

**Human Aging: Cognitive Processes**

**PSYCO 459, B1**

**Winter 2021**

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| **Instructor:** Dr. Tiana Rust  E-mail: rust@ualberta.ca (Include PSYCO 459 in the subject line and include your first and last name in your email)  Telephone: 780-885-1978 (If you text please indicate your name and the course number)  Office Hours: By appointment, please email me and I will be happy to arrange a mutually convenient time to meetwith you. |  |

**Teaching Assistant:** Tim Woerle

Email: [woerle@ualberta.ca](mailto:woerle@ualberta.ca) (Contact Tim for questions about APA style. Direct questions about course content to the instructor)

**Course Format:** Asynchronous course delivery except for quizzes and presentations which take place over class time. However, you will have more than just the class time to complete these tasks.

**Course Website*:***eclass.srv.ualberta.ca

## **COURSE CONTENT**

**Course Description:**

A survey of the sensory, perceptual, memory, and cognitive changes in normal aging. Topics may include the relationship of psychological, environmental, social and health factors to cognitive processes.

**Course Prerequisites:**

PSYCO 258 and a 300-level Psychology course.

**Course Objectives and Expected Learning Outcomes:**

On completion of this course, you should:

• Know some of the key “changes” that occur in human cognitive aging

• Understand that there are multiple factors that impact cognitive aging processes

• Be able to demonstrate evidence-based reasoning and argumentation

• Have practiced visual and oral presentation skills and evaluation of peers

**Assessments:**

Quizzes:

Quizzes are to be written on the days indicated on the schedule below. The quizzes will be based on lecture material and assigned reading. The scope of each quiz is indicated in the course schedule below. The format of the exams will be multiple choice, fill in the blank, short answer, long answer.

Infographic Assignment:

In class we discuss the key “changes” that occur in human cognitive aging and the multiple factors that impact cognitive aging processes. The purpose of this assignment is for you to learn about what older adults can do to maintain or improve their cognitive functioning and demonstrate your knowledge about the changes in human cognitive aging and your knowledge of factors that impact cognitive aging processes. You also get to practice your visual presentation skills. How can older adults improve their cognitive abilities? Do some reading and find something older adults can do to improve some aspect of cognition (e.g., executive function, a type of memory, inhibition, processing speed). Produce an infographic directed at older adults with data about the age changes in that area of cognition, an explanation of what that area of cognition is, what can be done to improve/slow the decrease in that area of cognition. Back up your claim with evidence (you can use footnotes or a link to the studies etc.).

Essay Assignment:

The purpose of this assignment is for you to gain an in depth understanding of a particular research issue in cognitive aging. To achieve this goal the assignment must involve a thorough review of the literature on the topic. A list of essay topics is attached. You must keep a **cognitive** focus (not neuro although sometimes this is OK so talk to me) and the focus must be on **human** aging (not animal models, there is ample human research on these topics that rat studies will not be accepted as evidence). Other topics must be approved by the instructor. The paper length is six (6) double spaced pages (**not** including title page, abstract, and references). Quality is much more important than quantity. To stay within the page limit you will need to narrow the focus of your topic, choose your references wisely, and review the evidence for your arguments concisely. Use the standard referencing system employed in psychology (consult the most recent APA style manual http://www.apastyle.org/). Footnotes are not necessary with this referencing system. You should provide an abstract of the whole paper at the beginning, separate from the main text and consisting of no more than 120 words. The entire paper should contain a title page, an abstract, the text, and a reference list. The argument put forth should be clear and the evidence selected should align with the argument, a minimum of 3 studies should be reviewed/summarized clearly so that the reader knows who the participants were, what was done in each study and what was found. Paraphrase instead of using direct quotes. You will be graded on writing style (organization and clarity), the thoroughness with which the literature is reviewed, accuracy of referencing, use of APA style and the cohesiveness of your arguments. Rough work should be available if requested by the instructor. The essay is due at 9 am **seven (7) calendar days** following your scheduled oral presentation (e.g., due Tuesday March 25th if your presentation was Tuesday March 18th). This gives you a good amount of time to incorporate feedback from the peer review if you so choose. Twenty percent (20%) will be deducted for each day (or portion thereof) the paper is late and for this I am counting weekends. **Please upload your paper in PDF format on eClass**.

Oral Presentation:

You will post a video of your oral presentation in the presentation discussion forum. You must participate in the topic and presentation date selection process on eClass under the Essay section. You will rank order your top 5 essay choices (include the topic number) and indicate if you are OK going on the first day. The TA will randomize the class list and slot students into the various topics based on the randomized order (Exception: students willing to go on the first day will be given priority of topic). Presentations will be no more than ten (10) minutes in duration and will be based on your essay topic. You will be graded by the instructor and at least two (2) of your peers. The final decision as to your mark for the presentation is up to the instructor but you will receive written feedback from your peers. Your presentation link must posted in the eClass presentation forum associated with the date of your presentation by 9 am. Ideally upload your presentation to YouTube so that your classmates can click on the link and stream and not have to download your presentation to their computer to view it. Consider posting the link the night before because it takes a while to upload to YouTube etc. Presentations that are posted late will be assessed a 20% late penalty per day or portion thereof it is late. It is important to post your link on time because your classmates may have set aside that time to view your presentation. The presentation grading sheet is on eClass.

Peer Review Process:

You will be a reviewer and in turn be reviewed by other members of the class. This is how the peer review process works: The **week before your scheduled presentation** (e.g., Tuesday March 14th if your presentation is on Tuesday March 21st) you are to email a draft of your essay to the **teaching assistant** [**woerle@ualberta.ca**](mailto:woerle@ualberta.ca), the **instructor** [**rust@ualberta.ca**](mailto:rust@ualberta.ca) **AND the two students** who will be reviewing you by **noon**. Please use the subject line “**459 peer review”.** Of course you will also need to give your oral presentation. Twenty percent will be deducted from your reviewing grade for each day (or portion thereof) the paper is late getting to your reviewers, the teaching assistant and the instructor and for this I am counting weekends. So it is very important that you type the email addresses correctly because if someone doesn’t receive the paper because of an incorrectly typed email address you will be considered late and the 20% penalty per day will be applied.

**What are my responsibilities as a reviewer?** As a reviewer you will be required to read a draft essay from two other students. Based on your reading of the draft, you will need to be prepared to ask the student a thoughtful question about their topic in the discussion forum in the thread that their presentation is posted in. Finally, you will be required to give written feedback on the essay draft and oral presentation. On the essay draft, make constructive comments about how it can be improved (see eClass for suggestions). On a sheet that will be provided by the instructor (posted on eClass), comment on the strengths and weaknesses of the oral presentation and make suggestions for how it could have been better. The essay draft with your comments must be emailed to the **peer that you reviewed, the teaching assistant** ([woerle@ualberta.ca](mailto:woerle@ualberta.ca)) **AND instructor** ([rust@ualberta.ca](mailto:rust@ualberta.ca)) by 11:59 p.m. the day of the person’s oral presentation. You may print off and write your comments on the essay draft and scan it, or type your comments into the document in red, or track your changes and save as a PDF file, or use google docs and track your changes because everyone has access to google docs but may not be able to see the tracked changes if you are using a different word processing program than they are. Please give the evaluation of the oral presentation and the suggested presentation grade to the instructor (rust@ualberta.ca) and teaching assistant ([woerle@ualberta.ca](mailto:woerle@ualberta.ca)) by 11:59 pm on the day of the person’s oral presentation. Twenty percent (20%) will be deducted for each day (or portion thereof) the review is late and for this I am counting weekends. It is important to get the review to the student that you are reviewing in a timely manner so that they have time to incorporate your feedback if they so choose.

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| **COURSE SCHEDULE**  |  |  |  |  | | --- | --- | --- | --- | | **Date** | **Topic** | **Lecture Videos and Readings** | **Assignment** | | Jan 12 | Introduction & Theory | * Introduction lecture * Theory lecture * (Dixon, 2011) |  | | Jan 14 | Methods | * Methods lecture n * (Salthouse, 2010) |  | | Jan 19 | APA style &  Start Sensory Processing | * APA style video and Essay instructions * Sensory Processing Lecture * (Schieber, 2006) |  | | Jan 21 | Sensory Processing cont. | * Sensory Processing Lecture * (Schieber, 2006) | **Submit your top 5 essay topic choices ranked from 1st to 5th choice by 11:59 PM through the google form link in the “Essay” section on eClass** | | **Jan 26** | **Quiz 1** | **Quiz (Introduction, theory, methods, APA style, sensory)** | **Task: Take the Quiz on eClass between 7 am and 9 pm** | | Jan 28 | Attention/ Inhibition | * Attention lecture * (Lustig et al., 2007) |  | | Feb 2 | Attention/ Inhibition cont. | * Attention lecture * (Lustig et al., 2007) |  | | Feb 4 | Working Memory | * Working Memory Lecture * (Hoyer & Verhaeghen, 2006) |  | | Feb 9 | Speed | * Speed lecture * (Hartley, 2006) |  | | **Feb 11** | **Quiz 2** | **Quiz (cumulative, focus on attention, working memory and speed)** | **Task: Take the Quiz on eClass between 7 am and 9 pm** | | Feb 16 |  | Reading Week | No Class | | Feb 18 |  | Reading Week | No Class | | Feb 23 | Long Term memory | * Long Term Memory Lecture * (Hoyer & Verhaeghen, 2006) |  | | Feb 25 | Long Term Memory cont. | * Long Term Memory Lecture * (Hoyer & Verhaeghen, 2006) |  | | Mar 2 | Stereotypes | * Stereotypes lecture * (Hummert, 2011) |  | | Mar 4 | Stereotypes cont. | * Stereotypes lecture * (Hummert, 2011) |  | | Mar 9 | Language & Communication | * Language & Communication lecture * (Thornton & Light, 2006) * (Giles & Gasiorek, 2011) |  | | **Mar 11** | **Quiz 3** | **Quiz (cumulative, focus on long term memory, stereotypes, and language and communication)** | **Task: Take the Quiz on eClass between 7 am and 9 pm** | | **Mar 16** |  | **Infographic Day** | **Infographics Due: Post your infographic in the discussion forum by 9 am.**  **Task: Comment on classmates’ infographics by 11:59 PM** | | Mar 18 |  | Time to work on Presentations/Papers |  | | Mar 23 |  | Time to work on Presentations/Papers |  | | Mar 25 |  | 4 Presentations | **Task: Comment on presentations by 11:59 PM** | | Mar 30 |  | 6 Presentations | **Task: Comment on presentations by 11:59 PM** | | Apr 1 |  | 6 Presentations | **Task: Comment on presentations by 11:59 PM** | | Apr 6 |  | 6 Presentations | **Task: Comment on presentations by 11:59 PM** | | Apr 8 |  | 6 Presentations | **Task: Comment on presentations by 11:59 PM** | | Apr 13 |  | 6 Presentations | **Task: Comment on presentations by 11:59 PM** | | Apr 15 |  | 6 Presentations | **Task: Comment on presentations by 11:59 PM** | |  |
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## **LEARNING RESOURCES**

**Readings:**

Readings for this course are listed below. I have deliberately chosen readings that you can access through the library. Reading these sources will enrich your learning and are a good starting point for many of the essay topics (see below). These readings, therefore, are highly recommended. I will indicate in eClass if you are responsible for covering material in these readings on your own. In this case the assigned reading is required reading and you may be tested about the content on a quiz.

1. Dixon, R. (2011). Enduring theoretical themes in psychological aging: Derivation, functions, perspectives, and opportunities. In K. W. Schaie & S. L. Willis (Eds.), Handbook of the Psychology of Aging (7th ed.) (pp. 3-23). San Diego, CA: Elsevier. <http://www.sciencedirect.com/science/article/pii/B9780123808820000012>
2. Salthouse, T. (2010). Within-person and across-time comparisons. In Major Issues in Cognitive Aging (pp. 35-65). New York, NY: Oxford University Press. doi:10.1093/acprof:oso/9780195372151.001.0001 <http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780195372151.001.0001/acprof-9780195372151-chapter-2>
3. Schieber, F. (2006). Vision and aging. In J. E. Birren & K. W. Schaie (Eds.), Handbook of the Psychology of Aging (6th ed.) (pp. 129-161). San Diego, CA: Elsevier. <http://www.sciencedirect.com/science/article/pii/B9780121012649500100>
4. Lustig, C., Hasher, L., & Zacks, R. T. (2007) Inhibitory deficit theory: Recent developments in a “New View”. In D. S. Gorfein & C. M. MacLeod (Eds.). Inhibition in cognition (pp. 145-162). Washington, DC : American Psychological Association. <http://dx.doi.org.login.ezproxy.library.ualberta.ca/10.1037/11587-008>
5. Hoyer, W. J., & Verhaeghen, P. (2006). Memory aging In J. E. Birren & K. W. Schaie (Eds.), Handbook of the Psychology of Aging (6th ed.) (pp. 209-232). San Diego, CA: Elsevier. <http://www.sciencedirect.com/science/article/pii/B9780121012649500136>
6. Hartley, A. (2006). Changing role of the speed of processing construct in the cognitive psychology of human aging. In J. E. Birren & K. W. Schaie (Eds.), Handbook of the Psychology of Aging (6th ed.) (pp. 183-207). San Diego, CA: Elsevier. <http://www.sciencedirect.com/science/article/pii/B9780121012649500124>
7. Hummert, M. L. (2011). Age stereotypes and aging. In K. W. Schaie & S. L. Willis (Eds.), Handbook of the Psychology of Aging (7th ed.) (pp. 249-262). San Diego, CA: Elsevier. <http://www.sciencedirect.com/science/article/pii/B9780123808820000164>
8. Thornton, R., & Light, L. L. (2006). Language comprehension and production in normal aging. In J. E. Birren & K. W. Schaie (Eds.), Handbook of the Psychology of Aging (6th ed.) (pp. 261-287). San Diego, CA: Elsevier. <http://www.sciencedirect.com/science/article/pii/B978012101264950015X>
9. Giles, H., & Gasiorek, J. (2011). Intergenerational communication practices. In K. W. Schaie & S. L. Willis (Eds.), Handbook of the Psychology of Aging (7th ed.) (pp. 233-247). San Diego, CA: Elsevier. <http://www.sciencedirect.com/science/article/pii/B9780123808820000152>

**Academic Success Centre:**

The [Academic Success Centre](https://www.ualberta.ca/current-students/academic-success-centre/index.html) provides professional academic support to help students strengthen their academic skills and achieve their academic goals. Individual advising, appointments, and group workshops are available year round in the areas of Accessibility, Communication, Learning, and Writing Resources. Modest fees apply for some services.

## **GRADE EVALUATION**

**Evaluation**:

Grades will be based on three quizzes (worth 30% total), an infographic (15%), an essay (worth 35%), an oral presentation based on the essay topic (15%), and participation in the peer review process described below (5%).

To qualify for the 15% infographic grades, full participation in the infographic discussion forum and viewing of infographic aspect of the course must be demonstrated.

To qualify for the latter 20% (presentation and peer review), full participation in the presentation discussion forum and viewing of oral presentations aspect of the course must be demonstrated.

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| **Component** | **Weighting** | **Date** |
| Quizzes | 30% (10% each) | January 26, February 11, March 11 |
| Infographic | 15% | March 16 post by 9 am |
| Essay | 35% | Due at 9 am one week after your presentation date |
| Presentation | 15% | Presentation schedule will be posted early February. Post by 9 am on the day of your presentation. |
| Peer Review | 5% | Draft due to your reviewers at 9 am one week prior to your presentation. Review is due at 11:59 pm on the day of the person you are reviewing’s presentation |

Grades will be assigned roughly as follows:

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| **Descriptor** | **Percentage** | **Letter**  **Grade** | **Point**  **Value** | The instructor reserves the right to adjust final grades up or down in (1) light of the total distribution of scores in the course and/or (2) on an individual basis in light of special circumstances and/or the person’s total performance in the course.  Based on the performance of previous classes, it is anticipated that the median in this course will be in the B range. |
| *Excellent* | 95-100  90-94  85-89 | A+  A  A- | 4.0  4.0  3.7 |
| *Good* | 80-84  75-79  70-74 | B+  B  B- | 3.3  3.0  2.7 |
| *Satisfactory* | 67-69  63-66  60-62 | C+  C  C- | 2.3  2.0  1.7 |
| *Poor*  *Minimal Pass* | 55-59  50-54 | D+  D | 1.3  1.0 |
| Failure | 0-49 | F | 0.0 |

Grades are unofficial until approved by the Department and/or Faculty offering the course.

**Past or Representative Evaluative Material:**

A popular hypothesis in the cognitive aging literature is that aging is associated with a change in the ability to inhibit irrelevant information.

A. Provide one (1) piece of evidence (i.e., identify a study and tell me about the participants, design, methods, results and interpretation) from the visual domain that aging is associated with a decline in the ability to inhibit environmental (external to the person) distraction.

B. Provide one (1) piece of evidence that aging is associated with a decline in the ability to inhibit internally generated (distraction arising from the person’s own thoughts) distraction.

## **POLICIES FOR LATE AND MISSED WORK**

**Attendance:**

Regular attendance is essential for optimal performance in any course. In cases of potentially excusable absences due to illness or domestic affliction, notify your instructor by e-mail within two days. Be aware that unexcused absences will result in partial or total loss of the grade for the “attendance and participation” component(s) of a course, as well as for any assignments that are not handed-in or completed as a result. In this course 20% of the grade is based on reviewing and presentation. To qualify for the 20% presentation and reviewing component participation in the discussion forum during the presentations portion of the class must be demonstrated. To qualify for the 15% infographic component participation in the discussion forum during the presentations portion of the class must be demonstrated. Expectations for participation in the infographic and presentation forums in outlined in eClass.

**Late Policies:**

Twenty percent (20%) will be deducted for each day (or portion thereof) the essay/review/presentation/infographic is late, this includes weekends. Please let the instructor know in advance of the deadline/due date that your essay/review/presentation/infographic will be late and an extension might be negotiated.

**Missed Term Work:**

A student who cannot complete a quiz due to incapacitating illness, severe domestic affliction or other compelling reasons can apply for an excused absence. To apply for an excused absence, you must contact the instructor within two working days of missing the assessment or as soon as possible. If an excused absence is granted, the marks allotted to the missed quiz can be made up by writing a make-up quiz (this may be an oral quiz) or the weight may be placed on the other quizzes (instructors’ choice). An excused absence is a privilege and not a right. There is no guarantee that an absence will be excused. Misrepresentation of facts to gain an excused absence is a serious breach of the Code of Student Behaviour. Note that instructors may request adequate documentation to substantiate the reason for the absence at their discretion.

**Missed Assessments Where the Cause is Religious Belief:**

For an excused absence where the cause is religious belief, a student must contact the instructor(s) within two weeks of the start of Fall or Winter classes to request accommodation for the term (including the final exam, where relevant). Instructors may request adequate documentation to substantiate the student request. Students who failed at the start of term to request exam accommodations for religious beliefs are expected to follow the deferred final examination process outlined below.

## **REMOTE DELIVERY CONSIDERATIONS**

**Technology for Remote Learning:**

To successfully participate in remote learning in this course, it is recommended that students have access to a computer with an internet connection that can support the tools and technologies the University uses to deliver content, engage with instructors, TAs, and fellow students, and facilitate assessment and examinations. Please refer to [Technology for Remote Learning - For Students](https://www.ualberta.ca/campus-life/technology-requirements.html) for details. If you encounter difficulty meeting the technology recommendations, please email the Dean of Students Office (dosdean@ualberta.ca) directly to explore options and support.

Please contact the instructor by the add/drop deadline (January 22, 2021) if you do not have access to the minimum technology recommended. The instructor will make arrangements for accommodating students who contact the instructor before this date. Failure to do so may result in a zero in any assessment that depends on the minimum technology.

**Student Resources for Remote Learning:**

Online learning may be new to you. Check out tips for success and find out more about online learning on the [Campus Life](https://www.ualberta.ca/campus-life/index.html) page, and specifically on the [Student Resources for Remote Learning](https://www.ualberta.ca/current-students/academic-success-centre/resources/index.html) page.

## **STUDENT RESPONSIBILITIES**

**Academic Integrity:**

"The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at [www.governance.ualberta.ca](http://www.governance.ualberta.ca)) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University."

All forms of dishonesty are unacceptable at the University. Any offence will be reported to the Associate Dean of Science who will determine the disciplinary action to be taken. Cheating, plagiarism and misrepresentation of facts are serious offences. Anyone who engages in these practices will receive at minimum a grade of zero for the exam or paper in question and no opportunity will be given to replace the grade or redistribute the weights. As well, in the Faculty of Science, the sanction for **cheating** on any examination will include **a disciplinary failing grade** (NO EXCEPTIONS) and senior students should expect a period of suspension or expulsion from the University of Alberta.

Students are expected to familiarize themselves with the [Academic Integrity](https://www.ualberta.ca/current-students/academic-resources/academic-integrity/index.html) resources (covering the topics of cheating, collaboration, plagiarism, and substantial assistance) on the website of the Office of the Dean of Students.

**Students Eligible for Accessibility-Related Accommodations:**

Eligible students have both rights and responsibilities with regard to accessibility-related accommodations. Consequently, scheduling ​exam accommodations in accordance with [Accessibility Resources](https://www.ualberta.ca/current-students/accessibility-resources/index.html) deadlines and procedures is essential. Please note adherence ​to procedures and deadlines​ is required for U of A to provide accommodations. Contact [Accessibility Resources](https://www.ualberta.ca/current-students/accessibility-resources/index.html) for further information.

**Recording and/or Distribution of Course Materials:**

Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

Policy about course outlines can be found in [Course Requirements, Evaluations Procedures and Grading](https://calendar.ualberta.ca/content.php?catoid=33&navoid=9816#course-requirements,-evaluation-procedures-and-grading) of the University Calendar.

**Disclaimer:**

Any typographical errors in this Course Outline are subject to change and will be announced in class. The date of the final examination is set by the Registrar and takes precedence over the final examination date reported in this syllabus.

**Copyright**:

Dr Tiana Rust, Department of Psychology, Faculty of Science, University of Alberta, 2021

**Essay Topics PSYCO 459:**

Below are a number of suggested topics. Other topics must be approved by the instructor. Note that some of the topics are broad and can be approached from a number of different perspectives. Be sure that you keep a "cognitive" focus and a human aging focus. If you are unsure of how to start or are worried that you are not keeping a cognitive focus, see the instructor. Your goal for this assignment will be to research the topic and develop and defend an argument about the topic. The argument developed is up to you. You don’t have to answer the question I pose. These questions are just to get you thinking about the topic.

1. Use it or lose it. What is the impact of keeping mentally active on cognitive function in later life?
2. Brain games for older adults are a huge industry. What is the impact of brain games on older adults' cognitive functioning?
3. Did that really happen? Are there age differences in reality or source monitoring?
4. You can’t teach an old dog new tricks. What is the impact of memory intervention training?
5. Oh no, I forgot to pick up the eggs. Are there age differences in prospective memory?
6. Are there age differences in metamemory/metacognition?
7. Yep, I saw your keys but for the life of me, I can't remember where in the house I saw them. Are there age differences in spatial (location) memory?
8. I'll never forget that tune. Are there age differences in the processing of music?
9. Maggie, dear, eat all your vegetables like a good little girl. Patronizing speech (secondary baby talk/elderspeak) can be good, bad, and sometimes ugly. When is patronizing speech helpful? When is it a hindrance to effective communication?
10. Don't get mother started or we'll be on the phone the whole day. Is verbosity age related?
11. No one tells a story like my grandpa. Are there age differences in storytelling?
12. Old folks should not be allowed on the road. Are older adults poor drivers?
13. It’s the way she said it that makes it so memorable. Are there age differences in memory for emotional stimuli?
14. It is right on the tip of my tongue! Are there age differences in the tip of the tongue phenomenon?
15. I remember when...Are there age differences in autobiographical memory?
16. Healthy body, healthy mind. What is the impact of keeping physically active on cognitive functioning in later life?
17. Greater than the sum of the parts. Are there age differences in collaborative cognition? What are the functions of collaborative cognition?
18. I’m not from here. What is the impact of culture on aging and cognitive performance?