

# Fast Periodic Visual Stimulation Marker Of Face Identity Impairment In Developmental Prosopagnosia

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## BACKGROUND

Developmental Prosopagnosia (DP)

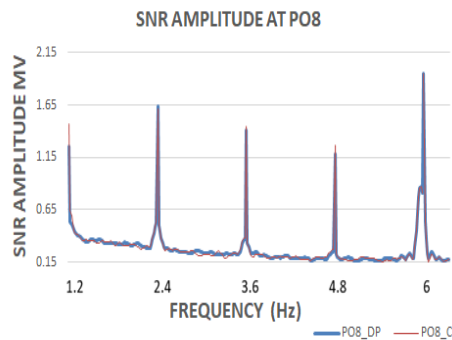
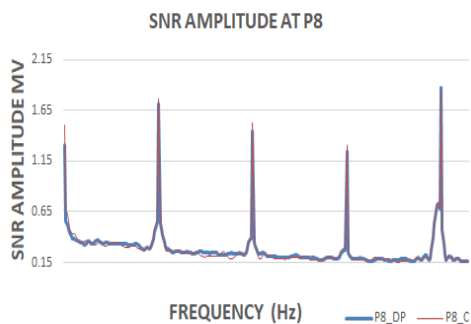
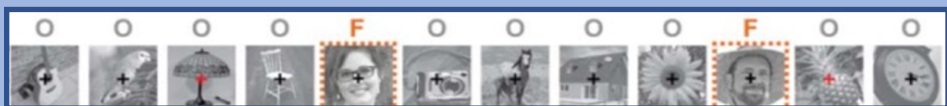
- Lifelong face recognition deficit in the absence of brain injury or lower level visual deficits
- DPs fail to learn new faces and identify familiar faces.

The search for a neural marker of face processing deficits

- Event Related Potential: reduced N170 face inversion in DPs
- Fast Periodic Visual Stimulation (FPVS, Rossion et al.) can provide further insights into stages of face processing
- Found FPVS face identity deficit in acquired prosopagnosia PS, while showing normal FPVS face detection

QUESTION: What about in a larger group of DPs?

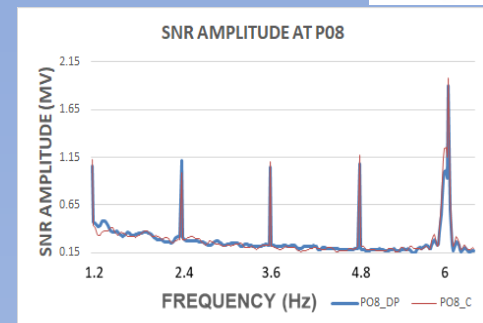
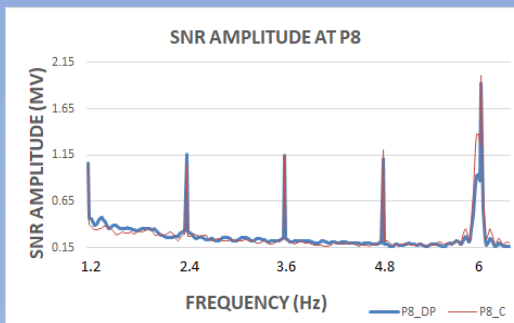
### EXPERIMENT 1: Categorization of a face from images of objects (DP N=29, Control N=25)



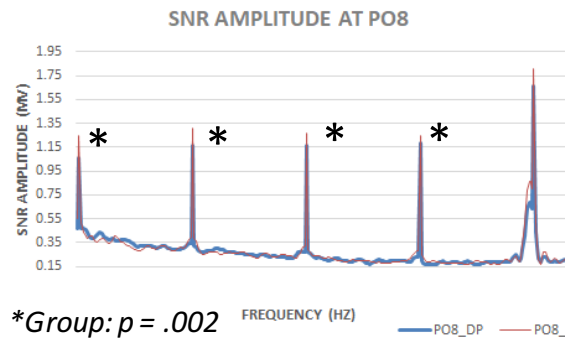
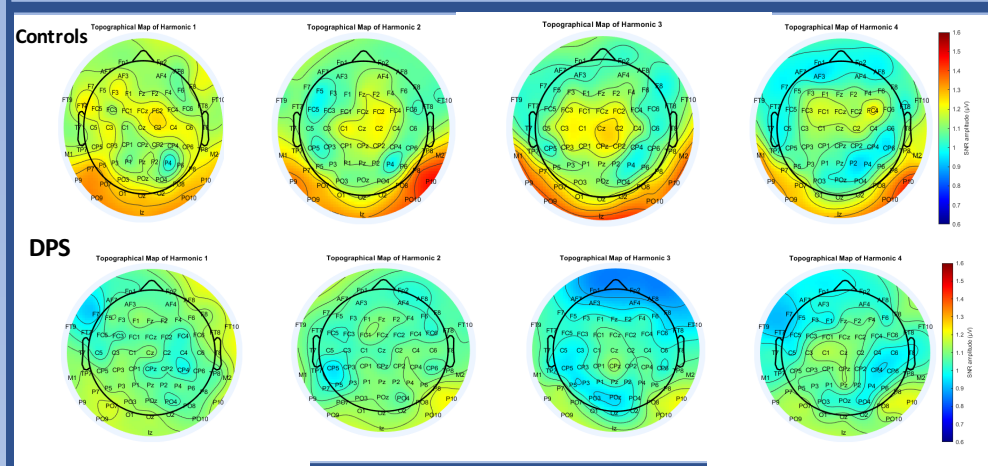
### EXPTERIMENT 2: Identification of a famous familiar face from similar unfamiliar faces (DP N=29, Control N=25)



### EXPERIMENT 2



### EXPERIMENT 3: Identification of a novel face identity from a repeated face (DP N=25, Control N=17)



### CONCLUSIONS

- FPVS in DPs:
  - X Reflects DPs' reduced sensitivity to face identity change
  - ✓ Shows normal face vs. object categorization
  - ✓ Shows normal identification of a highly familiar face

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