

Study information and consent form for participation in the study:

The influence of Hatha Yoga on stress and attention

30.12.2021

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Dear study participant,

we invite you to participate in the above study.

Your participation in this study is voluntary. You may refuse to participate or withdraw your willingness to participate at any time, without giving a reason, during the course of the study. Declining to participate or withdrawing early from this study will not adversely affect you.

This type of study is necessary to obtain reliable new scientific research results. However, it is an indispensable requirement for studies to be conducted that you give your written consent to participate in this study. Please read the following text carefully and do not hesitate to ask questions.

Please sign the consent form only

- if you fully understand the nature and procedures of the study,
- if you are willing to consent to participate, and
- if you are aware of your rights as a participant in this study.

1. What is the purpose of the study?

Many people are familiar with feeling stressed and unbalanced in their daily lives. This often affects the cognition with which we go through our daily lives. This is where this scientific study comes in with the aim of investigating the effects of regular yoga practice on emotional as well as cognitive processes. The study thus serves the purpose of contributing to a more comprehensive understanding of the effects of regular yoga practice on human well-being and cognitive performance.

2. How does the study work?

General overview

As part of the study, you will be randomly assigned to one of two groups. The groups are a yoga intervention group and a so-called waiting control group. Please refer to Graphic 1 to see how being assigned to one of the two groups specifically affects the study process. All participants, regardless of the assigned group, will be given the one-time opportunity to participate in a 60-minute hatha yoga class at a yoga studio free of charge for eight weeks at a frequency of three to five times per week during the course of the study. At the beginning of the study, we will send you some questionnaires that will be used to assess, among other things, your experienced stress level, your general anxiety level, and your mindfulness. In addition, measurements will be taken with all participants at the Institute of Psychology at the University of Vienna, in the course of which various components of your attentiveness will be recorded. From the participation in the yoga classes (approx. three to five hours/week) as well as the answering of the questionnaires and the measurement time points (altogether approx. 10 hours) a total study extent of 34 to 55 hours results for you depending on the frequency with which you will attend the yoga classes. The intervention period, including the measurement time points, is expected to extend from the beginning of January 2022 to the end of June 2022 for the intervention group and from the beginning of January 2022 to the end of November 2022 for the waiting control group. However,

due to the large number of subjects and the start of the intervention in several cohorts, individual elements of the schedule may sometimes be delayed by several weeks. Therefore, the dates below are rough guidelines. You will be informed about the exact dates in due time by the study management.

Graphic 1:

Illustration of the study procedure yoga intervention group vs. waiting control group in two cohorts

Cohort 1

	Measurement point 1	Participation in yoga course	Measurement point 2	Participation in yoga course	Measurement point 3
Yoga intervention group	January/ February 2022	March/ April 2022	May/ June 2022		
Waiting control group	January/ February 2022	Waiting time (no participation in yoga course)	May/ June 2022	October/ November 2022	November/ December 2022

Cohort 2

	Measurement point 1	Participation in yoga course	Measurement point 2	Participation in yoga course	Measurement point 3
Yoga intervention group	March/ April 2022	May/ June 2022	July/ August 2022		
Waiting control group	March/ April 2022	Waiting time (no participation in yoga course)	July/ August 2022	October/ November 2022	November/ December 2022

Procedure of the measurement appointments

All measurement appointments will take place at the Institute of Psychology of the University of Vienna. You will have to be present twice both before and after the yoga intervention in order to keep the participation as comfortable as possible for you and to keep the stress on you as low as possible. You will first be trained in the independent collection of saliva samples to record your cortisol and alpha-amylase levels, and familiarized with the procedures and equipment used in the study. In addition, you will be provided with contact details through which you can obtain assistance from the study team if you have any questions or problems during your study participation. Two measurement time points (= one measurement appointment) will take a total of approximately 6 hours. You do not need to bring anything else to the appointment.

All measurement appointments will be as similar as possible.

At the first session, you will complete a behavioural task on the computer as quickly and accurately as possible. At the second session, various electrophysiological measures will be collected from you via electroencephalogram (EEG) while you perform two experimental tasks. You will also receive a link by means of which you can fill in some questionnaires online in the following days. In addition to your demographic information, we are interested in the following constructs: Anxiousness, Mindfulness, Depressiveness, Fatigue, Mental Disorders, Sleep, Self-Compassion, Social Support, and Perceived Stress. We also request that you perform saliva sampling on the specified days and at the specified times and return to the Institute afterwards. Throughout the study period, we also ask that you go about your daily life as normal.

Following your participation in the yoga intervention, i.e. no earlier than eight weeks after your first measurement appointment, we will ask you to come back to the Institute for the second measurement appointment, this time asking you to take your saliva samples at the specified times and days before the second measurement appointment and to bring them with you to the corresponding measurement appointment. If you belong to the waiting control group and decide to participate in the yoga intervention as well as the subsequent measurement, we ask you to take saliva samples again in the three days before the third measurement date, which takes place after the end of the yoga intervention, and to bring them to the last measurement.

Procedure of the yoga classes

All yoga classes take place in the yoga studio FREIRAUM (Liechtensteinstraße 10, 1090 Vienna). There will be several possible dates per week for you to participate. You are kindly asked to book the classes you would like to participate in via the booking platform SPORTMEO in time to avoid an overload of yoga classes. On the site you will have the possibility to see free available slots for the particular lesson in real time. We will inform you about the exact address as well as your access data by e-mail in due time. You will not be admitted to the classes without prior booking.

You can bring your own yoga mat as well as other utensils (blocks, straps, etc.) to the yoga classes, but you will also be given the opportunity to borrow the items needed for the yoga class at the yoga studio free of charge at any time. In addition, you should bring enough to drink and wear comfortable clothing as you would choose for other physical activities.

3. What are the benefits of participating in the study?

On the one hand, you will gain exciting insights into psychological research through your participation. On the other hand, positive effects with regard to your emotional state as well as some cognitive processes can be expected due to your regular participation in the yoga class.

Furthermore, the results of this study will contribute to a comprehensive model of the effects of hatha yoga on attentional control. This may potentially help future research to develop and optimize interventions for healthy and/ or clinical populations.

4. Are there any risks to conducting the study and is discomfort or other side effects to be expected?

The measurements in this study are non-invasive, so no pain, injury, or other discomfort is expected from them. The study does not involve the distribution of medication, nor do participants have to stop taking their regular medication. There is some risk of injury when practicing yoga, as with any other physical activity. Professional instruction of yoga sessions by

qualified instructors who have been informed that participants are beginners will prevent the risk of injury to you during yoga practice.

Unfortunately, you cannot participate in the study if any of the following apply to you:

- You are younger than 18 or older than 40 years of age
- You already practice yoga regularly (more than twice a month in the past year)
- You regularly take psychotropic drugs
- You have a history of alcohol or drug abuse
- You have a current psychiatric or neurological illness

If, during the course of the study, it is determined that any of the described items apply to you, this may result in your exclusion from the study.

5. Does participation in the study have any other lifestyle implications and what are the obligations?

You are expected to come to the yoga studio independently at least three times and up to five times a week (maximum once a day!) and participate in the on-site yoga intervention. In addition, it is your responsibility to perform and submit the saliva samples as instructed. At the measurement times themselves, you are expected to be punctual to allow the measurement to run smoothly.

6. What should be done if symptoms of discomfort, undesirable side effects and/or injuries occur?

You can take a break at any time while answering the questionnaires at the measurement times as well as after the yoga sessions. Furthermore, if you feel unwell during the course of the test and/or during the yoga sessions, or if you experience any undesirable side effects or other complaints, please contact the staff on site at any time or report to the study management at the telephone number or e-mail address provided. All unforeseen events that occur during the study will be documented by us.

Please also pay attention to the contact options listed under point 10.

7. When will the study be terminated prematurely?

You can revoke your willingness to participate and withdraw from the study at any time, even without giving reasons. This will not result in any disadvantages for you. In the case of a voluntary termination of the study, the reasons given will be recorded. However, it is also possible that the study management decides to terminate your participation in the study prematurely without first obtaining your consent. The reasons may be:

- a) You cannot meet the requirements of the study,
- b) The study director feels that continued participation in the study is not in your best interest.

8. In what way will the data collected in this study be used?

In this study, personal data will be collected from you (first and last name, date of birth, address). All data collected will be kept in strict compliance with the legal regulations on data protection. Only data necessary to achieve the study objective will be collected. Unless otherwise provided by law, only the project management has access to the confidential data in which you are mentioned by name. The project management is subject to the obligation of confidentiality. Your answers to the questionnaires in the testing, your results in the experimental tasks, any EEG data

as well as the values of your stress hormones and alpha-amylase from saliva will initially be stored electronically in pseudonymized form. For this purpose, a document will be created that links your name to these scientific data via a code. This document will be kept in a separate location and will only be accessible to the project management and the trial director. As soon as the study is finished, this document will be destroyed (at the earliest this will happen on 01.01.2023). From this point on, the data are anonymized, i.e. they can no longer be associated with you as a person. Your collected saliva samples will also be stored pseudonymously on the premises of the faculty and brought to the biochemical laboratory (Doktor-Bohr-Gasse 9, 1030 Vienna) at a later date. The saliva samples are stored in lockable freezers. The saliva samples are then analyzed in several steps. After the study is completed, your saliva samples can also no longer be linked to you. After anonymization, the data is accessible in coded form to experts for scientific evaluation. The data will be passed on exclusively for statistical purposes and you will not be mentioned by name in it without exception. You will also not be mentioned by name in any publications of the data from this study. Your name will not be published in any reports or publications resulting from the study. After participation, you have the option to have your study data deleted until it is completely anonymized. This is possible until 01.01.2023. You do not have to justify any revocation of your consent or withdrawal from the study. In the event of a revocation, the personal data collected as part of the study will be deleted. To initiate these steps, please contact the principal investigator, Mr. Bence Szaszko (contact details under point 10).

9. Are there any costs for the participants? Is there any reimbursement of costs or compensation?

Apart from the travel expenses to the test dates as well as the yoga lessons, there are no additional costs for you. This also applies in case of voluntary or involuntary drop-out. In addition, all participants have the opportunity to take part in a high-quality eight-week yoga course under professional guidance free of charge. Above a certain frequency of yoga units per week and participation in all required test dates, you will receive an additional bonus of up to €80. Full participation in the pre-tests will be rewarded with a bonus of 30 € for everyone.

Yoga group:

Should you attend a yoga class at least three times a week during the course, you will then receive an additional €30 for the completed posttests. Should you have attended yoga class an average of four times per week, you will receive €50 for full participation in the posttests.

Wait control group:

You will receive a €30 bonus for the first completed posttests.

Should you attend a yoga class at least three times a week during the course duration of the later starting yoga course, you will then receive another 30 € for the completed second posttests. If you have attended the yoga class an average of four times a week, you will receive €50 for full participation in the second posttests.

Only attendance from the beginning to the end of the session will be counted as participation. The bonus will be paid at the end of the study participation.

10. Opportunity to discuss further questions

If you have any further questions related to this study, please do not hesitate to contact the investigators. They will also be happy to answer any questions regarding your rights as a participant in this study.

Principal investigator: Bence Szaszko (bence.szaszko@univie.ac.at, Tel.: +43 660 777 10 61)

11. Declaration of consent

Name of participating person in block letters:

Date of birth:

I agree to participate in the study "The influence of Hatha Yoga on stress and attention".

I was informed by "....." (Sophia Laiber/ Bence Szaszó/ Mira Maiworm) in a detailed and understandable way about the objective, meaning and scope of the study and the resulting requirements for me. I have also read the text of this participant information and consent form, in particular the 4th section (Are there any risks, complaints and concomitant symptoms?). Questions that arose were answered for me by the study management in an understandable and sufficient manner. I have had sufficient time to decide whether I want to participate in the study. I currently have no further questions.

I will follow the instructions required for the conduct of the study, but I reserve the right to terminate my voluntary participation at any time without incurring any disadvantages. Should I wish to withdraw from the study, I may do so at any time by writing or verbally to "Name Contact Person".

At the same time, I agree that my data collected in the course of this study may be recorded and analyzed.

I agree (please select as appropriate) that my data will be permanently stored electronically in anonymized / pseudonymized form. The data will be stored in a form accessible only to the project management and secured according to current standards.

Should I wish to have my data deleted at a later date, I can do so in writing or by telephone without giving reasons and (please select as appropriate) for an unlimited period of time / by at "Name contact person and contact details".

I have read and understood the clarification section. I was able to ask all the questions that interested me during the information session. They were answered completely and understandably.

I have received a copy of this participant information and consent form. The original remains with the study management.

.....

(Date and signature of the participant)

.....

(Date, name and signature of study director)