PARietal EEG alpha symmeTrY AND oBSeSSive-COMPULSive SYmptomatoLOGY

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Introduction

Although the clinical presentation of various anxiety disorders differ from each other, symptom overlap across disorders can be substantial.

Anxious apprehension and anxious arousal appear in several anxiety disorders, and may have differential lateralization of neural activity.

Anxious apprehension is linked to greater relative left hemisphere brain activity.

Anxious arousal is linked to greater relative right hemisphere brain activity.

To date, research has not investigated if anxious apprehension, and a similar phenomenon — obsessions — elicit similar neural activity.

Method

Participants

- Data from 97 participants (66 females) were included in the analysis.
- Participants were recruited by way of their responses to surveys administered to introductory psychology courses (Table 1).

Procedure

- Resting EEG was recorded from 64-channels during one-minute segments with eyes open or closed.
- Artifacts were identified visually, and also using a semi-automated ICA-based procedure (ADJUST).
- Data transformed to Current-Source Density (CSD) montage.
- FFT computed for overlapping 2.048-second epochs, and resultant spectra were averaged across epochs.

Analyses

- Frontal region: Asymmetry scores at F8/7, F6/5, F4/3, and F2/1.
- For both regions, a Group (5) X Electrode (4) Mixed-Linear Model (MLM) tested whether asymmetry scores differed across Group and Electrode. Post-hoc comparisons evaluated differences pairwise between groups.

Results

Table 1. Self-report criteria for group selection

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Discussion

- There was no main effect of Group nor Group X Electrode interaction (p > .15) for frontal alpha asymmetry.

- Parietal alpha asymmetry varied with Group ($F(4, 360)=3.37, p=.01$); the Group X Electrode interaction was not significant ($F<1$).

- OC-LowAnx had more relative left activity than HighAnx and HC ($p<.04$).

- OC-HighAnx had more relative left activity than HighAnx and HC ($p<.04$).

- Worry had more relative left activity than HighAnx at trend-level ($p=.08$).

- HighAnx did not significantly differ from Healthy ($p=.17$).

References

6. Cavanagh et al. (2010). DOI: 10.1016/j.neuropsychologia.2010.03.031

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Check out the lab website: www.psychofizz.org

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