EEG in the classroom: Synchronised neural recordings during video presentation

We performed simultaneous recordings of electroencephalography (EEG) from multiple students in a classroom, and measured the inter-subject correlation (ISC) of activity evoked by a common video stimulus. The neural reliability, as quantified by ISC, has been linked to engagement and attentional modulation in earlier studies that used high-grade equipment in laboratory settings. Here we reproduce many of the results from these studies using portable low-cost equipment, focusing on the robustness of using ISC for subjects experiencing naturalistic stimuli. The present data shows that stimulus-evoked neural responses, known to be modulated by attention, can be tracked for groups of students with synchronized EEG acquisition. This is a step towards real-time inference of engagement in the classroom.

General information
Publication status: Published
Organisations: Department of Applied Mathematics and Computer Science, Cognitive Systems, Copenhagen Center for Health Technology, Stanford University, City College of New York
Number of pages: 9
Publication date: 2017
Peer-reviewed: Yes

Publication information
Journal: Scientific Reports
Volume: 7
Article number: 43916
ISSN (Print): 2045-2322
Ratings:
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 4.36 SJR 1.533 SNIP 1.245
Web of Science (2017): Impact factor 4.122
Web of Science (2017): Indexed yes
Original language: English
Electronic versions:
srep43916.pdf
DOIs:
10.1038/srep43916
Source: FindIt
Source-ID: 2355408040
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review