Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

The impact of artificial intelligence on creativity and stress reduction among students

Protocol summary

Study aim
Determining the impact of artificial intelligence on creativity and stress reduction among students

Design
This study is a quasi-experimental, two-parallel, double-blind study conducted on 30 students of Islamic Azad University, Izeh Branch (15 in the experimental group and 15 in the control group). The sample allocation is done by simple random method using the RAND function in Excel software; first, each participant is assigned a unique identification code and then a random number is generated for each individual using the RAND function. The participants are sorted based on the generated random numbers and finally the first 15 are placed in the experimental group and the next 15 are placed in the control group.

Settings and conduct
This study will use a field experimental research method and a large-scale pre-test and post-test design. The research will be conducted at Islamic Azad University, Izeh Branch. All participants, intervention administrators, and evaluators who interpret the data will be unaware of the allocation of individuals, and all information will be confidential and participants will be given pseudonyms.

Participants/Inclusion and exclusion criteria
Inclusion Criteria: Be at least 19 and no more than 45 years old Be a student at Azad University, Izeh Branch Be willing to participate in the research Exclusion Criteria: Have a physical illness that interferes with the treatment process Be taking psychiatric medications

Intervention groups
Intervention group: Use of artificial intelligence in the form of a specific training program, conducted in a group setting over 8 90-minute sessions, one session per week. Control group: Do not receive any intervention.

Main outcome variables
Creativity; Stress

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20260904070913N1**
Registration date: **2026-09-21, 1405/06/30**
Registration timing: **prospective**

Last update: **2026-09-21, 1405/06/30**
Update count: **0**

Registration date
2026-09-21, 1405/06/30

Registrant information

Name
Azar Rafiei

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
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Email address
azar68882@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2026-10-01, 1405/07/09

Expected recruitment end date
2026-10-11, 1405/07/19

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title

The impact of artificial intelligence on creativity and stress reduction among students

Public title

The impact of artificial intelligence on creativity and stress reduction

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

Be at least 19 and no more than 45 years old Be a student at Azad University, Izeh Branch Be willing to participate in the research

Exclusion criteria:

Have a physical illness that interferes with the treatment process Be taking psychiatric medications

Age

From **18 years** old to **45 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Care provider
- Outcome assessor
- Data analyser

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

In this study, a simple randomization method is used to assign participants to two experimental and control groups. The randomization unit in this study is the students of Islamic Azad University, Izeh Branch, who are eligible to enter the study. First, a complete list of volunteers who have been selected based on the study entry criteria is prepared. Then, each participant is assigned a unique numerical identification code. These codes are entered into the Random Number Generator software and a random number is generated for each individual. After generating these numbers, the participants are sorted in ascending order based on the value of the random number. Then, the individuals are assigned to two groups; sequentially, the first 15 people on the list are assigned to the experimental group (training and intervention based on artificial intelligence) and the next 15 people are assigned to the control group. With this method, the order of entry into the study and the researcher's knowledge of the participants will not play any role in determining the group. To conceal allocation, the person responsible for entering data and performing the randomization process in the software will be independent of the intervention administrators and research evaluators (measurers of creativity and stress variables) and will not have the opportunity to know the process of implementing the sessions or changes in the allocation of individuals. Also, the identification codes of the participants will be kept confidential and separate from their other personal information. Therefore, it will not be possible to predict the allocated group for each participant before the randomization process.

Blinding (investigator's opinion)

Double blinded

Blinding description

In order to control bias and improve the internal validity of the research, this study was designed with a double-blind protocol; in this way, the intervention implementers, outcome assessor, and data analyst will be kept unaware of the allocation of students of Islamic Azad University, Izeh Branch to the experimental and control groups. In this process, the outcome assessor will collect data (evaluate creativity and stress variables) in all stages of pre-test, post-test, and follow-up, without knowing the assigned group of the participants, in order to prevent bias in the measurement; also, all raw data will be provided to the statistical analyst with anonymous codes (such as groups 1 and 2), and the true nature of the groups will not be revealed until the end of the data analysis process. All allocation steps will be performed by an independent person from the research team, and decoding of allocation codes will be done only after the final completion of the statistical analyses.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Behbahan Islamic Azad University Ethics Committee

Street address

Shahid Bayani St., Amir Kabir Blvd.

City

بهبهان

Province

Khouzestan

Postal code

6361713198

Approval date

2026-07-28, 1405/05/06

Ethics committee reference number

IR.IAU.BEHBAHAN.REC.1405.219

Health conditions studied

1

Description of health condition studied

Stress in students

ICD-10 code

Z73.3

ICD-10 code description

Stress, not elsewhere classified

Primary outcomes

1

Description
Creativity
Timepoint
before performing the intervention and two weeks after completion of the intervention
Method of measurement
Torrance Creativity Questionnaire 1979

2

Description
Stress
Timepoint
before performing the intervention and two weeks after completion of the intervention
Method of measurement
Fathi et al. Stress Questionnaire 2004

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: AI-based training sessions will be implemented in the form of a specific training program. The sessions of this intervention will be conducted in 8 90-minute sessions (one session per week) in a group for the experimental group in the statistics course. AI-based training is an approach that aims to reduce anxiety and academic stress, and develop problem-solving skills and creative thinking through interaction with intelligent analytical tools, helping students manage their reactions to the computational and conceptual challenges of statistics courses by replacing traditional and anxiety-provoking learning patterns with interactive and personalized learning. This approach has main educational axes that lead to the promotion of creativity and improvement of statistical skills; These axes include: familiarization with AI tools and language models in data analysis, explanation of how to write precise prompts to understand complex statistical concepts, training in the use of AI to visualize and analyze statistical data, training in idea generation techniques and creative solution of statistical problems with the help of smart tools, management and reduction of stress in solving mathematical and statistical problems through immediate feedback from AI tools, error detection and interpretation of statistical outputs guided by AI, identification of challenges and ethical and critical application of AI in learning, and finally consolidation and summarization of skills learned in statistics lessons. The main emphasis of this intervention is to reduce computational stress and fear of statistics when faced with complex data and replace it with creative, exploratory, and problem-solving approaches based on new technologies.
Category
Behavior

2

Description
Control group: They do not receive any intervention or treatment.
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Islamic Azad University, Izeh Branch
Full name of responsible person
Azar Rafiei
Street address
Daneshjo Square, Zagros Blvd.
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6391693627
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University
Full name of responsible person
Behrang Mohammad Salehi
Street address
Daneshjo Square, Zagros Blvd.
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6391693627
Phone
+98 996 477 0611
Email
bsalehi@iau.ac.ir
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

Asadabad University of Medical Sciences

Full name of responsible person

Azar Rafiei

Position

Master's student

Latest degree

Bachelor

Other areas of specialty/work

Psychology

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Person responsible for scientific inquiries

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Position

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

Participant data is completely confidential and I do not intend to publish it.

Study Protocol

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

Statistical Analysis Plan

No - There is not 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

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available