**University of Florida**

**College of Public Health & Health Professions Syllabus**

**CLP 7934, Special Topics: Directed Reading-Neuropsychology of Aging**

**Section Number: 073F(11174), Fall 2020 (3 credit hours)**

Meeting time/place: n/a (online class)

Delivery Format: Online  
Course Website or E-Learning: <http://elearning.ufl.edu>

Instructor Name: Michael Marsiske  
Office: HPNP 3159  
Phone Number: (352) 273-5097   
Email Address: marsiske@phhp.ufl.edu  
Office Hours: By appointment

Preferred Course Communications:Email

## PrerequisitesAdmitted, in good standing, to the Graduate School at the University of Florida. No other pre-requisites apply. Students are expected to seek out additional foundational reading and materials in areas that are challenging for them; students are invited to ask course instructors for recommendations.

## PURPOSE AND OUTCOME

# Course Overview. This directed reading course introduces students to contemporary theory, method, and findings regarding normal cognitive aging, neuropsychology (based mainly on research with brain-damaged individuals) and cognitive neuroscience. The readings will consider normal and pathological cognitive changes, potential etiologies and comorbidities, as well as recent thinking on intervention approaches for late life cognition.

## Relation to Program Outcomes.This course counts as a “Neuropsychology elective” for doctoral students in Clinical and Health Psychology. It also satisfies one of the elective requirements of the Graduate Certificate in Gerontology.

## Instructional Methods. This online course is a directed reading course. Students will access personal-use electronic copies of all assigned readings in this course (online, in the UF Canvas system). Each week, students will be expected to summarize, synthesize and integrate readings in a reaction paper (see “Assignments” below for details).

## Course Objectives and/or Goals

This is a directed reading class, without a formal didactic component. That means there are **no lectures or prepared materials**. The overarching goal of the class is to see what you can extract and explain from primary source readings.

The philosophical underpinning of the learning approach is the Feynman method (<http://lifehacker.com/the-feynman-technique-helps-you-study-faster-and-retain-1790501936>) , which emphasizes active learning over passive learning. And the hallmark of active learning is that you can EXPLAIN the topic simply to someone else. You will do this in the form of your weekly reaction paper.

# DESCRIPTION OF COURSE CONTENT

# Topical Outline/Course Schedule

# Specific weekly readings are listed in the appendix to this syllabus

| **Week(s)** | **Due Date\*** | **Topic** |
| --- | --- | --- |
| 1 | 9/8 | Understanding cognitive aging |
| 2 | 9/15 | Individual differences in cognitive aging |
| 3 | 9/22 | Cognitive and neural reserve in aging |
| 4 | 9/29 | Neuroimaging/neuroscience methods and aging I |
| 5 | 10/6 | Neuroimaging/neuroscience methods and aging II |
| 6 | 10/13 | Memory aging |
| 7 | 10/20 | Epidemiology and neuropathology of dementia |
| 8 | 10/27 | Clinical assessment of the dementias |
| 9 | 11/3 | White matter disconnection |
| 10 | 11/10 | Cardiovascular aging |
| 11 | 11/17 | Everyday functioning |
| 12 | 11/24 | Clinical and environmental risk factors |
| 13 | 12/1 | Interventions 1 |
| 14 | 12/8 | Interventions 2 |

**\*Due dates are Tuesdays at 11:59 pm**

**Caveat**:

The above schedule and procedures in this course are subject to change in the event of extenuating circumstances. Any changes will be announced in class, and the student is personally responsible for obtaining updated information regarding those changes.

# Course Materials

Each week is associated with readings (empirical articles, meta-analyses, review chapters, theoretical papers, fact sheets, consensus statements). These are detailed below in the weekly calendar, and electronic copies will be provided at the class elearning site. The specific weekly reading list is given in the bibliography in the appendix of this syllabus.

**Technology**

Students are required to access all materials in Canvas, and to submit all materials in Microsoft format (Office, Powerpoint) in Canvas. Software can be obtained at <https://software.ufl.edu/agreements/microsoft/student/downloads/>. Readings are provided in Adobe pdf format, and can be accessed via the free AdobeAcrobat reader <http://www.adobe.com/products/reader.html>.

For issues with technical difficulties for E-learning please contact the UF Help Desk at:

* [Learning-support@ufl.edu](file:///C:\Users\hackg\Desktop\Learning-support@ufl.edu)
* (352) 392-HELP - select option 2
* <https://lss.at.ufl.edu/help.shtml>

Managing e-learning technical issues

* If you cannot upload a document due to technical problems (e.g., if Canvas is down), you may e-mail Dr. Marsiske. The timestamp on your e-mail will serve as the time submitting. In such cases, please upload your assignment to Canvas as well, once the technical issue is resolved. We also require you to contact the UF Helpdesk and obtain a “problem ticket number” to further document your good-faith attempts to resolve the technical problem. Official text:
  + *Don’t wait until the last minute. Know when the [assignment] is due and leave yourself plenty of time.*
  + *[Finish your assignment] during Help Desk hours (http://helpdesk.ufl.edu) so that if you encounter problems, there will be someone available to help you.*
  + *Make sure you have a dependable internet connection.*
  + *Use a current, updated browser and operating system*
  + *Make sure you read your instructions carefully before beginning the assignment.*
  + *If you encounter any unexpected behavior (error messages, inability to log in, etc.,) take a screen shot of the problem (Print Scrn) and paste (CTRL+V) into a program like Word or Paint. Save this file. This is important so that your instructor knows your problem is legitimate, and to assist the UF Computing Help Desk in helping you fix the problem.*
  + *If you encounter problems that prevent you from [completing the assignment], immediately call the UF Computing Help Desk at 352-392-4357. Keep the ticket number for future reference.*
  + *When you are done with your [assignment], be sure you submit it! If you do not see a successful submission message, your test is still in progress. You will not get a grade until you submit.*

# ACADEMIC REQUIREMENTS AND GRADING

# Assignments

The grade for the class will be based on the weekly reaction paper. ***Each reaction paper will be weighted to count for the exact same proportion of your final grade, even if varying numbers of pages-to-read are given to each week.***

1. *Submitted reaction papers*. ***Submit via Canvas.***

The reaction paper should:

1. Be about 500 words (approximately two double spaced pages if you use Times New Roman 12 or Arial 11, with 1-inch margins)
2. Each reaction paper should consider the following questions. You can assign more weight to particular questions if you wish; not each sub-section must be of equal length.
   1. Across the readings, what major conclusions can you draw? What are the key take-home messages?
   2. What methodological concerns and unanswered questions are you left with after reading these papers?
   3. What surprised you most in reading these papers? What finding or conclusions most challenged your pre-existing beliefs?
   4. How will the papers from this week inform your future research and/or clinical practice?

# Grading

| **Requirement** | **Due date** | **% of final grade (must sum to 100%)** |
| --- | --- | --- |
| Week 1 Assignment | 9/8 | 7.14% |
| Week 2 Assignment | 9/15 | 7.14% |
| Week 3 Assignment | 9/22 | 7.14% |
| Week 4 Assignment | 9/29 | 7.14% |
| Week 5 Assignment | 10/6 | 7.14% |
| Week 6 Assignment | 10/13 | 7.14% |
| Week 7 Assignment | 10/20 | 7.14% |
| Week 8 Assignment | 10/27 | 7.14% |
| Week 9 Assignment | 11/3 | 7.14% |
| Week 10 Assignment | 11/10 | 7.14% |
| Week 11 Assignment | 11/17 | 7.14% |
| Week 12 Assignment | 11/24 | 7.14% |
| Week 13 Assignment | 12/1 | 7.14% |
| Week 14 Assignment | 12/8 | 7.14% |

Note: Each weekly assignment will be rated out of 10 points, summing to 140 points during the semester. The final grade will be calculated by multiplying the total number of points by 0.714. The grading rubric for each reaction is as follows, and comments upon grading will help explain the points assigned.

**Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **10 points** | **9 points** | **8 points** | **7 points** | **0 points** |
| * Demonstrates thorough reading of all papers * Shows evidence of extracting cross-cutting themes (rather than paper by paper review) * Shows evidence of critical analysis (evaluation of strengths and weaknesses and/or clinical/research implications) * Creativity and unique voice in writing | * Demonstrates thorough reading of all papers * Shows evidence of extracting cross-cutting themes (rather than paper by paper review) * Shows evidence of critical analysis (evaluation of strengths and weaknesses and/or clinical/research implications) | * Demonstrates thorough reading of all papers * Shows evidence of extracting cross-cutting themes (rather than paper by paper review) * Limited critical review | * Evidence of incomplete reading, or disconnected paper-by-paper reviews | * Not submitted |

**See below for additional policy on late submissions.**

**Note that after your reaction paper has been graded, it may be distributed to other class members for review and mutual learning.**

**Point system used (i.e., how do course points translate into letter grades).**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Points earned** | **93-100** | **90-92** | **87-89** | **83-86** | **80-82** | **77-79** | **73-76** | **70-72** | **67-69** | **63-66** | **60-62** | **Below 60** |
| **Letter Grade** | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | E |

Please be aware that a C- is not an acceptable grade for graduate students. A grade of C counts toward a graduate degree only if an equal number of credits in courses numbered 5000 or higher have been earned with an A.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Letter**  **Grade** | **A** | **A-** | **B+** | **B** | **B-** | **C+** | **C** | **C-** | **D+** | **D** | **D-** | **E** | **WF** | **I** | **NG** | **S-U** |
| **Grade**  **Points** | 4.0 | 3.67 | 3.33 | 3.0 | 2.67 | 2.33 | 2.0 | 1.67 | 1.33 | 1.0 | 0.67 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar’s Grade Policy regulations at:

<http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### **Response/feedback policy**.

A member of the instruction team will respond to communications (emails, phone calls, communications through Canvas, anonymous comment form) within 24 hours during the work week, and within 48 hours during weekends or university closures. If closures are due to inclement weather or emergency, responses may be slower.

# Exam Policy.

No exams for this class

### Policy Related to Extra Credit

***When class size is large enough to permit student evaluations of teaching, all members of the class will be awarded one (1) bonus point if at least 80% of the enrolled class completes evaluations, and two (2) bonus points if 100% of the enrolled class completes evaluations.***

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at [GatorEvals](https://gatorevals.aa.ufl.edu/). Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at [GatorEvals](https://gatorevals.aa.ufl.edu/public-results/).

# Policy Related to Make up Exams or Other Work

For homework, late submissions are not encouraged. Late submissions will be accepted for up to 7 days, but with the following penalty schedule:

With regard to missing or incomplete assignments, the following policies apply:

* Instructor will not contact you about missing or incomplete assignments. **It is your responsibility** to check that the *correct* Summary has been submitted to Canvas on time
* **It may be possible to avoid a late penalty IF YOU CONTACT THE INSTRUCTOR AT LEAST 24 HOURS IN ADVANCE.** You should email the course coordinator and explain what issue (e.g., bereavement, illness) necessitates lateness. In some cases, documentation may be requested. If a lateness allowance is agreed to, this applies to a single assignment only. It does not allow you to delay future assignments. Note, conference attendance or doctoral qualifying examinations or thesis/dissertation defenses do not constitute valid lateness excuses.
* If your assignment is late, you will lose 10% each day up to the seventh day, after which a zero grade will be assigned. Each assignment is initially graded up to a total of 10 points according to the rubric (before it is converted to 6.67% or 13.33% of your grade, depending on assignment). Thus, if an assignment is worth a maximum of 10 points, you will lose 1 point for each late day. “Late” begins one minute after the due time (e.g., an assignment due at 11:59 pm is considered late at midnight). Penalties are as follows:

|  |  |
| --- | --- |
| 1 minute to 24 hours late | 10% of maximum deducted from achieved grade |
| 1 day + 1 minute late to 48 hours late | 20% of maximum deducted from achieved grade |
| 2 days + 1 minute late to 72 hours late | 30% of maximum deducted from achieved grade |
| 3 days + 1 minute late to 96 hours late | 40% of maximum deducted from achieved grade |
| 4 days + 1 minute late to 120 hours late | 50% of maximum deducted from achieved grade |
| 5 days + 1 minute late to 144 hours late | 60% of maximum deducted from achieved grade |
| 6 days + 1 minute late to 168 hours late | 70% of maximum deducted from achieved grade |
| 7 days + 1 minute late or longer | 100% of maximum deducted from achieved grade |

**NOTE: UPLOADING THE WRONG DOCUMENT IS SAME-AS-LATE**, even if you have documentation that you completed the document on time. **It is your responsibility to verify that you have uploaded the correct document.** (You should open or download your uploaded homeworks and double- or triple-check that you have uploaded the right one).

* There will be **no** exceptions to this policy.
* If you have uploaded the wrong document, and Canvas does not allow you to correct this, you should IMMEDIATELY send the correct document to Dr. Marsiske via email.

Any requests for waiving of late penalties due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up. The Appendix to this syllabus includes additional details for managing technical issues.

**Incomplete grades:**

An incomplete grade may be assigned at the discretion of the instructor as an interim grade for a course in which the student has 1) completed a major portion of the course with a passing grade, 2) been unable to complete course requirements prior to the end of the term because of extenuating circumstances, and 3) obtained agreement from the instructor and arranged for resolution (contract) of the incomplete grade. Instructors assign incomplete grades following consultation with Department Chairs.

# Policy Related to Required Class Attendance

There is no specific attendance requirement for this online class, but all weekly assignments must be submitted, without exception. Please note all faculty are bound by the UF policy for excused absences. For information regarding the UF Attendance Policy see the [Registrar website](http://www.registrar.ufl.edu/catalogarchive/01-02-catalog/academic_regulations/academic_regulations_013_.htm) for additional details:

## STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

### Inclusive Learning Environment

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida’s Non-Discrimination Policy, which reads, “The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans’ Readjustment Assistance Act.” If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs [website](http://www.multicultural.ufl.edu).

### Expectations Regarding Course Behavior

As a matter of mutual courtesy, please let the instructor know when you’re going to be late, when you’re going to miss class, or if you need to leave early. Please try to do any of these as little as possible. Students who have extraordinary circumstances preventing attendance, or who must leave early, should explain these circumstances to the course instructor prior to the scheduled class, or as soon as possible thereafter. The instructor will then make an effort to accommodate reasonable requests. If you must miss a class, please request notes from your classmates about the exercises/discussion you missed.

### Communication Guidelines

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For extra help:

A discussion board exists in Canvas for any open questions about course materials and assignments. You are welcome to post any questions. Please be respectful, and follow [UF Netiquette guidelines](http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf). Please do not use the open forums for complaints or criticisms. Please do not post your suspected “answers” for any questions, so as not to interfere with the independent problem solving of other students. Dr. Marsiske will monitor and respond to the discussion board. Unfortunately, due to the limitations of Canvas, questions cannot be posted anonymously. You are also welcome to email with specific questions.

**Note**: You can receive notifications whenever the discussion board is updated. Next to each discussion topic, click the green “subscribe” checkmark on the Canvas Discussion main page

Office Hours and Appointments*.* Dr. Marsiske has office hours by appointment for extra help.

# University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

*“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”*

[The Honor Code](https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida.

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code.  Violations of the Honor Code at the University of Florida will not be tolerated.  Violations will be reported to the Dean of Students Office for consideration of disciplinary action.  For additional information regarding Academic Integrity, please see [Student Conduct and Honor Code](https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) or the [Graduate Student Website](http://gradschool.ufl.edu/students/introduction.html) for additional details:

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

### Online Faculty Course Evaluation Process

***When class size is large enough to permit student evaluations of teaching, all members of the class will be awarded one (1) bonus point if at least 80% of the enrolled class completes evaluations, and two (2) bonus points if 100% of the enrolled class completes evaluations.***

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at [GatorEvals](https://gatorevals.aa.ufl.edu/). Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at [GatorEvals](https://gatorevals.aa.ufl.edu/).

Feedback is taken very seriously, and comments provided are used to improve the course for future semesters. These evaluations are not only read by me but are also read by my department. The department uses these evaluation results to evaluate my teaching, and evaluation results directly influence the tenure and promotion process. Evaluations are typically open during the last two or three weeks of the semester, but you will be given specific times when they are open. Summary scores calculated from the evaluations will also be [posted publicly](https://gatorevals.aa.ufl.edu/public-results/).

# SUPPORT SERVICES

***Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.***

# Accommodations for Students with Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting their [website](https://disability.ufl.edu/students/get-started/). It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

# Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see this [link](http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html).

# Campus Resources:

## Health and Wellness

* **U Matter, We Care**: If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu)or 352 392-1575 so that a team member can reach out to the student.
* **Counseling and Wellness Center**: [CWC Website](http://www.counseling.ufl.edu/cwc), and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.
* **Sexual Assault Recovery Services** (SARS): Student Health Care Center, 392-1161.
* **University Police Department** at 392-1111 (or 9-1-1 for emergencies), or [website](http://www.police.ufl.edu/).

## Academic Resources

* **E-learning technical support**, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu), or visit the [website](https://lss.at.ufl.edu/help.shtml).
* **Career Resource Center, Reitz Union**, 392-1601. Career assistance and counseling [website](https://www.crc.ufl.edu/).
* **Library Support**, [Website](http://cms.uflib.ufl.edu/ask). Various ways to receive assistance with respect to using the libraries or finding resources.
* **Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. [Website](https://teachingcenter.ufl.edu/).
* **Writing Studio**, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. [Website](https://writing.ufl.edu/writing-studio/).
* **Student Complaints Campus**: [Website](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf).
* **On-Line Students Complaints**: [Website](http://www.distance.ufl.edu/student-complaint-process).

BUT – Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

**APPENDIX**

***Weekly Bibliography***

| **Week** | **Readings** |
| --- | --- |
| 1 | **Understanding cognitive aging**  Cohen, R. A., Marsiske, M. M., & Smith, G. E. (2019). Neuropsychology of aging. In S. T. DeKosky & S. Asthana (Eds). *Handbook of clinical neurology* (Vol. 167, pp. 149-180). Elsevier.  Committee on the Public Health Dimensions of Cognitive Aging; Board on Health Sciences Policy; Institute of Medicine; (2015 Jul 21) 1, Introduction. In Blazer DG, Yaffe K, Liverman CT, (Eds). *Cognitive Aging: Progress in Understanding and Opportunities for Action*. Washington (DC): National Academies Press (US). Available from: <https://www.ncbi.nlm.nih.gov/books/NBK316207/>  Committee on the Public Health Dimensions of Cognitive Aging; Board on Health Sciences Policy; Institute of Medicine; (2015 Jul 21). 2, Characterizing and Assessing Cognitive Aging. In Blazer DG, Yaffe K, Liverman CT, (Eds). *Cognitive Aging: Progress in Understanding and Opportunities for Action*. Washington (DC): National Academies Press (US). Available from: <https://www.ncbi.nlm.nih.gov/books/NBK316201/>  Salthouse, T. A. (2019). Trajectories of normal cognitive aging. *Psychology and Aging, 34*(1), 17-24. <http://dx.doi.org/10.1037/pag0000288> |
| 2 | **Individual differences in cognitive aging**  Seblova, D., Berggren, R., & Lövdén, M. (2019). Education and Age-related Decline in Cognitive Performance: Systematic Review and Meta-analysis of Longitudinal Cohort Studies. *Ageing Research Reviews*, 101005.<https://doi.org/10.1016/j.arr.2019.101005>  Wilson, R. S., Capuano, A. W., Sytsma, J., Bennett, D. A., & Barnes, L. L. (2015). Cognitive aging in older Black and White persons. Psychology and Aging, 30(2), 279–285. <https://doi.org/10.1037/pag0000024>  Freedman, D., & Manly, J. J. (2018). Assessment of cognition in African American older adults. In G. E. Smith & S. T. Farias (Eds.), APA handbooks in psychology®. APA handbook of dementia (p. 107–123). American Psychological Association. <https://doi.org/10.1037/0000076-006>  Pedraza, O. (2018). Neuropsychological assessment of Spanish-speaking older adults. In G. E. Smith & S. T. Farias (Eds.), APA handbooks in psychology®. APA handbook of dementia (p. 141–170). American Psychological Association. <https://doi.org/10.1037/0000076-008> |
| 3 | **Cognitive and neural reserve in aging**  Stern, Y., Barnes, C. A., Grady, C., Jones, R. N., & Raz, N. (2019). Brain reserve, cognitive reserve, compensation, and maintenance: operationalization, validity, and mechanisms of cognitive resilience. *Neurobiology of aging*, *83*, 124-129. <https://doi.org/10.1016/j.neurobiolaging.2019.03.022>  Cabeza, R., Albert, M., Belleville, S., Craik, F. I., Duarte, A., Grady, C. L., ... & Rugg, M. D. (2018). Maintenance, reserve and compensation: the cognitive neuroscience of healthy ageing. *Nature Reviews Neuroscience*, *19*(11), 701-710. <https://doi.org/10.1038/s41583-018-0068-2>  Stern, Y., Arenaza-Urquijo, E. M., Bartrés-Faz, D., Belleville, S., Cantilon, M., Chetelat, G., ... & Okonkwo, O. (2018). Whitepaper: Defining and investigating cognitive reserve, brain reserve, and brain maintenance. *Alzheimer's & Dementia*. <https://doi.org/10.1016/j.jalz.2018.07.219>  Vonk, J. M., Rentería, M. A., Avila, J. F., Schupf, N., Noble, J. M., Mayeux, R., ... & Manly, J. J. (2019). Secular trends in cognitive trajectories of diverse older adults. *Alzheimer's & Dementia*, *15*(12), 1576-1587. <https://doi.org/10.1016/j.jalz.2019.06.4944> |
| 4 | **Neuroimaging/neuroscience methods and aging I**  Lu, H., & Liu, P. (2017). MRI measures of aging: Methodological issues. In R. Cabeza, L. Nyberg, & D. C. Park (Eds.), *Cognitive neuroscience of aging: Linking cognitive and cerebral aging* (2nd edition, pp. 9–34). Oxford University Press.  Madden, D. J., & Parks, E. L. (2017). Age differences in structural connectivity: Diffusion tensor imaging and white matter hyperintensities. In R. Cabeza, L. Nyberg, & D. C. Park (Eds.), *Cognitive neuroscience of aging: Linking cognitive and cerebral aging* (2nd edition, pp. 71-103). Oxford University Press.  Grady, C. L. (2016). Age differences in functional connectivity at rest and during cognitive tasks.  In R. Cabeza, L. Nyberg, & D. C. Park (Eds.), *Cognitive neuroscience of aging: Linking cognitive and cerebral aging* (2nd edition, pp. 105-130). Oxford University Press. |
| 5 | **Neuroimaging/neuroscience methods and aging II**  Fjell, A. M. & Walhovd, K. B. (2017). Multimodal imaging of the aging brain. In R. Cabeza, L. Nyberg, & D. C. Park (Eds.), *Cognitive neuroscience of aging: Linking cognitive and cerebral aging* (2nd edition, pp. 131-154). Oxford University Press.  Nyberg, L., Pudas, S., & Lundquist, A. (2017). Structural and functional imaging of aging: Longitudinal studies. In R. Cabeza, L. Nyberg, & D. C. Park (Eds.), *Cognitive neuroscience of aging: Linking cognitive and cerebral aging* (2nd edition, pp. 155-182). Oxford University Press.  Johnson, S. C. (2018). Brain imaging in dementia and antecedent conditions. In G. E. Smith & S. T. Farias (Eds.), APA handbooks in psychology®. APA handbook of dementia (p. 85–103). American Psychological Association. <https://doi.org/10.1037/0000076-005> |
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