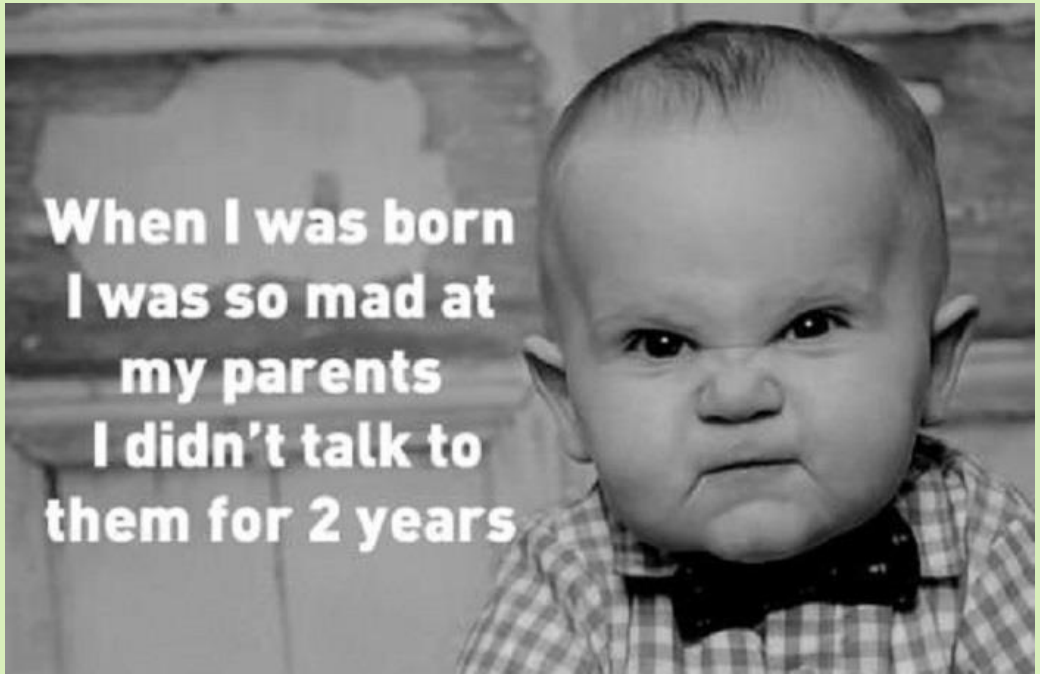
# **PSY 254:** Precept 7

## Language




AI/Preceptor: Kennedy (she/her)

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# Mid-semester evaluations

**Take ~5 minutes to complete the anonymous survey on paper**

Your feedback is important to me

Please be honest and critical!

Your ideas can help improve this class!

# Today's Agenda

Mid-semester evaluations

Baby photo presentation sign-ups

Statistical learning

Babies & AI

Preparation for next time

Midterm

# Baby photo presentation sign-ups

**Oct 29 (next week)**
12:30 (Vikram, Shruti)
1:30 (Robel, Zoe, Claudacia)
2:30 (Yusuf, Arjav, Arsema)

**Nov 12**
12:30 (Mariana, Ria)
1:30 (Ben, Isabella, Monica)
2:30 (Nicole, Evan)

Sign up sheet

Saffran et al. (1996)

# Statistical learning

# Statistical learning

# Statistical learning

2min exposure to artificial language

# Statistical learning

## Test time!

There are 8 test items

For each test item, write down **1** if you think the first word came from the language, and **2** if you think the second word came from the language

# Statistical learning

Answers

Q1: **tupiro** vs. godaro – 1

Q2: bidobu vs. **padoti** – 2

Q3: tulati vs. **bidaku** – 2

Q4: **golabu** vs. pakipu – 1

Q5: **padoti** vs. tulati - 1

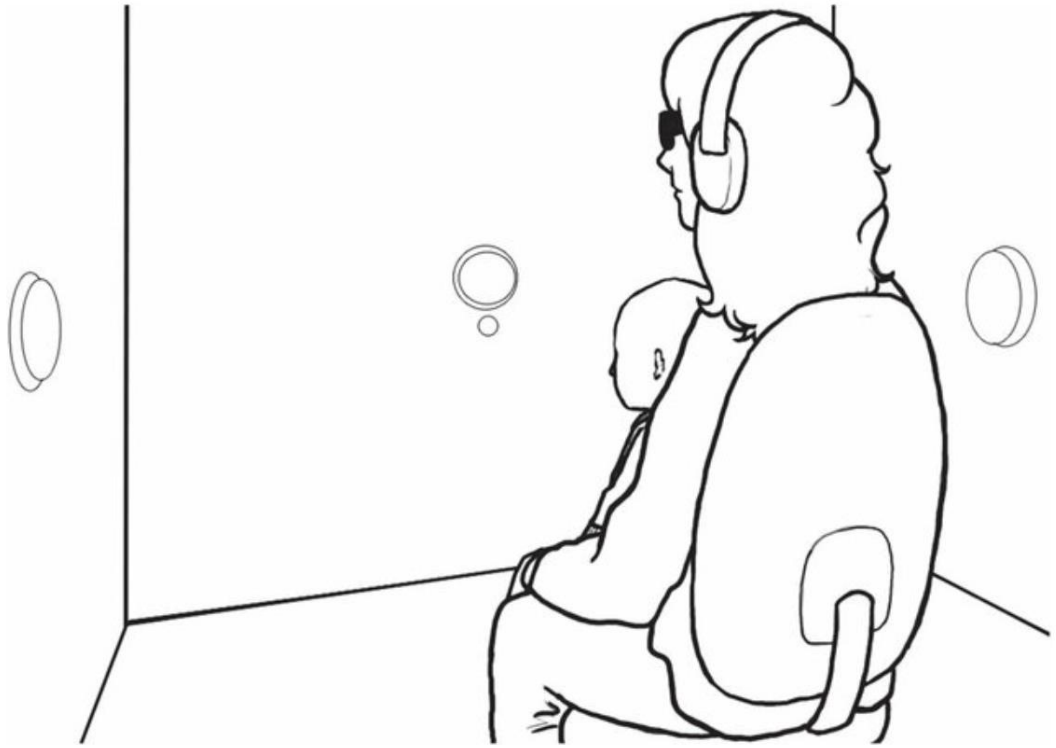
Q6: pakipu vs. **tupiro** – 2

Q7: **golabu** vs. bidobu – 1

Q8: godaro vs. **bidaku** – 2

# Statistical learning

**Headturn preference procedure**



non-words vs. words

part-words vs. words

Image from Gervain & Werker, 2013

# Statistical learning

pa bi ku

high transitional probabilities between syllables **within words**

pi go la

low transitional probabilities at **word boundaries**

# Statistical learning

sil ly

ly ba

ba by

**silly** goose
**silly** story
**silly** face
you're being **silly**

you're a silly baby

hi **baby**
you're a cute **baby**
you're a happy **baby**
you're a hungry **baby**
you're a sleepy **baby**

# Statistical learning

$$\text{pr } y|x = \frac{\text{freq } xy}{\text{freq } x}$$

Babies are statisticians!

# Statistical learning

hi ___

# Statistical learning

**Saffran et al. (1996) conclusion:** Infants (and adults) possess powerful experience-dependent mechanisms to support word segmentation and likely other aspects of language.

Statistical learning is extremely robust and has been seen in infants and adults in a whole range of tasks:

learning visual patterns
learning auditory patterns
learning tactile patterns



**Statistical learning is a "domain general" learning mechanism**

# Babies & AI

## Predictive Brain

Our minds are prediction machines, using prior experience and knowledge to make sense of the deluge of information coming from our surroundings. Many neuroscientists and psychologists believe that nearly everything we do—perception, action and learning—relies on making and updating expectations.

Kwon, 2018, *Scientific American*

**Group 1 =** What is prediction error?

**Group 2 =** What parallels are there between child and robot development?

**Group 3 =** How might the predictive brain hypothesis have possible implications for clinical research?

**Group 4 =** How does this article relate to the Saffran et al. (1996) article?

# Preparation for next time

**Homework:**
Read Schwab & Lew-Williams (2016)
Submit MCQ *before* precept
Email me your baby photos by 11am on Tuesday if you're presenting next week

**Plan ahead for upcoming assignment deadlines!**

- **Journal article outline due <u>Oct 30 by 5pm</u>**
- **App/toy/book evaluation due <u>Nov 13 by 5pm</u>** (groups of 1-3 within the same precept)

**Extended office hours this week:**
See my email for times!

# Midterm

**How did it go?**

Average was 69.7% + 8 points was added for EVERYONE (circled grade in orange is the adjusted grade that you'll see on Canvas)

If you scored below 70, you can do an extra assignment to get your grade up to 70—more info coming soon!

You can check them for 5-10mins at the end of class, but you must RETURN them before you leave (no photos or notes)

If you have any questions or concerns, come to my office hours this week or next week ONLY (course policy)

# Midterm

**What went wrong?**

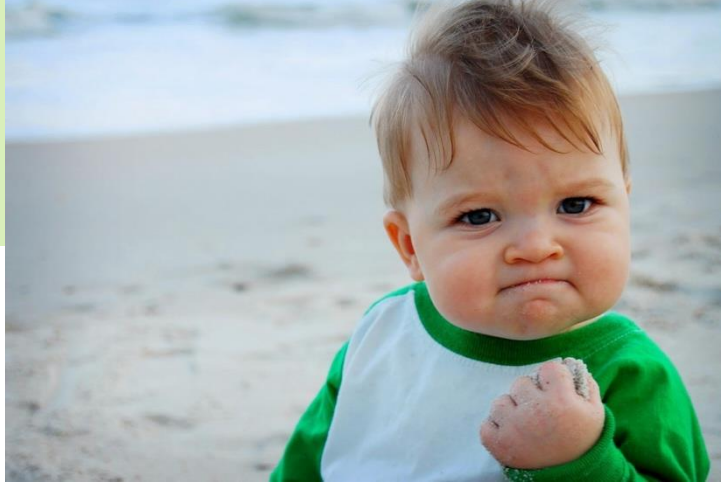
If you didn't study enough – make a study plan to make sure you're not leaving it until the last minute, or start a study group to keep you accountable

You studied but not in a way that prepared you for the specific test type – mark what types of questions you missed and make sure you practice those for the test, also check out McGraw Center – they might have advice!

You didn't have a good way of evaluating what you do and don't know – make sure you do all the practice questions from the textbook and come to office hours! Study groups are also a really good resource

You don't test well (or were not in the right headspace to test well) – check out the McGraw center if the issue is academic, CPS if you want to talk to someone beyond just academic strategies, ODS if you think you need testing accommodations

# Midterm



## You still got this!

If you put the time in to do well on everything else, you can not only pass the class but get a good grade!

**Journal article (30%)** – turn in a *detailed* outline, come to office hours, use the Writing Center

**Precept (30%)** – keep doing the readings, app/toy/book evaluation, and media/art project

**10% participation** involves arriving to class on time, being engaged (verbally and/or non-verbally) in the discussion, office hours, baby photo presentations, emailing questions

**Final (20%)** – more info to come but time will be on your side

**Research participation assignment** – required to pass this course!