Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

The Effectiveness of Mindfulness Training on Competitive Anxiety and Related Physiological Indices in Martial Arts Athletes

Protocol summary

Study aim

Determining the effectiveness of mindfulness training on competitive anxiety and physiological indices in martial arts athletes.

Design

A randomized, unblinded, parallel-group clinical trial with a pretest-posttest design will be conducted on 30 Ninjutsu athletes allocated (1:1) to intervention and control groups via permuted block randomization.

Settings and conduct

This parallel-group, randomized clinical trial with a pretest-posttest design will be conducted in 2026 at Cheshm Oghab Ninjutsu Academy to investigate the effectiveness of mindfulness training on competitive anxiety and physiological indicators in martial arts athletes. Thirty eligible athletes will be selected via purposive sampling and randomly allocated (1:1 ratio) to an intervention group (mindfulness training) and a control group using permuted block randomization. Due to the nature of the psychological intervention, this study will be conducted without blinding of the participants and researchers.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Martial arts athletes in Ninjutsu; Having at least one year of activity experience in the martial art of Ninjutsu; Informed consent to participate in the research. Exclusion criteria: History of participation in mindfulness workshops or courses in the past; History of hospitalization in a hospital due to severe psychiatric disorders.

Intervention groups

Intervention group: In addition to regular training, will receive 8 weeks (1 session/week) of Mindfulness-Based Stress Reduction (MBSR) training. Control group: Will continue regular training only without any psychological intervention (will receive training after the study).

Main outcome variables

Competitive anxiety (CSAI-2R questionnaire); serum cortisol level; heart rate and blood pressure (digital monitor), which will be assessed at pre-test and post-test.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20260508069294N1**
Registration date: **2026-10-01, 1405/07/09**
Registration timing: **registered_while_recruiting**

Last update: **2026-10-01, 1405/07/09**
Update count: **0**

Registration date

2026-10-01, 1405/07/09

Registrant information

Name

Parham Kazemkhah

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

recruiting

Funding source

Expected recruitment start date

2026-09-23, 1405/07/01

Expected recruitment end date

2027-01-20, 1405/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
The Effectiveness of Mindfulness Training on Competitive Anxiety and Related Physiological Indices in Martial Arts Athletes

Public title
The Effect of Mindfulness on Competitive Anxiety and Physiological Indices

Purpose
Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:
Having at Least one Year of Professional Training Experience in Ninjutsu Martial Arts Completion of The Martens Competitive State Anxiety Inventory-Revised(CSAI-2R) and Baseline Physiological Assessments at the Pre-test Stage

Exclusion criteria:
Prior Participation in Mindfulness Training Workshops or Courses History of Hospitalization Due to Severe Psychiatric Disorders

Age
No age limit

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 (30 Ninjutsu athletes) will be allocated to either the intervention (n=15) or control group (n=15) in a 1:1 ratio using a permuted block randomization method with block sizes of 4 and 6. The random allocation sequence will be generated using the online Research Randomizer tool (www.randomizer.org). To ensure allocation concealment, sequentially numbered, opaque, sealed envelopes (SNOSE) will be utilized; group allocation cards will be placed inside the envelopes and opened by an individual independent of the research team only after obtaining written informed consent and completing baseline assessments.

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 of Islamic Azad University, Tonekabon Branch

Street address
Islamic Azad University, Tonekabon Branch, Valiabad, 3rd km of Chalous Road, Tonekabon, Mazandaran

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4681416167

Approval date
2026-07-15, 1405/04/24

Ethics committee reference number
IR.IAU.TON.REC.1405.053

Health conditions studied

1

Description of health condition studied
Competitive anxiety

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
Competitive anxiety score measured using the Revised Competitive State Anxiety Inventory-2 (CSAI-2R).

Timepoint
At baseline (prior to the intervention) and immediately after the 8-week intervention.

Method of measurement
Competitive anxiety will be assessed using the Revised Competitive State Anxiety Inventory-2 (CSAI-2R), a validated self-report questionnaire consisting of 17 items that measure cognitive anxiety, somatic anxiety, and self-confidence.

Secondary outcomes

1

Description
Serum cortisol level will be measured in micrograms per deciliter (µg/dL).

Timepoint
At baseline (prior to the intervention) and immediately after the completion of the 8-week intervention.

Method of measurement
Serum cortisol will be measured via 5 mL venous blood sampling analyzed using the ELISA method, conducted

between 08:00 and 10:00 AM to control for diurnal variation.

2

Description

Systolic and diastolic blood pressure measured in millimeters of mercury (mmHg).

Timepoint

At baseline (prior to the intervention) and immediately after the completion of the 8-week intervention.

Method of measurement

Systolic and diastolic blood pressure will be measured using a calibrated digital blood pressure monitor (GLAMOR TD-3128) in a seated position following a 5-minute rest, with consistent conditions at each assessment.

3

Description

Heart rate measured in beats per minute (bpm).

Timepoint

At baseline (prior to the intervention) and at the end of the 8th week (following the completion of the intervention).

Method of measurement

Heart rate will be measured using a calibrated digital blood pressure monitor (GLAMOR TD-3128) in a seated position following a 5-minute rest, with consistent conditions at each assessment.

Intervention groups

1

Description

Intervention group: Participants in the intervention group will receive an 8-week Mindfulness-Based Stress Reduction program consisting of weekly 90-minute group sessions along with 45 minutes of daily home practice. The session contents are as follows: Session 1: Introduction to MBSR, ground rules, mindful eating, body scan, and awareness of daily activities; Session 2: Homework review, body scan, mindful breathing, and pleasant events calendar; Session 3: Review of practices, mindful stretching and movement, gentle mindful yoga, exploring boundaries of discomfort/pain, mindful walking, and breath awareness; Session 4: Sitting meditation (body, breath, and sounds), walking meditation, and unpleasant events calendar; Session 5: Sitting meditation with open awareness (working with difficulties), mindful yoga, reactive pattern awareness, and coping breathing space; Session 6: Day of silent practice, integrating body scan, yoga, meditation on thoughts, and developing an early warning system; Session 7: Sustained mindfulness practice, advanced sitting meditation, mindfulness in relationships, daily life integration, and 3-minute breathing space; Session 8: Review of learned skills, developing a personalized daily maintenance plan, and program termination.

Category

Behavior

2

Description

Control group: Participants in the control group will not receive any psychological intervention or mindfulness training during the study period and will only continue their routine athletic training.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Cheshm Oghab Ninjutsu Academy

Full name of responsible person

Parham Kazemkhah

Street address

Ground Floor, Hamin Complex, Ahmadabad, Shohada St.

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2

Recruitment center

Name of recruitment center

Dr. Momeni Medical Laboratory

Full name of responsible person

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3

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Name of recruitment center

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Full name of responsible person
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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
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Full name of responsible person
Dr. Somayeh Asadian, Director of Research Services, Islamic Azad University, Tonekabon Branch

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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
Public

Domestic or foreign origin
Domestic

Category of foreign source of funding
empty

Country of origin

Type of organization providing the funding
Academic

Person responsible for general inquiries

Contact

Name of organization / entity
Islamic Azad University

Full name of responsible person
Parham Kazemkhah

Position
Principal Investigator (MSc Student)

Latest degree
Bachelor

Other areas of specialty/work
Psychology

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Position
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Bachelor

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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