

UConn Child Language Lab

Dr. Letty Naigles, P.I.

OVERALL QUESTION/MISSION

How do children learn language?
Populations of interest:

- Typically developing (TD) children, teens, and young adults
- Children, teens, and young adults on the autism spectrum

Q1: What do children (ASD, TD) UNDERSTAND?

Method: Intermodal Preferential Looking (IPL)

IN ENGLISH

Comprehension of wh- questions: TD = ASD

Syntactic bootstrapping: TD = ASD

Shape bias: TD yes, ASD no

Aspect comprehension: TD = ASD

IN CHINESE

SVO order comprehension: TD = ASD

Shape bias: TD > ASD

Aspect comprehension: TD = ASD

LAB MEMBERS

P.I. - Dr. Letty Naigles
Graduate students: Cynthia Boo, Kaya LeGrand
Lab Coordinator: Grace Corrigan
Undergraduates: Yasmin Andalib (honors), Nolyette Verastegui (honors), Lindsey Gaspard, Kylie Robinshaw, Liz Sahagun, Kayleigh Gerrity, Sarah Courtney
UConn Collaborators: Dr. Deborah Fein (Psychology), Drs. Erika Skoe and Lindsay Butler (SLHS)
Collaborators Elsewhere: Dr. Lee Tecoulesco (Boys Town National Research Hospital), Drs. Riccardo Fusaroli & Ethan Weed (Aarhus University, Denmark), Dr. Christine Nordahl (UC Davis MIND Institute), Drs. Esther Su & Yi Li (Central South University, Changsha, China)

Q3: How do dyads TALK TO EACH OTHER?

Linguistic alignment: use of conversation partner's same language

- Rate: how often aligned
- Level: when aligned, how much

CHILD-TO-CAREGIVER

- TD lexical/syntactic rate & syntactic level > ASD
- ASD lexical level > TD

CAREGIVER-TO-CHILD

- TD caregivers' rate & level > ASD caregivers
- TD caregivers' use of generics (*cats say meow*) > ASD caregivers

TEEN-TO-CAREGIVER

- ASD rate > TD
- TD level > ASD

FRIEND-TO-FRIEND

- Lexical alignment between 8-14-year-old friends positively relates to friendship qualities

Q2: What do children (ASD, TD) SAY?

NARRATIVE MACROSTRUCTURE

- TD = ASD when telling a story from a book
- TD > ASD when asked for a "jab" story; TD = ASD when asked for a "lost keys" story

VERB ACQUISITION TRAJECTORIES

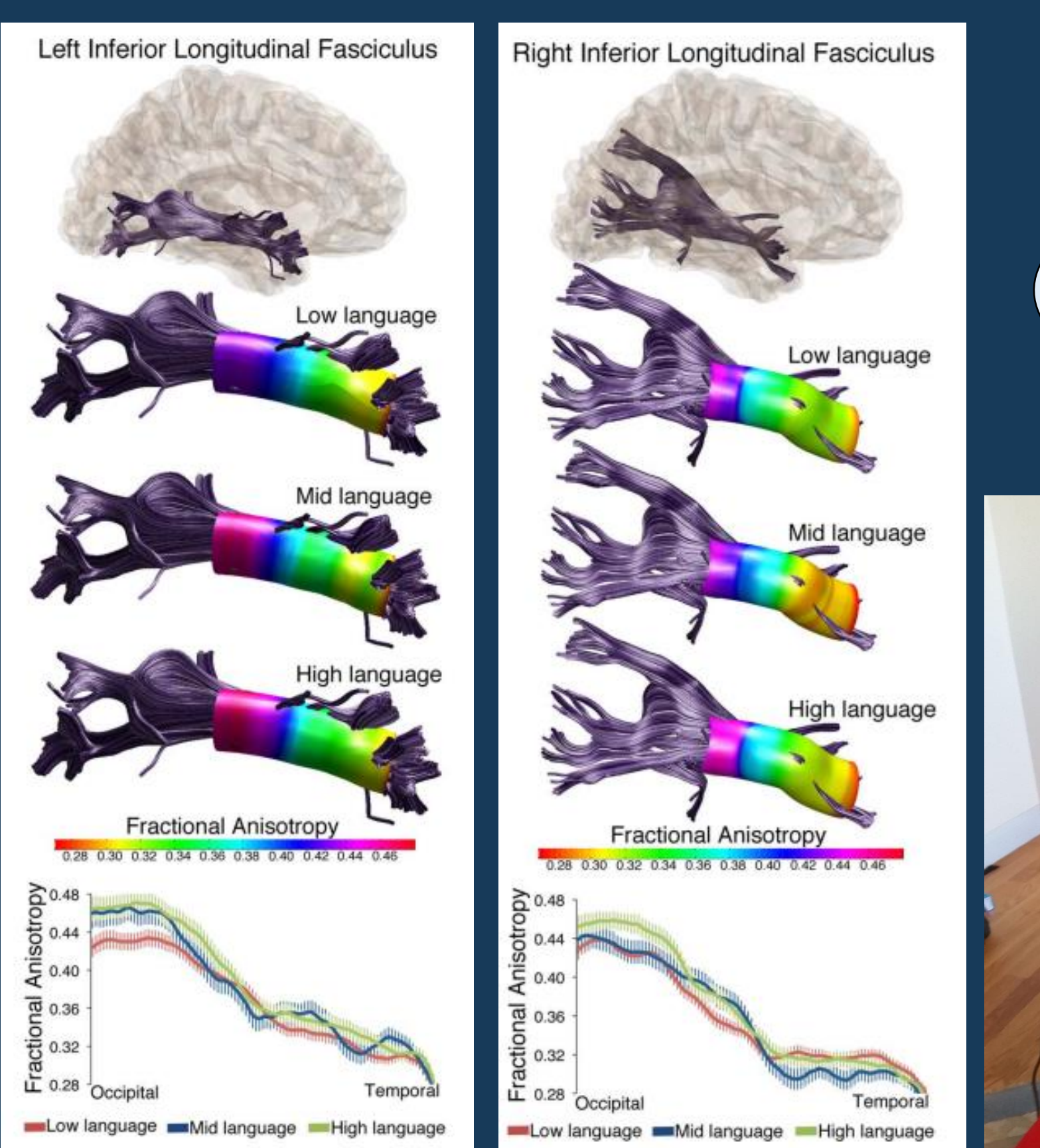
Three latent profiles of longitudinal **verb type** producers:

- low production → low production (some ASD, no TD)
- low production → high production (some ASD, some TD)
- high production → high production (some ASD, some TD)

GENDER DIFFERENCES

Comparing 3-year-old boys & girls with ASD:

- Only girls said **fire** and **book**
- Only boys said **truck** and **nose**



Q4: How do INDIVIDUALS' BRAINS relate to their language usage/development?

AUDITORY BRAINSTEM RESPONSE (ABR)

Phonetic discrimination mediates the relationship between neural stability and syntactic performance

DIFFUSION TENSOR IMAGING (DTI)

Higher ILF fractional anisotropy relates to higher vocabulary

Phonetic Discrimination

a-path: -.98* b-path: .57**

Neural Stability → Syntactic Performance

c-path: 1.12* (c'-path): (-.56)

Q5: What are EARLY PREDICTORS to LATER LANGUAGE?

Only later language thus far

TEENS

- Categorical induction: TD = ASD
- Gradable adjectives: TD = ASD
- Theory of Mind: TD > ASD