KANTAR PUBLIC=

Public Voice

Technical note on panel survey 25

Alan Turing Institute / Ada Lovelace Institute

January 2023

1.   Technical note

1.1   Objectives

Public Voice panel survey 25 comprised a single survey on the topic of artificial intelligence It was commissioned jointly by the Alan Turing Institute and Ada Lovelace Institute. The target population was GB individuals aged 18+ and living in residential accommodation. The target respondent sample size was 4,000.

1.2   Sample and fieldwork design

1.2.1   The Public Voice panel

At the time of this survey (November 2022), the Public Voice panel comprised 25,620 members from across the UK. Most of these panel members were recruited via the 'ABOS' method in which (probabilistically) sampled individuals complete a 20-minute recruitment questionnaire either by web or on paper. Recruitment surveys were carried out in 2019, 2020 and 2021 and the respondent samples have been linked together via a weighting protocol to form a single panel.

It is worth noting that in 2019 Kantar Public carried out a (smaller sample) interview-based recruitment survey to help 'benchmark' the parallel ABOS recruitment survey. The interview survey sample was compared to the ABOS recruitment survey sample with respect to every question, whether demographic or non-demographic. This allowed a multidimensional selection model to be generated, operationalised through a set of 'calibration' weights applied to the ABOS recruitment survey sample. These calibration weights are used to inform sampling from the panel for particular surveys. Kantar Public expects that this approach limits the influence of recruitment method on the validity of the survey estimates.[1]

A full technical report for Public Voice is available separately.

1.2.2   Sample design

The sample for the survey was drawn from among the 24,673 respondents to the Public Voice recruitment surveys who were (i) resident in Great Britain based on the latest information available, (ii) aged 18+, (iii) had joined the Public Voice panel, and (iv) had not left or been removed from the panel.

The eligible subset of the Public Voice panel was implicitly stratified by (i) sex/age group, (ii) highest educational level, and (iii) region before a systematic random sample was drawn.

The sampling probabilities applied to each panel member *varied* in an effort to produce a maximally representative respondent sample. Broadly speaking, this sampling probability was proportionate to the product of (i) the panel member's recruitment survey weight, and (ii) one divided by the estimated probability of the panel member responding to *this* survey, conditional on their inclusion in the recruitment survey dataset. In technical terms, panel members were sampled with a probability proportionate to a size measure ('PPS').

The mean sampling probability among survey-eligible panel members was 0.44, the standard deviation was 0.32 and the range was 0.05-0.95. In total, 10,754 panel members were sampled for this survey.[2] One in five of these (2,172) was allocated to a reserve pool, with uniform allocation probability and this reserve pool was further subdivided into five batches of n=434-435. Systematic

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[1] The Covid-19 pandemic affected recruitment because Kantar Public needed to carry out the second and third Public Voice recruitment surveys (in 2020 and 2021) without a benchmarking interview survey. The data from the original recruitment surveys in 2019 was utilised to estimate a *period effect* that could be layered across the original calibration model.

[2] The mean sampling probability among *sampled* panel members was much higher than for panel members in general (0.67 compared to 0.44). This difference is a reflection of the disproportionate sample design described in the text.

sampling methods were used for both steps to ensure that the main sample and each reserve batch was a statistical replicate of the whole sample.

In the event, the first of the five reserve batches was issued just before the end of fieldwork to ensure that the target respondent sample size (4,000) was achieved by the fieldwork deadline (21/12/2022).

Within the main sample, a subset of 500 (drawn from among those who could be surveyed by web) was allocated to a 'soft launch', issued to the field two days before the remaining sample. This allowed the research team to check for any questionnaire scripting errors that had not previously been identified. No errors were found and the remaining 8,082 panel members were issued to the field as scheduled.

In total, 9,017 panel members were issued to the field: 8,582 from the main sample pool (including 500 in the soft launch phase) and 435 from the reserve pool.

1.2.3 Fieldwork design

The sample was issued to the field in three stages: (i) a random subsample of 500 - taken from the main issue sample of 8,582 – was issued as a 'soft launch' 28/11/2022; (ii) the remainder of the main issue sample (n=8,082) was issued 30/11/2022; batch 1 of the reserve sample (n=435) was issued 19/12/2022.

All fieldwork was completed by 21/12/2022.

Both web surveying and telephone interviewing methods were used for this survey. Although web surveying is the default method, a targeted subset of web non-respondents was eligible for telephone interview.[3] Furthermore, another subset of 290 panel members were issued straight to telephone on the basis of their previously recorded preference and/or their offline status. Due to scheduling constraints, web surveying was the only method offered to the 435 panel members in the issued reserve sample.

The fieldwork process was as follows:

28/11/2022   Main sample 'soft launch' invitation sent (email/SMS)

30/11/2022   Main sample 'full launch' invitation sent (email/SMS; letter if neither); telephone interviewing begins with those in the 'straight to telephone' subset

5/12/2022   Main sample first e-reminder sent (email/SMS)

7-8/12/2022   Main sample letter reminder sent (mailed letter; landed no earlier than 12/12/2022); telephone interviewing begins with non-responders eligible to be offered this mode

12/12/2022   Main sample second e-reminder sent (email/SMS)

15/12/2022   Main sample third e-reminder sent (email/SMS)

19/12/2022   Reserve sample invitation sent (email/SMS)

21/12/2022   All fieldwork ends

All emails contained individualised survey hyperlinks, so no login details were required. Additional verification was based on panel member birthdate (including year). Where an email address was available, SMS text messages were used only as a supporting communication, sent to panel members who had not opened the email 24 hours after it had been sent. The first three of these text messages did not contain an embedded survey hyperlink. However, the last text message (sent 15/12/2022) *did* contain a survey hyperlink. Where an email address was not available, all text messages contained a survey hyperlink. The contact management system *sendinblue*[4] was used for all email and text message communications.

A letter was sent to all main sample non-responders 7-8/12/2022. The letter contained survey login details but not a printed individualised survey hyperlink.

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[3] This targeted subset was pre-allocated after the sample was drawn and initially comprised 3,157 panel members in the main issue sample. A telephone number was available for c.2,000 other panel members but telephone interviewing resources were focused on those least likely to respond by web, given the scheduling constraints.

[4] https://www.sendinblue.com/

Those who completed the survey – and for whom an email or mobile telephone number was available - were sent a thank you email and/or text message together with a £10 e-voucher. Those for whom no email or mobile telephone number was available were sent a thank you letter, including a £10 shopping voucher card.

1.3   Questionnaire design

The following steps were taken to produce the questionnaire.

An **inception workshop** between the Research Team and client was held to establish and confirm the overall objectives and scope of the survey content. During this meeting concerns were raised that the proposed scope for the questionnaire would not fit with the 20-minute online interview length. A solution was agreed upon, to create two streams of questions within the questionnaire so that all questions required would be covered whilst keeping to the 20-minute online interview length. In addition, technology cases use's that were not vital to the study would also be dropped.

To aid this process we supplied a **questionnaire timing tool**. This tool made it possible to estimate questionnaire interview length as and when updates to the questionnaire design were considered. This informed decision-making regarding how many questions per case use and how many case uses to include. It also ensured that the length of interview for the two streams of the questionnaire (Groups A and B) would match.

Prior to drafting the questionnaire, we supplied a **questionnaire map** which focused on the key 'across' questions that would be repeated across the technology case uses. Once this was agreed upon, an initial draft of questionnaire was supplied to the client, starting an **iterative review** and redrafting process. Given the complexity of the questionnaire and the need to clearly define a range of complex and relatively unknown technology case uses, aspects of the drafting process (namely, the initial drafting of the case use descriptions) were supplied by the client.

Questions were drafted based on **key design principles**: they should work for online self-completion; they should work across all screen sizes; and they should be written in plain English. And a preliminary strategic review of these questions was held to ensure they meet the policy requirement.

Cognitive testing was performed in order explore how participants understand, mentally process, and respond to questions and so help to identify and address problems in this process.

A total of **12 cognitive interviews** were performed over Zoom. Since the start of Covid-19, we have successfully conducted cognitive interviews remotely via Zoom for clients such as BEIS, US State Department, Historic England and UCL and we used this approach here. To identify suitable participants to include in cognitive testing quotas (such as age, gender, disability, socio-economic grade and region) were agreed in advance and adhered to. Our researchers draw on established assessment techniques, including verbal probing, think-aloud and paraphrase protocols, and observation of non-verbal behaviours.

Analysis from the cognitive testing was incorporated into the questionnaire design and a final **questionnaire signed off** with the client. Thereafter, a telephone version of the questionnaire was created catering for the telephone interviews and a Public Voice start and end module were also added to the questionnaire. These modules ensured panellists correctly signed into the questionnaire as well as also sought updates of (i) where the panel member lives, (ii) working status, and (iii) contact details. For the most part, the respondents needed only to confirm details already supplied but any changes were collected here. A 'current status' data file is kept for all panel members, initially equal to the recruitment survey status but updated where applicable.

Finally, the client was given the opportunity to review the questionnaire once it had been scripted and prior to soft launch. Further amends were incorporated at this stage at the client's request before signing off again and launching the questionnaire.

1.4   Fieldwork performance

In total, 4,012 questionnaires were completed and passed a basic QC test. The QC test had two components: (i) the respondent had to have completed the last substantive question, and (ii) the complete questionnaire length had to be at least 40% of the 'adjusted median' among web survey

respondents. The 'adjusted median' was the median among web survey respondents but excluding the longest 10% (which were mostly multi-session responses). There were 130 web responses that passed QC test component (i) but not (ii). Module allocation pattern had a negligible influence on questionnaire length.

Of the 4,012 passing the basic QC test, 3,759 responded by web (94%) and 253 by telephone (6%).

The overall conversion rate (the number completing the survey and passing the QC test divided by the number issued for fieldwork) was 44%. If a design weight is computed that is equal to the inverse of the survey sampling probability, then the conversion rate was 45% (the difference is due to the fact that those expected to respond at a lower-than-average rate were sampled at a higher-than-average rate, and vice versa). The conversion rate for the main issue sample was very slightly lower than anticipated, hence the late decision to issue batch 1 of the reserve sample. The conversion rate for the main issue sample – with its completed fieldwork protocol – was 46% (47% weighted).

In total, 3,447 panel members in the main issue sample were eligible to be called by telephone, although many of these completed the survey by web before a call was made. 2,788 were called at least once by a telephone interviewer, although a large number of these (803) ended up completing the survey by web too. Of those called at least once, 43% finished with an 'interim' outcome meaning that, technically, more calls could have been made had fieldwork not closed on 21/12/2022. However, the median number of calls made to these panel members was 8 (mean = 7.6) and, overall, only 3% of those panel members called by telephone ended up with an interim outcome *and* were called fewer than four times.[5]

Table 1.1 shows the final disposition of all issued cases.

Table 1.1: Final disposition of all issued cases

	N	%
Issued	9,017	100%
Web questionnaire completed and passed QC	3759	42%
Telephone questionnaire completed and passed QC	253	3%
No web completion, issued to telephone, non-interview final outcome	531	6%
No web completion, issued to telephone, no final outcome	1,201	13%
No web completion, not issued to telephone	3,273	36%

1.5 Weighting

The respondent sample was weighted in three stages:

1) For every respondent, a *base weight* was calculated that was equal to his/her recruitment survey weight divided by the probability of being sampled for the survey (which varied substantially).

2) For every respondent, a *propensity score weight* was estimated, as a function of the recruitment survey variables. Technically, this propensity score weight was equal to the estimated odds of being present in the fully weighted recruitment survey dataset *rather than* the base-weighted respondent dataset when the latter dataset is added to the former (meaning that survey respondents are present in both datasets). To limit over-reliance on the model, the propensity score weight was limited to the inter-95%ile range, and the value of the

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[5] The number of calls is actually the number of call-periods in which a call was made. Each day is divided into three call periods: morning, afternoon, and evening.

product of the base and propensity score weights was similarly trimmed.[6] This was used as weight (2).

3) Using weight (2) as a starting point, the respondent sample was calibrated to the weighted ONS *Labour Force Survey* of July to September 2022 (the latest available) with respect to sex*age group, region, birth country, and highest educational level. The classic raking algorithm was used for this step.

Based on the standard set of 362 category-level proportions across 99 recruitment survey variables, the median difference between the weighted respondent dataset and the weighted recruitment survey dataset was only 0.5 percentage points. 95% of differences were <=2 percentage points.

The overall weighting efficiency was 75%, equivalent to a design effect of 1.33 and an effective sample size of 3,008 (4,012*75%).

Table 1.2 shows the calibration matrix that was used for the survey, derived from the ONS *Labour Force Survey* of July through September 2022 but with some adjustments to reflect minor differences between the LFS and Public Voice variables.

Table 1.3: ONS Labour Force Survey population estimates, July through September 2022, GB adults aged 18+

Variable	Category	% of population
	All	100.0
Sex/age group	Male 18-24	5.2
	Male 25-34	8.6
	Male 35-44	8.1
	Male 45-54	8.2
	Male 55-64	7.9
	Male 65-74	6.2
	Male 75+	4.8
	Female 18-24	5.0
	Female 25-34	8.4
	Female 35-44	8.2
	Female 45-54	8.4
	Female 55-64	8.2
	Female 65-74	6.7
	Female 75+	5.9
	*Other	0.2
Region	NE England	4.1
	NW England	11.2
	Yorkshire & The Humber	8.4
	E Midlands	7.4
	W Midlands	9.0
	E England	9.7
	London	13.8

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[6] The respondent sample was divided into five equal-sized groups on the basis of survey sampling probability: weight (2) was trimmed to between 1/3 and 3 times the median weight for the relevant 'sampling probability' group. This approach was taken to ensure that the probability of a trimmed weight was not related to a panel member's sampling probability.

	SE England	14.1
	SW England	8.8
	Wales	4.9
	Scotland	8.6
Highest education level	Degree level qualifications, aged 18-69	31.6
	Lower qualifications, aged 18-69	45.6
	No qualifications, aged 18-69	5.6
	Aged 70+	17.2
UK birth/citizenship status	UK born	82.8
	Not UK born	17.2

* Declaration of sex as 'identify differently' fixed at recruitment survey weighted level

2.   Survey Questionnaire

CAWI
Questionnaire

Q001 - Intro_Text	**Text**

Not back

This month's questionnaire is interested in people's attitudes toward new technologies. Each of the technologies explored in this questionnaire involves the use of artificial intelligence (AI) to varying degrees.

What is AI?

AI is a term that describes the use of computers and digital technology to perform complex tasks commonly thought to require intelligence.

AI systems typically analyse large amounts of data to take actions and achieve specific goals, sometimes autonomously (without human direction).

Q162 – Intro_Text_2   **Text**

Not back

[**CAWI**: The following screens will describe to you several new technologies that use artificial intelligence (AI) to varying degrees, and will ask you some questions about each of them.][**CATI**: Throughout this interview I will be describing to you several new technologies that use artificial intelligence (AI) to varying degrees, and will ask you some questions about each of them.]

Before we look at any specific technologies, [**CAWI**: we][**CATI**: I] would first like to ask you some questions about you and new technologies in general. When answering these questions please think about your overall opinion toward new technologies. This may involve new forms of technology that use AI, as well as new technologies that do not.

Q002 - Techinte   **Single coded**

Not back

Overall, how interested are you in new technologies?

Normal

1	Very interested *Fixed*
2	Fairly interested *Fixed*
3	Not very interested *Fixed*
4	Not at all interested *Fixed*
5	Not sure *Fixed*

Q003 - Techinfo   Single coded

Not back

And, overall, how well informed do you feel about new technologies?

Normal

1	Very well informed *Fixed*
2	Fairly well informed *Fixed*
3	Not very well informed *Fixed*
4	Not at all informed *Fixed*
5	Not sure *Fixed*

Not back

Q004 - Dig_Lit

Not back | Number of rows: 8 | Number of columns: 5

On the whole, how confident are you in your ability to do each of the following:

Rows: Random | Columns: Normal

Rendered as Dynamic Grid

	Very confident *Fixed*	Fairly confident *Fixed*	Not very confident *Fixed*	Not at all confident *Fixed*	Don't know *Fixed*
Use the internet to find information that helps you solve problems	○	○	○	○	○
Attach documents to an email and share it	○	○	○	○	○
Create documents using word processing applications (e.g. a CV or a letter)	○	○	○	○	○
Set up an email account	○	○	○	○	○
Organise information and content using files and folders (either on a device, across multiple devices, or on the Cloud)	○	○	○	○	○
Recognise and avoid suspicious links in emails, websites, social media messages and pop-ups	○	○	○	○	○
Pay for things online	○	○	○	○	○
Set up an online account that enables you to buy goods and services (e.g. Amazon account, eBay, John Lewis)	○	○	○	○	○

Not back | Number of rows: 5

People often have different views toward new technologies.

[**CAWI**: On the screen are two contrasting statements. Please select a point on the line between the two statements that you feel best reflects your **personal opinion** toward new technologies.]

[**CATI**: Soon I will read you two opposing statements. On a scale of 0 to 10, I would like you to tell me the number that you feel best reflects your **personal opinion** toward the two statements.

For example, if the first statement is '0. You are hungry' and the second statement is '10. You are full', answering 0 would mean you strongly agree that 'you are hungry' whereas answering 10 would mean you strongly agree that 'You are full'. Answering 5 would mean that you are between hungry and full. Does that make sense to you? Ok let's give it a try.]

Normal

[CAWI: I][CATI: You] do not seek out new technologies or gadgets	1 2 3 4 5 6 7 8 9 10	When new technologies or gadgets are introduced, [CAWI: I][CATI: You] like to try them
Overall, new technologies make [CAWI: my][CATI: your] quality of life worse	1 2 3 4 5 6 7 8 9 10	Overall, new technologies improve [CAWI: my][CATI: your] quality of life
3. [CAWI: I][CATI: You] find it difficult to keep up to date with new technologies	1 2 3 4 5 6 7 8 9 10	[CAWI: I][CATI: You] find it easy to keep up to date with new technologies
[CAWI: I][CATI: You] do not like my online activity being tracked	1 2 3 4 5 6 7 8 9 10	[CAWI: I am][CATI: You are] fine with my online activity being tracked
So long as the technology works, [CAWI: I][CATI: You] don't need to know how it works	1 2 3 4 5 6 7 8 9 10	Knowing how new technologies work is important to [CAWI: me][CATI: you]

Q006 - Techsocial_Slider   **Left-right slider**

Not back | Number of rows: 2

We'd now like you to think about the impact of new technologies on society.

[CAWI: Please select a point on the line between the two statements that you feel best reflects your opinion, overall, on **the impact of new technologies on society**.]

[CATI: Once again, I will read you two opposing statements. On a scale of 0 to 10, I would like you to tell me the number that you feel best reflects opinion toward the two statements. When answering, please think about the **impact of new technologies on society overall.**]

On the whole, new technologies:

Normal

Are changing society too quickly	1 2 3 4 5 6 7 8 9 10	Are changing society at a good pace
Are making society worse	1 2 3 4 5 6 7 8 9 10	Are making society better

B004 - Survey_Intro   **End block**

B006 - Face_Recog   **Begin block**

Q008 - Prelim_CasesFR   **Text**

Not back

[**CAWI**: We will now look at some examples of new technologies that use artificial intelligence (AI) to varying degrees, and ask you some questions about each of them.][**CATI**: I will now describe to you some examples of new technologies that use artificial intelligence (AI) to varying degrees, and ask you some questions about each of them.]

Q009 - Face_RecogText   **Text**

FACE RECOGNITION

Face recognition technologies are AI technologies that can compare and match human faces from digital images or videos against those stored elsewhere.

The technology works by first being trained on many images, learning to pick out distinctive details about people's faces.

These details, such as distance between the eyes or shape of the chin, are converted into a face-print, similar to a fingerprint.

Q010 - Mobile_Phone   **Text**

USING FACE RECOGNITION TO OPEN A PHONE

One use of face recognition technology is for unlocking mobile phones and other personal devices.

Such devices use this technology by scanning the face of the person attempting to unlock the phone through the camera, then comparing it against a saved face-print of the phone's owner.

Q011 - Aware_MP   **Single coded**

Before today, had you heard of the use of **face recognition technology** to unlock a phone or other personal device?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Q012 - Exp_MP1 | **Single coded**

Not back

How much personal experience have you had, if any, with use of **face recognition technology** to unlock a phone or other personal device?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q013 - Exp_MP2 | **Single coded**

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **face recognition technology** to unlock a phone or other personal device?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q014 - Exp_MP3 | Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **face recognition technology** to unlock a phone or other personal device?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q015 - BenA_MP | Single coded

Not back

To what extent do you think that the use of **face recognition technology** to unlock a phone or personal device will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q016 - BenB_MP   Multi coded

Which of the following, if any, are ways you think the use of **face recognition technology** to unlock a phone or personal device will be beneficial?

Please select all that apply.

Random

1   It is faster to unlock a phone or personal device

2   People's personal information will be more safe and secure

3   Something else (please specify) *Fixed*

4   None of these *Fixed *Exclusive*

5   Don't know *Fixed *Exclusive*

Q017 - ConA_MP   Single coded

To what extent are you concerned about the use of **face recognition technology** to unlock a phone or personal device?

Normal

1   Very concerned *Fixed*

2   Somewhat concerned *Fixed*

3   Not very concerned *Fixed*

4   Not at all concerned *Fixed*

5   Don't know *Fixed*

Q018 - ConB_MP

Which of the following, if any, are concerns that you have about the use of **face recognition technology** to unlock a phone or personal device?

Please select all that apply.

Random

1	The technology will be unreliable, making it take longer to unlock your phone or personal device
2	The technology will gather personal information which could be shared with third parties
3	The technology will make it easier for other people to unlock your phone or personal device
4	People's personal information will be less safe and secure
5	Some people may find it difficult to use the technology
6	The technology will be less effective for some groups of people in society than others
7	Something else (please specify) *Open *Fixed*
8	None of these *Fixed *Exclusive*
9	Don't know *Fixed *Exclusive*

Q019 - Border_Control   Text

FACE RECOGNITION AT BORDER CONTROL

Another use of face recognition technology is to assist with border control.

'eGates' at many international airports use face recognition technologies to attempt to automatically verify travellers' identities by comparing the image on their passport with an image of their face taken by a camera at the gate.

If the technology verifies the person's identity, the eGate will open and let them through, otherwise they will be sent to a human border control officer.

Q020 - Aware_BC **Single coded**

Before today, had you heard of the use of **face recognition technology** at border control?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q020 - Aware_BC**,1

Q021 - Exp_BC1 **Single coded**

How much personal experience have you had, if any, with the use of **face recognition technology** at border control?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q022 - Exp_BC2

Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **face recognition technology** at border control?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q023 - Exp_BC3

Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **face recognition technology** at border control?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q024 - BenA_BC   Single coded

<u>**Not back**</u>

To what extent do you think that the use of **face recognition technology** at border control will be beneficial to society?

<u>**Normal**</u>

1   Very beneficial *Fixed*

2   Fairly beneficial *Fixed*

3   Not very beneficial *Fixed*

4   Not at all beneficial *Fixed*

5   Don't know *Fixed*

Q025 - BenB_BC   **Multi coded**

<u>**Not back | Min = 1**</u>

Which of the following, if any, are ways that you think the use of **face recognition technology** at border control will be beneficial?

Please select all that apply.

<u>**Random**</u>

1	Processing people at border control will be faster
2	People will not have to answer personal questions sometimes asked by border control officers
3	The technology will be more accurate than border control officers at detecting people who do not have the right to enter
4	The technology will be less likely than border control officers to discriminate against some groups of people in society
5	People's personal information will be more safe and secure
6	The technology will save money usually spent on human resources
7	Something else (please specify) *Open *Fixed*
8	None of these *Fixed *Exclusive*
9	Don't know *Fixed *Exclusive*

Q026 - ConA_BC   Single coded

Not back

To what extent are you concerned about the use of **face recognition technology** at border control?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Not back

Q027 - ConB_BC   **Multi coded**

Which of the following, if any, are concerns that you have about the use of **face recognition technology** at border control?

Please select all that apply.

Random

1	The technology will be unreliable and cause delays when it breaks down
2	The technology will not be as accurate as border control officers at detecting people who do not have the right to enter
3	The technology will gather personal information which could be shared with third parties
4	People's personal information will be less safe and secure
5	The technology will be more likely than border control officers to discriminate against some groups of people in society
6	Border control officers will rely too heavily on the technology rather than their professional judgements
7	Some people may find it difficult to use the technology
8	It will lead to job cuts. For example, for trained border control officers
9	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
10	It will be more difficult to understand how decisions are reached
11	Something else (please specify) *Open *Fixed*
12	None of these *Fixed *Exclusive*
13	Don't know *Fixed *Exclusive*

Q028 - Policing_Surveillance   **Text**

FACE RECOGNITION IN POLICING AND SURVEILLANCE

Another use of face recognition technology is in policing and surveillance.

Some police forces in Britain and elsewhere use this technology to compare video footage from CCTV cameras against face databases of people of interest, such as criminal suspects, missing persons, victims of crime or possible witnesses.

Q029 - Aware_PS   **Single coded**

Before today, had you heard of the use of **face recognition technology** in policing and surveillance?

Normal

1   Yes *Fixed*

2   No *Fixed*

3   Not sure *Fixed*

Q030 - Exp_PS1

Single coded

Not back

How much personal experience have you had, if any, with the use of **face recognition technology** in policing and surveillance?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q031 - Exp_PS2

Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **face recognition technology** in policing and surveillance?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q032 - Exp_PS3	Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **face recognition technology** in policing and surveillance?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q033 - BenA_PS	Single coded

Not back

To what extent do you think that the use of **face recognition technology** in policing and surveillance will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q034 - BenB_PS   Multi coded

Not back | Min = 1

Which of the following, if any, are ways that you think the use of **face recognition technology** in policing and surveillance will be beneficial?

Please select all that apply.

Random

1	The technology will make it faster and easier to identify wanted criminals and missing persons
2	The technology will be more accurate than police officers and staff at identifying wanted criminals and missing persons
3	The technology will be less likely than police officers and staff to discriminate against some groups of people when identifying criminal suspects
4	The technology will save money usually spent on human resources
5	People's personal information will be more safe and secure
6	Something else (please specify) *Open *Fixed*
7	None of these *Fixed *Exclusive*
8	Don't know *Fixed *Exclusive*

Q035 - ConA_PS   Single coded

Not back

To what extent are you concerned about the use of **face recognition technology** in policing and surveillance?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q036 - ConB_PS

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **face recognition technology** in policing and surveillance?

Please select all that apply.

Random

1	The technology will be unreliable and will cause delays identifying wanted criminals and missing persons
2	The technology will not be as accurate as police officers and staff at identifying wanted criminals and missing persons
3	If the technology makes a mistake it will lead to innocent people being wrongly accused
4	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
5	The technology will be more likely than police officers and staff to discriminate against some groups of people in society
6	The technology will gather personal information which could be shared with third parties
7	People's personal information will be less safe and secure
8	It will lead to job cuts. For example, for trained police officers and staff
9	Police officers and staff will rely too heavily on the technology rather than their professional judgements
10	Something else (please specify) *Open *Fixed*
11	None of these *Fixed *Exclusive*
12	Don't know *Fixed *Exclusive*

B006 - Face_Recog

End block

Q037 - Elig_DecText	Text

Not back

TECHNOLOGIES THAT CALCULATE ELIGIBILITY

Some organisations use AI technologies to help them decide whether someone is eligible for the programmes or services they offer.

These AI technologies draw on data from previous eligibility decisions to assess the eligibility of a new applicant.

The recommendations of the technology are then used by the organisation to make the decision.

Q038 - Elig_Welfare	Text

Not back

TECHNOLOGIES THAT CALCULATE ELIGIBILITY FOR WELFARE

AI technologies that assess eligibility are sometimes used to determine a person's eligibility for welfare benefits, such as Universal Credit, Jobseeker's Allowance or Disability Living Allowance.

Here, AI technologies are trained on lots of data about previous applicants for similar benefits, such as their employment history and disability status, learning patterns about which features are associated with particular decisions.

Many applications will only be considered for the benefit once the computer has marked them as eligible.

Q039 - Aware_Wel | **Single coded**

Before today, had you heard of the use of **AI technologies for assessing eligibility** for welfare benefits?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q039 - Aware_Wel**,1

Q040 - Exp_Wel1 | **Single coded**

How much personal experience have you had, if any, with the use of **AI technologies for assessing eligibility** for welfare benefits?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q041 - Exp_Wel2   Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **AI technologies for assessing eligibility** for welfare benefits?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q042 - Exp_Wel3   Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **AI technologies for assessing eligibility** for welfare benefits?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q043 - BenA_Wel

To what extent do you think that the use of **AI technologies for assessing eligibility** for welfare benefits will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Not back | Min = 1

Which of the following, if any, are ways that you think that the use of **AI technologies for assessing eligibility** for welfare benefits will be beneficial?

Please select all that apply.

Random

1	Determining eligibility for benefits will be faster and easier
2	The technology will be more accurate than welfare officers at determining eligibility for welfare benefits
3	There will be less human error in determining eligibility for benefits
4	The technology will be less likely than welfare officers to discriminate against some groups of people in society
5	The technology will save money usually spent on human resources
6	People's personal information will be more safe and secure
7	Something else (please specify) *Open *Fixed*
8	None of these *Fixed *Exclusive*
9	Don't know *Fixed *Exclusive*

Q045 - ConA_Wel   Single coded

To what extent are you concerned about the use of **AI technologies for assessing eligibility** for welfare benefits?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q046 - ConB_Wel

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **AI technologies for assessing eligibility** for welfare benefits?

Please select all that apply.

Random

1	The technology will be unreliable and will cause delays to allocating welfare benefits
2	The technology will not be as accurate as welfare officers at determining eligibility for welfare benefits
3	The technology will be more likely than welfare officers to discriminate against some groups of people in society
4	The technology will gather personal information which could be shared with third parties
5	People's personal information will be less safe and secure
6	It will lead to job cuts. For example, for trained welfare officers
7	It will be more difficult to understand how decisions about allocating welfare benefits are reached
8	Welfare officers will rely too heavily on the technology rather than their professional judgements
9	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
10	The technology will be less able than welfare officers to take account of individual circumstances
11	Something else (please specify) *Open *Fixed*
12	None of these *Fixed *Exclusive*
13	Don't know *Fixed *Exclusive*

Q047 - Dev_Wel   **Matrix**

Not back | Number of rows: 4 | Number of columns: 5

The Department for Work and Pensions (DWP) may ask an outside organisation to produce AI technologies for assessing eligibility for welfare benefits for them.

Thinking about each of the groups below, how concerned do you feel, if at all, about each of them producing new computer technologies for assessing eligibility for welfare benefits?

Rows: Random | Columns: Normal

Rendered as Dynamic Grid

	Very concerned *Fixed*	Somewhat concerned *Fixed*	Not very concerned *Fixed*	Not at all concerned *Fixed*	Not sure *Fixed*
Private companies	○	○	○	○	○
Not for profit organisations (e.g. charities)	○	○	○	○	○
Another governmental body or department	○	○	○	○	○
Universities/academic researchers	○	○	○	○	○

Q048 - Elig_Job   **Text**

Not back

TECHNOLOGIES THAT CALCULATE ELIGIBILITY FOR A JOB

One use of AI technologies for assessing eligibility is for reviewing people's job applications. The technology will look at a person's job application or CV and automatically determine if they are eligible for a job.

Here, AI technologies are trained on lots of data from decisions about previous applicants for similar roles, learning patterns about which features are associated with particular hiring outcomes.

Many employers who use this technology will only read the applications that the computer has marked as an eligible match for the role.

Q049 - Aware_Job   **Single coded**

Before today, had you heard of the use of **AI technologies for assessing eligibility** for jobs?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q049 - Aware_Job**,1

Q050 - Exp_Job1   **Single coded**

How much personal experience have you had, if any, with the use of **AI technologies for assessing eligibility** for jobs?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q051 - Exp_Job2　　　　　　　　　　　　　　　　　　　　Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **AI technologies for assessing eligibility** for jobs?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q052 - Exp_Job3　　　　　　　　　　　　　　　　　　　　Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **AI technologies for assessing eligibility** for jobs?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q053 - BenA_Job   Single coded

To what extent do you think that the use of **AI technologies for assessing eligibility** for jobs will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q054 - BenB_Job   **Multi coded**

<u>**Not back | Min = 1**</u>

Which of the following, if any, are ways that you think that the use of **AI technologies for assessing eligibility** for jobs will be beneficial?

Please select all that apply.

<u>**Random**</u>

1   Reviewing job applications will be faster and easier for employers and recruiters

2   The technology will be more accurate than employers and recruiters at reviewing job applications

3   There will be less human error in determining eligibility for a job

4   The technology will be less likely than employers and recruiters to discriminate against some groups of people in society

5   The technology will save money usually spent on human resources

6   People's personal information will be more safe and secure

7   Something else (please specify) *Open *Fixed*

8   None of these *Fixed *Exclusive*

9   Don't know *Fixed *Exclusive*

Q055 - ConA_Job   Single coded

To what extent are you concerned about the use of **AI technologies for assessing eligibility** for jobs?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q056 - ConB_Job	Multi coded

Which of the following, if any, are concerns that you have about the use of **AI technologies for assessing eligibility** for jobs?

Please select all that apply.

Random

1	The technology will be unreliable and cause delays to assessing job applications
2	The technology will not be as accurate as employers and recruiters at reviewing job applications
3	The technology will be less able than employers and recruiters to take account of individual circumstances
4	The technology will be more likely than employers and recruiters to discriminate against some groups of people in society
5	The technology will gather personal information which could be shared with third parties
6	People's personal information will be less safe and secure
7	It will lead to job cuts. For example, for trained recruitment staff
8	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
9	Employers and recruiters will rely too heavily on the technology rather than their professional judgements
10	It will be more difficult to understand how decisions about job application assessments are reached
11	Something else (please specify) *Open *Fixed*
12	None of these *Fixed *Exclusive*
13	Don't know *Fixed *Exclusive*

B007 - Eligibility_Decisions	End block

Q057 - Pred_RiskText   **Text**

Not back

TECHNOLOGIES THAT PREDICT RISK

AI technologies may be used by organisations to predict the risk of something happening.

When predicting the risk, these AI technologies draw on a wide range of data about the outcomes of many people to calculate the risk for an individual.

The recommendations these technologies make are then used by organisations to make decisions.

Q058 - Risk_Cancer   **Text**

Not back

TECHNOLOGIES THAT PREDICT THE RISK OF CANCERS

One use of AI technologies for calculating risk is for assessing a medical scan to identify a person's risk of developing some types of cancer.

Here, AI technologies are trained on many scans from past patients, learning patterns about which features are associated with particular diagnoses and health outcomes.

The technology can then give a doctor a prediction of the likelihood that a new patient will develop a particular cancer based on their scan.

Q059 - Aware_Can

Before today, had you heard of the use of **AI technologies that predict the risk** of developing cancer?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q059 - Aware_Can**,1

Q060 - Exp_Can1

How much personal experience have you had, if any, with the use of **AI technologies that predict the risk** of developing cancer?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q061 - Exp_Can2 | Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **AI technologies that predict the risk** of developing cancer?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q062 - Exp_Can3 | Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **AI technologies that predict the risk** of developing cancer?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q063 - BenA_Can	Single coded

To what extent do you think that the use of **AI technologies to predict the risk** of developing cancer will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q064 - BenB_Can	Multi coded

Which of the following, if any, are ways you think the use of **AI technologies that predict the risk** of developing cancer will be beneficial?

Please select all that apply.

Random

1	The technology will enable earlier detection of cancer, allowing earlier monitoring or treatment
2	There will be less human error when predicting people's risk of developing cancer
3	The technology will be more accurate than a human doctor at predicting the risk of developing cancer
4	The technology will reduce discrimination in healthcare
5	People's personal information will be more safe and secure
6	Something else (please specify) *Open *Fixed*
7	None of these *Fixed *Exclusive*
8	Don't know *Fixed *Exclusive*

Q065 - ConA_Can

Not back

To what extent are you concerned about the use of **AI technologies that predict the risk** of developing cancer?

Normal

1   Very concerned *Fixed*

2   Somewhat concerned *Fixed*

3   Not very concerned *Fixed*

4   Not at all concerned *Fixed*

5   Don't know *Fixed*

Which of the following, if any, are concerns that you have about the use of **AI technologies that predict the risk** of developing cancer?

Please select all that apply

Random

1	The technology will be unreliable and cause delays to predicting a risk of cancer
2	The technology will gather personal information which could be shared with third parties
3	People's personal information will be less safe and secure
4	The technology will not be as accurate as a human doctor at predicting the risk of developing cancer
5	The technology will be less effective for some groups of people in society than others, leading to more discrimination in healthcare
6	Doctors will rely too heavily on the technology rather than their professional judgements
7	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
8	It will be more difficult to understand how decisions about potential health outcomes are reached
9	Something else (please specify) *Open *Fixed*
10	None of these *Fixed *Exclusive*
11	Don't know *Fixed *Exclusive*

Q067 - Dev_Can   Matrix

Hospitals may ask an outside organisation to produce AI technologies that predict the risk of developing cancer for them.

Thinking about each of the groups below, how concerned do you feel, if at all, about each of them producing AI technologies that predict the risk of developing cancer?

Rows: Random | Columns: Normal

Rendered as Dynamic Grid

	Very concerned *Fixed*	Somewhat concerned *Fixed*	Not very concerned *Fixed*	Not at all concerned *Fixed*	Not sure *Fixed*
Private companies	○	○	○	○	○
Not for profit organisations (e.g. charities)	○	○	○	○	○
A governmental body or department	○	○	○	○	○
Universities/academic researchers	○	○	○	○	○

Q068 - Risk_Loan   Text

Not back

TECHNOLOGIES THAT PREDICT THE RISK OF REPAYING A LOAN

One use of AI technologies for calculating risk is to assess how likely a person is to repay a loan, including a mortgage.

Here, AI technologies are trained on data about how well past customers have kept up with repayments, learning which characteristics make them likely or unlikely to repay.

When a new customer applies for a loan, the technology will assess a range of information about that person and compare it to the information it has been trained on. It will then make a prediction to the bank about how likely the new customer will be able to repay the loan.

Q069 - Aware_Loan　　　　　　　　　　　　　　　　　　　　**Single coded**

Before today, had you heard of the use of **AI technologies that predict the risk** of being able to repay a loan?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q069 - Aware_Loan**,1

Q070 - Exp_Loan1　　　　　　　　　　　　　　　　　　　　**Single coded**

How much personal experience have you had, if any, with the use of **AI technologies that predict the risk** of being able to repay a loan?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q071 - Exp_Loan2

Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **AI technologies that predict the risk** of being able to repay a loan?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q072 - Exp_Loan3

Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **AI technologies that predict the risk** of being able to repay a loan?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q073 - BenA_Loan   **Single coded**

To what extent do you think that the use of **AI technologies to predict the risk** of being able to repay a loan will be beneficial?

Normal

1   Very beneficial *Fixed*

2   Fairly beneficial *Fixed*

3   Not very beneficial *Fixed*

4   Not at all beneficial *Fixed*

5   Don't know *Fixed*

Q074 - BenB_Loan   Multi coded

Which of the following, if any, are ways that you think the use of **AI technologies to predict the risk** of being able to repay a loan will be beneficial?

Please select all that apply.

Random

1	Applying for a loan will be faster and easier
2	The technology will be more accurate than banking professionals at predicting the risk of repaying a loan
3	There will be less human error in loan decisions
4	The technology will be less likely than banking professionals to discriminate against some groups of people in society
5	The technology will save money usually spent on human resources
6	People's personal information will be more safe and secure
7	Something else (please specify) *Open *Fixed*
8	None of these *Fixed *Exclusive*
9	Don't know *Fixed *Exclusive*

Q075 - ConA_Loan

<u>**Not back**</u>

To what extent are you concerned about the use of **AI technologies that predict the risk** of being able to repay a loan?

<u>**Normal**</u>

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q076 - ConB_Loan	Multi coded

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **AI technologies that predict the risk** of being able to repay a loan?

Please select all that apply.

Random

1	The technology will be unreliable and cause delays to assessing loan applications
2	The technology will gather personal information which could be shared with third parties
3	People's personal information will be less safe and secure
4	Banking professionals may rely too heavily on the technology rather than their professional judgements
5	The technology will not be as accurate as banking professionals at predicting the risk of repaying a loan
6	The technology will be more likely than banking professionals to discriminate against some groups of people in society
7	It will be more difficult to understand how decisions about loan applications are reached
9	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
10	It will lead to job cuts. For example, for trained banking professionals
11	The technology will be less able than banking professionals to take account of individual circumstances
12	Something else (please specify) *Open *Fixed*
13	None of these *Fixed *Exclusive*
14	Don't know *Fixed *Exclusive*

B008 - Risk_Decisions	End block

B009 - Data_Linking	Begin block

Q077 - Targ_AdText	Text

Not back

TARGETED ADVERTISEMENTS ONLINE

Targeted advertising on the internet tailors adverts to a specific user. These kinds of ads are commonly found on social media, online news sites, and video and music streaming platforms.

The technology uses lots of data generated by tracking people's activities online to learn about people's characteristics, attitudes and interests.

The technology then uses this data to generate ads tailored to each user.

Q078 - SocialMedia_Con	Text

Not back

TARGETED SOCIAL MEDIA ADVERTISING FOR CONSUMER PRODUCTS

Targeted adverts on social media are sometimes used by companies to suggest consumer products such as clothes, gadgets and food.

These ads are targeted at people according to their personal characteristics and previous behaviour on social media. They are intended to encourage people to buy particular products.

Q079 - Aware_SMC **Single coded**

Not back

Before today, had you heard of the use of **targeted social media advertising** for consumer products?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q079 - Aware_SMC**,1

Q080 - Exp_SMC1 **Multi coded**

Not back | Min = 1

How much personal experience have you had, if any, with the use **of targeted social media advertising** for consumer products?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q081 - Exp_SMC2

Multi coded

Not back | Min = 1

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **targeted social media advertising** for consumer products?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q082 - Exp_SMC3

Multi coded

Not back | Min = 1

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **targeted social media advertising** for consumer products?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q083 - BenA_SMC

<u>**Not back**</u>

To what extent do you think that the use of **targeted social media advertising** for consumer products will be beneficial?

<u>**Normal**</u>

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q084 - BenB_SMC

<u>**Not back | Min = 1**</u>

Which of the following, if any, are ways that you think the use of **targeted social media advertising** for consumer products will be beneficial?

Please select all that apply.

<u>**Random**</u>

1	People will be able to find products online faster and more easily
2	The adverts people see online will be more relevant to them than adverts that are not targeted
3	It will help people discover new products that might be of interest to them
4	Something else (please specify) *Open *Fixed*
5	None of these *Fixed *Exclusive*
6	Don't know *Fixed *Exclusive*

Q085 - ConA_SMC	Single coded

Not back

To what extent are you concerned about the use of **targeted social media advertising** for consumer products?

Normal

1   Very concerned *Fixed*

2   Somewhat concerned *Fixed*

3   Not very concerned *Fixed*

4   Not at all concerned *Fixed*

5   Don't know *Fixed*

Q086 - ConB_SMC	Multi coded

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **targeted social media advertising** for consumer products?

Please select all that apply

Random

1   The technology will be inaccurate and will show people adverts that are not relevant to them

2   The technology will gather personal information which could be shared with third parties

3   People's personal information will be less safe and secure

4   The technology invades people's privacy

5   Something else (please specify) *Open *Fixed*

6   None of these *Fixed*

7   Don't know *Fixed*

Q087 - SocialMedia_Pol   **Text**

TARGETED SOCIAL MEDIA ADVERTISING FOR POLITICAL PARTIES

Targeted adverts on social media are sometimes used by political parties to suggest political content to users.

These ads are targeted at people according to their personal characteristics and previous behaviour on social media. They are intended to encourage people to support a specific political party.

Q088 - Aware_SMP   **Single coded**

Before today, had you heard of the use of **targeted social media advertising** for political parties?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Q089 - Exp_SMP1　　　　　　　　　　　　　　**Single coded**

Not back

How much personal experience have you had, if any, with the use of **targeted social media advertising** for political parties?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q090 - Exp_SMP2　　　　　　　　　　　　　　**Single coded**

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **targeted social media advertising** for political parties?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q091 - Exp_SMP3

Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **targeted social media advertising** for political parties?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q092 - BenA_SMP

Single coded

Not back

To what extent do you think that the use of **targeted social media advertising** for political parties will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q093 - BenB_SMP	Multi coded

Not back | Min = 1

Which of the following, if any, are ways that you think the use of **targeted social media advertising** for political parties will be beneficial?

Please select all that apply.

Random

1	People will be able to find political information online faster and more easily
2	The political adverts that people see online will be more relevant to them than political adverts that are not targeted
3	It will help people discover new political representatives who might be of interest to them
4	It will increase the diversity of political perspectives that people engage with
5	Something else (please specify) *Open *Fixed*
6	None of these *Fixed *Exclusive*
7	Don't know *Fixed *Exclusive*

Q094 - ConA_SMP	Single coded

Not back

To what extent are you concerned about the use of **targeted social media advertising** for political parties?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q095 - ConB_SMP

Multi coded

<u>**Not back | Min = 1**</u>

Which of the following, if any, are concerns that you have about the use of **targeted social media advertising** for political parties?

Please select all that apply

<u>**Random**</u>

1	The technology will be inaccurate and will show people political adverts that are not relevant to them
2	The technology will gather personal information which could be shared with third parties
3	People's personal information will be less safe and secure
4	It will reduce the diversity of political perspectives that people engage with
5	The technology invades people's privacy
6	Something else (please specify) *Open *Fixed*
7	None of these *Fixed *Exclusive*
8	Don't know *Fixed *Exclusive*

B009 - Data_Linking

End block

B010 - Virtual_Assistance

Begin block

Q096 - Virt_AsText   **Text**

VIRTUAL ASSISTANT TECHNOLOGIES

Virtual assistant technologies are devices or software that are designed to assist people with tasks like finding information online or helping to arrange appointments. The technologies can often respond to voice or text commands from a human.

The technologies work by being 'trained' on lots of information about how people communicate through language, learning to match certain words and phrases to actions that they have been designed to carry out.

Q097 - VirtualAssistance_Smart   **Text**

VIRTUAL ASSISTANT SMART SPEAKERS

One example of a virtual assistant technology is a smart speaker.

These technologies are small computers that are connected to the internet and which can respond to voice commands to do things such as, turn appliances in the home on and off, answer questions about any topic, set reminders, or play music.

Q098 - Aware_VASS   **Single coded**

Before today, had you heard of the use of **virtual assistant** smart speakers?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Q099 - Exp_VASS1	Single coded

Not back

How much personal experience have you had, if any, with the use of **virtual assistant** smart speakers?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q100 - Exp_VASS2	Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **virtual assistant** smart speakers?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q101 - Exp_VASS3   Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **virtual assistant** smart speakers?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q102 - BenA_VASS   Single coded

Not back

To what extent do you think that the use of **virtual assistant** smart speakers will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q103 - BenB_VASS	Multi coded

Not back | Min = 1

Which of the following, if any, are ways that you think the use of **virtual assistant** smart speakers will be beneficial?
Please select all that apply.

Random

1	The technology will allow people to carry out tasks faster and more easily
2	The technology will allow people with difficulty using devices to access features more easily
3	People's personal information will be more safe and secure
5	People will be able to find information more accurately
6	Something else (please specify) *Open *Fixed*
7	None of these *Fixed *Exclusive*
8	Don't know *Fixed *Exclusive*

Q104 - ConA_VASS	Single coded

Not back

To what extent are you concerned about the use of **virtual assistant** smart speakers?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q105 - ConB_VASS

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **virtual assistant** smart speakers?

Please select all that apply.

Random

1   The technology will be unreliable and cause delays to doing tasks

2   The technology will not always give accurate responses

3   The technology will be less effective for some groups of people in society than others

4   Some people may find it difficult to use the technology

5   The technology will gather personal information which could be shared with third

6   People's personal information will be less safe and secure

7   Something else (please specify) *Open *Fixed*

8   None of these *Fixed *Exclusive*

9   Don't know *Fixed *Exclusive*

Q106 - VirtualAssistance_Health   Text

Not back

VIRTUAL ASSISTANTS IN HEALTHCARE

One example of a virtual assistant is for assessing information about a person's health.

These AI technologies aim to respond to healthcare queries online, including about appointments or current symptoms.

The technologies are able to automatically suggest a possible diagnosis or advise treatment. For more serious illnesses, the technologies may suggest a person seeks further medical advice, for example by booking a GP appointment or by going to hospital.

Q107 - Aware_VAH

Not back

Before today, had you heard of the use of **virtual assistants** in healthcare?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q107 - Aware_VAH**,1

Q108 - Exp_VAH1   Single coded

Not back

How much personal experience have you had, if any, with the use of **virtual assistants** in healthcare?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q109 - Exp_VAH2	Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **virtual assistants** in healthcare?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q110 - Exp_VAH3	Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **virtual assistants** in healthcare?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q111 - BenA_VAH   **Single coded**

To what extent do you think that the use of **virtual assistants** in healthcare will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q112 - BenB_VAH   **Multi coded**

Which of the following, if any, are ways that you think the use of **virtual assistants** in healthcare will be beneficial?

Please select all that apply.

Random

1	It is a faster way to get help for your health and symptoms than speaking to a healthcare professional
2	The technology will be more accurate than a healthcare professional at suggesting a diagnosis and treatment options
3	The technology will be less likely than healthcare professionals to discriminate against some groups of people in society
4	The technology will be easier for some groups of people in society to use, such as those who have difficulty leaving their home
5	The technology will save money usually spent on human resources
6	People's personal information will be more safe and secure
7	Something else (please specify) *Open *Fixed
8	None of these *Fixed *Exclusive
9	Don't know *Fixed *Exclusive

Q113 - ConA_VAH

<u>**Not back**</u>

To what extent are you concerned about the use of **virtual assistants** in healthcare?

<u>**Normal**</u>

1   Very concerned *Fixed*

2   Somewhat concerned *Fixed*

3   Not very concerned *Fixed*

4   Not at all concerned *Fixed*

5   Don't know *Fixed*

Q114 - ConB_VAH   **Multi coded**

<u>**Not back | Min = 1**</u>

Which of the following, if any, are concerns that you have about the use of **virtual assistants** in healthcare?

Please select all that apply.

<u>**Random**</u>

1	The technology will be unreliable and cause delays to getting help
2	The technology will not be as accurate as a healthcare professional at suggesting a diagnosis and treatment options
3	The technology will be less able than healthcare professionals to take account of individual circumstances
4	The technology will be less effective for some groups of people in society than others
5	Some people may find it difficult to use the technology
6	The technology will gather personal information which could be shared with third parties
7	People's personal information will be less safe and secure
8	It will lead to job cuts. For example, for trained healthcare professionals
9	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
10	It will be more difficult to understand how decisions about diagnoses and treatments are reached
11	Something else (please specify) *Open *Fixed*
12	None of these *Fixed *Exclusive*
13	Don't know *Fixed *Exclusive*

B010 - Virtual_Assistance   **End block**

Q115 - Robotics_Text | **Text**

Not back

ROBOTICS

Robotic technologies are computer-assisted machines which can interact with the physical world automatically, sometimes without the need for a human operator.

These technologies use large amounts of data generated by machines, humans and sensors in the physical world to 'learn to' carry out tasks that would previously have been carried out by humans.

Q116 - Rob_Vacuum | **Text**

Not back

ROBOTIC VACUUM CLEANERS

One example of robotic technologies are robotic vacuum cleaners, sometimes called a 'smart' vacuum cleaner.

This is a vacuum cleaner that can clean floors independently, without any human involvement.

Robotic vacuum cleaners use sensors and motors to automatically move around a room while being able to detect obstacles, stairs and walls.

Q117 - Aware_RVC   Single coded

Before today, had you heard of the use of **robotic** vacuum cleaners?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q117 - Aware_RVC**,1

Q118 - Exp_RVC1   Single coded

How much personal experience have you had, if any, with the use of **robotic** vacuum cleaners?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q119 - Exp_RVC2   Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **robotic** vacuum cleaners?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q120 - Exp_RVC3   Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **robotic** vacuum cleaners?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q121 - BenA_RVC

To what extent do you think that the use of **robotic** vacuum cleaners will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Single coded

Q122 - BenB_RVC

Multi coded

Which of the following, if any, are ways that you think the use of **robotic** vacuum cleaners will be beneficial?
Please select all that apply.

Random

1	The technology will do the vacuuming, saving people time
2	The technology will be more accurate than a human at vacuuming
3	It will make vacuuming possible for people who have difficulty doing manual tasks
4	Something else (please specify) *Open *Fixed*
5	None of these *Fixed *Exclusive*
6	Don't know *Fixed *Exclusive*

Q123 - ConA_RVC

To what extent are you concerned about the use of **robotic** vacuum cleaners?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q124 - ConB_RVC

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **robotic** vacuum cleaners?

Random

1	The technology will be unreliable and not always work, for example, the motion sensors will not detect steps or surface changes
2	The technology will not be as accurate as a human at vacuuming
3	The technology will be a safety hazard, you might trip on them
4	The technology will gather personal information which could be shared with third parties
5	People's personal data will be less safe and secure
6	Some people may find it difficult to use the technology
7	The technology will be less effective for some groups of people in society than others
8	Something else (please specify) *Open *Fixed*
9	None of these *Fixed *Exclusive*
10	Don't know *Fixed *Exclusive*

Q125 - Rob_Care   **Text**

Not back

ROBOTIC CARE ASSISTANTS

One example of robotic technologies are robotic care assistants. These technologies are being developed to help carry out physical tasks in care settings such as hospitals and nursing homes.

Robotic care assistants are designed to support specific tasks, such as helping patients with mobility issues to get in and out of bed, to pick up objects, or with personal tasks such as washing and dressing.

When these technologies are used, a human care assistant will be on-call if needed.

Q126 - Aware_RCA

<div style="background:gray">Single coded</div>

<u>Not back</u>

Before today, had you heard of the use of **robotic** care assistants?

<u>Normal</u>

1   Yes *Fixed*

2   No *Fixed*

3   Not sure *Fixed*

Q127 - BenA_RCA

<div style="background:gray">Single coded</div>

<u>Not back</u>

To what extent do you think that the use of **robotic** care assistants will be beneficial?

<u>Normal</u>

1   Very beneficial *Fixed*

2   Fairly beneficial *Fixed*

3   Not very beneficial *Fixed*

4   Not at all beneficial *Fixed*

5   Don't know *Fixed*

Q128 - BenB_RCA   Multi coded

Not back | Min = 1

Which of the following, if any, are ways that you think the use of **robotic** care assistants will be beneficial?

Please select all that apply.

Random

1	The technology will make caregiving tasks easier and faster
2	The technology will be able to do tasks such as lifting patients out of bed more accurately than caregiving professionals
3	The technology will be less likely than caregiving professionals to discriminate against some groups of people in society
4	The technology will save money usually spent on human resources
5	Something else (please specify) *Open *Fixed*
6	None of these *Fixed *Exclusive*
7	Don't know *Fixed *Exclusive*

Q129 - ConA_RCA   Single coded

Not back

To what extent are you concerned about the use of **robotic** care assistants?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q130 - ConB_RCA	Multi coded

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **robotic** care assistants?

Please select all that apply.

Random

1	The technology will be unreliable and cause delays to urgent caregiving tasks
2	The technology will not be able do tasks such as lifting patients out of bed as accurately as caregiving professionals
3	The technology will be less effective for some groups of people in society than others
4	It will lead to job cuts. For example, for trained caregiving professionals
5	The technology will not be safe, it could hurt people
6	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
7	The technology will gather personal information which could be shared with third parties
8	Patients will miss out on the human interaction they would otherwise get from human carers
9	Something else (please specify) *Open *Fixed
10	None of these *Fixed *Exclusive
11	Don't know *Fixed *Exclusive

B011 - Robotics_Home	End block

B012 - Robotics_Other	Begin block

Q131 - Driverless_Cars   Text

DRIVERLESS CARS

Another use of robotic technologies is for driverless cars. These are vehicles that are designed to travel on roads with other cars, lorries and vans, but which drive themselves automatically without needing a human driver.

Driverless cars can detect obstacles, pedestrians, other drivers and road layouts by assessing their physical surroundings using sensors and comparing this information to large amounts of data about different driving environments.

Q132 - Aware_DC   Single coded

Before today, had you heard of the use of **driverless cars**?

Normal

1   Yes *Fixed*

2   No *Fixed*

3   Not sure *Fixed*

Q133 - BenA_DC   Single coded

To what extent do you think that the use of **driverless cars** will be beneficial?

Normal

1	Very beneficial *Fixed*
2	Fairly beneficial *Fixed*
3	Not very beneficial *Fixed*
4	Not at all beneficial *Fixed*
5	Don't know *Fixed*

Q134 - BenB_DC   Multi coded

Which of the following, if any, are ways you think that having **driverless cars** on the roads will be beneficial?
Please select all that apply.

Random

1	It will make travel by car easier
2	It will free up time to do other things while driving like working, sleeping or watching a movie
3	Driverless cars will drive with more accuracy and precision than human drivers
4	Driverless cars will be less likely to cause accidents than human drivers
5	It will make travel by car easier for disabled people or for people who have difficulty driving
6	The technology will save money usually spent on human drivers
7	Something else (please specify) *Open *Fixed*
8	None of these *Fixed *Exclusive*
9	Don't know *Fixed *Exclusive*

Q135 - ConA_DC

Not back

To what extent are you concerned about the use of **driverless cars**?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q136 - ConB_DC   Multi coded

Which of the following, if any, are concerns that you have about the use of **driverless cars**?

Please select all that apply.

Random

1	The technology will not always work, making the cars unreliable
2	Getting to places will take longer as the cars will be overly cautious
3	Driverless cars will not be as accurate or precise as humans are at driving
4	The technology will gather personal information which could be shared with third parties
5	The technology will be less effective for some groups of people in society than others
6	Some people may find it difficult to use the technology
7	It will lead to job cuts. For example, for truck drivers, taxi drivers, delivery drivers
8	If the technology makes a mistake, it will be difficult to know who is responsible for what went wrong
9	It will be more difficult to understand how the car makes decisions compared to a human driver
10	Driverless cars will be more likely to cause accidents than human drivers
11	Something else (please specify) *Open *Fixed
12	None of these *Fixed *Exclusive
13	Don't know *Fixed *Exclusive

Q137 - Auto_Weapons   **Text**

AUTONOMOUS WEAPONS

Another use of robotic technologies is for autonomous weapon systems used by the military.

These include missile systems, drones and submarines that, once launched, can automatically identify, select or attack targets without further human intervention.

These technologies decide when to act by assessing their physical surroundings using sensors and comparing this information to large amounts of data about different combat environments.

Q138 - Aware_AW   **Single coded**

Before today, had you heard of the use of **autonomous weapon systems**?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Q139 - BenA_AW   Single coded

<u>Not back</u>

To what extent do you think that the use of **autonomous weapon systems** will be beneficial?

<u>Normal</u>

1   Very beneficial *Fixed*

2   Fairly beneficial *Fixed*

3   Not very beneficial *Fixed*

4   Not at all beneficial *Fixed*

5   Don't know *Fixed*

Q140 - BenB_AW   Multi coded

<u>Not back | Min = 1</u>

Which of the following, if any, are ways you think that the use of **autonomous weapon systems** will be beneficial?
Please select all that apply.

<u>Random</u>

1   The technologies will enable faster military response to threats

2   The technologies will preserve the lives of some soldiers

3   The technologies will be more accurate than human soldiers at identifying targets

4   The technologies will be less likely than human soldiers to target people based on particular
           characteristics

5   The technologies will lead to fewer civilians being harmed or killed

6   The technology with save money usually spent on human resources

7   Something else (please specify) *Open *Fixed*

8   None of these *Fixed *Exclusive*

9   Don't know *Fixed *Exclusive*

Q141 - ConA_AW

<div style="text-align:right">**Single coded**</div>

Not back

To what extent are you concerned about the use of **autonomous weapon systems**?

Normal

1   Very concerned *Fixed*

2   Somewhat concerned *Fixed*

3   Not very concerned *Fixed*

4   Not at all concerned *Fixed*

Q142 - ConB_AW

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **autonomous weapon systems**?

Please select all that apply.

Random

1	The technologies will be unreliable and may miss or not fire at targets
2	The technologies will lead to more civilians being harmed or killed
3	The technologies will not be as accurate at identifying targets as human soldiers
4	The technologies will be more likely than human soldiers to target people based on particular characteristics
5	Defence staff will rely too heavily on the technologies rather than their professional judgements
6	It will lead to job cuts. For example, for trained defence staff
7	If the technologies make a mistake, it will be difficult to know who is responsible for what went wrong
8	It is more difficult to understand how military decisions are reached
9	The technologies will lead to more soldiers being harmed or killed
10	Something else (please specify) *Open *Fixed*
11	None of these *Fixed *Exclusive*
12	Don't know *Fixed *Exclusive*

B012 - Robotics_Other · **End block**

B013 - Advancing_Knowledge · **Begin block**

Q143 - Adv_KnowText   **Text**

ADVANCING KNOWLEDGE THROUGH SIMULATIONS

New computer technologies are being developed to advance human knowledge about the past and the future.

These technologies work by taking large amounts of data that we already have, and using this to create realistic simulations about how things were in the past, or how they might be in the future.

These 'simulation technologies' aim to allow people to study and learn about places and events that would otherwise be impossible or difficult to directly experience.

Q144 - ClimateChange_Research   **Text**

SIMULATIONS FOR CLIMATE CHANGE RESEARCH

One example of using new simulation technologies for advancing knowledge is for research about climate change.

New simulation technologies can analyse large amounts of past data in order to simulate the future impacts of climate change in particular areas. This data could come from weather and environmental data, pollution data, and data on energy usage from individual homes.

For example, these technologies can help scientists and governments to predict the likelihood of a significant flood occurring in a particular region over the next 10 years, along with how the flood may impact agriculture and health.

Q145 - Aware_CCR

Not back

Before today, had you heard of the use of **new simulation technologies** to advance climate change research?

Normal

1   Yes *Fixed*

2   No *Fixed*

3   Not sure *Fixed*

Q149 - BenA_CCR

Not back

To what extent do you think that the use of **new simulation technologies** to advance climate change research will be beneficial?

Normal

1   Very beneficial *Fixed*

2   Fairly beneficial *Fixed*

3   Not very beneficial *Fixed*

4   Not at all beneficial *Fixed*

5   Don't know *Fixed*

Q150 - BenB_CCR

Multi coded

Not back | Min = 1

Which of the following, if any, are ways that you think the use of **new simulation technologies** to advance climate change research will be beneficial?

Please select all that apply.

Random

1	The technology will be more accurate than scientists and government researchers alone at predicting climate change effects
2	The technology will make it faster and easier for scientists and governments to predict climate change effects
3	The technology will predict issues across a wider range of regions and countries, meaning more people will experience the benefits of climate research
4	This technology will allow more people to understand the possible effects of climate change
5	Something else (please specify) *Open *Fixed*
6	None of these *Fixed *Exclusive*
7	Don't know *Fixed *Exclusive*

Q151 - ConA_CCR

Single coded

Not back

To what extent are you concerned about the use of **new simulation technologies** to advance climate change research?

Normal

1	Very concerned *Fixed*
2	Somewhat concerned *Fixed*
3	Not very concerned *Fixed*
4	Not at all concerned *Fixed*
5	Don't know *Fixed*

Q152 - ConB_CCR   Multi coded

Which of the following, if any, are concerns that you have about the use of **new simulation technologies** to advance climate change research?

Please select all that apply.

Random

1	The technology will be unreliable making it harder to predict the impacts of climate change and extreme weather
2	The technology will not be as accurate as scientists and government researchers alone at predicting climate change events
3	The technology will gather personal information which could be shared with third parties
4	The technology will predict issues in some regions better than others, meaning that some people do not experience the benefits of these technologies
5	Something else (please specify) *Open *Fixed
6	None of these *Fixed *Exclusive
7	Don't know *Fixed *Exclusive

Q153 - Virtual_Reality   Text

VIRTUAL REALITY FOR CULTURE AND EDUCATION

One example of using new simulation technologies for advancing knowledge is the development of virtual reality (VR) for education.

Here, a person can wear a VR headset at home or school that will show them a 3-dimensional simulation of a museum or historical site, using a range of data about the museum or historical site.

These technologies are designed to allow people to learn more about history or culture through games, videos and other immersive experiences.

Q154 - Aware_VR   Single coded

Before today, had you heard of the use of **new simulation technologies** for educational purposes?

Normal

1	Yes *Fixed*
2	No *Fixed*
3	Not sure *Fixed*

Ask only if **Q154 - Aware_VR**,1

Q155 - Exp_VR1   Single coded

How much personal experience have you had, if any, with the use of **new simulation technologies** for educational purposes?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q156 - Exp_VR2 | Single coded

Not back

Even though you had not heard of it before today, how much personal experience do you think you have had, if any, with the use of **new simulation technologies** for educational purposes?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q157 - Exp_VR3 | Single coded

Not back

Even though you were unsure if you had heard of it before today, how much personal experience do you think you have had, if any, with the use of **new simulation technologies** for educational purposes?

Normal

1	A great deal of personal experience *Fixed*
2	Some personal experience *Fixed*
3	No personal experience *Fixed*
4	Not sure *Fixed*

Q158 - BenA_VR

To what extent do you think that the use of **new simulation technologies** for educational purposes will be beneficial?

Normal

1   Very beneficial *Fixed*

2   Fairly beneficial *Fixed*

3   Not very beneficial *Fixed*

4   Not at all beneficial *Fixed*

5   Don't know *Fixed*

Q159 - BenB_VR

Which of the following, if any, are ways that you think the use of **new simulation technologies** for educational purposes will be beneficial?

Random

1   People will gain a more accurate understanding of historical events and how people lived in the past

2   The technology will make it easier and faster to learn about history and culture

3   The technology will increase the quality of education by providing more immersive experiences

4   The technology will allow more people to learn about history and culture

5   Something else (please specify) *Open *Fixed*

6   None of these *Fixed *Exclusive*

7   Don't know *Fixed *Exclusive*

Q160 - ConA_VR

Not back

To what extent are you concerned about the use of **new simulation technologies** for educational purposes?

Normal

1   Very concerned *Fixed*

2   Somewhat concerned *Fixed*

3   Not very concerned *Fixed*

4   Not at all concerned *Fixed*

5   Don't know *Fixed*

Q161 - ConB_VR

Not back | Min = 1

Which of the following, if any, are concerns that you have about the use of **new simulation technologies** for educational purposes?

Please select all that apply.

Random

1   Some people will not be able to learn about history and culture in this way as they will not have access to the technology

2   People will gain a less accurate understanding of historical events and how people lived in the past

3   The technology will gather personal information which could be shared with third parties

4   The technology will be unreliable, making it harder to learn about history and culture

5   The technology will allow those developing the technology to control what people learn about history or culture

6   Something else (please specify) *Open *Fixed*

7   None of these *Fixed *Exclusive*

8   Don't know *Fixed *Exclusive*

B013 - Advancing_Knowledge	End block

B014 - Closing_Questions	Begin block

Q163 - ExplainB	Single coded

Not back

Many AI systems are used with the aim of making decisions faster and more accurately than is possible for a human. However, it may not always be possible to explain to a person how an AI system made a decision.

Below are four statements that reflect different opinions toward explaining how AI systems make decisions. Overall, which statement do you feel best reflects your personal opinion?

Normal

1	Making the most accurate AI decision is more important than providing an explanation *Fixed*
2	In some circumstances an explanation should be given, even if that makes the AI decision less accurate *Fixed*
3	An explanation should always be given, even if that makes all AI decisions less accurate *Fixed*
4	Humans, not computers, should always make the decisions and be able to explain them to the people affected *Fixed*
5	Don't know *Fixed*

Not back | Min = 1 | Max = 2

Who do you think should be most responsible for ensuring AI is used safely? *You can only select up to two options.*

Random

1	The companies developing the AI technology
2	Scientists and researchers working in universities or research institutions
3	The Government
4	An independent regulator
5	International standards bodies
6	An independent oversight committee with citizen involvement
7	The people using the AI (e.g. companies, public services)
9	Other (please specify) *Open *Fixed *Exclusive*
8	No one should be responsible for ensuring AI is used safely *Fixed *Exclusive*
10	Don't know *Fixed *Exclusive*

Q165 - Morecomf	Multi coded

Not back | Min = 1

Which of the following, if any, would make you more comfortable with AI technologies being used? *Please select all that apply.*

Random

1	Clear explanations of how AI systems work and make decisions
2	More human involvement and control in AI decisions
3	Clear procedures in place for appealing to a human specialist against a decision made by AI
4	The AI has been deemed acceptable by a government regulator
5	Laws and regulations that prohibit certain uses of technologies, and guide the use of all AI technologies
6	People's personal information is kept safe and secure
7	The AI technology is regularly evaluated to ensure it does not discriminate against particular groups of people
9	Something else (please specify) *Open *Fixed*
8	None of these, I am already comfortable with the use of AI systems. *Fixed *Exclusive*
11	Nothing will make me more comfortable with AI technologies *Fixed *Exclusive*
10	Don't know *Fixed *Exclusive*

B014 - Closing_Questions	End block

B015 - Online_Safety	Begin block

Q166 - PrelimSafety   **Text**

You are nearly at the end of the questionnaire.

The last couple of questions are interested in your online experiences.

Some of the questions may be sensitive, so please only answer the questions that you feel comfortable answering.

Q167 - Intro_Safety   **Text**

Some people are concerned that social media platforms such as Twitter and Facebook are exposing their users to harmful content, including hate speech, false information, fake images, bullying, violence and self-harm promotion.

Q168 - Witnessed   **Single coded**

To what extent have you **witnessed** content which you consider to be harmful on social media platforms in the past?

Please note, 'witnessed' indicates you observed harmful content, but that it was not intended for you. For example, a social media post that does not explicitly name you or your username.

Normal

1	[CAWI: I][CATI: You] have witnessed harmful content on social media many times *Fixed*
2	[CAWI: I][CATI: You] have witnessed harmful content on social media occasionally, from time to time *Fixed*
3	[CAWI: I][CATI: You] have witnessed harmful content on social media very rarely, only once or twice *Fixed*
4	[CAWI: I][CATI: You] have never witnessed harmful content on social media *Fixed*
5	Not sure *Fixed*
6	[CAWI: Prefer not to say][CATI: READ OUT: Prefer not to say] *Fixed*

Q169 - Received   Single coded

<u>**Not back**</u>

To what extent have you **directly received** content which you consider to be harmful on social media platforms in the past?

*Please note, '**directly received**' indicates the content was directly intended for you. For example, it was sent by direct message (DM), or it explicitly named you or your username.*

<u>**Normal**</u>

1   [CAWI: I][CATI: You] have directly received harmful content on social media many times *Fixed*

2   [CAWI: I][CATI: You] have directly received harmful content on social media occasionally, from time to time *Fixed*

3   [CAWI: I][CATI: You] have directly received harmful content on social media very rarely, only once or twice *Fixed*

4   [CAWI: I][CATI: You] have never directly received harmful content on social media *Fixed*

5   Not sure *Fixed*

6   [CAWI: Prefer not to say][CATI: READ OUT: Prefer not to say] *Fixed*

Q170 - Scorepon

What, if anything, do you think social media platforms should do to tackle content they host that poses a risk of harm? *Please select all that apply.*

Random

1	Remove harmful content
2	Ban or suspend users who create harmful content
3	Add warning labels to harmful content
4	Make it easier for people to report harmful content to the platform
5	Make harmful content difficult to find through search terms
6	Stop paid promotion of harmful content
7	Give users greater control over what they see on social media platforms, for example by allowing them to choose how their social media feeds are organised.
9	Something else (please specify) *Open *Fixed*
10	None of the above *Fixed *Exclusive*
8	Nothing - social media platforms should not do anything to tackle harmful content *Fixed *Exclusive*
11	Don't know *Fixed *Exclusive*

Q171 - Govrespon　　　　　　　　　　　　　　　　　　　　　　　　　　　　**Multi coded**

Not back | Min = 1

What, if anything, do you think that the government should do to tackle content that poses a risk of harm on social media platforms? *Please select all that apply.*

Normal

1　　　　Implement large fines for platforms that fail to deal with harmful content

2　　　　Force platforms to systematically report how much harmful content they host and how they are attempting to combat this harmful content

3　　　　Launch legal proceedings against platforms that fail to deal with harmful content

4　　　　Publicly name and shame platforms that fail to deal with harmful content

5　　　　Prevent platforms that fail to deal with harmful content from operating

6　　　　Force platforms to introduce strict age verification procedures

8　　　　Something else (please specify) *Open *Fixed*

9　　　　None of the above *Fixed *Exclusive*

7　　　　Nothing - there should be no consequences for platforms that fail to deal with harmful content *Fixed *Exclusive*

10　　　Don't know *Fixed *Exclusive*

Q1149 - ThankU　　　　　　　　　　　　　　　　　　　　　　　　　　　　**Text**

Not back

Thank you, you have completed the questionnaire.

[CAWI: Please click forward to claim your voucher.][CATI: I will now update your contact details, then we can process your voucher.]

B015 - Online_Safety	End block

*Please note, there was 'Prefer not to say' option for Telephone respondents and those who tried to clickthrough without answering a question.

B015 - Online_Safety	End block