

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 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

Full name of responsible person

Ahmad Abedi

Position

Ph.D of Psychology

Other areas of specialty/work**Street address**

Faculty of education and psychology, University of Isfahan , University Ave. , Azadi square

City

Isfahan

Postal code**Phone**

+98 31 1793 2548

Fax**Email**

a.abedi@edu.ui.ac.ir

Web page address**Person responsible for scientific inquiries****Contact****Name of organization / entity**

University of Isfahan

Full name of responsible person

Ahmad Abedi

Position

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Faculty of education and psychology, University of Isfahan, University Ave., Azadi Square

City

Isfahan

Postal code**Phone**

+98 31 1793 2548

Fax**Email**

a.abedi@edu.ui.ac.ir

Web page address**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*