Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The Effectiveness of Body Awareness Exercises on Improving Attention and Executive Functions in Children with Learning Disorders

Protocol summary

Study aim
To determine the effectiveness of body awareness exercises in improving attention and executive functions in children aged 8–12 years with specific learning disorder referred to psychological clinics in Ahvaz.

Design
A randomized, controlled, parallel-group clinical trial with a pretest–posttest design will be conducted. 30 children will be randomly allocated to intervention and control groups using the lottery method.

Settings and conduct
The study will be conducted in psychology clinics in Ahvaz. Thirty eligible children will be randomly assigned to intervention and control groups. Outcomes will be assessed using the Colorado Learning Difficulties Questionnaire, Continuous Performance Test, and Behavioral Rating Inventory of Executive Function, Second Edition questionnaires at pretest, posttest, and two-month follow-up.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Children aged 8–12 years with Specific Learning Disorder an FSIQ of 90–110, no physical, motor, visual, or hearing problems affecting participation, and written informed consent from a parent or legal guardian. Exclusion criteria: Severe comorbid psychiatric or neurodevelopmental disorders, use of medications affecting attention or executive functions, or concurrent psychological or rehabilitative interventions.

Intervention groups
Participants in the intervention group will receive a body awareness-based psychomotor training Package consisting of 12 sessions, twice weekly, with each session lasting 45 minutes. The sessions will include structured body awareness, proprioceptive, balance, bilateral coordination, visual-motor integration, motor planning, rhythmic, and dual-task exercises targeting attention and executive functions. The control group will remain on a waiting list and receive no intervention during the study period.

Main outcome variables
Executive functions, learning disorders, attention.

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20260906070928N1**
Registration date: **2026-09-09, 1405/06/18**
Registration timing: **prospective**

Last update: **2026-09-09, 1405/06/18**
Update count: **0**
Registration date
2026-09-09, 1405/06/18

Registrant information
Name
Bahareh Mallahi kolahi
Name of organization / entity
Country
Iran (Islamic Republic of)
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Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2026-09-21, 1405/06/30
Expected recruitment end date
2026-10-23, 1405/08/01
Actual recruitment start date
empty
Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The Effectiveness of Body Awareness Exercises on Improving Attention and Executive Functions in Children with Learning Disorders

Public title
The Effect of Body Awareness Training on Improving Attention and Focus in Children with Learning Disorder

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Age 8–12 years (primary school) A clinical diagnosis of Specific Learning Disorder (SLD) based on DSM-5-TR criteria. A Full-Scale IQ (FSIQ) of 90–110 on the Wechsler Intelligence Scale No physical, motor, visual, or hearing problems that interfere with participation. Written informed consent from the parent or legal guardian.

Exclusion criteria:
Severe comorbid psychiatric or neurodevelopmental disorders, such as Autism Spectrum Disorder (ASD) or severe Attention-Deficit/Hyperactivity Disorder (ADHD), that interfere with following instructions. Use of psychiatric medications that affect attention or executive functions, such as methylphenidate or risperidone, during the study. Missing more than two consecutive or three non-consecutive intervention sessions. Concurrent psychological, occupational therapy, or neurofeedback treatment during the study. Withdrawal of the child or parent/legal guardian from the study at any stage.

Age
From **8 years** old to **12 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description
Eligible participants will first be recruited through accessible and purposive sampling from clinics in Ahvaz. After eligibility confirmation, 30 participants will be randomly allocated to the intervention and control groups using a simple randomization method (lottery method), with 15 participants in each group. Each participant will have an equal probability of assignment to either group.

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
Ethics Committee in Research, Islamic Azad University, Ahvaz Branch

Street address
Islamic Azad University Ahvaz Branch, Farhangshahr, Golestan Highway, Ahvaz, Iran.

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Khouzestan

Postal code
61349-37333

Approval date
2026-09-02, 1405/06/11

Ethics committee reference number
IR.IAU.AHVAZ.REC.1405.522

Health conditions studied

1

Description of health condition studied
Specific Learning Disorder

ICD-10 code
F81.0

ICD-10 code description
Specific reading disorder

Primary outcomes

1

Description
Attention

Timepoint
Attention will be assessed before and after the body awareness intervention and at a two-month follow-up.

Method of measurement
Attention will be assessed using the computerized Continuous Performance Test (CPT-3). The test consists of 360 visual stimuli presented in six blocks. Participants are instructed to respond to all letters except the letter “X” by pressing the spacebar. Attention will be assessed based on omission errors, commission errors, and reaction time. Higher T-scores indicate poorer performance.

2

Description
Executive functions

Timepoint
Executive functions will be assessed at baseline,

immediately after the intervention, and at a two-month follow-up.

Method of measurement

Executive functions will be assessed using the Behavior Rating Inventory of Executive Function, Second Edition (BRIEF-2). The parent/teacher form consists of 63 items rated on a 3-point Likert scale (Never, Sometimes, and Often). Raw scores are converted to standardized T-scores, with higher scores indicating greater difficulties in executive functioning. T-scores of 65 or higher are considered clinically elevated.

3

Description

Learning disorders

Timepoint

Learning disorders will be assessed at baseline, immediately after the intervention, and at the two-month follow-up.

Method of measurement

The severity of learning difficulties will be assessed using the Colorado Learning Difficulties Questionnaire (CLDQ). The 20-item questionnaire is completed by parents or teachers using a 5-point Likert scale ranging from 1 (never) to 5 (always/severely). Total scores range from 20 to 100, with higher scores indicating greater severity of learning difficulties.

Secondary outcomes

empty

Intervention groups

1

Description

Control group: Participants in the control group will not receive the body awareness training intervention during the study period and will remain on a waiting list. They will receive the same assessments as the intervention group according to the study schedule. After completion of the study, the control group may receive the intervention, subject to the study protocol and ethical approval.

Category

Treatment - Other

2

Description

Intervention group: Participants in the intervention group will receive the Body Awareness-Based Psychomotor Training Package for 12 sessions, conducted twice weekly, with each session lasting 45 minutes. The intervention will be delivered in a safe, tatami-equipped clinic hall by the researcher. Each session will consist of a 5-minute warm-up, 35 minutes of structured body awareness and psychomotor exercises, and a 5-minute cool-down and feedback period. The intervention is based on body awareness and sensorimotor integration principles and is designed to enhance proprioception, vestibular function, body schema, motor planning, bilateral coordination, visual-motor integration, and spatial orientation. The exercises will progressively increase in complexity and will target attention and executive functions, particularly working memory, cognitive flexibility, inhibitory control, and divided attention. Early sessions will focus on body recognition, body boundaries, proprioception, and balance. Middle sessions will include bilateral coordination, crossing the body midline, visual-motor integration, rhythmic movement, and motor planning. The final sessions will incorporate combined motor tasks, dual-task activities, rhythmic games, and exercises requiring greater cognitive and inhibitory control.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Setia Occupational Therapy Center

Full name of responsible person

Setare Sahraei

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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Grant name

Grant code / Reference number

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

Yes

Title of funding source

Islamic Azad University

Proportion provided by this source

100

Public or private sector

Private

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Other

Person responsible for general inquiries

Contact

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Full name of responsible person

Dr. Sima Naghi Poor

Position

Assistant Professor

Latest degree

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Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available