# Data Sci Final Reviews

*Eileen Blum*

*5/11/2018*

## Cue Weighting in L2 Stress Perception

### by Jessyca Campos

This project is very interesting to me because I have been investigating in particular the effects of acoustic correlates of stress while Jessyca is looking at syllable weight, which has also been claimed to affect stress in many languages. Overall, I do not have any specific comments on the statistics. She centered her data and utilized nested model comparisons to get an accurate view of the effects that word shape and L2 proficiency had on the perception of stress. Crucially, she modeled the interaction in addition to main effects of word shape and proficiency. I personally did not fully understand how to interpret $R^2$, so I found it particularly helpful that she included that and explained what the value means. Below, I have one major theoretical question and two presentation suggestions.

First, it is not clear to me that she understands the theoretical assumptions behind her experiment. She states that her stimuli were presented in isolation contexts In the absence of acoustic correlates of stress. I do not think it is possible to eliminate acoustic properties from auditory stimuli; in order for a person to hear something, it will have acoustic properties. She says that she had various intensity and duration values and that she focused on data where these are 0, but if duration and intensity values are 0 there would be no sound. Is she claiming that hearing words spoken in isolation allows learners to distinguish two syllables more accurately? Or did she somehow neutralize any variation in acoustic properties?

Second, I think it would be extremely helpful to the reader if she included the plot that she described. Being able to visualize her description of the results would make her point that much more clear and strong.

Lastly, I did not find out until the discussion section what was meant by "oxytone" and "paroxytone". I am not familiar with these terms and as she continued to use them throughout the paper, it would be helpful to define them at the beginning.

## The acoustics of shouting: A case study of English Vowels

### by Dine Mamadou

I was very curious about this experiment because it investigates a unique original question: How is speech volume translated acoustically? I am particularly interested by the results because, as he mentioned in the conclusion, it is important to account for external variables, such as gender and socialization. On that note, below I have one specific comment about his choice of models, a question about some models I found in his script that he had not written up, and a comment about one of his plots.

In his paper, I noticed that he discussed his results from the generalized linear models, but when I looked at his scripts I found that he used both glm() and lmer(). I am wondering if there is a reason he used both, but only wrote about one? I am not sure which one would be better, but I also noticed that he is able to account for by-word variation in the linear mixed effects models.

In addition, I am curious about the structure of the linear mixed effects models, using lmer(), in his script. I noticed that he included gender as both a predictor and a random effect in these models and I am wondering if this might confuse the results he would get? I think that whether we model something as a predictor or

a random effect is largely theoretically motivated based on what we want to find out, but I don't know if including a single variable as both would change the results.

Lastly, in Figure 2 where he plotted F1 as a function of Intensity, it might be more clear to break up the categorical variables using faceting. I think that faceting by gender and keeping the condition denoted by color would make the distribution of the data even more clear.

I also noticed that he has no references. Perhaps he forgot to knit those?