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Well-being and attention in medical scientists

Submission date
27/11/2023

Recruitment status
No longer recruiting

Registration date
01/12/2023

Overall study status
Completed

Last Edited
15/09/2025

Condition category
Other

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Medical scientists have dual commitments to clinical care and research efforts. Such commitments can create hectic and stressful work schedules, which may impact well-being and cognition. This study tests the hypothesis that mindfulness coaching plus wearable-based lifestyle monitoring can benefit such individuals.

Who can participate?
Physician Scientists affiliated with the UC San Diego Medical Scientist Training Program aged between 20 and 45 years old

What does the study involve?
The study involved mindfulness coaching plus wearable-based lifestyle monitoring. Mindfulness coaching will be provided in small group sessions led by two psychological health experts as coaches. The coaches lead three sessions (each lasting 1.5 hours) spread over one academic quarter for each small group. The group meetings will be held virtually to maximize accessibility and comfort for the participants and will be scheduled per the participants' mutually preferred times. In each session, the coaches will conduct mindfulness exercises and lead an interactive discussion on health, well-being, resilience, leadership training, and self-compassion. Different mindfulness tools and perspectives will be suggested and discussed by the facilitators and by the participants themselves to address work-life challenges. The participants will be encouraged to share their sources of support (e.g., exploring sources of strength, stress management techniques, and spending time with loved ones). Focused mindfulness practice will be offered and taught at each session. At the end of each session, participants will be encouraged to prepare to share a tool or thought that was discussed at the next session. Intervention group participants will each be provided with a Garmin Vivosmart® 4 (a wearable device) to passively monitor and receive feedback on lifestyle factors (physical activity, heart rate, sleep quality and stress) via an app coupled to the Garmin for the duration of the intervention.

What are the possible benefits and risks of participating?
Benefits to participants may include improvements in well-being and/or cognition. This is a minimal-risk study.

Where is the study run from?
The University of California San Diego School of Medicine (USA)

When is the study starting and how long is it expected to run for?
January 2021 to December 2022

Who is funding the study?
National Institutes of Health (Grant: NIH/NIGMS 1T32GM121318-01) (USA)

Who is the main contact?
Jyoti Mishra, jymishra@ucsd.edu (USA)

Contact information

Type(s)
Public, Scientific, Principal investigator

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Study information

Scientific Title
Mindfulness coaching with digital lifestyle monitoring enhances selective attention in medical scientists

Acronym
WellMSTP

Study objectives
Mindfulness coaching with digital lifestyle monitoring will enhance well-being and cognition and medical scientists

Ethics approval required
Ethics approval required

Ethics approval(s)

approved 29/01/2021, University of California San Diego Institutional Review Board (9500 Gilman Drive, La Jolla, 92037, United States of America; +1 858-246-4777; hrpp@ucsd.edu), ref: 180140

Study design
Interventional

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Well-being

Interventions
Mindfulness Coaching
Participants will be randomized using a simple randomization method into the intervention or a waitlist control group. The intervention is a digital approach (delivered on Zoom) with group mindfulness sessions led by two psychological health faculty members as coaches. For these sessions, participants will be divided into sub-groups by career stage: pre-clinical medical scientist training program (MSTP) students, MSTP graduate students, or clinician/junior faculty. The coaches will lead three sessions (each 1.5 hours) spread over one academic quarter for each sub-group. The group meetings will be held virtually to maximize accessibility and comfort for the participants and will be scheduled per the participants' mutually preferred times. In each session, the coaches will conduct mindfulness exercises and lead an interactive discussion on health, well-being, resilience, leadership training, and self-compassion. Participants will be asked to turn on their videos for the duration of the sessions and to share personal opinions and life experiences. In these sessions, the primary goal for the coaches will be to listen attentively and promote well-being. They will also aim to validate and acknowledge challenges that participants face as physician-scientists in training or as early career faculty. Different mindfulness tools and perspectives will be suggested and discussed by the facilitators and by the participants themselves to address work-life challenges. The participants will be encouraged to share their sources of support (e.g., exploring sources of strength, stress management techniques, and spending time with loved ones). Focused mindfulness practice will be offered and taught at each session. The participants will also discuss potential changes to the physician-scientist environment that would facilitate well-being if implemented. At the end of each session, participants will be encouraged to consider a tool or thought that was discussed to share at the next session. Intervention group participants will each be provided with a Garmin Vivosmart® 4 (a wearable device) to passively monitor and receive feedback on lifestyle factors (physical activity, heart rate, sleep quality, and stress) via an app coupled to the Garmin for the duration of the intervention.

Intervention Type
Behavioural

Primary outcome(s)
1. Subjective well-being measured using a combination of the Mindful Attention Awareness Scale (MAAS), Short Warwick Edinburgh Mental Well-Being Scale (SWEMWBS), Self-Compassion

Scale (SCS), and the Maslach Burnout Inventory (MBI) at baseline and post-intervention
2. Objective cognition measured using the BrainE neurocognitive platform at baseline and post-intervention

Key secondary outcome(s))
Neuroplasticity underlying cognition measured using electroencephalography (EEG) recordings synchronized to the BrainE neurocognitive platform assessments at baseline and post-intervention

Completion date
31/12/2022

Eligibility

Key inclusion criteria
Physician Scientists affiliated with the UC San Diego Medical Scientist Training Program

Participant type(s)
Healthy volunteer, Carer

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
20 years

Upper age limit
45 years

Sex
All

Total final enrolment
43

Key exclusion criteria
Individuals not affiliated with the UCSD Medical Scientist Training Program

Date of first enrolment
01/10/2021

Date of final enrolment
01/12/2021

Locations

Countries of recruitment

United States of America

Study participating centre
University of California San Diego School of Medicine
9500 Gilman Drive
La Jolla
United States of America
92037

Sponsor information

Organisation
University of California San Diego Medical Center

ROR
https://ror.org/03aw5sn18

Funder(s)

Funder type
Government

Funder Name
National Institutes of Health

Alternative Name(s)
US National Institutes of Health, Institutos Nacionales de la Salud, NIH, USNIH

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United States of America

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study will be stored in a publically available repository, datadryad.org. The type of data stored includes all data outcome variables collected and analysed for the study. The data will be freely available for download post-publication of the research. Consent was obtained from participants for de-identified data sharing. The data will be de-identified and do not have any personal health information for participants. The data are de-identified with no ethical or legal restrictions.

IPD sharing plan summary

Stored in publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		12/09/2025	15/09/2025	Yes	No
Participant information sheet		22/03/2016	28/11/2023	No	Yes