

**PSYC 461/592 Executive Function Development**  
**Fall 2020**  
**Tues/Thurs, 9am**

Instructor: Dr. Sabine Doebel  
Email: sdoebel@gmu.edu  
Office: 3074 David King Hall  
Office Hours: by appointment

Course Overview	<p>This seminar introduces and explores the topic of executive function, with an emphasis on how it develops.</p> <p>Executive function refers to our capacity to consciously control our thoughts and behaviors in the service of goals, often in the face of competing habits, desires, and response tendencies. Research on executive function goes back many decades but has flourished in recent years, particularly in developmental psychology. This is in part because it is linked to a broad range of skills and outcomes in childhood and later in life, and because it's believed that it can be improved through interventions.</p> <p>In this class we'll learn more about what executive function is, why it matters, and why it is so widely studied. We'll also learn about problems in the study of executive function and explore current topics.</p>
Objectives	<p>By the end of this course, you will:</p> <ul style="list-style-type: none"><li>● know the major findings and theories related to the development of executive function.</li><li>● have a critical understanding of the construct of executive function.</li><li>● be able to interpret research involving executive function critically and insightfully.</li><li>● be a more effective thinker and communicator.</li></ul>
Readings	Empirical, review, and theoretical articles, shared via Blackboard.
Course Website	We will use Blackboard for our class meetings (Collaborate Ultra), discussions, notes, announcements, and more.
Attendance	You'll get more out of this class if you attend it. Life happens and you do not need to notify me of absences; however, missing several classes could result in failing the class.
Participation	My hope is that everyone will contribute and help create a comfortable environment for others to participate as well. I will not force anyone to

	<p>Speak in class. Speak if you have something to say and would like to take on the challenge of developing skills in speaking in front of your classmates. I will do whatever I can to support anyone who has anxiety about this.</p>
Official Communications via GMU E-mail	<p>Mason uses electronic mail to provide official information to students. Examples include communications from course instructors, notices from the library, notices about academic standing, financial aid information, class materials, assignments, questions, and instructor feedback. Students are responsible for the content of university communication sent to their Mason e-mail account and are required to activate that account and check it regularly.</p>
Class Cancellation Policy	<p>If I need to cancel class due to an illness or personal emergency, I will send an email to the class as soon as possible. If the university shuts down for any reason, I will send an email to the class confirming whether or not the class will be held. If class is cancelled, any revisions to the syllabus or changes to class assignments will be announced in class and over email.</p>
Students with Disabilities	<p>If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Services (DRS) at 703-993-2474.</p>
Academic Integrity	<p>Please familiarize yourself with the University Honor Code found at the following link:  <a href="http://oai.gmu.edu/the-mason-honor-code-2/">http://oai.gmu.edu/the-mason-honor-code-2/</a>.</p>
Inclusivity	<p>Everyone is welcome in my class! I value individuals and their differences including but not limited to race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability. I will not tolerate racism or discrimination of any kind, and will do my best to conduct the course in a way that acknowledges and embraces diverse experiences and perspectives.</p>
Gender identity and pronoun use	<p>Please feel free to share your name and gender pronouns with me and how best to address you in class and via email. I use she/her for myself and you may address me as “Sabine” in email and verbally.</p>
Class Schedule	<p>The course schedule is provided below.</p>
Syllabus	<p>The syllabus is a guide and I may make changes during the semester. I will notify you of changes in advance.</p>
Adding and Dropping Classes	<p>Check the academic calendar here:  <a href="https://registrar.gmu.edu/calendars/fall_2020/">https://registrar.gmu.edu/calendars/fall_2020/</a></p>

Technology policy	Please carefully consider the effect your technology use may be having on your learning, your classmates' learning, and my teaching.
Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking.	As a faculty member, I am a designated a "Responsible Employee," and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per University Policy 1412. If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (703-993-2380). You may seek assistance from Mason's Title IX Coordinator by calling 703-993-873

## Grading

### **Question before class (10 x 2%)**

Please submitted your question the day or evening before class. This should be a question about something you didn't understand in the reading(s). You should submit 10 of these in total throughout the semester, each for a separate class. Send your question directly to me via email (my gmU email address listed in this syllabus) with 'Question' in the subject line. Pro tip: If add a number in your subject line (e.g., 'Question 1') it will be easier for you to keep track of your submissions.

### **Five half-page reflections (5 x 5%)**

Submit these throughout the semester written and due within 48 hours of the class/topic you are reflecting on, preferably after the class. Half-page (and no more), single-spaced. These can be an attempt to deepen your understanding of the material, e.g., by summarizing main points for yourself or working through some thoughts you had in response to the readings or discussion. Send the reflections directly to me via email with 'Reflection' in the subject line.

### **Presentation (1 x 15%)**

This will be a short summary of an empirical article you read from the 'Additional Readings' list or your own selection. If you opt to select your own article, please consult me to ensure it's appropriate (send me an email with 'Presentation article' in the subject line). More instructions will be provided in a document posted to Blackboard and in class.

### **Study proposal (40%)**

Select a topic (not too broad, not too narrow) that is related to executive function that you want to examine via a study. Be imaginative. This doesn't have to be something you actually plan to carry out (unless you really want to). This will partly serve as an exercise in making a compelling case for running a study, a skill that can transfer beyond your particular proposal. You should send me 3 possible topic ideas via email for evaluation (subject line: 'Topic ideas'). Due dates below. More details will be provided in a document posted to Blackboard that will be discussed in class.

Date	Topic and readings
08/25	What's this class about? Expectations Thoughts on grading and grades W.E.I.R.D. psychology False positive psychology What makes a class discussion good/bad <b>Reading: the syllabus</b>
8/27	<b><u>How is executive function commonly defined and why is it such a studied topic in developmental psychology today?</u></b> Concurrent relations with achievement <b>Readings: Blair &amp; Razza, 2007</b> Also, how to present an article summary. Instructions for signing up.
9/1	Concurrent relations with achievement (cont'd) <b>Reading: Bull &amp; Scerif, 2001</b> <b>Also, complete Stroop task here: <a href="https://www.psytoolkit.org/experiment-library/stroop.html">https://www.psytoolkit.org/experiment-library/stroop.html</a></b>
9/3	Long-term predictive relations with important outcomes <b>Reading: Miyake &amp; Friedman, 2012, Moffitt et al., 2011</b>
9/8	Provides an explanation for phenomena Example: social understanding <b>Reading: Carlson &amp; Moses, 2001</b>
9/10	Provides an explanation for phenomena (cont'd) Example: socioeconomic status, executive function and achievement <b>Reading: Deer, Hastings, &amp; Hostinar, 2020</b>
9/15	Provides a target for improving various aspects of development <b>Reading: Diamond &amp; Lee, 2011</b> <a href="https://www.nytimes.com/2009/09/27/magazine/27tools-t.html">https://www.nytimes.com/2009/09/27/magazine/27tools-t.html</a>
9/17	<b><u>Where did this construct come from?</u></b> <b>Readings:</b> <b>Damasio, 1994</b> <a href="https://www.npr.org/sections/health-shots/2017/05/21/528966102/why-brain-scientists-are-still-obsessed-with-the-curious-case-of-phineas-gage">https://www.npr.org/sections/health-shots/2017/05/21/528966102/why-brain-scientists-are-still-obsessed-with-the-curious-case-of-phineas-gage</a>
9/22	Adult "frontal lobe" patients and cognitive tasks <b>Readings:</b> <b>Baddeley, 1996</b> <b>Milner, 1963</b> <b>Eling et al. (starting p. 251: "WCST as a neuropsychological test")</b> <b>Complete WSCT here: <a href="https://www.psytoolkit.org/experiment-library/wcst.html">https://www.psytoolkit.org/experiment-library/wcst.html</a></b>

9/24	Assessing frontal lobe functioning in children <b>Reading:</b> <b>Luria, 1959</b> <b>Welsh &amp; Pennington, 1988</b>
9/29	A-not-B task as a frontal lobe/executive function measure <b>Reading:</b> <b>Bell and Fox, 1992</b>
10/1	Developmental theories of preschool behavioral task performance <b>Readings:</b> <b>Diamond &amp; Taylor, 1996</b> <b>Munakata &amp; Yerys, 2001</b>
10/6	Developmental theories (cont'd) <b>Reading: Zelazo, 2020</b>
10/8	Guest speaker, reading to be announced...
10/15	<b><u>Conceptual and other issues</u></b> Questioning the three-component view <b>Reading:</b> <b>Miyake et al., 2000</b> Try these tasks before class: <a href="https://www.psytoolkit.org/experiment-library/stopsignal.html">https://www.psytoolkit.org/experiment-library/stopsignal.html</a> <a href="https://www.psytoolkit.org/experiment-library/nback2.html">https://www.psytoolkit.org/experiment-library/nback2.html</a> <a href="https://www.psytoolkit.org/experiment-library/taskswitching_cued.html">https://www.psytoolkit.org/experiment-library/taskswitching_cued.html</a>
10/20	Evaluating interventions <b>Reading:</b> <b>Takacs &amp; Kassai, 2019</b>
10/22	Questioning “deficit” thinking <b>Readings:</b> <b>Rogoff, et al., 2017</b> <b>Kidd, Palmieri, &amp; Aslin, 2013</b>
10/27	‘SES’ and executive function <b>Readings:</b> <b>Sarsour et al., 2011</b> <b>Last et al., 2018 -- open access, found here:</b> <a href="https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0202964">https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0202964</a>
10/29	Culture and executive function <b>Readings:</b> <b>Obradovic &amp; Willoughby, 2019</b> <b>Roos et al., 2017</b>

11/3	<p>Tasks vs. questionnaires</p> <p><b>Readings:</b></p> <p><b>Toplak et al., 2013</b></p> <p><b>Barkley newsletter</b></p> <p>***Please send your 3 paper topic ideas by this date.***</p>
11/5	<p>Executive function and self-control</p> <p><b>Reading:</b></p> <p><b>Saunders et al., 2019 -- open access, found here:</b></p> <p><a href="https://doi.org/10.1525/collabra.134">https://doi.org/10.1525/collabra.134</a></p>
11/12	<p>Executive function and effortful control</p> <p><b>Readings:</b></p> <p><b>Zhou, Chen, &amp; Main, 2011</b></p> <p><b>Bridgett et al., 2013</b></p>
11/17	<p>Emotion, motivation and executive function</p> <p><b>Readings:</b></p> <p><b>Phillips, Bull, Adams, &amp; Fraser, 2002</b></p> <p><b>Zelazo &amp; Carlson, 2012</b></p>
11/19	<p>Self-directed speech and executive function</p> <p><b>Reading:</b></p> <p><b>Winsler &amp; Naglieri, 2003</b></p> <p><b>Complete Tower of London here:</b> <a href="https://www.brainturk.com/tol">https://www.brainturk.com/tol</a></p>
11/24	<p><u><b>Current directions</b></u></p> <p>Children's time use and executive function development</p> <p><b>Barker et al., 2014 -- open access, found here:</b></p> <p><a href="https://www.frontiersin.org/articles/10.3389/fpsyg.2014.00593/full">https://www.frontiersin.org/articles/10.3389/fpsyg.2014.00593/full</a></p>
12/1	<p>Schooling and executive function development</p> <p>Reading:</p> <p><b>Finch, 2019 -- open access, found here:</b></p> <p><a href="https://journals.sagepub.com/doi/epub/10.1177/2332858419848443">https://journals.sagepub.com/doi/epub/10.1177/2332858419848443</a></p>
12/3	<p>Importance of knowledge, beliefs, values, and more</p> <p><b>Doebel, 2020</b></p> <p>Dynamic systems view of executive function</p> <p><a href="https://psyarxiv.com/anfbp/">https://psyarxiv.com/anfbp/</a></p> <p><b>Perone, et al., 2020</b></p> <p>***Final paper due Tuesday, Dec 8th***</p>