

## Evaluation of a Virtual Agent in Guiding Users from the Non-Clinical Population in Self-Attachment Intervention

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You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish.

Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Part 1 tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the conduct of the study.

Thank you for reading this.

- **What is the purpose of the study?**

Self-Attachment is a mental health treatment designed to mentally retrain a user so they can more readily control their own emotions. Treatment aims to provide the user with unconditional love that may not have been provided by a carer during childhood. The Algorithmic Human Development group have worked to develop a Virtual Reality platform to be able to scale the delivery of Self-Attachment. We are developing a Machine Learning model that will support conversations with the user and can answer user questions that pertain to the Self-Attachment technique and its protocols. This study intends to investigate the effectiveness of the model in as an educational tool for Self-Attachment protocols.

This study is being conducted as part of a MEng Computing Individual Project.

- **Why have I been invited?**

All participants of the SAT project (“Evaluation of Self-attachment for Enhancing Positive Affects”) who consented to take part in future studies are eligible to take part in this study. The number of participants for this study is 50.

- **Do I have to take part?**

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It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

If you withdraw, any data we hold on you or your responses will be deleted, unless these have been published. Under no circumstances will we publish any personal data provided by you, and we will anonymise data we refer to in the report.

- **What do I have to do?**

If you agree to take part, you will be asked to provide the following information in order to determine whether you fit the inclusion/exclusion criteria: your age and your health status (any past or current psychological disorders or any physical health conditions). Also, you will be asked to fill out the two short questionnaires PHQ-9 and GAD-7 on depression and anxiety. If you meet the criteria, you will receive an email providing you with information about the website you will utilise to communicate with the model we are developing.

During the study, you will communicate with the ML model through a web interface and undertake a series of Self-Attachment protocols throughout the conversation. You will engage with the chatbot for two weeks for 30 minutes each day. You can exit the platform at any time, even if you have not finished yet. The protocol is as follows:

- a) The model will ask you how you feel and will engage in a dialogue with you
- b) Your current emotional state will be predicted or requested.
- c) If you display a positive emotion, a protocol will be suggested. If you display a negative emotion, questions will be asked to determine which protocol to suggest.
- e) You will select a protocol to undertake from the suggestions provided or choose a protocol of your own.
- f) The model will ask you to continue when they are ready, then ask you to provide feedback to determine whether the protocol was useful.
- g) You will then be asked if they want to perform another protocol at this time. If not, the conversation will stop, which can be restarted by pressing a button on the web interface or reloading the page. Otherwise, the user will either use the old input to determine the most appropriate protocol, provide new input, or perform a protocol following other attempted protocols.

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h) Throughout the conversation, you will be able to ask questions to the chatbot that pertain the content of the protocols, and receive automated answers. This will allow you to evaluate the chatbot's effectiveness as an educational tool.

Conversational data will be collected, including any answers the user provides to questions from the model and both sides of the conversation with the model. The participant can exit the platform at any time, even if they have not finished yet, and can return at a later point.

At the end of the trial, users will be asked to complete a Likert Scale questionnaire on the chatbot reporting on their experience; this would take at most 10 minutes to complete. They will be reminded how their data will be handled and that they can withdraw from the study at any time.

Your feedback will be used to improve our platform.

If you need support, you can contact us using the information under "Contact Information". We have a psychiatrist advisor, Dr Kamran Saedi, who can advise you if necessary.

- **What will happen to me if I take part?**

You will be required to speak with the model for at least 30 minutes each day within the trial period (which will last for 5 days).

The interaction with the model will involve asking questions on the protocols recommended by the model. . If the model's answer is not satisfactory, you will be able to pose the question again using different wording.

Please note that the contents of each conversation will be saved for the purpose of analytics, though these will be deleted at the end of September 2021 following the completion of this project, and should any parts of these conversations be published, content will be anonymised.

- **What are the possible disadvantages and risks of taking part?**

There are likely little to no risks associated with taking part in this study, however you are free to drop out from the study and withdraw your data at any point in the study.

- **What if something goes wrong?**

If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for a legal action. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been treated during the course of this study then you should immediately inform the Investigator (Prof. Abbas Edalat; a.edalat@imperial.ac.uk; 07828 02233). If you are still not satisfied with the response, you may contact the Imperial College [Research Governance Integrity Team](#).

If you need support, you can contact us using the information under "Contact Information". We have a psychiatrist advisor, Dr Kamran Saedi, who can advise you if necessary.

- **What will happen to the results of the research study?**

Data will be stored within a database in the UK. Data will be encrypted. Access to data will be restricted to co-collaborators from Imperial College London i.e. the collaborators listed at the beginning of this document. If you choose to withdraw from the trial, your data will be immediately deleted from the database. Data provided will only be held for analysis and will be deleted by the end of September 2021. Conversational data will be held within the same database to analyse the effectiveness of the model throughout conversations, but this will be restricted similarly to other data provided by participants.

Please note that the contents of each conversation will be saved for the purpose of analytics, though these will be deleted at the end of September 2021 following the completion of this project, and should any parts of these conversations be published, content will be anonymised.

- **Who is organising and funding the research?**

Imperial College London is the study sponsor. This research has been organised by Algorithmic Human Development Group at Department of Computing, Imperial College London.

- **Who has reviewed the study?**

This study was given ethical approval by the Head of Department and Research Governance and Integrity Team (RGIT).

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## Contact for Further Information

**Contact number:** 02075948245

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A copy of the written information and signed Informed Consent form will be sent to you to keep. Thank you for taking part in this study!

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## Transparency Notice

### How will your information be used about you?

#### **Research Study Title: Evaluation of a Virtual Agent in Guiding Users from the Non-Clinical Population in Self-Attachment Intervention**

Imperial College London is the sponsor for this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Imperial College London will keep your personal data for:

- 10 years after the study has finished in relation to data subject consent forms.
- 10 years after the study has completed in relation to primary research data.

We will need to use information from you for this research project.

This information will include your name, age, gender and contact details. People will use this information to do the research or to check your records to make sure that the research is being done properly.

People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number instead.

We will keep all information about you safe and secure.

Once we have finished the study, we will keep some of the data so we can check the results.

We will write our reports in a way that no-one can work out that you took part in the study.

### **Legal Basis**

As a university we use personal information to conduct research that will either be in the public interest, or the legitimate interests of the College.

As a publicly-funded organisation we have to ensure that when we use personally-identifiable information from people who have agreed to take part in research, it is either in the public interest, or that our legitimate purposes are both properly notified to you and are not overridden by your rights.

We will conduct scientific research in compliance with the law and the recommendations and guidance published by the UK Information Commissioners Office (ICO). This will follow similar rules to health and care research but may not meet the definition of the College's public interest task. In such cases we will be holding and using your data for what are deemed our "legitimate interests".

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## International Transfers

There may be a requirement to transfer information to countries outside the European Economic Area (for example, to a research partner). Where this information contains your personal data, Imperial College London will ensure that it is transferred in accordance with data protection legislation. If the data is transferred to a country which is not subject to a European Commission (EC) adequacy decision in respect of its data protection standards, Imperial College London will enter into a data sharing agreement with the recipient organisation that incorporates EC approved standard contractual clauses that safeguard how your personal data is processed.

## Sharing your information with others

For the purposes referred to in this privacy notice and relying on the bases for processing as set out above, we will share your personal data with certain third parties.

- Other College employees, agents, contractors and service providers (for example, suppliers of printing and mailing services, email communication services or web services, or suppliers who help us carry out any of the activities described above). Our third party service providers are required to enter into data processing agreements with us. We only permit them to process your personal data for specified purposes and in accordance with our policies.

## What are your choices about how your information is used?

You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have if the project report has been published, which will occur in mid-June 2021. Otherwise, we will delete information about you that we have.

- We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.
- If you agree to take part in this study, you will have the option to take part in future research using your data saved from this study. [Algorithmic Human Development Lab]

## Where can you find out more about how your information is used?

You can find out more about how we use your information

- by asking one of the research team
- by sending an email to [wenfei.fang18@imperial.ac.uk](mailto:wenfei.fang18@imperial.ac.uk), or
- by ringing us on 02075948245.

## Complaint

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If you wish to raise a complaint on how we have handled your personal data, please contact Imperial College London's Data Protection Officer via email at [dpo@imperial.ac.uk](mailto:dpo@imperial.ac.uk), via telephone on 020 7594 3502 and/or via post at Imperial College London, Data Protection Officer, Faculty Building Level 4, London SW7 2AZ.

If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO). The ICO does recommend that you seek to resolve matters with the data controller (us) first before involving the regulator.