



ARC CENTRE OF EXCELLENCE IN
COGNITION AND ITS DISORDERS

Department of Cognitive Science

Macquarie University

Sydney NSW 2109

E nicholas.badcock@mq.edu.au

T +61 (0)2 9850 4067

F +61 (0)2 9850 6059

W ccd.edu.au

Parent Information Form

Name of Project: Emotiv versus Neuroscan EEG systems – a Validation Study

Researchers: Dr Nicholas Badcock Associate Professor Genevieve McArthur
Dr Petroula Mousikou Dr Yatin Mahajan Dr Peter de Lissa
Ms Kathryn Preece Ms Kate Glenn Ms Bianca de Witt
Ms Nora Fieder Mr Yoong Lim

Dear parent/guardian,

We would like to invite your child to participate in a study that is being conducted by the ARC Centre of Excellence in Cognition and its Disorders at Macquarie University. The study has received ethical clearance from the Macquarie University Ethics Review Committee (Human Research).

What is the study about?

This study is about devices that measure Electroencephalography also known as EEG or brain waves. The purpose of this study is to test whether a recently developed gaming EEG system called Emotiv can produce equivalent estimates of neural responses compared with a research-standard Neuroscan system. Emotiv is a portable, affordable, and flexible EEG acquisition device that may prove very useful for doing research with children. We are testing whether this is the case.

Who can participate in the study?

We are looking for children between 6 and 12 years to participate. It's also important that these children have no hearing loss or known history of epilepsy.

What is involved?

Children will visit the CCD for up to 1.5 hours. They will then be fitted with both the Emotiv and Neuroscan EEG systems. This involves wearing a snug-fitting cap and having some water-based gel and salt water applied to the skin to provide a connection for the EEG sensors to best measure brain activity. The two systems will be fitted simultaneously. This will take less than 30 minutes, during which time children can watch a silent DVD of their choice. Children will then be asked to sit still and listen to a series of auditory tones presented at a comfortable listening volume, while continuing to watch the DVD. The tones will be presented in two 13-minute sessions.

Are there any benefits for your child participating in the study?

There are no direct benefits for participation. Children will be rewarded with \$15 for completing the session.

Please turn over form more information



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Are there any risks or side-effects associated with the study?

There are no known risks or side-effects associated with this study.

Participants will be left with a small amount of gel in their hair, which is best removed by washing.

Photographs

As a thank you for taking part in the study, children will be awarded with certificates. If you are happy for a photograph to be taken of your child for the certificate, please indicate this by checking the box on the consent form.

Where appropriate, these photographs may also be used for presentation and training purposes. If you are happy for these photographs to be used for these purposes, please indicate this by checking the box on the consent form.

Other information

All of the data collected as part of the study will be recorded for later analysis and publication in scientific journals.

All other information and personal details will be confidential. Only the research team will have access to the data, which will be kept on secure electronic storage devices and locked cabinets, and will be identified by code numbers and not names. No individual child will be identified in any publication.

Participation in this project is voluntary, and your child is free to withdraw from the study at any time. It is important to us that a child is happy to be involved in the study. It would be very helpful if you could explain to your child (in simple words) what they would have to do in the study (and that they agree to do it) before they attend a testing session. We will do the same when they come in for a testing session so that we can get their informed consent to be involved in the study.

This research is supported with funding from Macquarie University and the Australian Research Council.

Thank you for taking time to consider being involved in this research. It is only through the support of people like yourself and your child that we can discover whether the EEG gaming system provides research quality measurement. In the future, this knowledge will be helpful to explore auditory processing in children. If you and your child are happy to help us with our research, please complete both copies of the consent form attached, and send one copy to us by e-mail, fax, or in the envelope provided. If you have any questions, please contact Nicholas Badcock on 9850 4067.

Yours sincerely,

Nicholas Badcock



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I consent for my child to be involved in this research. I have read and understood the parent information form. Any questions I have about the study have been answered to my satisfaction by Dr Nicholas Badcock (9850 4067). I understand that I am free to withdraw my child from the study at any time without consequence.

I have explained the study to my child who has agreed to take part in the research. They understand that they can withdraw from the study at any time.

Name of child: _____

Name of parent/guardian: _____

Signature of parent/guardian: _____

Address: _____

Email: _____

Telephone: _____

I am happy to for **photographs** of my child's participation to be used for his/her certificate: Yes ☐ No ☐

I am happy to for **photographs** of my child's participation to be used for presentation and training purposes: Yes ☐ No ☐

I am happy to be contacted about new research projects in the future: Yes ☐ No ☐

Please sign both copies of this consent form and return one to the researcher. If this cannot be done in person, please e-mail, fax, or place one copy in the envelope we have provided and send it to us (no stamp is needed). The other copy is for you to keep.

Please POST TO: Attn: N Badcock, REPLY PAID 63448, CCD Macquarie University NSW 2109 (No stamp necessary) or scan and e-mail to nicholas.badcock@mq.edu.au

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.



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