

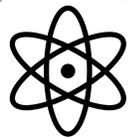
# CAN ARTICULATORY SUPPRESSION DISRUPT REPETITIVE NEGATIVE THINKING ?

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## BACKGROUND

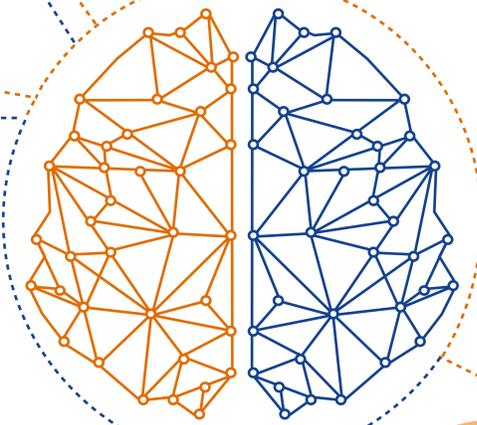
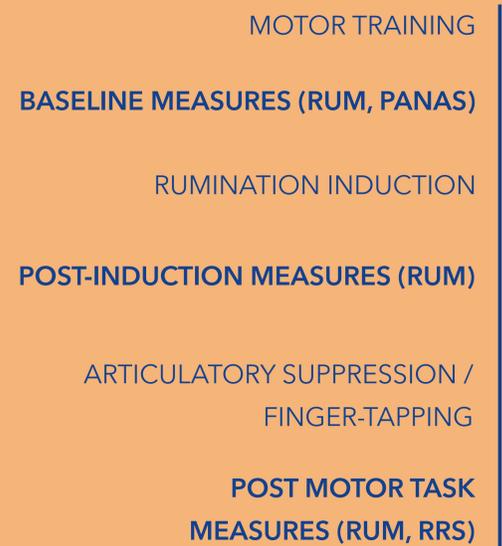
Previous research suggests that **repetitive negative thinking** (e.g., rumination) is a predominantly verbal process [1][2] and could be considered as a dysfunctional kind of **inner speech** [3][4]. Research on physiological correlates of inner speech shows that the neural processes involved in overt and covert speech are very similar, both modes involving motor and auditory cortices. This supports the **motor simulation hypothesis**, that implies that the speech motor system should be involved during inner speech production [5] [6]. Here we tested whether a **peripheral disruption of the speech motor system** (using articulatory suppression) interferes with verbal rumination.



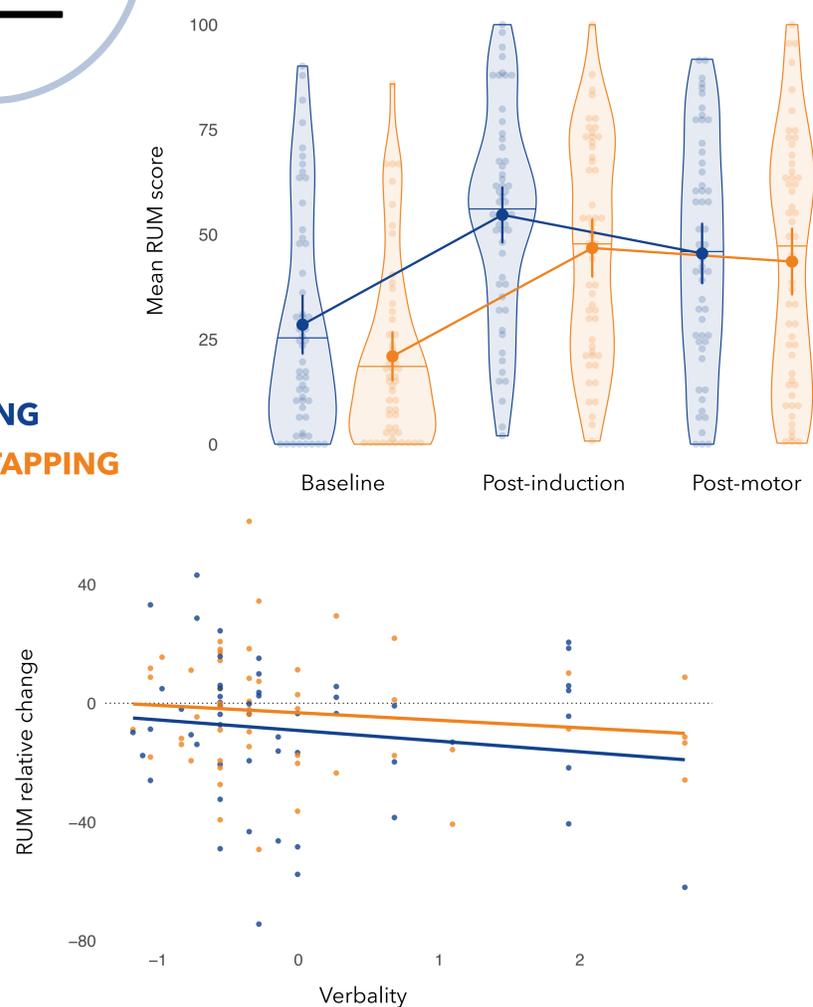
## METHODS

Repetitive negative thinking was induced in **106 healthy participants** (mean age = 20.30, SD = 2.57, 96 females), who were subsequently asked to perform either a **silent mouthing** (articulatory suppression condition, N = 54) or a **finger-tapping** (control condition, N = 52) task, both tasks requiring equivalent attentional demands (as evaluated in a pretest experiment). Participants were asked to report their level of state rumination on a **visual analogue scale (RUM)**, as well as the modality of the ruminative thoughts (verbal versus non-verbal). Participants also filled in two questionnaires at baseline about their current mood (PANAS) and propensity to ruminate (RRS). The entire experiment was video recorded.

## PROCEDURE



## RESULTS



## CONCLUSIONS



While highly variable between participants, self-reported levels of rumination showed a **slightly larger decrease after silent mouthing** compared to finger-tapping (upper panel). However, this decrease might also be due to differences in state rumination, trait rumination and negative affect at baseline. The **change in self-reported rumination was not modulated by the reported modality of rumination** (lower panel). To further investigate the engagement of articulatory processes in rumination, future research could compare **different kinds of rumination induction** (e.g., verbal rumination versus non-verbal rumination) and should make sure that no difference in state rumination exists at baseline.

## ACKNOWLEDGEMENTS

This project was funded by the ANR project INNERSPEECH (grant number ANR-13-BSH2-0003-01). The first author is funded by a fellowship from Université Grenoble Alpes. We thank David Meary for his technical support in programming the eye-tracking experiment, and Elena Keracheva for help during data collection. We thank Rafael Laboissiere and Brice Boffard for their advice concerning data analysis. This template has been designed by Amélie Bret.

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