

COLORADO STATE UNIVERSITY
Informed Permission For Your Child To Participate In A Research Project

TITLE OF PROJECT: Cognitive Event-Related Potentials and Brain Maturation

NAME OF PRINCIPAL INVESTIGATOR: Dr. Patricia Davies

CONTACT NAME AND PHONE NUMBER FOR QUESTIONS/PROBLEMS:

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SPONSOR OF PROJECT: National Institute of Child Health and Human Development (NICHD)

PURPOSE OF RESEARCH:

This is a research study examining information processing and brain development. We are looking at the association between the improvement in cognitive functions and the change in brain activity (or growth of the brain) from childhood to young adulthood. The goal of this research is to better understand the underlying means for the tremendous increase in thinking skills that occurs from childhood to young adulthood.

PROCEDURES/METHODS TO BE USED:

This study will consist of approximately 3 to 3½ hours of testing arranged so as to be maximally convenient for you and your child. This study will be conducted either at your child's school or at the Human Development Lab at Colorado State University. This study involves two testing sessions.

The first session will last about 1 to 1½ hour and consists of a series of tasks that measure information processing such as attention and memory. Some of these tasks will consist of paper-and-pencil tasks presented by the examiner. For example, one task requires your child to complete a series of mazes. The spatial processing activities include asking your child to find figures that are hidden in a complex picture and to match lines to a standard display. We also have a series of speed tasks where your child has to indicate matching figures or numbers as fast as possible. A memory task will require your child to repeat a series of numbers. One of the tasks will be presented on a computer and your child will respond by pressing a button indicating whether or not a letter was repeated in a series of letters. In addition, in this first session we will ask some questions about personal information such as your child's birth date, gender, ethnic background, and grade level.

The second session to be scheduled on a separate day will last about 1 ½ to 2 hours. In the second session, we will record brain activity, an electroencephalogram (EEG), while your child participates in 4 computer tasks. A cap, similar to a bathing cap with EEG sensors will be placed on your child's head. The sensors rest on the scalp and record the brain activity. In order for the sensors to record brain activity, a gel is placed between the sensor and the child's scalp. The gel is water based and will wash out easily. The computer tasks involved in this session are all attention tasks. One requires that your child respond to a tone. In a second task, your child will be asked to respond to a tone

while completing another task (i.e., watching a series of numbers appear on the screen and pressing a button when 3 odd numbers appear in a row). Another task requires that your child respond to a 5 letter display on the screen by pressing one button if the middle letter is an “H” and another button if the middle letter is “S”. The last task requires that your child anticipate and prepare to press a button when a car appears on the screen if the previous stimulus (circle) was green and not to respond if the circle was red. Each of these tasks takes less than 10 minutes and is presented in a game format. Breaks will be given between the tasks. This session will last about 1 ½ to 2 hours depending on how many breaks are needed.

You or your child will not receive any payment for your participation in this study. However, your child will receive a printed copy of his or her brain waves. The sessions are not audiotaped or videotaped.

RISKS INHERENT IN THE PROCEDURES:

This research should not cause any physical harm to your child. The EEG and ERP recordings are performed according to standard practices within the field. In placing scalp or other skin-surface sensors it is possible that your child may experience slight tenderness in the spot where the skin surface was cleansed prior to the placement of the sensor, particularly if your child has very sensitive skin, however, this soon disappears.

It is not possible to identify all possible risks in research activities, but the researcher(s) have taken reasonable safeguards to minimize any known and possible, but unknown, risks.

BENEFITS:

There are no direct benefits for participants. However, we find that participants typically find seeing their brain activity displayed on the screen an interesting experience. This project will establish patterns of electrophysiological data associated with information processing and cognitive development in children and young adults. We plan to use the results from these studies to better characterize the development of information processing in normal children and children with disabilities, specifically children with learning disabilities and attention deficit hyperactive disorders.

CONFIDENTIALITY:

All data will only be identified by a participant code and not by name or any other personal information in the computer or written forms. Any personal information (participant screening information form) will be kept in confidential files and you or your child will never be personally identified in the presentation of these data.

LIABILITY:

The Colorado Governmental Immunity Act determines and may limit Colorado State University’s legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

Questions about subjects' rights may be directed to Celia S. Walker at (970) 491-1563.

PARTICIPATION:

Your child's participation in this research is voluntary. If your child decides to participate in the study, you may withhold your consent and your child may stop participating at any time without penalty or loss of benefits to which you or your child are otherwise entitled.

Your signature below indicates that you have read the information stated and willingly sign this consent form. Your signature also indicates that you have received, on the date signed, a copy of this document containing 3 pages.

PARENTAL SIGNATURE FOR MINOR

As parent or guardian you authorize _____ (print name) to become a participant for the described research. The nature and general purpose of the project have been satisfactorily explained to you in the attached letter and you are satisfied that proper safety measures will be observed.

Minor's date of birth

Parent/Guardian name (printed)

Parent/Guardian signature

Date