

We are pleased to welcome you to our research study! We are interested in understanding how personalised messages generated by large language models (LLMs) and contextual multi-armed bandits (cMABs) can support physical activity through behaviour change techniques (BCTs).

The study is divided into four sections. The **first section** focuses on questionnaires to collect data relevant to personalised intervention strategies in physical activity promotion. The **second section** of the study involves two questionnaires that will be sent out twenty-eight times over the course of a month: one at the time stated by you during the sign-up for the study, which will contain motivational messages, and one at the end of the day to check in if you did a physical activity that day. Additionally, there will be a 5-minute check-in online meeting after 14 days into the study. The **third section** is a conclusion questionnaire asking general questions about the study. Optional: The **fourth section** is an online interview with limited places, which will yield extra compensation. A separate email will be sent a week before the study concludes for sign-up for the optional interview.

Each part of the study requires a different amount of time. In sum, the study should not take more than four hours, five with the optional interview, in total over the 30 days. Monetary assessment - Amazon gift vouchers - is linked to your continuation of the study:

- * First section + 14 days of the second section (including check-in interview): 24 Canadian Dollars - approx. Time-investment: 2 hours

- * First section + second section - 38 Canadian Dollars (approx.). Time-investment: 3 hours & 10 minutes

- * First section + second section + third section - 48 Canadian Dollars (approx.). time-investment: 4 hours

- * First section + second section + fourth section + optional interview: 60 Canadian Dollars - approx. Time-investment: 5 hours

- * Any other form of participation: Due to our limited resources, we cannot provide monetary compensation for participants who only complete the pre-study questionnaire and/or drop out of the study before the check-in interview. Please be mindful of this before you sign up for the study.

The gift vouchers will be distributed via email after the study concludes, approximately. Mid-November to the beginning of December.

The results of the study are intended to be reported in medical, scientific, and educational journals and disclosed at medical and scientific conferences. Rest assured, we will not disclose any information that could reveal your identity. For an independent opinion regarding the research and the rights of research participants, you may contact the University of Toronto Research Oversight and Compliance Office - Human Research Ethics Program via email (ethics.review@utoronto.ca) or phone (416-946-3273).

Europe only: In accordance with the GDPR, should you have any concerns regarding the processing of your data, you have the option to submit a complaint here: https://www.edps.europa.eu/data-protection/our-role-supervisor/complaints_en.

By participating in the study, you consent to:

- I consent to take part in this research study and understand that my participation is voluntary and that I may withdraw at any time without penalty.
- I consent to complete the pre-study questionnaire(s), daily questionnaires for 28 days, the 14-day check-in, and the conclusion questionnaire as described.
- I understand that I will receive personalized motivational messages generated using large language models (LLMs) and that my questionnaire responses will be used by models and algorithms (including cMABs) to personalize those messages.
- I consent to the collection and use of my self-reported physical activity and questionnaire data for research, model training, analysis, and publication in de-identified, aggregated form.
- I understand that my email address will be used for communication about the study and for voucher distribution, and that email addresses will be stored separately from research data.
- I understand that compensation will be provided only according to the tiers described in the Participant Information Sheet and that vouchers will be distributed after the study concludes (approx. mid-November).
- I understand that if I withdraw my consent, I may request deletion of identifiable data before aggregation and analysis, and that some data already used in anonymized analyses may not be removable.
- I understand who to contact with questions about the study and for independent advice (ethics office details provided in the Participant Information Sheet).

Your involvement in this research is entirely optional. You are welcome to withdraw at any point during the study. Should you have any questions or concerns, the Principal Investigator of this study can be contacted at [phintervention@gmail.com]. By clicking the button below, you acknowledge:

- Your participation in the study is voluntary.
- You are 18 years of age.
- You are aware that you may choose to terminate your participation at any time for any reason.
- Monetary compensation will be provided based on the criteria as mentioned earlier. Please work on the information that fits the different pages.