

MindMove: nature-based physical activity and psychological skills for mental health

Submission date 28/01/2026	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
Registration date 30/01/2026	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
Last Edited 29/01/2026	Condition category Mental and Behavioural Disorders	<input type="checkbox"/> Individual participant data
		<input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Principal investigator, Scientific, Public

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Additional identifiers

Study information

Scientific Title
Feasibility and preliminary evaluation of a novel acceptance and commitment therapy-based physical activity intervention in nature for distressed higher education students

Study objectives

The objectives of the study were to:

1. Examine the feasibility and acceptability of the MindMove intervention in promoting students' subjective mental well-being
2. Explore the different measures and participants' experiences of the intervention, as well as changes observed in participants' mental well-being, anxiety, study ability, recovery, restoration and physical activity.

Ethics approval required

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Ethics approval(s)

approved 23/12/2024, Ethics Committee of Jamk University of Applied Sciences (Jamk University of Applied Sciences PO Box 207, Jyväskylä, FI-40101, Finland; +358 (0)400159422; eettinentk@jamk.fi), ref: JAMK/4648/13.02/2024 48115

Primary study design

Interventional

Allocation

N/A: single arm study

Masking

Open (masking not used)

Control

Uncontrolled

Assignment

Single

Purpose

Prevention

Study type(s)

Health condition(s) or problem(s) studied

Mental health

Interventions

MindMove intervention program consists of six group sessions, each lasting about 60-75 minutes, over six consecutive weeks. The first session is held inside, but the rest of the sessions are outdoors in local exercise place with a close connection with nature environment. The program aims to enhance participants' mental health through physical activity, by teaching Acceptance and Commitment Therapy (ACT) skills and by utilizing the benefits of nature. The program starts with a reflection of one's own situation, health behaviours and thoughts about the possibilities to enhance mental health through physical activity, psychological skills, and utilizing nature. After that, every session is held outdoors, including bodily movement-exercises and physical activity combined with ACT processes, metaphors and discussions. From the ACT perspective, mindfulness and acceptance skills are integrated with the whole program. The first and second session include especially values and values of clarification. The third session focus on acceptance skills of thoughts and emotions, especially when facing barriers. The fourth and

fifth sessions' focus is on mindfulness skills, utilizing nature elements as being mindful and conscious everyday choices. The last sixth session focuses on self as a context and defusion skills. Participants are encouraged to make personal action plans and do some exercises between the sessions, and transfer learnt skills into their own living context. The emphasis of physical activity-related exercises, e.g. walking pace intensity, is personal; participants are encouraged all the time to be physically active as they liked being present with their body and environment.

Intervention Type

Behavioural

Primary outcome(s)

1. Feasibility measured using quantitative and qualitative data, with the questionnaires and interviews providing information on whether the intervention is feasible and acceptable in practice by the participants. The semi-structure questionnaire assesses satisfaction with the meetings, perceived value of the meetings and exercises, and practical implementations of the sessions. Responses are rated on a scale from 0 to 10, with higher scores indicating greater satisfaction or usefulness. Written feedback is also collected through open-ended questions. Participants' adherence is assessed through number of sessions attended, Participants' experiences are explored qualitatively through two post-intervention semi-structured focus group interviews. These interviews aim to deepen the understanding of the quantitative data of the intervention's feasibility and acceptability, as well as participants' overall experiences with the study process and the intervention itself. The interviews also provide feedback to support the further development of the intervention. Measured at after the study

Key secondary outcome(s)

1. Anxiety measured using General Anxiety Disorder-7 (GAD-7) at before (M1) and after the intervention (M2)
2. Psychological flexibility measured using CompACT questionnaire at M1, M2
3. Mental well-being measured using the Short Warwick–Edinburgh Mental Well-being Scale (SWEMWBS) at M1, M2
4. Self-rated ability to study or work measured using one item adapted from the Work Ability Index (WAI) at M1, M2
5. Restoration measured using Restoration Outcome Scale (ROS) at M1, M2
6. Nature connectedness measured using comprehensive nature experience (CNE) at M1, M2
7. Interoception measured using 24-item Brief Multidimensional Assessment of Interoceptive Awareness (MAIA-2 EN) at M1, M2
8. Heart rate variability (HRV), sleep, stress, and physical activity measured using the Bodyguard 3 device (Firstbeat Technologies Ltd., Finland) worn continuously for 3 days, except during water activities. Firstbeat Life software provided feedback and scores (0–100) for physical activity, sleep, and stress balance at M1, M2

Completion date

31/05/2025

Eligibility

Key inclusion criteria

1. Students aged 18–29 years
2. Elevated psychological strain, anxiety, or stress
3. Engage in insufficient physical activity for their health. The current physical activity recommendation for adults was used to support the definition of insufficient activity.

Healthy volunteers allowed

Yes

Age group

Adult

Lower age limit

18 years

Upper age limit

29 years

Sex

All

Total final enrolment

17

Key exclusion criteria

There were no exclusion criteria apart from age, and eligibility was based on participants' self-assessment.

Date of first enrolment

03/02/2025

Date of final enrolment

31/03/2025

Locations

Countries of recruitment

Finland

Sponsor information

Organisation

JAMK University of Applied Sciences

ROR

<https://ror.org/01dn2ng71>

Funder(s)

Funder type

Funder Name

Opetus- ja Kulttuuriministeriö

Alternative Name(s)

Ministry of Education and Culture, Finland

Funding Body Type

Government organisation

Funding Body Subtype

National government

Location

Finland

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not expected to be made available