**Dear Editor,**

We are submitting for consideration in *Frontiers in Psychology* our paper “Evaluating normalization accounts against the dense vowel space of Central Swedish”. We present a new corpus of vowel productions of all 21 short and long vowels of Central Swedish by native L1 talkers of that variety. We use these data to evaluate the most influential accounts of formant normalization (Lobanov, Nearey, etc.) as well as a general purpose (non-vowel-specific) normalization account that is increasingly used in the cognitive science research on speech perception (C-CuRE).

Two studies are presented. Study 1 compares normalization approaches in terms of the degree to which they remove variability across talkers within vowel categories, while maintaining distances between vowel categories. This approach continues to be frequently used in comparisons of normalization accounts but has a number of conceptual and methodological shortcoming that we discuss at the end of Study 1. Study 2 then presents an alternative approach. We use a perceptual model (Bayesian ideal observers) to categorize vowel tokens into vowel categories, and compare normalization accounts in terms of how well these categorizations predict the category intended by the talker.

We emphasize here that normalization accounts are sometimes compared with regard to certain methodological goals (e.g., removal of “socially-irrelevant variation” in sociolinguistic research). The goal of the present study, however, is to evaluate how well different types of normalization support vowel categorization—as an initial step towards understanding the systems underlying adaptive speech perception that enable listeners to understand speech despite substantial inter-talker variability in the mapping from sounds to linguistic categories (and, ultimately, meanings).

On the next page, we suggest the reviewers with relevant expertise and ask to please avoid certain other reviewers for this paper.

Respectfully,

Anna Persson and Florian Jaeger

**Reviewers with relevant expertise**

* *Timo Roettger* (University of Oslo, Department of Linguistics and Scandinavian Studies, [timo.roettger@iln.uio.no](mailto:timo.roettger@iln.uio.no)): expert in adaptive speech perception
* *Keith Apfelbaum* (University of Iowa, Department of Psychological and Brain Sciences, [keith-apfelbaum@uiowa.edu](mailto:keith-apfelbaum@uiowa.edu)): expert in C-CuRE
* *Rachel Theodore* (University of Connecticut, Department of Speech, Language and Hearing Sciences, [rachel.theodore@uconn.edu](mailto:rachel.theodore@uconn.edu)): expert in adaptive speech perception
* *Santiago Barreda* (University of California Davis, Department of Linguistics, [sbarreda@ucdavis.edu](mailto:sbarreda@ucdavis.edu)): expert in vowel normalization
* *Sandra Disner* (University of Southern California Dornsife, Linguistics Department, [sdisner@usc.edu](mailto:sdisner@usc.edu)): expert in vowel normalization
* *Johan Gross* (University West, Division of Educational Science and Languages, [johan.gross@hv.se](mailto:johan.gross@hv.se)): expert in Swedish phonetics

**There are also reviewers we would kindly asks to *not* be invited. We can elaborate but we believe that these researchers would have clear COIs.**

* Richard Aslin
* Bob McMurray