**Spring 2021-22 Psychology 1652r**
**Laboratory in Early Cognitive Development**

## Contact Information


Instructors: Elizabeth Spelke
WJH 1130
spelke@wjh.harvard.edu

Lab Manager: Cristina Sarmiento
WJH 1144
csarmiento@g.harvard.edu


**Course Meeting:** Wednesdays 4:30 – 5:30 in William James Hall 1050

## Purpose and Aim

1652r is a laboratory methods course that provides students with hands-on experience in Dr. Elizabeth Spelke's early cognitive development lab. The aim of the course is for students to engage in all aspects of the scientific process — experimental design, data collection, and data interpretation — by working in the lab and by participating in weekly meetings focused on cutting edge questions and findings in the field of early cognitive development.

## Lab Hours

Students are required to work 9 hours/week in the lab (in addition to the hour course meeting), preferably in shifts of at least 2 hours. While we are working remote, students will be required to log into the RA Daily Zoom Meeting Room during their shifts. As we are transitioning back into in-person studies, some shifts may be in-person. Students will also work in the lab for 5 hours total during reading period, though the timing of these hours is flexible. One out of the 9 hours each week may be used to complete the course reading and response worksheet for that week. During the remaining 9 hours in the lab, students will engage in participant recruitment, scheduling, designing and creating experimental stimuli, coding of infant and toddler behavioral data, and assisting researchers in running studies. Each student will be paired with a researcher in the lab and will have the opportunity to work closely with that researcher on experimental design, methodology, stimulus construction, and data coding and processing for a specific research project.

## Course Meeting

Students will attend weekly course meetings in which lab researchers will present their current projects. Students may have **one excused** absence, but must let Cristina know in advance. Any additional absences will affect the course-meeting portion of a student's overall grade.

In preparation for each weekly meeting, students will be assigned 1-2 short primary research papers to read. Readings are located on the course website.

Students will be expected to submit a 1-2-page response worksheet on **one** of the papers they read to each presenter by **5PM** the evening before each course meeting. The response

should be emailed directly to the weekly presenter. A response worksheet template is available on the course website under "Files → QALMRI → QALMRI Template."

**Final Presentation**

Students are required to deliver a 5-7-minute poster presentation to members of the lab at the final course meeting. This presentation should focus on the research project that each student had been working on throughout the semester. The poster should be made using the PowerPoint template located on the course website, and should include the following sections: Introduction, Hypotheses, Methods, Discussion, and References. Students will be graded both on the oral presentation and on the content and organization of the poster. An example poster can also be found on the course website. **A draft of the poster presentation should be emailed to the researcher two weeks before the presentation date to maximize their ability to provide constructive feedback.** On the day prior to the final presentations, students should email their posters to Cristina.

Students should keep these questions in mind when preparing their poster presentations:

1. What is the purpose of the study? What is the general question being asked? What is the specific question being asked? How will the results inform our understanding of a particular aspect of cognitive development?
2. Who are the participants? Why that age and not another age? How is this related to the question being asked?
3. What is the basic procedure? What do participants see (feel free to show an example trial if the set-up is portable)?
4. What is the design? Do all participants see the exact same thing? If not, what factors (e.g., order) are counterbalanced within and across subjects? Why is the study designed this way?
5. What are the independent and dependent measures? What are the results? Please provide a graph of the data, if possible, and be able to explain what the graph shows.
6. Do the results line up with the initial hypotheses? How do the results inform the question(s) the study was designed to answer?
7. What are the next steps for the project? What other conditions or experiments are planned?

**Grading**

Breakdown:

50% Lab work

20% Attendance and participation in weekly meetings & response worksheets

30% Final poster presentation

Performance in the lab counts for 50% of students' final grade. In order for the lab to run smoothly, it is essential that students are ***on time*** for all of their shifts. Students must let Cristina know well in advance if they will need to reschedule one of their shifts for an alternative time.

**Rescheduling lab shifts should *only* take place because of legitimate reasons such as illness, not because of inconvenience or desire to use that time to complete other course work.** Students' lab performance grade will also be based upon their ability to complete lab tasks efficiently and productively.

**There should never be "down-time" during a shift**. There is always something productive to be done, and students should take initiative to complete all daily tasks as needed. A good lab performance grade also requires that students are not distracted or socializing excessively during their shifts. At no time should students be checking email, using their cell phones, be on Facebook or YouTube, or be engaged with any other non-lab-related task.

Attendance and participation at weekly course meetings accounts for 20% of students' final grade. This 20% includes weekly response worksheets, which will be graded on a check plus, check, check minus basis. The following constitute a grade achieving a:

*Check Plus* – Demonstrated an exemplary understanding of the main arguments and empirical findings
*Check* – Demonstrated a clear understanding of the main arguments and empirical findings
*Check Minus* **–** Missed key aspects of the main arguments and empirical findings

**Response worksheets are due at 5pm <u>the day before class</u>**. Late assignments will be docked a full grade each day that they are late (e.g. a response sheet receiving a grade of a Check would receive a Check Minus if late by one day). Students' final poster presentations will determine the remaining 30% of the grade.

**Collaboration & Plagiarism**

Discussion and the exchange of ideas are essential to academic work. For assignments in this course, you are encouraged to consult with your classmates. You may find it useful to discuss your work with your peers. However, you should ensure that any written work you submit for evaluation is the result of your own research and writing and that it reflects your own approach to the topic. Any portion of your writing which draws on an outside source must be cited appropriately, following APA guidelines ($6^{th}$ edition). Failure to document your sources or acknowledge collaboration is an ethical lapse that can have serious consequences. Please note that poor citation does not have to be intentional to be considered plagiarism.

**Schedule**

| Date | Presenter | Topic | Reading |
|---|---|---|---|
| 2/2 | Cristina Sarmiento | Introductions/Syllabus Review | *No Readings* |
| 2/9 | Cristina Sarmiento | QALMRI Tutorial | Warneken & Tomasello (2006). |
| 2/16 | Brandon Woo | Infants and toddlers evaluations of helpers | Woo & Spelke (2021) |
| 2/23 | Akshita Srinivasan | How counting represents number | Sarnecka & Carey (2008) |
| 3/2 | Simge Topalogu | What exactly do numbers mean? | Huang, Spelke, & Snedeker (2013) |
| 3/9 | Rhea Howard | Poster Tutorial | *No Readings* |
| 3/16 | ***No Class*** | Spring Break | *No Readings* |
| 3/23 | Yiqiao Wang | Conceptual correlates of counting | Shusterman et al. (2017) |
| 3/30 | Joe Coffey | What drives changes in how we talk to children? | Padilla-Iglesias et al. (2021) |
| 4/6 | Marie Amalric | Perception of geometric sequences and numerosity | Castaldi et al. (2021) |
| 4/13 | Emily Walco | Online measures of looking and learning in infancy | Smith-Flores et al. (2021) |
| 4/20 | TBA | TBA | TBA |
| 4/27 | All Students | Final Presentations | *No Readings* |

*****Note: QALMRIs will be due Tuesdays at 5 pm. Classes will be in William James Hall Room 1050 unless otherwise announced*****