

Dream and Image in Blind Subjects: a biophysical and neurophysiological approach

Results:

1) Research

The results obtained were very promising. We discovered that dream reports of congenitally blind subjects present visual content and these are strongly correlated with the EEG alpha rhythm. Alpha attenuation is considered as a very good indicator of visual activation in sighted subjects so the results point to the possibility of visual imagery in blind subjects in the absence of visual perception.

The blind subjects were also able to graphically represent the scenes they described in their dreams and when compared to the representations of sighted subjects quantified through Goodenough and Quoc Vu tests they present no differences.

2) Academic Degrees

Master Thesis - a Master of Science degree in Biophysics was conferred upon Dr. Helder Bértolo with the work done within the project

Ph.D. Thesis – Dr. Helder Bértolo began his Ph.D. work with data from the project

3) Education

Monography for degree in Psychology – Dra Lara Pessoa wrote a thesis: “Oneiric Reports: Speech and Graphical Representations” to get her degree in Psychology. This study was oriented by Dr. Helder Bértolo and achieved 19 values in a 0-20 scale.

Clinical Research Residency – Two medical students did their residency in clinical research within the scope of the project and obtained the maximum classification.

Engineering Projects – Several students from the Instituto Superior Técnico of Lisbon developed projects for Biomedical Engineering within the project.

Seminars – Prof. Teresa Paiva and Dr. Helder Bértolo gave several lectures and seminars to Engineering students and Master degree students.

4) Prizes

Dr. Helder Bértolo and Prof. Teresa Paiva received the Portuguese Society for Health Psychology Award 2000.

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Publications:

Bertolo H, Paiva T, Pessoa L, Mestre T, Marques R, Santos R. Visual Dream Content, Graphical Representation and EEG Alpha Activity in Congenitally Blind Subjects. *Brain Res Cogn Brain Res*. 2003 Feb;15(3):277-84.

Bértolo H; Paiva T: Conteúdo Visual em Sonhos de Cegos. *Psicologia, Saúde & Doenças*. 2(1), 2001.

Bértolo H; Paiva T: Dream and image in blind subjects. *Hypnos* 1: 47 – II-8, 2000.

Bértolo H; Paiva T: Visual Content in Blind Subjects Dreams. *Sleep Research Online* (Supplement 1), 1999.

Researcher Contacts:

Teresa Paiva
Lab. EEG/Sono – Centro de Estudos Egas Moniz
Faculdade de Medicina de Lisboa
Hospital de Santa Maria
1600 Lisboa
Portugal

Tel: +351 217990610
Fax: +351 217805642
e-mail: teresapaiva@netcabo.pt