

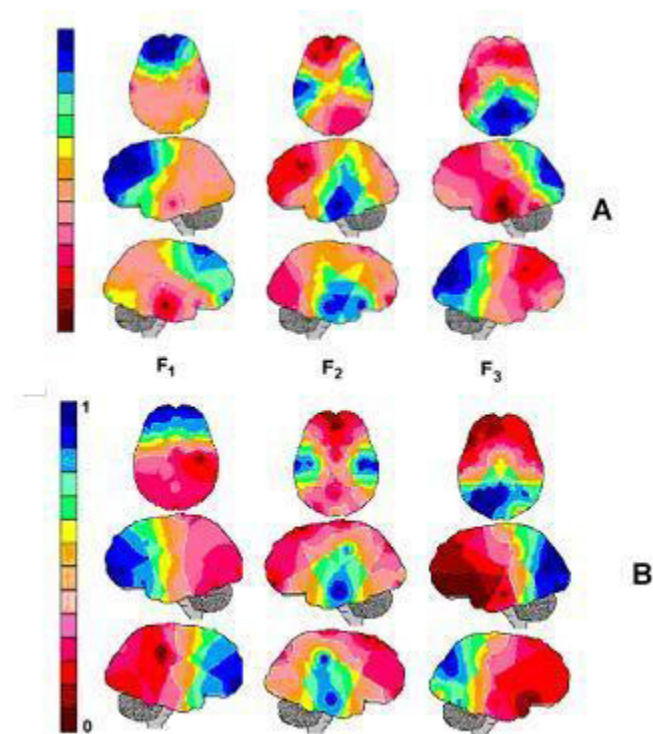
P02-153 - SPATIAL EEG MAPPING OF GO/NOGO TASKS - A CROSS CULTURAL STUDY IN YOUNG CHILDREN

M. Öllinger¹, A. Rocha², F. Rocha²

¹Parmenides-Learning to Think Stiftung, Munich, Germany, ²School of Medicine - University of São Paulo, Sao Paulo, Brazil

Objective: It is well known that brain activity associated with Go/NoGo tasks differed for normal children and those with ADHD, anxiety disorders, etc. Here, EEG mapping is used to study brain activity associated with Go/NoGo tasks in two populations of young healthy Brazilian (Fig. 1A) and German (Fig. 1B) children (4-6 year old).

Methods: Children (N=30) performed a child-oriented go-nogo task at the computer. We determined the entropy of the correlations between the EEG signal recorded by each electrode (10/20 system in Brazil, extended 10/20 system in Germany) as proposed elsewhere (Rocha et al. 2005) for 1000 ms epochs after the beginning of each trial.



[Figure 1]

Fig. 1 - Factor Brain Mappings associated with solving Go/NoGo tasks in Brazilian (A) and German (B) children

Results: Factor Analysis showed that the calculated entropy covaried among the frontal electrodes (Pattern F1); centro-temporal electrodes (Pattern F2) and the parieto-occipital electrodes (Pattern F2) covariation in the two populations despite the different EEG recording systems.

Conclusion: Our spatial EEG approach revealed a Go/NoGo brain activity pattern similar to that

recorded by adults in fMRI. In addition, the results were similar for two different populations of children and for two different recording systems. The EEG technology demonstrated here reliable, cross cultural and cross technical robustness, when investigating young children from different cultures.