Language Learning Lab Projects:

This Spring, the L3 teams worked on many exciting new projects. Additionally, PI Josh Hartshorne published a paper on critical periods of language, and was featured in TIME and MIT News for his research. [Here](#) is the link for his paper.

### Meta-Analysis

The stats team investigated data on the effects of working memory on long term memory. After collecting data from over 15 different psych studies, we are beginning to analyze the data in the form of a meta-analysis. RAs Eric, Rachel, Ning, David, Tony, and JungHo are working on P-curve analyses that will help detect if the results of the previous studies were obtained by biased methods. The results of this meta-analysis will help us better interpret our own results!

### Verb Corner

The VerbCorner project is a part of L3's gameswithwords.org site and is focused on crowdsourcing data to build a database of semantic roles and syntactic frames for various verbs. This semester RA's Alexa, Kathy, and Kayley completed three studies investigating emotion verbs as part of the VerbCorner Emotional State task. In preparation for the new gameswithwords.org website launch, Kathy developed instructive videos to go along with the tasks. Additionally, RA Seung created a sentence generator for VerbCorner to make generating stimuli much more efficient. Previously, all sentences they used for their studies were hand-written, and this script automates this task.
Kid-Testing
The kid-testing team ran studies at 7 new preschools, as well as Boston Children’s Museum and The Acton Discovery Museum to collect data this semester. RA’s Hayley, Casey, Zach, and Nicola, along with lab managers Lauren and Miguel, ran studies with over 300 children (and 25 adults)! The studies included our Chase/Flee task for movement verbs, Give/Get for verbs of exchange, and Truth Value Judgment for psych verbs. They have also begun piloting the new stages of our sorting task, which looks at how children categorize nouns, as well as our Foraging task, where people participate in a sort of scavenger hunt to see if their chosen path reflects the language that they speak and the syntactic boundaries either present - or not - in those languages. Hayley also presented our current data for our TVJ task at PURC this semester.

Sorting Task
This semester we moved our sorting task onto an online platform! In this task we observe how kids group noun categories by asking them to give everything of one noun to Mickey Mouse, and everything that isn’t that noun to the trash. How they group the objects will hopefully give us insight into how children overgeneralize or under-generalize. (Big thank you to Mariela and Han, who both spent a lot of time creating this for the Kid-Testing team)

Awesome Lab
The Awesome lab worked mainly on individual projects this semester. Senior RA Clinton spent time working on the WebGazer eye tracking system by adding functionality for smoothing predictions, averaging out calibration measurements, and creating a metric for overall calibration measurement. He presented his work at one of our lab meetings, and taught the RA’s how to use jsPsych to create experiments. RA Tiwa worked predominantly on the Native Language Inference project, optimizing training for our machine learning models and presenting the project at the 13th Meeting of the Minds, as well as PURC. This summer he will be transitioning into a senior thesis on multi-voxel pattern analysis in neuroimaging data. RA Han helped out with projects related to VerbCorner, from website components and features to data-set preparation and cleaning, and finally ended with K-Means and MACE, two machine learning projects which may be added to VerbCorner. This summer he will be trying to make an assortment of neural network models for use on VerbCorner quizzes.

LAB BONDING
Bowling: The lab goes bowling out in Brighton – Mariela and Kayley tie for first place! (even those photoshopped in had a great time!)

Game Board Cafe: Lab members went to Knight Moves Cafe and tested how well they could communicate with code words.

Picnic: A lab “Dipnic”! Everyone brought different types of dip for our last lab bonding event – Happy end of the year!