

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

18 Jun 2026

### Investigation of effectiveness of Neuropsychological interventions for improving academic performance of children with mathematics learning disabilities

#### Protocol summary

##### Summary

Objective: A variety of neuropsychological processes are impaired in children with mathematical learning disabilities, including Attention, Executive Functions, working memory, Visuospatial Processing and other child attributes. The aim of the current research was to investigate the efficacy of neuropsychological interventions for improving academic performance of children with mathematical learning disabilities. Method: The statistical population of the research is the boy student population with mathematical learning disabilities in their primary- school period in city of Isfahan in the school year of 2009-2010. For this purpose, 30 3rd grade elementary students with math learning disabilities were selected using multistage random cluster sampling (each group consist of 15 children). The instrument of this research included neuropsychological test of NEPSY, Wechsler Intelligence Scale for Children (WISC), Keymath test, math academic performance test and Clinical Interview. The design was experimental and neuropsychological interventions (included: improvements in Attention, Executive Functions, working memory, and Visuospatial Processing) was performed in experimental group. Data was analyzed by analysis of Covariance.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT138905134510N1**  
Registration date: **2010-09-09, 1389/06/18**  
Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2010-09-09, 1389/06/18

##### Registrant information

###### Name

Ahmad Abedi

###### Name of organization / entity

University of Isfahan

###### Country

Iran (Islamic Republic of)

###### Phone

+98 31 1267 2905

###### Email address

a.abedi@edu.ui.ac.ir

##### Recruitment status

###### Recruitment complete

##### Funding source

researcher

##### Expected recruitment start date

2009-12-22, 1388/10/01

##### Expected recruitment end date

2010-02-20, 1388/12/01

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Investigation of effectiveness of Neuropsychological interventions for improving academic performance of children with mathematics learning disabilities

##### Public title

Effectiveness of Neuropsychological interventions for improving academic performance

##### Purpose

Treatment

**Inclusion/Exclusion criteria**

Having normal intelligence

**Age**

No age limit

**Gender**

Male

**Phase**

N/A

**Groups that have been masked**

No information

**Sample size**

Target sample size: 30

**Randomization (investigator's opinion)**

Randomized

**Randomization description****Blinding (investigator's opinion)**

Not blinded

**Blinding description****Placebo**

Not used

**Assignment**

Parallel

**Other design features****Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

Isfahan Education Organization - District 3

**Street address**

Isfahan Education Organization, District 3- next to the Sadi high school - Hakim nezami Ave.

**City**

Isfahan

**Postal code****Approval date**

2009-10-27, 1388/08/05

**Ethics committee reference number**

4790

**Health conditions studied****1****Description of health condition studied**

mathematics learning disabilities

**ICD-10 code**

F81.9

**ICD-10 code description**

Developmental disorder of scholastic skills, unspecified

**Primary outcomes****1****Description**

academic performance

**Timepoint**

pre test - post test

**Method of measurement**

Neuropsychological test of NEPSY and math academic performance test

**Secondary outcomes**

empty

**Intervention groups****1****Description**

The design was experimental and neuropsychological interventions included: 1-Attention improvement: included auditory attention, visual attention, selective and sustained attention games. 2-Executive functions: included planning and organization, response inhibition, block construction, tower construction, self-regulation and monitoring games. 3-Working memory: included auditory memory, visual memory, memory for faces, memory for names, visual recognition and recall memory games. 4-Language: included: auditory attention, auditory discrimination, phonological processing, and comprehension of instruction, speeded naming. 5-Visuospatial processing: included: Design copying, block construction, arrows and route finding.

**Category**

Treatment - Other

**2****Description**

For control group: training learning to learning or metacognition skills

**Category**

Other

**Recruitment centers****1****Recruitment center****Name of recruitment center**

10 Elementary schools from five districts of Isfahan city

**Full name of responsible person****Street address****City**

Isfahan

**Sponsors / Funding sources****1****Sponsor**

**Name of organization / entity**  
researcher

**Full name of responsible person**  
Ahmad Abedi

**Street address**  
Faculty of education and psychology, university of Isfahan , University Ave. , Azadi square

**City**  
Isfahan

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor organization/entity?**  
Yes

**Title of funding source**  
researcher

**Proportion provided by this source**  
100

**Public or private sector**  
*empty*

**Domestic or foreign origin**  
*empty*

**Category of foreign source of funding**  
*empty*

**Country of origin**

**Type of organization providing the funding**  
*empty*

## Person responsible for general inquiries

**Contact**

**Name of organization / entity**  
University of Isfahan

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**Position**  
Ph.D of Psychology

**Other areas of specialty/work**

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## Person responsible for updating data

**Contact**

## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**  
*empty*

**Study Protocol**  
*empty*

**Statistical Analysis Plan**  
*empty*

**Informed Consent Form**  
*empty*

**Clinical Study Report**  
*empty*

**Analytic Code**  
*empty*

**Data Dictionary**  
*empty*