435e) and leader (565) for your week. Please note that your presentation may take many forms (e.g., a conference-style presentation, a facilitated debate or small group discussion, etc.) – feel free to present the information in any way that will effectively support learning.

(2) together with the seminar leader, contribute to facilitating many of the same learning outcomes listed above (for the seminar leader).

This assignment is intended to promote your spoken communication skills. Seminar facilitator/leader evaluation will be based on the ability to synthesize and present key information as well as your ability to effectively guide group discussion.

Outline for Review Paper

The first written assignment is a brief (2-3 page) outline of the assigned review paper (*see below*). The purpose of this assignment is twofold: (a) to have you choose one of the topics from the course on which to base your final review paper, and (b) to facilitate early progress on writing the review paper to reduce demands on your time during the busy end-of-term period. This assignment is intended to emulate the planning and reflection required to produce effective scientific writing. Performance will be evaluated on (a) your ability to identify key issues and controversies for the topic, (b) the relevance of scientific and review articles that you intend to cite (choose 5-6 citations and reference using APA format), and (c) your own novel identification of strengths/weaknesses of the literature in this area.

The outline for the review paper is due on MONDAY, FEBRUARY 23.

Review Paper

For the primary writing assignment, I am asking you to write an analytic review of a theory or body of research from the list of course syllabus topics. The review of your chosen topic should include an organized overview of theoretical issues and controversies, a synthesis of empirical findings, and a synopsis for future research in the area. Your focus will be to synthesize and critique a body of research, as opposed to merely summarizing what has been said by others. By way of example, the format of the review can be structured according to the style adopted in various publications (e.g., Psychological Bulletin, Developmental Review) and edited volumes (e.g., The Handbook of Cognitive Aging). Your review will require a detailed search of the literature on your chosen topic. The review must be typed with citations referenced using APA style. The length of the review should be around 20 double-spaced pages, excluding references, figures, and tables.

I am aware that some individuals would prefer to write a final exam because the amount of time spent is in some sense finite relative to the time that a review paper requires. Please do not attempt to provide the most comprehensive review imaginable! Instead, evaluation will be based on your: (a) ability to review and synthesize the most pertinent information, (b) capacity for critical thinking and making novel arguments, and (c) writing style.

Your final review paper is due on WEDNESDAY, APRIL 8. You will be awarded additional credit if you hand in your review in advance of this date.

Grading

I have purposely employed several forms of evaluation in recognition that each of you have individual learning styles. Your grade for the course will be based on both written and spoken contributions, providing you the best opportunity to demonstrate your many abilities. Further, to minimize anxiety associated with individual projects that count toward a large percentage of your grade, I have specifically chosen to parse evaluation into smaller components. Your workload should not increase but rather be more evenly dispersed across the term. Students who have completed the following five elements (below) will be considered to have completed the course. Failure to complete one or more of these elements will result in a grade of "N" regardless of the cumulative percentage of all other elements of the course. N is a failing grade and factors into GPA as a value of 0.

1. Class discussion = 15%
2. Weekly forum/email questions = 5%
3. Seminar facilitator/leader = 30%
4. Outline for review paper = 10%
5. Review paper = 40%

Graded course requirements will be weighted and aggregated to yield a percentage score. The final letter grade in the course will be based on total percent score rounded up at values of .5 or greater (e.g., 89.5 will be rounded up to 90, but 89.4 will not). Final grades will be assigned according to the following scale: 90-100% = A+; 85-89 = A; 80-84 = A-; 77-79 = B+; 73-76 = B; 70-72 = B-; 65-69 = C+; 60-64 = C; 50-59 = D; 0-49 = F.

WEEKLY TOPICS AND ASSIGNED READINGS

There is no required textbook for this class. In lieu, I have carefully selected seminal/classic review and original research articles that outline a given week's theme (e.g., background concepts, existing controversies) and that set the stage for group discussions and seminar presentations. Where possible, I have selected articles with opposing viewpoints. For select topics, I have also included representative articles from my personal research collaborations -- I expect you to critique these as you would any others.

Overview of Dates and Topics

05 January	Introduction to the Course: Some Background on Cognitive Aging **(class leader assignments)**
12 January	Theories of Cognitive Aging
19 January	Subjective Cognitive Decline, Preclinical Dementia/MCI and Cognitive Function
26 January	Dementia and Alzheimer's Disease
02 February	Does Biological or Chronological Age Exert a Greater Influence on Cognitive Decline?
09 February	Gait and Cognition
16 February	*No Class **(Reading Break)*** **(review paper outline due next week -- Feb 23)**
23 February	What Impact Does Cognitive or Physical Training Have on Late-Life Cognitive Performance? **(review paper outline due today)**
02 March	Loneliness, Psychological/Cognitive/Physical Health, and the Socially Isolated Brain
09 March	Brain Plasticity and Cognitive Reserve

16 March	What Can Intraindividual Variability Tell Us About Age-Related Cognitive Decline?
23 March	Stress, Cognition, and Aging
30 March	Cognitive Aging from the Lens of Genetics and Neuroscience **(April 2nd is the last day of classes)**
08 April	**Final Paper Due**

Readings

The required readings will consist of selected chapters and articles. Many of these articles are available online through the UVic library website or PsycINFO.

Reading Assignments

The required readings for each class are identified by an asterisk (*). Additional readings relevant to the topic are also listed. These are included as potential entry point references to assist you in preparing for your role as seminar facilitator/leader, or as resources for the written assignments. Note that many of these references represent **highly cited classics on each week's topic**. By design, this provides each of you with ample opportunity to supplement these seminal works **by identifying very recent publications** in the context of your seminar facilitator/leader role or final review paper.

Weekly Themes and Reading List

JANUARY 5
Introduction to the Course
Course focus, syllabus and requirements

Statistical Methods of Lifespan Development: A Primer on the Analysis of Change
Singer, J.D., & Willett, J.B. (2003). Applied longitudinal data analysis: Modeling change and event occurrence. New York: Oxford University Press.

Class discussion on January 5th will focus on providing you with necessary background knowledge on lifespan methods that will be relevant for interpreting the results section of articles in the coming weeks. For those interested, I cover these methods in more detail in PSYC 513, 533, 537, and 564.

JANUARY 12
Theories of Cognitive Aging
*Anderson, N.D., & Craik, F.I.M. (2017). 50 Years of Cognitive Aging Theory. Journal of Gerontology: Psychological Sciences, 72, P1–P6. https://doi.org/10.1093/geronb/gbw108

Processing Resource Accounts of Cognitive Aging
Park, D.C. (2000). The basic mechanisms accounting for age-related decline in cognitive function. In D.C. Park & N. Schwarz (Eds.), Cognitive Aging: A Primer (pp. 3-21). Philadelphia, PA: Psychology Press.

Salthouse, T.A. (2000). Steps toward the explanation of adult age differences in cognition. In T.J. Perfect & E.A. Maylor (Eds.), Models of Cognitive Aging (pp. 19-49). Oxford: Oxford University Press.

Processing Speed Underlies Cognitive Decline: Fact or Artifact?

*Salthouse, T. A. (1992). What do adult age differences in the digit symbol substitution test reflect? Journal of Gerontology: Psychological Sciences, 47, P121–P128.

*MacDonald, S.W.S., Hultsch, D.F., Strauss, E., & Dixon R.A. (2003). Age-related slowing of digit symbol substitution revisited: What do longitudinal age changes reflect? Journal of Gerontology: Psychological Sciences, 58, P187–P194.

Problems with Mediational Theories: Alternative Thoughts About How We Should Study Aging

*Hofer, S.M., & Sliwinski, M.J. (2001). Understanding Ageing: An evaluation of research designs for assessing the interdependence of ageing-related changes. Gerontology, 47, 341–352.

Salthouse, T.A., & Nesselroade, J.R. (2002). An examination of the Hofer and Sliwinski evaluation. Gerontology, 48, 18-21.

Sliwinski, M., & Hofer, S. (1999). How strong is the evidence for mediational hypotheses of age-related memory loss? Gerontology, 45, 351-354.

Beyond Processing Resources: New Theories of Cognitive Aging

*Park, D.C., & Reuter-Lorenz, P. (2009). The adaptive brain: Aging and neurocognitive scaffolding. Annual Review of Psychology, 60, 173–196.

*Park, D.C., & Festini, S.B. (2017). Theories of Memory and Aging: A Look at the Past and a Glimpse of the Future. Journal of Gerontology: Psychological Sciences, 72, P82–P90. https://doi.org/10.1093/geronb/gbw066

*Reuter-Lorenz, P. & Park, D.C. (2014). How Does it STAC Up? Revisiting the Scaffolding Theory of Aging and Cognition. Neuropsychological Review, 24, 355–370. DOI 10.1007/s11065-014-9270-9

JANUARY 19
Subjective Cognitive Decline, Preclinical Dementia/Mild Cognitive Impairment (MCI) and Cognitive Function

Subjective Cognitive Decline

Mulligan, B.P.M., Smart, C.M., Segalowitz, S.J., & MacDonald, S.W.S. (2017). Characteristics of Healthy Older Adults that Influence Self-rated Cognitive Function. Journal of the International Neuropsychological Society, 23, 1-10. doi:10.1017/S1355617717000613

*Rabin, L.A. et al. (2015). Subjective Cognitive Decline in Older Adults: An Overview of Self-Report Measures Used Across 19 International Research Studies. Journal of Alzheimers Disease, 48, S63–S86. doi:10.3233/JAD-150154

Smart, C.M., Segalowitz, S.J., Mulligan, B.P., & MacDonald, S.W.S. (2014). Attention capacity and self-report of subjective cognitive decline: a P3 ERP study. Biological Psychology, 103, 144-151. doi: 10.1016/j.biopsycho.2014.08.016

Preclinical Dementia

*Bäckman, L., Jones, S., Berger, A.-K., Jonsson Laukka, E., & Small, B. J. (2005). Cognitive impairment in preclinical Alzheimer´s disease: A meta-analysis. Neuropsychology, 19, 520-531.

Mild Cognitive Impairment: Diagnostic Precursor to AD or Diverse Entity?

Boyle, P.A., Wilson, R.S., Aggarwal, N.T., Tang Y., & Bennett, D.A. (2006). Mild cognitive impairment: Risk of Alzheimer disease and rate of cognitive decline. Neurology, 67, 441-445.

*Gauthier, S., & Touchon, J. (2005). Mild cognitive impairment is not a clinical entity and should not be treated. Archives of Neurology, 62, 1164-1166.

Palmer, K., Wang, H-X., Bäckman, L., Winblad, B., & Fratiglioni, L. (2002). Differential evolution of cognitive impairment in non-demented older adults: Results from the Kungsholmen Project. American Journal of Psychiatry, 159, 436-442.

*Petersen, R.C., & Morris, J.C. (2005). Mild cognitive impairment as a clinical entity and treatment target. Archives of Neurology, 62, 1160-1163.

*Tuokko, H.A., & McDowell, I. (2006). An overview of mild cognitive impairment. In H.A. Tuokko and D.F. Hultsch (Eds.), Mild cognitive impairment: International perspectives. (pp. 3-28). New York: Taylor & Francis.

JANUARY 26

Dementia and Alzheimer's Disease

Predictors of Dementia Risk

*Jack, C. R., Knopman, D. S., Jagust, W. J., Petersen, R. C., Weiner, M. W., Aisen, P. S., … Trojanowski, J. Q. (2013). Update on hypothetical model of Alzheimer's disease biomarkers. Lancet Neurology, 12(2), 207–216. doi.org/10.1016/S1474-4422(12)70291-0

*Wang, H-X., MacDonald, S.W.S., Dekhtyar, S., & Fratiglioni, L. (2017). Association of lifelong exposure to cognitive-reserve enhancing factors with dementia risk: a community-based cohort study. PLoS Medicine, 14(3), e1002251. doi.org/10.1371/journal.pmed.1002251

Risk Reduction of Dementia and Alzheimer's Disease

*Risk Reduction of Cognitive Decline and Dementia: World Health Organization Guidelines (2019).

*Spencer, F. S. E., Elsworthy, R. J., Breen, L., Bishop, J., Morrissey, S., & Aldred, S. (2024). The Relationship Between Physical Activity and Non-Modifiable Risk Factors on Alzheimer's Disease and Brain Health Markers: A UK Biobank Study. *Journal of Alzheimer's disease*, *101*(4), 1029–1042. https://doi.org/10.3233/JAD-240269 Format:

Is There Any Benefit to Studying Cognitive Decline Post-Dementia Onset?

MacDonald, S.W.S., Karlsson, S., Fratiglioni, L., & Bäckman, L. (2011). Trajectories of cognitive decline following dementia onset: What accounts for variation in progression. Dementia and Geriatric Cognitive Disorders, 31, 202–209.

FEBRUARY 2

Does Biological or Chronological Age Exert a Greater Influence on Cognitive Decline?

*DeCarlo, C.A., Tuokko, H.A., Williams, D., Dixon, R.A., & MacDonald, S.W.S. (2014). BioAge: Toward A Multi-Determined, Mechanistic Account of Cognitive Aging. Ageing Research Reviews, 18, 95-105. http://dx.doi.org/10.1016/j.arr.2014.09.003

*Goffaux, J., Friesinger, G.C., Lambert, W., Shroyer, L.W., Moritz, T.E., McCarthy, M., Henderson, W.G., & Hammermeister, K.E. (2005). Biological Age -- A concept whose time has come: A preliminary study. Southern Medical Journal, 98, 985-993.

Li, K.Z.H., & , Lindenberger U. (2002). Relations between aging sensory/sensorimotor and cognitive functions. Neuroscience and Biobehavioral Reviews, 26, 777-783.

*MacDonald, S.W.S., DeCarlo, C.A., & Dixon, R.A. (2011). Linking biological and cognitive aging: toward improving characterizations of developmental time. The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 66B(S1), i59–i70, doi:10.1093/geronb/gbr039

MacDonald, S.W.S., Dixon, R.A., Cohen, A-L., & Hazlitt, J.E., (2004). Biological age and 12-year cognitive change in older adults: Evidence from the Victoria Longitudinal Study. Gerontology, 50, 64-81.

*MacDonald, S.W.S. Keller, C.J.C., Brewster, P.W.H., & Dixon, R.A. (2018). Contrasting Olfaction, Vision, and Audition as Predictors of Cognitive Change and Impairment in Non-Demented Older Adults. Neuropsychology, 32, 450–460. doi: 10.1037/neu0000439

FEBRUARY 9

Gait as an Indicator of Cognitive Aging

*MacDonald, S.W.S., Hundza, S., Love, J.A., DeCarlo, C.A., Halliday, D., Brewster, P.W.H., Lukyn, T.V., Camicioli, R., & Dixon, R.A. (2017). Concurrent Indicators of Gait Velocity and Variability are Associated with 25-Year Cognitive Change: A Retrospective Longitudinal Investigation. Frontiers in Aging Neuroscience, 9, 17. doi.org/10.3389/fnagi.2017.00017

Martin, K. L., Blizzard, L., Wood, A. G., Srikanth, V., Thomson, R., Sanders, L., et al. (2013). Cognitive function, gait and gait variability in older people: a population-based study. J. Gerontol. A Biol. Sci. Med. Sci. 68, 726–732. doi: 10.1093/gerona/gls224

Rosano, C., Brach, J., Studenski, S., Longstreth, W. T. Jr., and Newman, A. B. (2007). Gait variability is association with subclinical brain vascular abnormalities in high-functioning older adults. Neuroepidemiology 29, 193–200. doi: 10.1159/000111582

*Rosso, A. L., Studenski, S. A., Chen, W. G., Aizenstein, H. J., Alexander, N. B., Bennett, D. A., et al. (2013). Aging, the central nervous system and mobility. J. Gerontol. A Biol. Sci. Med. Sci. 68, 1379–1386. doi: 10.1093/gerona/glt089

*Studenski, S., Perera, S., Patel, K., Rosano, C., Faulkner, K., Inzitari, M., et al. (2011). Gait speed and survival in older adults. JAMA 305, 50–58. doi: 10.1001/jama.2010.1923

Gait and Dementia Risk

*Hausdorff, J. M., and Buchman, A. S. (2013). What links gait speed and MCI with dementia? A fresh look at the association between motor and cognitive function. J. Gerontol. A Biol. Sci. Med. Sci. 68, 409–411. doi: 10.1093/gerona/glt002

Verghese, J., Annweiler, C., Ayers, E., Barzilai, N., Beauchet, O., Bennett, D. A., … Wang, C. (2014). Motoric cognitive risk syndrome: Multicountry prevalence and dementia risk. Neurology, 83(8), 718–726. http://doi.org/10.1212/WNL.0000000000000717

*Verghese, J., Wang, C., Lipton, R. B., & Holtzer, R. (2013). Motoric Cognitive Risk Syndrome and the Risk of Dementia. The Journals of Gerontology Series A: Biological Sciences and Medical Sciences, 68(4), 412–418. http://doi.org/10.1093/gerona/gls191

FEBRUARY 16
No Scheduled Classes – Family Day/Reading Break

Please note that your review paper outline is due next week (Monday, February 23).

FEBRUARY 23
What Impact Does Cognitive or Physical Training Have on Late-Life Cognitive Performance?

*Colcombe, S.J., Erickson, K.I., Raz, N., Webb, A.G., Cohen, N.J., McAuley, E., & Kramer, A.F. (2003). Aerobic fitness reduces brain tissue loss in aging humans. Journal of Gerontology: Medical Sciences, 58, 176–180.

Colcombe, S., & Kramer, A.F. (2003). Fitness effects on the cognitive function of older adults: A meta-analytic study. Psychological Science, 14, 125-130.

Deary, I.J., Whalley, L.J., Batty, G.D., & Starr, J.M. (2006). Physical fitness and lifetime cognitive change. Neurology, 67, 1195-1200.

*Draganski, B., Gaser, C., Busch, V, Schuierer, G., Bogdahn, U., & May, A. (2004). Changes in grey matter induced by training. Nature, 427, 311-312.

*Erickson, K. I., Raji, C. A., Lopez, O. L., Becker, J. T., Rosano, C., Newman, A. B., … Kuller, L. H. (2010). Physical activity predicts gray matter volume in late adulthood: The Cardiovascular Health Study. Neurology, 75, 1415–1422. doi.org/10.1212/WNL.0b013e3181f88359

*Hertzog, C., Kramer, A.F., Wilson, R.S., & Lindenberger, U. (2009). Enrichment Effects on Adult Cognitive Development: Can the Functional Capacity of Older Adults Be Preserved and Enhanced? Psychologial Science in the Public Interest, 9, 1-65.

Nyberg, L. (2005). Cognitive training in healthy aging: A cognitive neuroscience perspective. In R. Cabeza, L. Nyberg, and D. Park (Eds.), Cognitive neuroscience of aging: Linking cognitive and cerebral aging (pp. 309-321). New York: Oxford University Press.

*Owen, A.M., Hampshire, A., Grahn, J.A., Stenton, R., Dajani, S., Burns, A. S., Howard, R. J., Ballard, C. G. (2010). Putting brain training to the test. Nature, 465, 775-779.

Individual Differences Research Linking Physical Activity to Age-Related Cognitive Function

Clouston, S. A. P., Brewster, P., Kuh, D., Richards, M., Cooper, R., Hardy, R., et al. (2013). The dynamic relationship between physical function and cognition in longitudinal aging cohorts. Epidemiol. Rev. 35, 33–50. doi: 10.1093/epirev/mxs004

Gow, A.J., Pattie, A., & Deary, I.J. (2017). Lifecourse Activity Participation From Early, Mid, and Later Adulthood as Determinants of Cognitive Aging: The Lothian Birth Cohort 1921. Journal of Gerontology: Psychological Sciences, 72, P25–P37. https://doi.org/10.1093/geronb/gbw124

*Sabia S, Dugravot A, Dartigues JF, Abell J, Elbaz A, Kivimäki M, Singh-Manoux A. (2017). Physical activity, cognitive decline, and risk of dementia: 28 year follow-up of Whitehall II cohort study. British Medical Journal, 357, j2709. doi: 10.1136/bmj.j2709

*Sofi, F., Valecchi, D., Bacci, D., Abbate, R., Gensini, G. F., Casini, A. and Macchi, C. (2011), Physical activity and risk of cognitive decline: a meta-analysis of prospective studies. Journal of Internal Medicine, 269: 107–117. doi:10.1111/j.1365-2796.2010.02281.x

Please note that your review paper outline is due today

MARCH 2

Loneliness, Psychological/Cognitive/Physical Health, and the Socially Isolated Brain

Boss, L., Kang, D.-H., & Branson, S. (2015). Loneliness and cognitive function in the older adult: a systematic review. International Psychogeriatrics, 27(4), 541–553. https://doi.org/10.1017/S1041610214002749

Cacioppo, S., Capitanio, J. P., & Cacioppo, J. T. (2014). Toward a neurology of loneliness. Psychological Bulletin, 140(6), 1464–1504. https://doi.org/10.1037/a0037618

Cacioppo, J. T., Cacioppo, S., Cole, S. W., Capitanio, J. P., Goossens, L., & Boomsma, D. I. (2015). Loneliness across phylogeny and a call for comparative studies and animal models. Perspectives on Psychological Science, 10(2), 202–212. https://doi.org/10.1177/1745691614564876

Hawkley, L. C., & Capitanio, J. P. (2015). Perceived social isolation, evolutionary fitness and health outcomes: a lifespan approach. Philosophical Transactions of the Royal Society B: Biological Sciences, 370(1669), 20140114. https://doi.org/10.1098/rstb.2014.0114

Hawkley, L. C., Masi, C. M., Berry, J. D., & Cacioppo, J. T. (2006). Loneliness is a unique predictor of age-related differences in systolic blood pressure. Psychology and Aging, 21(1), 152–164. https://doi.org/10.1037/0882-7974.21.1.152

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review: A Meta-Analytic Review. Perspectives on Psychological Science, 10(2), 227-237. https://doi.org/10.1177/1745691614568352 (Original work published 2015)

MARCH 9

Brain Plasticity and Cognitive Reserve

Deary, I.J., Whiteman, M.C., Starr, J.M., Whalley, L.J., & Fox, H.C. (2004). The impact of childhood intelligence on later life: Following up the Scottish Mental Surveys of 1932 and 1947. Journal of Personality and Social Psychology, 86, 130–147.

Fratiglioni, L., Paillard-Borg, S., & Winblad, B. (2004). An active and socially integrated lifestyle in late life might protect against dementia. Lancet Neurology, 3, 343–353.

*Kramer, A.F., Bherer, L., Colcombe, S.J., Dong, W., & Greenough W.T. (2004). Environmental influences on cognitive and brain plasticity during aging. Journal of Gerontology: Medical Sciences, 59, 940–957.

*Mondini S., Madella, I., Zangrossi, A., Bigolin A., Tomasi, C., Michieletto, M., Villani, D., Di Giovanni, G., & Mapelli, D. (2016). Cognitive Reserve in Dementia: Implications for Cognitive Training. Frontiers in Aging Neuroscience, 8. doi.org/10.3389/fnagi.2017.00017

*Stern, Y. (2002). What is cognitive reserve? Theory and research application of the reserve concept. Journal of the International Neuropsychological Society, 8, 448-460.

*Stern, Y. (2012). Cognitive reserve in ageing and Alzheimer's disease. Lancet Neurology, 11(11), 1006–1012. http://doi.org/10.1016/S1474-4422(12)70191-6

MARCH 16

What Can Intraindividual Variability Tell Us About Age-Related Cognitive Decline?

Hultsch, D.F., Strauss, E., Hunter, M.A., & MacDonald, S.W.S. (2008). Intraindividual variability, cognition, and Aging. In F.I.M. Craik and T.A. Salthouse (Eds.), The Handbook of Aging and Cognition (3rd ed.) (pp. 491-556). New York: Psychology Press.

*Lövdén, M., Li, S-C., Shing, Y.L., & Lindenberger, U. (2007). Within-person trial-to-trial variability precedes and predicts cognitive decline in old and very old age: Longitudinal data from the Berlin Aging Study. Neuropsychologia, 45, 2827–2838.

MacDonald, S.W.S., Li, S-C., & Bäckman, L. (2009). Neural underpinnings of within-person variability in cognitive functioning. Psychology and Aging, 24, 792-808.

*MacDonald, S. W. S., & Stawski, R. S. (2015). Intraindividual variability -- an indicator of vulnerability or resilience in adult development and aging? In Diehl, M., Hooker, K., & Sliwinski, M. J. (Eds.), Handbook of Intraindividual Variability Across the Lifespan. New York, NY: Routledge/Taylor & Francis Group. doi: 10.4324/9780203113066.ch13

*Stawski R.S., MacDonald, S.W.S., Brewster, P.W.H., Munoz, E., Cerino, E.S., & Halliday, D.W.R. (2019). A Comprehensive Comparison of Quantifications of Intraindividual Variability in Response Times: A Measurement Burst Approach. The Journals of Gerontology, Series B: Psychological Sciences, 74, 397-408. doi:10.1093/geronb/gbx115.

*Ram, N. & Gerstorf, D. (2009). Time structured and net intraindividual variability: Tools for examining the development of dynamic characteristics and processes. Psychology and Aging, 24(4), 778-791.

doi:10.1037/a0017915

Neural Variability

*Garrett, D.D., Samanez-Larkin, G.L., MacDonald, S.W.S., Lindenberger, U., McIntosh, A.R., & Grady, C.L. (2013). Moment-to-moment brain signal variability: A next frontier in brain mapping? Neuroscience & Biobehavioral Reviews, 37, 610-624.

*Scarapicchia, V., Mazerolle, E. L., Fisk, J. D., Ritchie, L. J., & Gawryluk, J. R. (2018). Resting State BOLD Variability in Alzheimer's Disease: A Marker of Cognitive Decline or Cerebrovascular Status?. Frontiers in aging neuroscience, 10, 39.

MARCH 23

Stress, Cognition, and Aging

*Juster, R-P., McEwen, B.S., & Lupien, S.J. (2007). Allostatic load biomarkers of chronic stress and impact on health and cognition. Neuroscience and Biobehavioral Reviews, 35, 2–16.

*Lupien, S.J., Maheu, F., Tu, M., Fiocco, A., & Schramek, T.E. (2007). The effects of stress and stress hormones on human cognition: Implications for the field of brain and cognition. Brain and Cognition, 65, 209–237.

*McEwen, B.S. (1998). Protecting and damaging effects of stress mediators. The New England Journal of Medicine, 338, 171-179.

*Stawski, R.S., Cerino, E.S., Witzel, D.D. & MacDonald, S.W.S. (2019). Daily Stress Processes as Contributors to and Targets for Promoting Cognitive Health in Later Life. Psychosomatic Medicine, 81, 81-89. doi:10.1097/PSY.0000000000000643

Stawski, R.S., Mogle, J., & Sliwinski, M.J. (2011). Intraindividual coupling of daily stressors and cognitive interference in old age. The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 66B(S1), i121–i129.

Stawski, R.S., Sliwinski, M.J., & Smyth, J.M. (2006). Stress-related cognitive interference predicts cognitive function in old age. Psychology and Aging, 21, 535–544.

MARCH 30

Cognitive Aging from the Lens of Neuroscience

Grady, C.L. (2008). Cognitive neuroscience of aging. Annals of the New York Academy of Sciences, 1124, 127–144.

*Grady, C.L. (2012). Trends in Neurocognitive Aging. Nature Reviews Neuroscience, 13, 491–505.

Hedden, T., & Gabrieli, J.D.E. (2004). Insights into the ageing mind: A view from cognitive neuroscience. Nature Reviews Neuroscience, 5, 87–97.

Hensen, R. (2005). What can functional neuroimaging tell the experimental psychologist? The Quarterly Journal of Experimental Psychology, 58A, 193–233.

Persson, J., Nyberg, L., Lind, J., Larsson, A., Nilsson, L-G., Ingvar, M., & Buckner, R.L. (2006). Structure-function correlates of cognitive decline in aging. Cerebral Cortex, 16, 907-915.

Neural Variability

*Garrett, D.D., Samanez-Larkin, G.L., MacDonald, S.W.S., Lindenberger, U., McIntosh, A.R., & Grady, C.L. (2013). Moment-to-moment brain signal variability: A next frontier in brain mapping? Neuroscience & Biobehavioral Reviews, 37, 610-624.

*Scarapicchia, V., Mazerolle, E. L., Fisk, J. D., Ritchie, L. J., & Gawryluk, J. R. (2018). Resting State BOLD Variability in Alzheimer's Disease: A Marker of Cognitive Decline or Cerebrovascular Status?. Frontiers in aging neuroscience, 10, 39.

Cognitive Aging from the Lens of Genetics

Deary, I.J.,Wright, A.F., Harris, S.E., Whalley, L.J., & Starr, J.M. (2004). Searching for genetic influences on normal cognitive aging. Trends in Cognitive Sciences, 8, 178–184.

Pederson, N. (2004). New frontiers in genetic influences on cognitive aging. In R.A. Dixon, L. Bäckman, and L-G. Nilsson (Eds.), New frontiers in cognitive aging (pp. 235-252). New York: Oxford University Press.

Epigenetics

*Barter, J.D., & Foster, T.C. (2018). Aging in the Brain: New Roles of Epigenetics in Cognitive Decline. Neuroscientist, 24, 516-525. doi: 10.1177/1073858418780971

Spiegel, A.M. Sewal, A.S., &Rapp, P.R. (2014). Epigenetic contributions to cognitive aging: disentangling mindspan and lifespan. Learning and Memory, 21, 569–574. doi: 10.1101/lm.033506.113

Imaging Techniques for Cognitive Aging

*Huppert, T.J., Karim, H., Lin, C-C., Alqahtani, B.A., Greenspan, S.L., & Sparto, P.J. (2017). Functional imaging of cognition in an old-old population: A case for portable functional near-infrared spectroscopy. PLoS ONE, 12(10): e0184918. doi.org/10.1371/journal.pone.0184918

Scarapicchia, V., Brown, C., Mayo, C. & Gawryluk, J.R. (2017). Functional Magnetic Resonance Imaging and Functional Near-Infrared Spectroscopy: Insights from Combined Recording Studies. Frontiers in Human Neuroscience, 11, 419. doi: 10.3389/fnhum.2017.00419

***Please note that your review paper is due next week**

***Please note that this is our final class (Thursday, April 2nd is the last day of classes for Spring 2026 term).**

APRIL 8
Final Review Paper is due today (40%)

The above schedule, course policies, and assignments are subject to change

PLAGIARISM AND CHEATING	

UNIVERSITY OF VICTORIA
Department of Psychology

Important Course Policy Information
Spring 2026

Prerequisites

Students who remain in courses for which they do not have the prerequisites do so at their own risk. Students who complete courses without prerequisites ARE NOT exempt from having to complete the prerequisite course(s) if such courses are required for the degree program.

Program Requirements

For more information see the UVic Calendar September 2025.

Registration Status

Students are responsible for verifying their registration status. Registration status may be verified using My Page, View Schedule. Course adds and drops will not be processed after the deadlines set out in the current UVic Calendar.

Commitment to Inclusivity and Diversity

The University of Victoria is committed to promoting, providing and protecting a positive and supportive and safe learning and working environment for all its members.

In the Event of Illness, Accident or Family Affliction

What to do if you miss the final exam scheduled during the last day of classes

Apply at Records Services for a "Request for Academic Concession", normally within 10 working days of the date of the exam. Records Services will forward the form to the instructor. If the concession is granted, the instructor will determine how to deal with the situation (for example, a deferred exam). Where a concession is not applied for or where such application is denied, an N grade will be entered on the student's academic record.
OR, you can download the Request for Academic Concession form here:
http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf

What to do if you miss an exam other than one scheduled during the last day of classes

Do not apply at Records Services for a "Request for Academic Concession". Instead submit documentation of the illness, accident or family affliction directly to your course instructor (or designated teaching assistant).

What to do if you require additional time to complete course requirements

Apply at Records Services for a "Request for Academic Concession", normally within 10 working days of the end of the course. Records Services will forward the form to the instructor. If the concession is granted, the instructor will

determine how to deal with the situation (for example, a deferred exam). Where a concession is not applied for or where such application is denied, an N grade will be entered on the student's academic record.
OR, you can download the Request for Academic Concession form here:
http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf

Policy on Academic Integrity including Plagiarism and Cheating
The Department of Psychology fully endorses and intends to enforce rigorously the Senate Policy on Academic integrity https://www.uvic.ca/calendar/future/undergrad/#/policy/Sk_0xsM_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies. It is of utmost importance that students who do their work honestly be protected from those who do not. Because this policy is in place to ensure that students carry out and benefit from the learning activities assigned in each course, it is expected that students will cooperate in its implementation.

The offences defined by the policy can be summarized briefly as follows:
1. **Plagiarism**. You must make sure that the work you submit is your work and not someone else's. There are proper procedures for citing the works of others. The student is responsible for being aware of and using these procedures.
2. **Unauthorized Use of an Editor**. The use of an editor is prohibited unless the instructor grants explicit written authorization.
3. **Multiple Submission**. Only under exceptional circumstances may a work submitted to fulfill an academic requirement be used to satisfy another similar requirement. The student is responsible for clarifying this with the instructor(s) involved.
4. **Falsifying Materials Subject to Academic Evaluation**. This includes falsification of data, use of commercially prepared essays, using information from the Internet without proper citation, citing sources from which material is not actually obtained, etc.
5. **Cheating on Assignments, Tests, and Examinations**. You may not copy the work of others in or out of class; you may not give your work to others for the purpose of copying; you may not use unauthorized material or equipment during examinations or tests; and you may not impersonate or allow yourself to be impersonated by another at an examination. The Department of Psychology has a policy of not making old examinations available for study purposes. Therefore, use of old exams without the express written permission of the instructor constitutes cheating by the user, and abetting of cheating by the person who provided the exam.
6. **Aiding Others to Cheat.** It is a violation to help others or attempt to help others to engage in any of the conduct described above.

The use of a generative artificial intelligence (AI) is strictly prohibited in any submitted work (unless expressly endorsed by the instructor as part of an assignment).

Instructors are expected to make every effort to prevent cheating and plagiarism. This may include the assignment of seating for examinations, asking students to move during examinations, requests to see student identification cards, and other measures as appropriate. Instructors also have available to them a variety of tools and procedures to check for Internet and electronic media-based cheating. In instances of suspected or actual plagiarism or cheating, instructors, following prescribed procedures, are authorized to take steps consistent with the degree of the offence. These measures will range from a zero on the test or assignment or a failing grade for the course, probation within a program to temporary or even permanent suspension from the University.

Rights of Appeal are described in the Policy on Academic Integrity in the University calendar Spring 2025.

The definitive source for information on Academic Integrity is the University Calendar.

Other useful resources on Plagiarism and Cheating include:

1. The Ombudsperson's office: https://uvicombudsperson.ca/academic-integrity/
The Office of the Ombudsperson is an independent and impartial resource to assist with the fair resolution of student issues. A confidential consultation can help you understand your rights and responsibilities. The Ombudsperson can also clarify information, help navigate procedures, assist with problem-solving, facilitate communication, provide feedback on an appeal, investigate and make recommendations. Phone: 250-721-8357; Email: ombuddy@uvic.ca; Web: uvicombudsperson.ca.

2. UVic Library Resources: http://www.uvic.ca/library/research/citation/plagiarism/

3. UVic Library Document on Avoiding Plagiarism

Sexualized Violence Prevention and Response at UVic

UVic takes sexualized violence seriously and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting www.uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Office of Equity and Human Rights, Sedgewick Building, Room C115
Phone: 250 721 8021
Email: svpcoordinator@uvic.ca
Web: https://www.uvic.ca/sexualizedviolence/

WELLNESS STATEMENT: UNDERGRADUATES	

BE WELL

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

Social Life, Friends, & Community at UVic:
Having a social network is an extremely important foundation for positive mental health. There are lots of benefits to joining clubs, course unions, intramurals and teams on campus.
https://www.uvic.ca/undergraduate/housing-student-life/student-life/index.php

Counselling Services:
The Student Wellness Centre can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.
https://www.uvic.ca/student-wellness/contacts/student-wellness-team/index.php#ipn-counsellors

Health Services:
The Student Wellness Centre also provides a full service primary health clinic for students.
https://www.uvic.ca/student-wellness/contacts/student-wellness-team/index.php#ipn-physicians

Centre for Accessible Learning*:*
The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations https://www.uvic.ca/accessible-learning/index.php. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

Elders' Voices:
The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.
www.uvic.ca/services/indigenous/students/programming/elders/

Mental Health Supports and Services:
Mental health supports and services are available to students from all areas of the UVic community:
https://www.uvic.ca/student-wellness/wellness-resources/mental-health/

WELLNESS STATEMENT: GRADUATE STUDENTS	

BE WELL

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

Discovering Victoria, UVic and your Community:
Grad school can involve a lot of time studying and researching on your own – but it does not have to be an isolating experience. There are a lot of other grad students out there like you who are looking to connect outside of academics.
https://www.uvic.ca/graduate/campus/student-services/index.php

Counselling Services:
Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.
https://www.uvic.ca/student-wellness/wellness-resources/mental-health/index.php

Health Services:
The Student Wellness Centre also provides a full service primary health clinic for students.
https://www.uvic.ca/student-wellness/contacts/student-wellness-team/index.php#ipn-physicians

Centre for Accessible Learning:
The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations https://www.uvic.ca/accessible-learning/ . The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

Elders' Voices:
The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.
www.uvic.ca/services/indigenous/students/programming/elders/

Mental Health Supports and Services:
Mental health supports and services are available to students from all areas of the UVic community:
https://www.uvic.ca/graduate/campus/student-services/index.php#ipn-health-wellness