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## Introduction

Beat gesture influences which speech sounds we hear<sup>1</sup> and impacts how we produce them<sup>2</sup>. However, much less is known about how body movements aiming at stimulating the articulatory qualities of speech sounds might improve perception and production of speech. To address this gap, we will explore the role of body movements in perceiving and producing foreign speech sounds.

## Method

French speaking adults will be trained to perceive and produce Arabic speech sounds in the context of **congruent body movement**, **incongruent body movement**, and **no body movement**.

Links for video :

<https://www.dropbox.com/s/zycbi3vxuwt1rum/Cogruent%20Mouvement.mp4?dl=0>

<https://www.dropbox.com/s/vz92omibayivzs8/Incongruent.mp4?dl=0>

### Pre and post training tests:

#### 1- Speech production task

#### 2- ABX identification task

Is the third sound similar to the sound for the **blue** or **red** square?



## Method (cont.)

### 3- AB discrimination task



Are the two sounds similar or different?



## Results

We will be looking at accuracy and reaction times before and after training. In comparison with the 'no body movement' condition, we expect that (i) congruent body movements will improve speech perception and production of Arabic speech sounds by improving accuracy and/or decreasing reaction times and (ii) incongruent body movement will affect speech perception and production of Arabic speech sounds by decreasing accuracy and/or increasing reaction times.

## References

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3. Kartushina, N., Hervais-Adelman, A., Frauenfelder, U. H., & Golestani, N. (2015). The effect of phonetic production training with visual feedback on the perception and production of foreign speech sounds. *The Journal of the Acoustical Society of America*, 138(2), 817–832. <https://doi.org/10.1121/1.4926561>