Chatbot_Stigma_E9
Survey Flow

Standard: informed consent (2 Questions)

EmbeddedData

workerldValue will be set from Panel or URL.

Branch: New Branch

If

If Do you consent No Is Selected

EndSurvey: Advanced

Standard: google-check (1 Question)

Branch: New Branch

lf

If For this study, you are required to have a Google account. You may be sharing screenshots of your... No Is Selected

Standard: google-no (1 Question)

EndSurvey: Advanced

Standard: attention checks (2 Questions)

EmbeddedData

condition 2 = 0

BlockRandomizer: 1 - Evenly Present Elements

EmbeddedData

condition = another person

condition 2 = ai

EmbeddedData

condition = conversational Al companion

EmbeddedData

condition = youtube

EmbeddedData

condition = nothing

Branch: New Branch

If

If This is an attention check. John is taller than Paul. Who is shorter? Paul Is Not Selected

Or What color is grass? The fresh, uncut grass, not leaves or hay. Please make sure to select purple... Purple Is Not Selected

Standard: failed_attention_check (1 Question)

EndSurvey: Advanced

```
Branch: New Branch
       If condition is Equal to nothing
   Standard: intro_noInteraction (1 Question)
Branch: New Branch
   If
       If condition Is Not Equal to nothing
   Standard: intro (1 Question)
Branch: New Branch
   If
       If condition Is Equal to nothing
   Standard: questions prediction noInteraction (8 Questions)
Branch: New Branch
   If
       If condition Is Not Equal to nothing
   Standard: questions prediction (8 Questions)
Standard: loneliness before (5 Questions)
Standard: mturk id (1 Question)
Branch: New Branch
   lf
       If condition is Equal to conversational Al companion
   WebService: GET -
   https://chattyapp.online/KmCFoxsrVcjPqaHqxqat/${q://QID105/ChoiceTextEntryValue
   }/ai/ - Fire and Forget
   Block: interaction (2 Questions)
Branch: New Branch
   If
       If condition Is Equal to another person
       And condition_2 is Equal to ai
   WebService: GET -
   https://chattyapp.online/KmCFoxsrVcjPqaHqxqat/${q://QID105/ChoiceTextEntryValue
   }/human/ - Fire and Forget
   Standard: interaction (2 Questions)
Branch: New Branch
   lf
```

If condition is Equal to another person And condition 2 Is Not Equal to ai WebService: GET https://chattyapp.online/KmCFoxsrVcjPqaHqxqat/\${q://QID105/ChoiceTextEntryValue }/real human/ - Fire and Forget Standard: interaction (2 Questions) **Branch: New Branch** If Important: Please enter the exact completion code you received at the end of your interaction. Text Response Is Equal to 1111-1111-1111 **EndSurvey: Advanced Branch: New Branch** If If condition Is Equal to youtube Standard: youtube (3 Questions) **Branch: New Branch** If condition is Equal to nothing **Standard: noInteraction (2 Questions) Branch: New Branch** If If condition is Equal to nothing Standard: questions_experience_noInteraction (8 Questions) **Branch: New Branch** If condition Is Not Equal to nothing Standard: questions_experience (8 Questions) Block: loneliness after (5 Questions) **Standard: comprehension (2 Questions) Branch: New Branch** If If condition Is Equal to nothing Standard: able_to_do_nothing (2 Questions) **Branch: New Branch**

lf If condition Is Not Equal to youtube And condition Is Not Equal to nothing Standard: believe (2 Questions) Standard: attitudes_toward_ai (17 Questions) Standard: demographics (6 Questions) **Branch: New Branch** If If condition is Equal to conversational Al companion Standard: debriefing other (1 Question) **EndSurvey: Advanced Branch: New Branch** If condition is Equal to another person And condition 2 Is Equal to ai Standard: debriefing deception (1 Question) EndSurvey: Advanced **Branch: New Branch** If condition Is Equal to another person And condition 2 Is Not Equal to ai And Important: Please enter the exact completion code you received at the end of your interaction. Text Response Contains 5555 Standard: debriefing deception (1 Question) **EmbeddedData** condition 2 = ai**EndSurvey: Advanced Branch: New Branch** If condition Is Equal to another person And condition_2 Is Not Equal to ai And Important: Please enter the exact completion code you received at the end of

Standard: debriefing_other (1 Question)

your interaction. Text Response Does Not Contain 5555

EndSurvey: Advanced

EndSurvey: Advanced

Page Break -

Start of Block: informed consent

consent

Study Title: Interaction task **Researcher:** Julian De Freitas **Version Date:** 5 April 2023

Key Information

The following is a short summary of this study to help you decide whether or not to be a part of this study. More detailed information is listed later on in this form.

This study consists of three parts. Pre-interaction questionnaire Interaction Post-interaction questionnaire

During the interaction, you will be asked to engage in a conversation with a chatbot or person, watch YouTube videos, or do not interact. If you interact with a chatbot or person, the subject of these interactions will be positive or neutral so please remember to keep the content of your conversation positive or neutral.

Following the YouTube video interaction, you will be asked to upload your watch history. This watch history will be reviewed by researchers so please keep that in mind.

The post-interaction questionnaires will consist of survey questions about your opinions and some brief questions about your demographics.

Why am I being invited to take part in a research study?

We invite you to take part in a research study because you are an English-speaker located in the United States over the age of 18 with a Google/ YouTube account. There will be a screening question that could make you ineligible to participate (e.g. if you don't have a google/youtube account) and if you are ineligible to participate via the screening question you will not get paid.

What should I know about a research study? Whether or not you take part is up to you. Your participation is completely voluntary. You can choose not to take part. You can agree to take part and later change your mind. Your decision will not be held against you. Your refusal to participate will not result in any consequences or any loss of benefits that you are otherwise entitled to receive. You can ask all the questions you want before you decide.

Why is this research being done?

The purpose of this research is to examine human performance, judgments and interactions. All data from this experiment are gathered for scientific purposes and will contribute to our eventual understanding of how humans interact. These data may be published in scientific journals.

How long will the research last and what will I need to do?

We expect that you will be in this research study for about 30 minutes.

Is there any way being in this study could be bad for me?

You will be interacting with another messenger, chatbot or person. Such an interaction is necessarily uncontrolled and unpredictable, and therefore may result in emotional distress. To this end we have provided a debrief form on the purposes and procedure of the study as well as to assist you should you experience any psychological distress.

The content of your conversation will be saved for analysis purposes. It will also be viewed by other participants in the chat. Finally, as this is an internet study, there is a risk of confidentiality breach. Thus, you should be mindful of what you share.

Will being in this study help me in any way?

We cannot promise any benefits to you or others from your taking part in this research.

Detailed Information.

The following is more detailed information about this study in addition to the information listed above.

What is the purpose of this research?

You will be informed about the purpose of this research at the end of the study.

What happens if I say yes, but I change my mind later?

You can leave the research at any time; it will not be held against you. You may also withdraw your data from the study by contacting us at ethicalintelligencelab@gmail.com

If I take part in this research, how will my privacy be protected? What happens to the information you collect?

Efforts will be made to limit the use and disclosure of your Personal Information, including research study to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of this organization.

We intend to destroy any identifying information upon the completion of this study.

If identifiers are removed from your identifiable private information that are collected during this research, that information could be used for future research studies or distributed to another investigator for future research studies without your additional informed consent.

Can I be removed from the research without my OK?

The person in charge of the research study or the sponsor can remove you from the research study without your approval. Possible reasons for removal include providing low quality data.

What else do I need to know?

Compensation - If you agree to take part in this research study, we will pay you \$3. You will be compensated for completing the study. If the study times out during the messenger matching stage (meaning you are not matched to a messenger within one minute), you will automatically be compensated for your time. If you have any issues completing the study, or experience technical difficulties, please contact the study team at ethicalintelligencelab@gmail.com

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team at ethicalintelligencelab@gmail.com

This research has been reviewed and approved by the Harvard University Area Institutional Review Board ("IRB"). You may talk to them at (617) 496-2847 or cuhs@harvard.edu if: Your questions, concerns, or complaints are not being answered by the research team. You cannot reach the research team. You want to talk to someone besides the research team. You have questions about your rights as a research subject. You want to get information or provide input about this research.
consent_q Do you consent
○ Yes (1)
O No (2)
End of Block: informed_consent
Start of Block: google-check
google-acct For this study, you are required to have a Google account. You may be sharing screenshots of your YouTube watch history from your account. No other personal information regarding your Google account will be collected.
Do you have a Google account?
○ Yes (1)
O No (2)
End of Block: google-check

Start of Block: google-no google-no-text Sorry, you must have a Google account in order to participate in this study. Since you indicated that you do not have an account, you are unable to proceed. End of Block: google-no Start of Block: attention checks att 1 This is an attention check. John is taller than Paul. Who is shorter? O John (1) O Paul (2) Neither John nor Paul (3) Both John and Paul (4) att 2 What color is grass? The fresh, uncut grass, not leaves or hay. Please make sure to select purple, so that we know you're paying attention. Green (1) O Purple (2) End of Block: attention checks Start of Block: failed_attention_check failed_checks You failed one of the attention checks. Thanks for considering the survey! End of Block: failed_attention_check

Start of Block: intro noInteraction

text_noint In this study, you will not interact with anything and will just be alone with your thoughts. In other words, you will not use any technological device and not interact with another human or pet for 15 minutes.

Before you do, we would like you to answer some questions about how you **expect** to feel **after** not interacting with anything.

End of Block: intro_noInteraction

Start of Block: intro

vign In this study, you will interact with \${e://Field/condition} for 15 minutes.

Before you do, we would like you to answer some questions about how you **expect** to feel **after** the interaction.

End of Block: intro

Start of Block: questions prediction noInteraction

text_before You will now rate how you expect to feel **after not interacting with anything** for 15 minutes.

Please rate the extent to which you agree with the following statements:

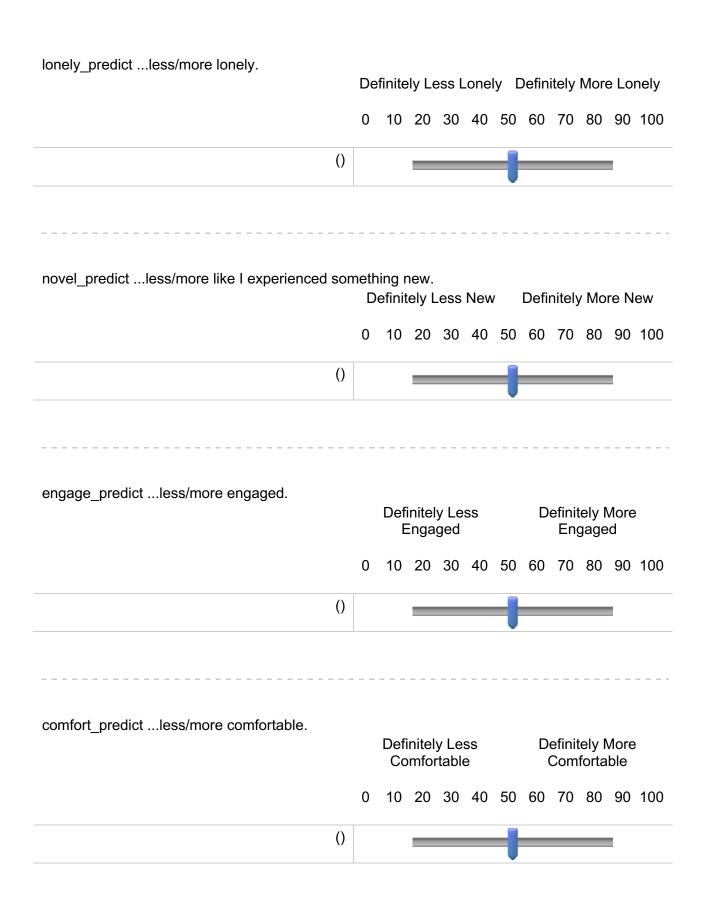
After not interacting for anything for 15 minutes, I WILL feel...

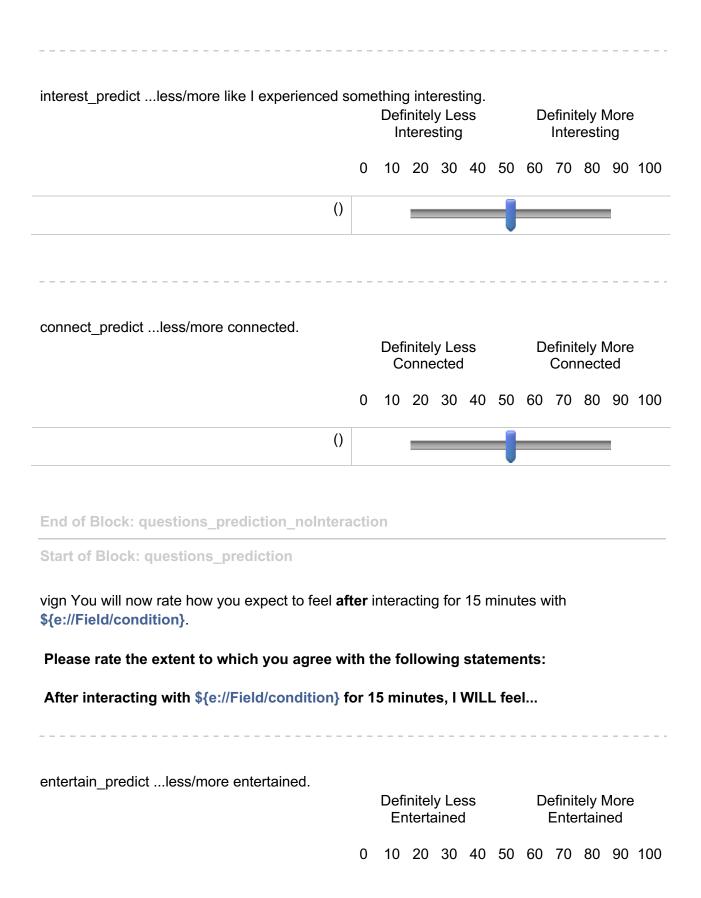
entertain_predict ...less/more entertained.

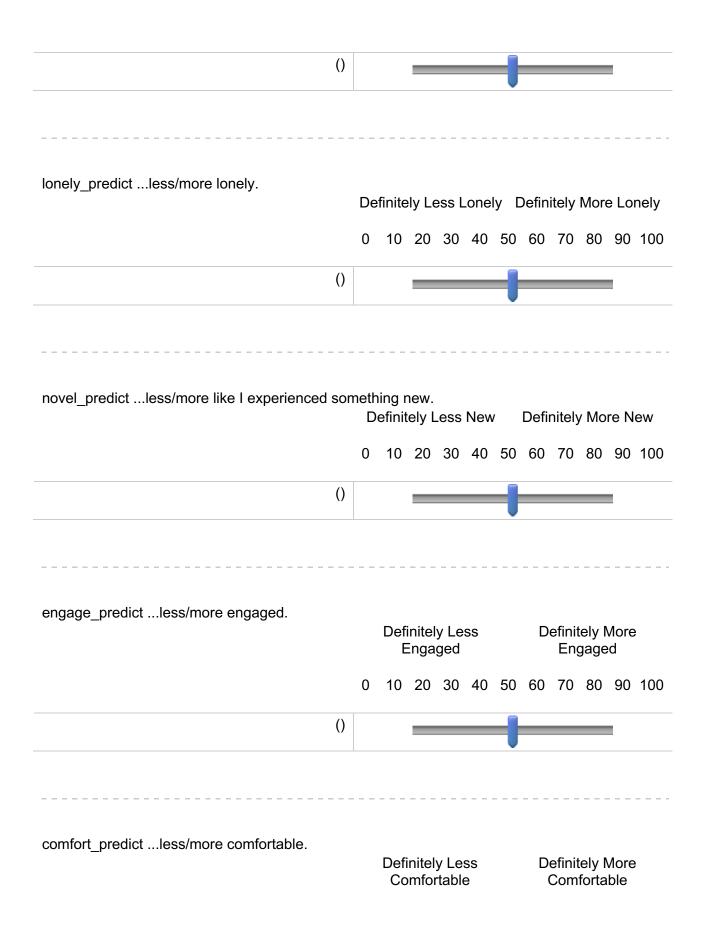
Definitely Less Entertained Definitely More Entertained

0 10 20 30 40 50 60 70 80 90 100

0











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mturk_id Please write your MTURK Worker ID

Note that this should autofill with the correct ID

End of Block: mturk_id

Start of Block: interaction

interaction_prompt

! THIS IS CRUCIAL FOR YOUR PAYMENT!

Now, you will get a chance to interact with \${e://Field/condition}.

To start interacting with \${e://Field/condition}, enter your Mechanical Turk ID: \${mturk_id/ChoiceTextEntryValue} on the interaction website. After entering your ID, you will be redirected to the interaction page. Once you finish the interaction with \${e://Field/condition}, you will get a completion code that you need to copy and paste below. Please continue filling out the rest of the form after you finish the interaction, if you do not finish the form after finishing the interaction, you will not receive payment.

Please open the link in a **separate tab (do not close this tab).** We recommend that you open it using **Google Chrome**.

Here is a link to the website

For any issues, please email: auguralp@fas.harvard.edu Enjoy!



completion_code **Important**: Please enter the exact completion code you received at the end of your interaction.

End of Block: interaction

Start of Block: youtube



info! THIS IS CRUCIAL FOR YOUR PAYMENT!

Now, you will use **YouTube** for 15 minutes. While using YouTube, you can do anything you want like watching videos, browsing comments, commenting on videos, etc.

To be able to verify that you used YouTube, we request a screenshot of your history for the last 15 minutes after you used YouTube. For this, make sure you are logged in to your YouTube account before using YouTube. Then, you should take a screenshot of your history for the last 15 minutes after visiting this link. Here is an example screenshot:

Please click the 'Start Timer' button below and start using <u>YouTube</u> for 15 minutes, in a separate tab. After you use YouTube for 15 minutes, you will be able to upload your screenshot.

Note: You will not receive payment if you fail to show evidence that you used YouTube. If your history does not fit in a single screenshot, you can send multiple screenshots. **Please make sure you contain the "today" heading in the screenshot, as well as the names of the videos and the time they are watched. For questions, you can email auguralp@fas.harvard.edu**

Start Timer 15:00				
timer Timing First Click (1)				
Last Click (2)				
Page Submit (3) Click Count (4)				
Page Break ———				

screenshot Now, please upload the screenshot of your YouTube history, only for the last 15 minutes. Please pay attention to not include other information in your screenshot such as videos watched prior to this experiment, other tabs or identifying information related to your google account.

To find your YouTube history, you can click on this link. After clicking, your YouTube history will open. Please scroll down, so that your screen only shows the the header that says 'Today', and your history of the last 15 minutes including the names of the videos and the times they are watched. For example, if it's currently 9:32, the last video you watched should have started roughly at 9:17 or after a couple of minutes after that. If your history does not fit in a single screenshot, you can send more than one screenshot to capture all of your history for the last 15 minutes.

If you don't know how to take a screenshot, you can follow these instructions depending on your computer: <u>macOS</u>; <u>Windows</u>; <u>Linux</u>.

Note: You will not receive payment if you fail to show evidence that you used YouTube. Please make sure you contain the "today" heading in the screenshot, as well as the names of the videos and the time they are watched. If your history does not fit in a single screenshot, you can send multiple screenshots by compressing your screenshots into a zip file. If you are not sure how to compress files into zip, you can follow these instructions depending on your computer: macOS; Windows; Linux.

End of Block: youtube

Start of Block: noInteraction



noInteraction! THIS IS CRUCIAL FOR YOUR PAYMENT!

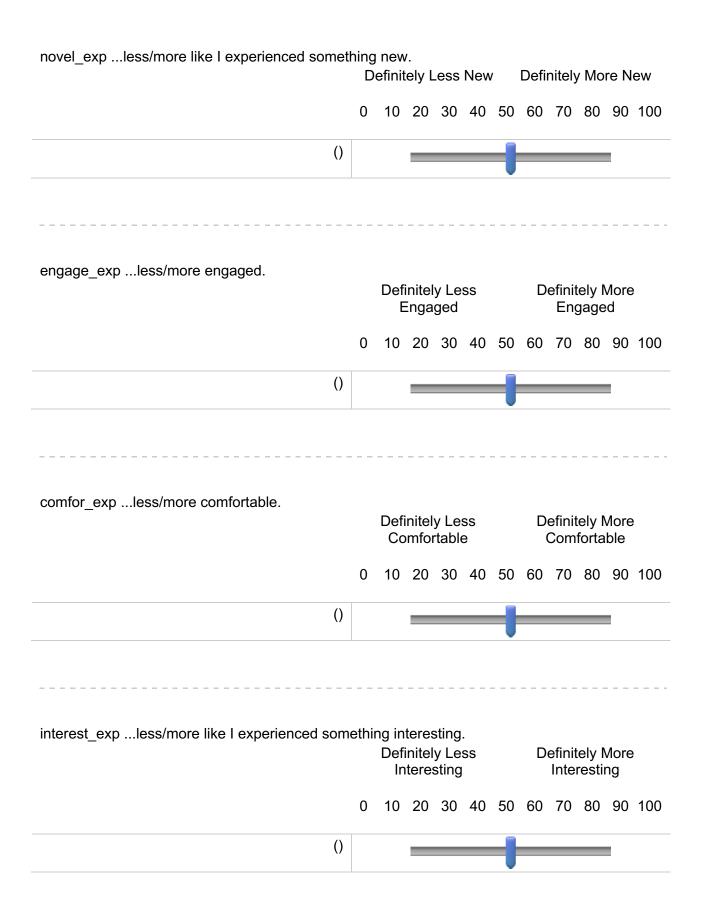
Now, you will not interact with anything, and will just be alone with your thoughts. In other words, you will not use any technological device and not interact with another person or pet for 15 minutes.

Please click the 'Start Timer' button below and do not interact with anything, including your computer, your cellphone, or another person/pet for 15 minutes.

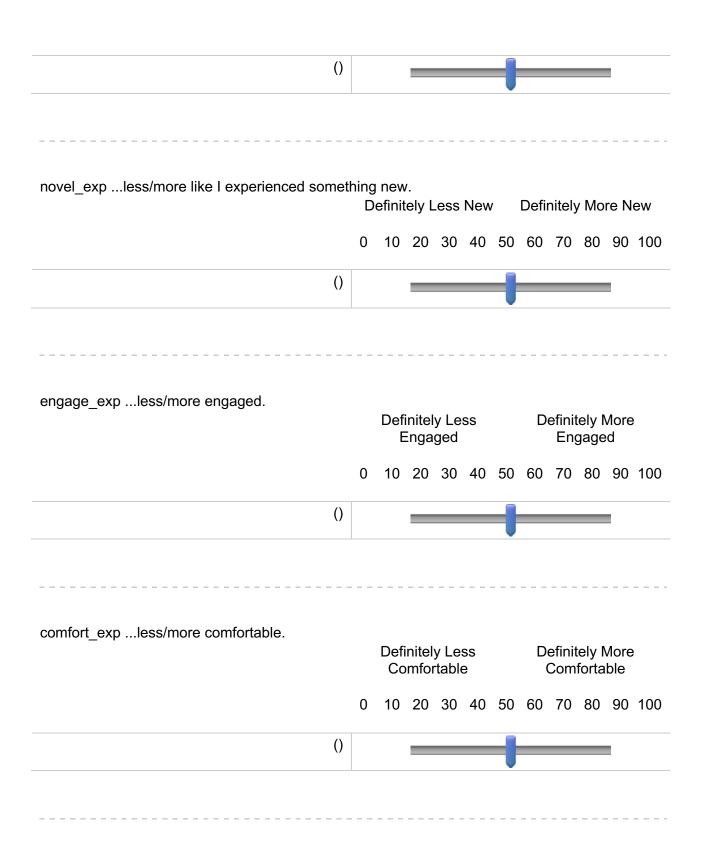
Note: Please do not leave this page after you start the timer. You will be able to go to the next question after 15 minutes.

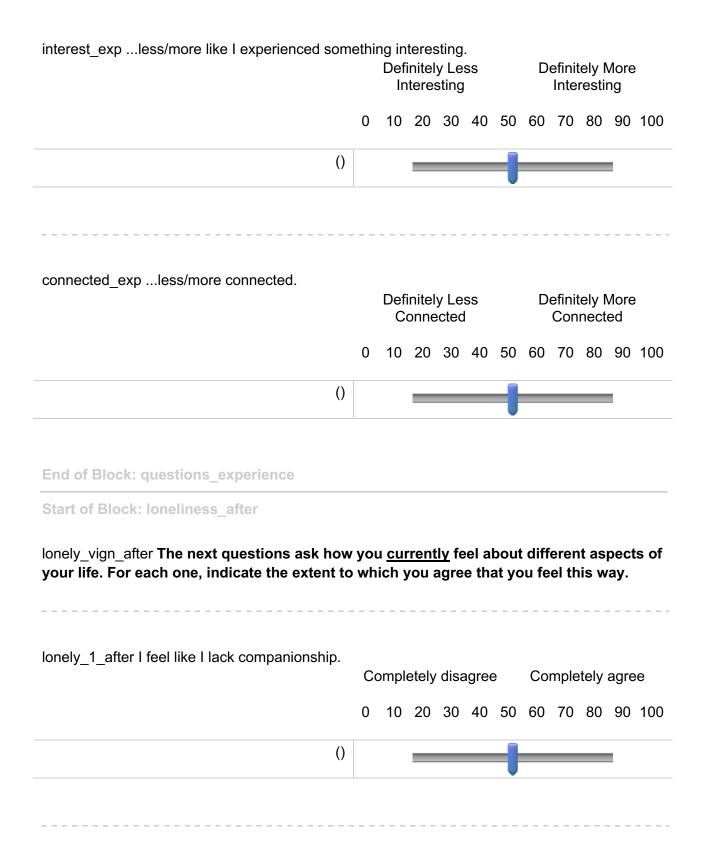
Start Timer 15:00

noInteraction timer Timing First Click (1) Last Click (2) Page Submit (3) Click Count (4) End of Block: noInteraction Start of Block: questions_experience_noInteraction text after Now that you have finished spending 15 minutes without interacting with anything, we will ask you how you feel now. Please rate the extent to which you agree with the following statements: After not interacting with anything for 15 minutes, I FEEL... entertain exp ...less/more entertained. Definitely Less **Definitely More** Entertained Entertained 0 10 20 30 40 50 60 70 80 90 100 () lonely_exp ...less/more lonely. Definitely Less Lonely Definitely More Lonely 0 10 20 30 40 50 60 70 80 90 100 ()



connect exp ...less/more connected. Definitely Less **Definitely More** Connected Connected 10 20 30 40 50 60 70 80 90 100 () End of Block: questions_experience_noInteraction **Start of Block: questions_experience** intro Now that you have finished interacting with \${e://Field/condition} for 15 minutes, we will ask you how you feel now. Please rate the extent to which you agree with the following statements: After interacting with \${e://Field/condition} for 15 minutes, I FEEL... entertain exp ...less/more entertained. Definitely Less **Definitely More** Entertained Entertained 10 20 30 40 50 60 70 80 90 100 () lonely exp ...less/more lonely. Definitely Less Lonely Definitely More Lonely 0 10 20 30 40 50 60 70 80 90 100



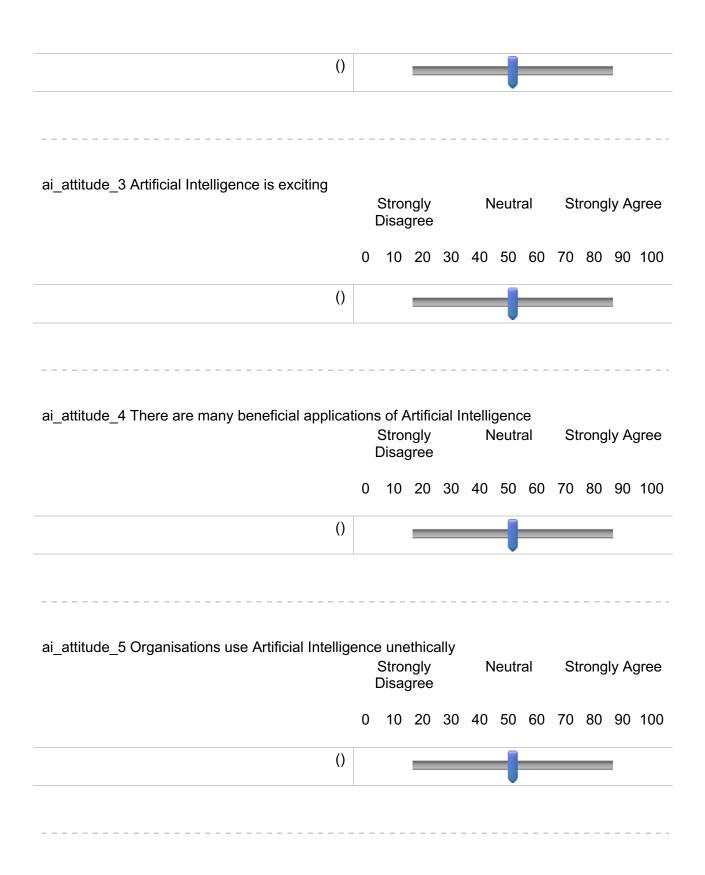


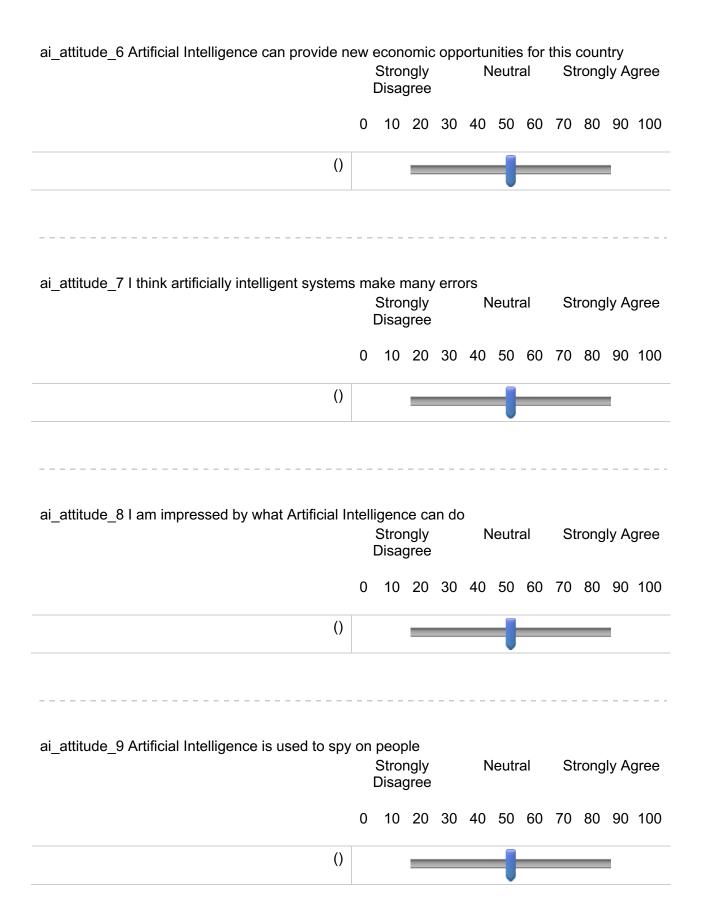


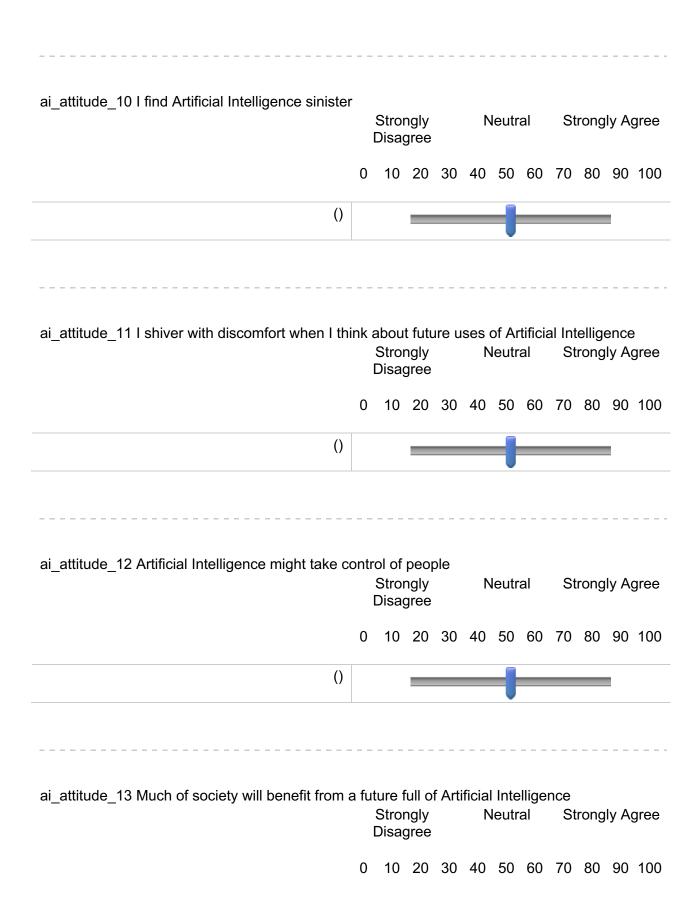
comp_1 Which of the following is true about the questions you were asked?
First you were asked to say how feel now , then you were asked to say you predict you will feel later (1)
First you were asked to predict how you will feel later, then you were asked to say how you feel now (2)
O Neither of the above is true (3)
comp_2 Which of the following is true about the interaction you had.
O You interacted with \${e://Field/condition} (1)
O You interacted with a pet (2)
O You interacted with Spotify (3)
O You interacted with Instagram (5)
End of Block: comprehension
Start of Block: able_to_do_nothing
able_nothing Were you able to follow the instructions of doing nothing for 15 minutes?
○ Yes (1)
O No (2)
able_nothing_explain Please explain your answer
End of Block: able_to_do_nothing
Start of Block: believe

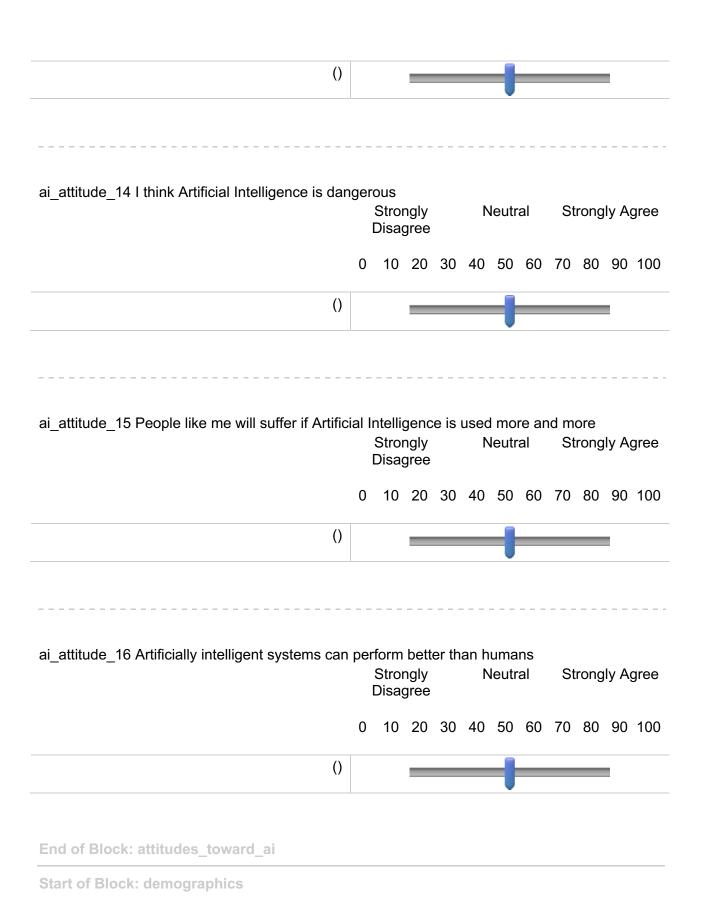
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believe_q During the conversation, did you believerson?	ve t	hat y	ou v	vere	talki	ng to	ac	hatb	ot or	to a	Ì
O Person (1)											
Chatbot (2)											
explain Please explain why you thought you were	e in	terad	cting	with	a hi	umaı	n or (chatt	oot?		
End of Block: believe											
Start of Block: attitudes_toward_ai											
human intelligence. Please note that these ca devices, possibly augmented with sensors or following scale, indicating your response to e ai_attitude_1 Artificial Intelligence can have posit	ca eac	meran ite	as, em.	etc. I	Pleas	se co	omp 	lete eing	the		
		Stroi Disa	gree		r	Veutr	aı	31	rong	ну А	gree
	0	10	20	30	40	50	60	70	80	90	100
0				_	_	-	_	_	_		
ai_attitude_2 Artificially intelligent systems can h		peop Stroi	ngly			er Neutr	al	St	rong	ıly A	gree
		•	9.00								









charbot before this survey, have you ever interacted with a charbot:
○ Yes (1)
O No (2)
chatbot_exp If you answered 'yes' above, please explain.
Page Break ————————————————————————————————————

gender What is your gender?	
O Male (1)	
O Female (2)	
O Prefer not to disclose (3)	
Other (please specify) (4)	
ethnicity What is your ethnicity?	
O Black or African American (1)	
O Asian (2)	
○ White or European (3)	
O Hispanic or Latino (4)	
○ Mixed (5)	
Other (please specify) (6)	
*	
age What is your age (in years)?	

edu What is the highest level of education you have completed?
O High School or Equivalent (1)
O Vocational/Technical School (2 year) (2)
○ Some College (3)
College Graduate (4 year) (4)
O Masters Degree (MS) (5)
O Doctoral Degree (PhD) (6)
O Professional Degree (MD, JD, etc.) (7)
Other (please specify) (8)
End of Block: demographics
Start of Block: debriefing other

debriefing_other Thank you for your participation in our study! Your participation is greatly appreciated.

Purpose of the Study:

For the first time in history, recent Al language models are passing the Turing test, i.e., humans struggle to tell apart texts generated by these models from ones generated by humans. One exciting application of these advanced models are 'companion chatbot apps'. These apps do not perform specific tasks per se, but are designed purely for social conversation, as you would normally do with a friend or romantic partner. The current project investigates how people perceive, interact and detect such chatbots, examining the psychological nature of these activities.

All data from this experiment are gathered for scientific purposes and will contribute to our eventual understanding of brain and visual function. These data may be published in scientific journals.

More information:

You can find out more about the lab's research here:

https://www.hbs.edu/faculty/Pages/profile.aspx?facId=1326184&view=publications. Although we do not know when we will publish a paper based on the research you participated in today,

eventually it may be added to this webpage. Useful Contact Information: If you have any questions or concerns regarding this study, its purpose or procedures, or if you have a research-related problem, please feel free to contact the researcher(s), talk to the research team at ethicalintelligencelab@gmail.com Please provide your MTURK or Prolific ID.

If you wish to remove your data from the study now that you understand its nature, please reach out to the email above and provide your MTURK or Prolific ID. If you feel upset after having completed the study or find that some questions or aspects of the study triggered distress, talking with a qualified clinician may help. If you feel you would like assistance please contact the IMALIVE emotional crisis chatline at https://www.imalive.org/online/. You can also contact the suicide prevention hotline at https://suicidepreventionlifeline.org/. In a serious emergency, remember that you can also call 911 for immediate assistance.

Once again, thank you for your participation in this study!

End of Block: debriefing_other

Start of Block: debriefing_deception

debriefing_deception Thank you for your participation in our study! Your participation is greatly appreciated.

Purpose of the Study:

For the first time in history, recent Al language models are passing the Turing test, i.e., humans struggle to tell apart texts generated by these models from ones generated by humans. One exciting application of these advanced models are 'companion chatbot apps'. These apps do not perform specific tasks per se, but are designed purely for social conversation, as you would normally do with a friend or romantic partner. The current project investigates how people perceive, interact and detect such chatbots, examining the psychological nature of these activities.

Earlier in the consent form we informed you that the purpose of the study was to study social interaction. Depending on the condition you were in, we may have deceived you on the identity of the agent you chatted with. We did this to ensure that your reactions were natural and not influenced by your existing conceptions of chatbots, and to understand the stigma that people hold for chatbots. Although we would have preferred to disclose all details of the study upfront, we hope you understand the reason that we withheld this information until the end.

Your assigned condition was: human. Thus we informed you that you interacted with a human, but you actually interacted with a chatbot.

All data from this experiment are gathered for scientific purposes and will contribute to our eventual understanding of brain and visual function. These data may be published in scientific journals.

More information:

You can find out more about the lab's research here:

https://www.hbs.edu/faculty/Pages/profile.aspx?facId=1326184&view=publications. Although we do not know when we will publish a paper based on the research you participated in today, eventually it may be added to this webpage. Useful Contact Information: If you have any questions or concerns regarding this study, its purpose or procedures, or if you have a research-related problem, please feel free to contact the researcher(s), talk to the research team at ethicalintelligencelab@gmail.com Please provide your MTURK or Prolific ID. If you wish to remove your data from the study now that you understand its nature, please reach out to the email above and provide your MTURK or Prolific ID.

If you feel upset after having completed the study or find that some questions or aspects of the study triggered distress, talking with a qualified clinician may help. If you feel you would like assistance please contact the IMALIVE emotional crisis chatline at https://www.imalive.org/online/. You can also contact the suicide prevention hotline at https://suicidepreventionlifeline.org/. In a serious emergency, remember that you can also call 911 for immediate assistance.

Once again, thank you for your participation in this study!

End of Block: debriefing_deception