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European Social Survey Electronic Questionnaire Device

Acceptance testing report

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1 Context and Aims

The aim of this was project was to develop and test the European Social Survey electronic questionnaire device (ESS EQD) that allows participants to complete the European Social Survey (ESS) questionnaire digitally in their own home without an interviewer being present. The device is a tablet that is designed to work in households with no internet access and with people who have lower levels of digital skills or even no previous digital experience at all. The original concept for the ESS EQD was included in a tender issued by the ESS ERIC HQ and the development work was funded by the ESS ERIC General Assembly.

To date the following activities have been conducted to help develop this product.

1. **Scoping phase;** The purpose of this phase was to produce an initial specification for the new device based on feedback from ESS HQ. See section 1.1.
2. **Usability testing phase**: The purpose of this phase was to conduct iterative testing of a device prototype in two countries (the Netherlands and Slovenia). The main findings from this phase are summarised in section 1.2.
3. **Acceptance testing:** The purpose of this phase was to conduct field-tests using the device in four further test countries (Portugal, Serbia, Slovakia and the UK).

This report mainly focuses on findings from the acceptance testing phase of testing. The project was organised through close working between NatCen, ESS ERIC HQ and Centerdata[1].

1.1 About the ESS EQD device

The European Social Survey (ESS) has historically relied on face-to-face CAPI interviewing as its sole mode of data collection. For many years CAPI interviewing was considered the gold standard mode for random probability surveys. CAPI surveys generally have higher response rates than other modes as having an interviewer present increases the accessibility of the survey. This is because interviewers can assist respondents by reading the questions, conducting data entry and providing general encouragement or support.

The optimal mode of data collection for ESS in the future is currently under review. CAPI surveys are more expensive than other data collection modes and in recent years there has been a proliferation of random probability surveys using other modes of data collection. Alternative modes include push-to-web surveys and mixed mode surveys using web, CATI and/or CAPI combinations. During the Covid-19 pandemic CAPI fieldwork was been suspended in many countries for extended periods. Therefore, the

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[1] At ESS ERIC May Dousak, Rory Fitzgerald and Siobhan O'Muircheartaigh. At Centerdata Maurice Martens.

level of interest in alternative modes, and the pace of survey transformation work, has been accelerated by the pandemic.

ESS ERIC are currently exploring various mode options for future rounds of data collection. Options under consideration include push-to-web as part of a web-postal combination and possibly other elements as part of a sequential mixed mode design. The development of an ESS EQD device is an element of the mode strategy under consideration. If adopted the ESS EQD mode would be used alongside a push-to-web strategy, rather than as a standalone mode. The ESS EQD could potentially be used in combination with face-to-face modes (for example with participants who wish to take part but are unwilling to let an interviewer into their home). Finally, the ESS EQD is also under consideration for the CRONOS panel, for participants who are unable to take part using their own internet-enabled device.

The target population for the ESS EQD device are groups who may be willing to take part in the ESS but who are not able (or not willing) to take part online. The scoping exercise suggested that the ESS EQD could be offered as part of 'knock-to-nudge' strategy, whereby respondents/ households who do not respond to a mail invitation are contacted, in person, by a survey representative. The role of this survey representative would be to boost response rates by encouraging people to take part. The ESS EQD would be offered as an alternative mode for people who say they are unable to take part in an online survey.

The scoping work highlighted the importance of designing a product that works for the following groups of people:
- People who have no internet access at home, including those in rural areas;
- People who rarely or never use the internet;
- People who have limited experience using a tablet or smartphone; and
- People who are elderly and/or who have a disability that impacts on their ability to use other standard self-completion modes such as the internet or paper surveys.

Various design features have been used in the ESS EQD design to make it as easy to use as possible for the product's target audience:
- Devices are fully offline when in use by respondents in their own homes, and no internet connection is needed for survey completion. Online connectivity is only possible for survey representatives (i.e. those who do doorstep placement) and other fieldwork agency staff.
- Kiosk mode is enabled so that the survey questionnaire is displayed automatically when the device is powered on, with the user not able to switch to, or view, other programmes on the device.
- Minimalistic question screen design is used; No grids, no hidden codes, no help hyperlinks etc;
- All text fits on a single screen without the need for scrolling;
- Large text is used as far as possible (i.e. without introducing the need for scrolling);
- Large buttons and answer fields are used (to make answer selection easier for those with more limited dexterity);
- Simple localised alphanumeric-only keyboards are used rather than full keyboards (e.g. to remove unnecessary keys such as emoticons and other forms of visual clutter);

- The option to audio-record open responses has been added (to minimise the need to type);
- Some features which have triggered errors in our target audience have been disabled such as 'pinch-to-zoom' and the ability for a full shutdown.

In addition to the above features, if the devices are going to be used in survey work it is important that:
- They are robust;
- They have sufficient battery life (respondents may have the device for several days and should not be expected to charge it);
- They have a suitable screen size; and
- They have a suitable price-point.

For the ESS EQD acceptance testing two makes of device were trialled. A Dragon Touch (7.0 inch) and a Samsung Galaxy Tab A (8.0 and 10.1 inch versions). One aim of testing was to establish which make of device was more suitable, or whether they both performed equally well.

1.2 Usability testing summary

Two rounds of usability testing took place as part of the development of the ESS EQD, involving 10 participants in each round. The first round took place in the Netherlands during January-February 2021, the second in Slovenia during April-May 2021. Testing was undertaken in accordance with an agreed protocol that provided guidance on recruitment and the conduct of testing, taking account of the national Covid-19 restrictions in place at the time of testing.

Project co-ordinators in the two test countries were instructed to recruit a range of participants with limited or no experience of using the internet or internet-enabled devices, such as computers or smartphones, reflecting the target audience of the ESS EQD. In addition, teams were instructed to only include those who could read and write, as the ESS EQD was a self-completion device. However, national Covid-19 restrictions limited the diversity of test subjects it was possible to recruit, with participants being recruited through national research teams' staff networks of friends and family. This supported face-to-face testing, which was important given the target audience, although in the Netherlands four interviews had to be conducted by telephone. Table 1.2 summarises the characteristics of usability test participants in each round.

Table 1.2 Summary of characteristics of usability test participants

			Round 1 (The Netherlands)	Round 2 (Slovenia)
Gender		Male	1	4
		Female	9	6
Age group (years)		18-34	0	0
		35-54	1	0
		55-74	5	5
		75+	4	5
Education		Low	8	6
		Medium	2	2
		High	0	2
Device type		Dragon (7")	6	3
		Samsung (8" or 10.1")	4	5
		Not recorded	0	2
Experience with use of…	**Computers**	None	4	6
		A. Calls, messaging	2	0
		B. A + videos, news, e-mail, search	1	4
		C. B+ play games, banking, shopping	3	0
	Smartphones	None	3	5
		A. Calls, messaging	3	2
		B. A + videos, news, e-mail, search	4	3
		C. B+ play games, banking, shopping	0	0
	Tablets	None	9	9
		A. Calls, messaging	1	0
		B. A + videos, news, e-mail, search	0	1
		C. B+ play games, banking, shopping	0	0
Total no. participants			10	10

Survey representatives introduced the device to participants using a standardised script, observing and making notes on what participants did as they attempted to turn on the device, start the test questionnaire and work through it. After each question or task participants were asked about how they found it, their understanding of the task, how they completed the task using the device, any issues that arose and any suggestions for improvements. For example, participants were asked about whether they could locate the 'next' button, if they were able to scroll down to view the entire question and response options, whether they immediately understood where to touch the screen to answer the question and about the clarity of instructions. Interviews were audio recorded, with participants consent and notes made on each interview using a proforma.

Findings and suggested changes to the ESS EQD were reviewed and agreed by the ESS EQD research team after each round of testing. Findings from round one informed

changes that were made to the ESS EQD ahead of round two. Findings from round two informed the design of the ESS EQD used in the acceptance testing. Findings and changes made are summarised below.

1.2.1 Turning on the device, following written instructions

In the first round of testing, half of participants struggled to turn on the device even though they were provided with written instructions on how to do this. Participants could not find the on-button – expecting to find the on-button on the front of the device rather than the side – or did not press it for long enough and survey representatives ended up helping participants to turn it on. Ahead of round two a sticker was placed on the back of the tablet with an arrow pointing to the on button and the word 'on'. The on button was painted a different colour, to aid identification.

Round two testing found that difficulties turning on the device persisted for various reasons. Participants did not always read or understand the written instructions provided; they looked for the start button on the front of the device rather than on the side; and the start screen did not load immediately, which made participants feel uncertain about whether they had turned it on and so pressed the button again, which turned the device off. Lack of prior experience and or confidence with a tablet was considered a contributing factor to these issues, and it was decided that for the acceptance test the survey representative should place the device and explain and demonstrate how to turn it on. Additionally, the written instructions provided were simplified, increasing the likelihood of participants using them.

1.2.2 Starting the questionnaire

Starting the round one test questionnaire was not straightforward: there were additional steps that participants had to complete. Participants had to select the interview language and were asked to select a network to connect to Wi-Fi. The latter message should not have appeared, as the ESS EQD was to be used offline by participants. In advance of round two testing the language question was removed and the 'connect to Wi-Fi network' function disabled. However, the latter problem persisted at round two, with some devices still trying to connect to Wi-Fi. Subsequently, it was identified that this problem was due to the set-up of devices ahead of the questionnaire being loaded. This issue was addressed as part of preparations for the acceptance test, with the overall device management process streamlined.

In both rounds the 'Start questionnaire' button appeared with text in English, which caused difficulties for participants. Ahead of acceptance testing the text of all navigation buttons was translated into local languages.

1.2.3 Following initial instructions built into the device

The ESS EQD included instructions at the start of the questionnaire that explained how to use the device. At round one, instructions were not always read and if they were read, were sometimes forgotten. This forgetting occurred in regard to instructions related to open questions involving the use of a virtual keyboard (that appeared later in the questionnaire).

Ahead of round two testing, instructions were simplified. Advice on tapping and what to do if participants' hands were dry was included. Despite these amendments issues with instructions not being read and participants forgetting what the instruction had said about how to correct a mistake or to use the keyboard to enter their answer to an open question persisted at round two. Some participants felt having more opportunities to practise tapping the screen to select an answer would have been helpful. Survey representatives also observed that participants could be nervous about using the device, particularly if they had little or no prior experience and often needed reassurance that they were doing the right thing.

Ahead of acceptance testing, the initial instructions and test questions were further revised, to further simplify the text and to include encouragement e.g. 'Well done', 'You're doing great'. More explicit practice exercises were built into the instructions, see Figure 1-1. Instructions relating to use of the keyboard were placed immediately before the first such question.

Figure 1-1 Illustration of how round two instructions on using the device were amended for acceptance testing

Round two instruction text	Amended instruction text
Before you start the questionnaire, the next few pages will explain how you can navigate. We will ask you several questions with different response types. All questions are on a single page. After you have answered a question, you can proceed to the next question by tapping the blue 'Next>' button. You do not have to press hard on this button, a simple tap should work. If your hands are very dry, if might help to moisturize or blow on them. Now please try the 'Next>' button	Thank you for helping us with this study. Let's get you started using this device. Try tapping the blue **'Next>'** button. If nothing happens, try again. Tip! If your hands are dry, blow on them or moisturise them and have another try. It can take a while to get used to tapping!
Perfect! You managed to move to a next page. Below you see that a gray '<Back' button has appeared. You can use this to go back to the previous page. Please try this and return to this screen. When you are done, press 'Next>' again to go to the next page.	Well done! Now go back to the previous page, by tapping the grey **'<Back'** button. Practise going back and forward, tapping the **'<Back'** and **'Next>'** buttons. When you are ready, tap the blue **'Next>'** button

1.2.4 Selecting answers from pre-coded lists

Survey representatives at both rounds of usability testing noted that in general, participants quickly learned how to select their responses and move forward through the questionnaire. However, some participants continued to struggle with using the touch screen to undertake tasks such as selecting a response or tapping the 'Next' button. These participants tended to be elderly with no prior experience of using smartphones or tablets. Initial and continued problems with selecting a response and moving forward through the questionnaire occurred because participants applied too much pressure when tapping the screen, tapped the screen and nothing happened - this may have been because their finger was too dry, or because they accidentally tapped in the wrong place. In the case of the latter, participants commented that the answer options were too close together, making selection difficult.

Ahead of round two, instructions at the start of the device were updated to encourage participants to practise tapping the screen to select a response and to navigate through the questionnaire, by pressing the 'Next' and 'Back' buttons. The space between answer options and the size of the navigation buttons (Next and Back) was increased. However, problems with participants accidentally selecting a different answer option to the one they intended persisted in round two. When this occurred, participants were not always sure how to correct the mistake and sought help from the survey representative. For the acceptance test, instructions were added at the beginning of the questionnaire and at individual questions that explained how to correct such errors. In addition, as part of the initial instructions, participants' attention was drawn to the dot that appeared in the circle next to the response item selected and an activity was included that allowed participants to practise selecting different response options.

Participants in both rounds of testing would sometimes skip past questions when they looked very similar, for example, a series of questions asking about 'trust' that used the same response scale. In such circumstances, participants skipped past the question by tapping the 'Next' button. Ahead of the acceptance test, the part of the question that had changed was displayed in bold to more clearly highlight to participants that it was a different question.

Participants did not always remember that questions with tick boxes were ones where they could select more than one answer. Following round two testing, it was recommended that multi-coded questions include an instruction to remind participants that they can select more than one answer.

As mentioned in Section 1.1, the usability testing compared different types of devices with differing screen sizes. The type of device used by participants did not appear to have an impact on ease of use of the device. However, questions with long response option lists e.g. 11-point scales, were not entirely visible on the smaller 8" Samsung but were on the 7" Dragon. This issue demonstrates that it is important to thoroughly test the visual layout on each type of device and operating system, as testing on the smallest resolution does not suffice. Scrolling was required to view all options and to view the 'Next' and 'Back' buttons. Some participants did not realise that they needed to scroll down the list to be able to view the navigation buttons and needed the help of the survey representative to move on. It was agreed that for the acceptance test, the

entire question, including all response options and navigation buttons should be visible on the screen without scrolling, irrespective of screen size.

The use of a drop-down list for response options that participants had to scroll through to find and select their answer was found to be problematic in both rounds of usability testing. The term 'scrolling' – used in the question instructions - was not always understood by participants and on occasion the survey representative had to explain what to do. One participant at round two could not grasp what they needed to do, even with additional explanation from the interviewer. However, most participants were able to select a response eventually, although not necessarily the one they intended. If the wrong response was selected from the drop-down list, participants were not always sure how to correct their mistake. Scrolling through the list of response options was tricky for some, requiring perseverance, as scrolling did not work if participants touched the screen outside the response area. The use of drop-down lists and scrolling were not included in the acceptance test and are not recommended for a device with these aims.

1.2.5 Typing responses to open questions

Using the virtual keyboard to respond to open questions, particularly ones that required a text response rather than numeric, was an easier task for those participants in both rounds of testing who already had experience of using a keyboard. These participants were familiar with its layout, knowing where to find letters and numbers and which keys to tap to insert a space, change case or delete a character. However, for those with little or no experience, the task proved difficult, in some cases too difficult. These participants took a relatively long time to type in their answers. If they made mistakes whilst typing their answers, they did not know how to correct them, as there were no instructions. The acceptance test version included instructions on how to correct mistakes and a practice exercise.

At round one, the number of steps involved in the task of entering a response caused problems. First, participants had to locate the text or numeric response box on the screen. Then they had to tap in the box, which brought up the keyboard. They had to keep in mind the question and type in their response. Instructions were provided but were not sufficient for this group. The number of steps were simplified for round two, with the aim of the keyboard automatically appearing with the open question. However, this did not always happen, which caused problems for some round two participants. Further investigation identified that this was an issue with how the devices were initially set up, this issue was rectified prior to acceptance testing by updating the device management process.

At round one, a participant tapped something by mistake and ended up with an emoticon keyboard that they could not exit from without the help of the survey representative. For round two, a simpler alphanumeric-only keyboard was installed as part of the device set up, which did not include emoticons or other symbols. However, there were problems with the device set up process that meant that the standard keyboard was active during testing on some devices. On further investigation following round two testing, the cause of this issue was identified, and steps taken to ensure it did not happen at the acceptance testing stage.

An additional problem for round two participants was that the text keyboard did not include special Slovenian letters: it was set up for English. For the acceptance test, language-specific keyboards were installed as part of the device set up.

1.2.6 Recording verbal responses to open questions

At round one participants did not have the opportunity to practise recording their spoken response to a question and in almost all cases participants needed help or wanted feedback that the recording had been successful. At round two, a practice exercise was included, but on a different screen to the instructions.

Some participants at round one kept pressing the record button because there was nothing on-screen to indicate that recording was taking place. It was not clear that to stop recording, participants had to tap the record button again. The buttons were changed for round two, showing 'record', 'recording' and 'stopped' in different colours. The majority of round two participants were able to record their spoken response to the question. As with using the keyboard, some participants struggled with keeping in mind how to record their answer whilst keeping their answer to the question in mind.

As part of the usability testing, participants were asked which they preferred – typing their response or recording their spoken response. Views were mixed and for the acceptance test it was decided that participants should be offered a choice of typing or recording their answers to open text questions.

1.2.7 Other issues

The ESS core questions were initially written for an interviewer-administered survey. The ESS EQD is a self-completion mode and the usability testing highlighted issues with question comprehension and respondent motivation. In addition, it became clear during the usability testing phase that some amendments to ESS questions would be required to make them suitable for the ESS EQD, such as amendments to instructions and the presentation of response options.

The usability testing also highlighted some unanticipated issues that related to the set up and testing of devices. Some participants accidentally tapped the "<" symbol on the device navigation bar at the bottom of the screen during the round one testing and ended up at the start screen. When this occurred, the survey representative had to help the participant get back to where they were in the questionnaire before this happened. The navigation bar was disabled as part of device set up for round two and accessibility testing.

At round one there were instances when the device went into power-saving mode and the screen went black part way through the test. Participants were unsure what to do when this happened and asked the survey representative for help. The default time after which the device went into power-saving mode was extended for later rounds of testing.

Some issues that were thought to have been resolved through changes to the setup of devices at round two were not resolved e.g. implementation of the Simple keyboard. Further investigation of these issues identified that device setup needed to take place immediately prior to questionnaire installation and that devices then needed to be locked, so that devices did not receive automatic updates and revert to default settings. Important learning points were that national teams needed time to test not only the questionnaire but device setup, and that a final test was needed once the questionnaire was signed off, to make sure each device was set up correctly – the ESS EQD device policy had been applied. The device management process documentation has been updated in light of these findings.

It is worth noting that user-testing interviewers had doubts that all participants would be able to use the ESS EQD by themselves, as they had to provide help on many occasions. Half of round one participants doubted that they would be able to complete the questionnaire on their own. Some of the respondents might need a telephone help-line, while for others, the ESS EQD may not be suitable, and an alternative mode, such as paper, may be required.

1.3 Aims of acceptance testing

The rest of this report will document the findings from the acceptance testing of the ESS EQD in four countries. The main differences between the acceptance testing and the user-testing were:
- Participants were required to complete the entire ESS Core questionnaire on an ESS EQD device, rather than a small sample of questions;
- Participants were required to use the ESS EQD device without an interviewer being physically present to support them. A doorstep placement activity was conducted whereby a survey representative demonstrated the ESS EQD to respondents on the doorstep before leaving it left with them in their home.
- The acceptance testing investigated some of the practicalities of administering the ESS EQDs, for example device set-up, doorstep placement activities and data transmission.

The aim of the acceptance test was to provide qualitative evidence on how well the ESS EQDs work in practice, both from a fieldwork agency perspective, and from the perspective of the product's target audience. However, it should have been noted that the testing did not take place in the setting of normal ESS fieldwork. Most notably the sample used were purposively selected.

- Chapter 2 of this report will describe the methods used in the acceptance testing.
- Chapter 3 summarises the feedback from the fieldwork agencies involved in the acceptance testing. In this section we will summarise any issues agencies had with device set-up, recruitment of members of the target audience, placement and collection of the ESS EQD devices, data upload and deletion.
- Chapter 4 provides feedback from the participants who took part in the acceptance testing. In this chapter we will summarise any issues people have

using the ESS EQD in their homes without an interviewer being present to assist.
- Chapter 5 provides some information on data quality, for example looking at full versus partial completions, break-off points and the quality of open responses.

The final chapter provides a summary of the main conclusions drawn from the acceptance testing and potential next steps for ESS HQ.

2 Methodology

This chapter will describe briefly the methods for the acceptance testing, including details regarding the final sample composition achieved in each country and details of recruitment in each country.

2.1 Questionnaire changes from ESS R10

The full Core ESS R10 questionnaire was used for the ESS EQD acceptance testing. It is important to note that some changes were required to make the questionnaire suitable for completion on a tablet. For example, interviewer facing instructions (READ OUT/ MULTICODE etc) and all reference to showcards had to be removed from the script. These types of changes would also need to be made to a web-instrument should this mode of administration be adopted and indeed have been in recent ESS Round 10 testing.

In addition, some questionnaire elements were added to the ESS EQD, most notably:
- **Practice questions**. The aim of these was to train people how to use the ESS EQD during a doorstep demonstration;
- **Audio-recording**: Training on the option to audio-record open responses was included as well as the option to audio record audio responses for the industry and occupation items;
- **Shortened versions of response lists**; It was important for the ESS EQD design that all question fit on a single screen without the use of scrolling. A minority of questions required editing to make this possible (i.e. the highest educational qualification questions). Longer lists were sometimes split across multiple pages or had text cut for the ESS EQD device.

Therefore, if web-EQD mode combinations are used in the future, the ESS EQD questionnaire will need to contain some extra elements. These extra elements will need to be translated and checked by any National Teams involved in future fieldwork. Ideally any simplifications required for the ESS EQD format (i.e. the shortening or splitting of long list) should also be applied to the web mode to minimise the risk of mode-effects and errors in data processing post-fieldwork.

2.2 The tasks given to fieldwork agencies

The acceptance testing was undertaken in four countries; Portugal, Serbia, Slovakia and the UK. Fieldwork agencies involved in testing had to:

1. Remotely install the ESS EQD software and policies onto hardware they had sourced themselves. Three types of hardware were trialled in the acceptance test; two Samsung Galaxy Tab A's (in both 8.0 and 10.1" screen variants) and a Dragon Touch (7" screen);
2. Set-up secure hotspots at the survey representative's home or office location. This was the only way for the device to connect to the internet and transmit the data securely to a secure central location;
3. Conduct questionnaire and systems checks on the devices;

4. Generate serial numbers and QR codes for each respondent using the CaseCTRL system;
5. Recruit members of the target population to take part in the acceptance testing;
6. Trial the doorstep placement of devices, and subsequent device collection;
7. Trial the process of data transfer and deletion.

All fieldwork agencies involved in the testing attended a debriefing session to provide feedback on the relative ease or difficulty of each of these tasks, and to provide feedback on whether they think these methods could be effectively upscaled. Fieldwork agencies were also required to produce written feedback on each of the above areas. Findings and implications on each of these areas are detailed in Chapter 3.

2.3 The tasks given to participants

Participants were asked to:

1. Complete a full version of the ESS Core R10 questionnaire on an ESS EQD. Participants were given a demonstration of the device by a survey representative on the doorstep e.g. they were shown how to turn on and use the device and were asked to answer some demonstration questions with the survey representative present. They were also given a written information sheet about the ESS EQD device, and the telephone number of their survey representative or office contact number, which they could use if they had any issues with the ESS EQD device. Participants could then complete the questionnaire at their own pace without the survey representative being present. The survey representative arranged to return and collect the device once the participant was ready.
2. Complete a qualitative follow-up interview to gain the participant's feedback on the whole process of using an ESS EQD. Interviews were conducted remotely – by telephone – wherever possible to minimise the risk of Covid-19 transmission.

Feedback from participants about the ESS EQD device can be found in Chapter 4.

2.4 Target population

In order to be eligible to take part, participants had to meet at least one of the following criteria:

1. People who never or only rarely use the internet (once a month or less often);
2. People who have no or limited experience using a digital device i.e. a tablet, computer, smartphone. By limited experience we mean people who only use their devices for a limited range of activities (e.g. only using a smartphone for making calls/ sending messages but not for browsing the internet);
3. Disabled people for whom barriers usually exist to using a smartphone/tablet/computer (e.g. in relation to vision or dexterity).

Participants who did not have internet access at home, but who did have experience in using the internet were also eligible for inclusion. All participants had to be able to give

informed consent[2] to take part and had to be able to complete the tasks required of them. This meant they had to be able to read and write well enough to answer questions without the assistance of an interviewer.

2.4.1 Sample composition achieved

In total, the four test countries achieved 121 ESS EQD placements and 118 follow-up qualitative interviews. The breakdown of completions by country are shown in table 2.4a below.

Table 2.4a: Completion rates by country

Task	UK	Slovakia	Portugal	Serbia	TOTAL
ESS EQD placements	28	30	23	40	121
Follow up interviews	26	30	22	40	118

The most important requirement of sample members was that they met at least one of the three criteria listed above. We also aimed for each country to recruit a mixture in relation to the first two criteria, i.e. recruitment of both participants who never or rarely use the internet, and recruitment of both participants who have no experience using digital devices and those who have some limited experience of this.

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[2] Informed consent was given by all respondents. The lawful basis for processing personal data under GDPR is Public Task.

Table 2.4b: Sample characteristics in internet experience and experience using digital devices

Characteristic	UK	Slovakia	Portugal	Serbia	Total (%)
Use the internet never or almost never	14	24	14	13	**65** (54%)
Use the internet once a month or less	14	6	8	12	**40** (33%)
Use the internet more than once a month	0	0	1	15	**16** (13%)
Base	*28*	*30*	*23*	*40*	***121***
No experience using a digital device	12	21	15	11	**59** (49%)
Limited experience using a digital device	14	9	7	17	**26** (21%)
More experience, using them many times in life	0	0	0	12	**12** (10%)
Not asked	2	0	1	0	**3** (2%)
Base	*28*	*30*	*23*	*40*	***121***

We also aimed for diversity in the sample with regards to age, education level and urban/rural location (where relevant to the test country).

Table 2.4c: Age, education and urban versus rural location

Characteristic		UK	Slovakia	Portugal	Serbia
Age	18-64	6	10	2	14
	65+	22	20	21	26
Education level	Lower band (e.g. GCSE or equiv. or lower, "basic")	21	11	8	16
	Upper band (e.g. A-Level or equiv. or higher)	7	19	15	24
Location	Urban	n/a	17	19	30
	Rural	n/a	13	4	10
Base (for all characteristics)		28	30	23	40

2.5 Recruitment

Each fieldwork agency involved in the acceptance test used different methods to identify and recruit eligible members of the target population. The following methods were used:

- Recruitment through local institutions who work closely with the local population, for instance local parish councils.
- Re-contacting participants from other studies.
- Snowballing techniques.

The following sections provide more details about recruitment in each of the test countries

2.5.1 Recruitment in the UK

In the UK, participants were recruited from a sampling frame of survey panel members who had chosen to complete surveys via non-online modes (i.e. telephone, paper) due to lack of digital devices or home internet connection. Letters about the study (see Appendix A) were sent to panel members ahead of recruitment. After participants who opted out were removed, field survey representatives were provided with a list of eligible participants in their area. Survey representatives approached people to take part first by telephone. Participants who agreed to try the ESS EQD (including those who were a tentative 'yes') were followed up with a face-to-face placement visit.

2.5.2 Recruitment in Slovakia

In Slovakia, survey representatives initially contacted colleagues and students to assist with identifying potential participants. Snowballing was then used to identify friends and family of the recruited participants who were eligible to take part. An advance letter with the ESS EQD study information was delivered to the identified potential participants, and those who agreed took part in a further screening questionnaire to confirm their eligibility.

2.5.3 Recruitment in Portugal

In Portugal, the research team contacted three local parish councils in Lisbon, of which two assisted in the recruitment effort by distributing leaflets to eligible participants. Organisations such as day care centres, senior universities and social associations were also contacted. Due to difficulties recruiting via these methods, the remaining placements were arranged with friends and family members of the research team who were eligible for the study.

2.5.4 Recruitment in Serbia

In Serbia survey representatives initially recruited two or three acquaintances or neighbours to take part in the study. The remaining participants were recruited though snowballing, whereby the recruited participants identified other potential candidates who would be eligible to take part. All participants completed a screening questionnaire to confirm their eligibility.

2.6 Fieldwork design

The fieldwork design for the study was as follows:

1. Initial contact with potential participants was made by survey representatives. By potential participants we mean people who had 'opted-in' via advertising or snowballing methods or those who were part of an existing research panel. Contact was made either via letter, phone call or via face-to-face contact.

2. Potential participants who were interested in taking part completed a screening questionnaire to determine whether they were eligible. Participants who were eligible were given written information about the study including a GDPR information leaflet.

3. Arrangements were made for a suitable time for the survey representative to drop the ESS EQD off at the participant's doorstep. In a small number of cases a community venue was used as the placement location instead of the participant's home.

4. During the placement the survey representative gave instructions to the participant on the doorstep about how to use the tablet. They then arranged a mutually convenient time to come back and collect the device.

5. The survey representative returned to the participant's home at the agreed time to collect the device. Arrangements were made for a brief qualitative follow-up telephone interview with the participant. Survey representatives followed a semi-structured topic guide (provided in the appendices). Follow-up interviews lasted around 10-20 minutes.

6. Conditional incentives were given to all participants as a thank you for taking part. The incentive amount varied by test country, according to standard national practices:
   - UK: £30 Love2Shop (physical) voucher
   - Serbia: €30 gift card for a large supermarket chain
   - Portugal: €20 gift card
   - Slovakia: €15 gift card/shopping voucher

7. Survey representatives uploaded the data from the ESS EQD to a secure project server and ensured that interview data for the individual was deleted from the tablet. Survey representatives also physically cleaned the device before passing it on to the next participant.

Ethical approval for the study was granted by the ESS ERIC Research Ethics Board prior to recruitment commencing. All fieldwork took place in September-November 2021.

3 Feedback from the fieldwork agencies

This chapter summarises the qualitative feedback provided from fieldwork agencies on the practicalities of ESS EQD administration.

3.1 Device set-up

This section summarises the steps involved in setting up devices ready for use in the acceptance test, issues that arose and learning from this stage of work.

3.1.1 Translation

In preparation for the start of acceptance testing fieldwork the English-language version of the test questionnaire were finalised. Once agreed with ESS ERIC, the questionnaire was then translated into Portuguese, Slovakian and Serbian by the fieldwork agencies in each country. The Serbian questionnaire was translated using the Latin script. It was not possible to produce a Cyrillic script version within the time available for this stage of the project, as finalisation of the English language version took longer than anticipated.

Fieldwork agencies were responsible for providing translations. In practice, much of the acceptance test questionnaire translation had already been done as part of preparations for ESS R10. Additional translation tasks reflected modifications that had been made to ESS R10 questions for the ESS EQD. National teams used an existing CentERdata system to enter translations for new question text, text fills, instructions and questionnaire buttons. Agencies reported that this was a straightforward process and that the system was easy to use. Several agencies had used the CentERdata system before.

However, agencies noted that sometimes their translations did not find their way into the questionnaire and that checking of the translated questionnaire took longer than anticipated. In particular, there were issues with the translation of text fills used in questions about occupation and industry. National teams did not realise initially that these translations were needed. Moreover, during testing some issues arose with questions not being entirely visible on the screen without the need for scrolling. In these situations, some further amendment to the question text translation was needed to ensure the entirety of the question was visible on screen without the need for scrolling.

3.1.2 Testing the questionnaire and device set up

All fieldwork agencies had to conduct questionnaire and systems checks on the devices prior to fieldwork being conducted. This task involved:
1. Checking the correct version of the questionnaire was installed on each device;
2. Setting up the Simple keyboard on each device;
3. Checking the questionnaire rendering on the different devices e.g. to make sure that every question fitted on a single screen and that the Simple keyboard was working;

4. Running transmission tests on each device to ensure the data was uploaded and deleted from the device. This included checking that audio-recording and upload functionality was working on all devices;
5. Checking device policy features were working. For example, the policy ensured that devices timed-out after a certain amount of time (to both preserve battery life and to protect confidentiality) and that the full power-off feature was disabled.

This checking process took time and was iterative. Agencies would have benefited from more detailed instructions on which checks to perform and the sequence in which set up tasks should be completed. Some problems arose with the device policy not being correctly applied prior to the start of fieldwork because the set-up sequence was not carried out in the right order and the final checks to ensure that the device policy features were working were not undertaken. Fortunately, these problems were spotted quickly and rectified without impacting on the acceptance test.

3.1.3 Device differences

Fieldwork agencies reported some differences in the ease of set up and battery life of the three devices used: Dragon and the two Samsung tablets. The Samsung devices were felt to be easier to set up than the Dragon.

There were also some problems with the Dragon's battery life. In some cases, batteries did not hold their charge for more than 12 hours and this caused some problems in the field, with participants being given chargers. This was not consistent across all Dragons, with some holding their charge for longer (i.e. up to 2 days). There were reports that Dragon battery life decreased over time, possibly with repeated charging. The lack of consistency in battery life is concerning, especially as in practice we would want ESS EQDs to have repeated usage over an extended period. In contrast the Samsung devices held their charge for 2-5 days (and were generally returned with plenty of charge remaining). As such, we would advise avoiding using the cheapest tablets possible and test the selected models thoroughly in advance of fieldwork. The checking of battery life should be included as part of instructions on device set up.

3.2 Feedback on DeviceCTRL and QR codes

All countries who conduct ESS fieldwork must use random probability sampling methods. The sample frames used for the random sampling vary from country to country. In some countries the selection is done from a population register. In other countries selection is done from an address register. For the ESS EQDs to work in the wider survey context it will be important for fieldwork agencies to be able to link the selected individuals (or addresses) back to specific ESS EQD completions. This is so that fieldwork agencies can monitor fieldwork progress (how many people have taken part to date) and which individuals should be sent further reminders. It will also be important to know which devices are given to which survey representative (i.e. the person who is doing the doorstep placement) and how successful each representative was at gaining completions.

CenterData developed a web-based sample-device management system called DeviceCTRL to help with linking sample information to ESS EQD completions. In DeviceCTRL fieldwork agencies can:

- Enter respondent serial numbers/ unique IDs (note, no other sampling information or personal information is stored on DeviceCTRL);
- Enter device IDs (a serial number assigned to each tablet);
- Link a device ID to a respondent ID (in order to log who will receive the tablet);
- Generate a QR code for each respondent ID. This QR code is scanned prior to the placement of the ESS EQD and links individual ESS EQD questionnaire completions to a selected respondent (i.e. so when data are transmitted back agencies know who has used the device/ who has attempted to complete the survey);

It should be noted that DeviceCTRL does not contain any questionnaire data. It merely indicates which of the sampled respondents have been designed which device, and whether any questionnaire data has been transmitted.

A screenshot of DeviceCTRL is shown below.

Figure 3.2: DeviceCTRL screenshot
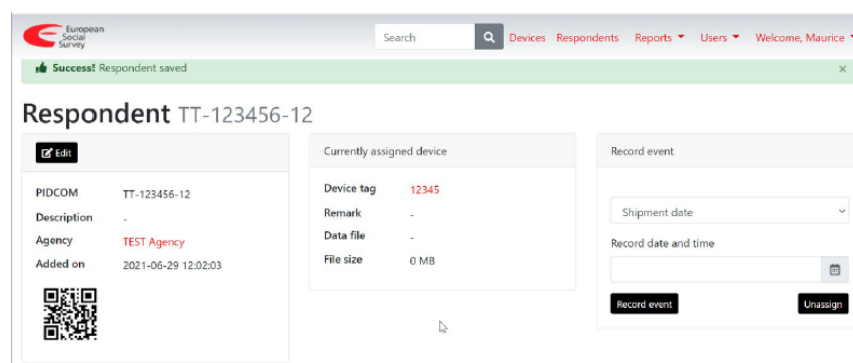
One aim of the acceptance testing was to get feedback from fieldwork agencies on how well the DeviceCTRL system worked in practice. Another aim of testing was to establish how easy it was to use the QR code system in a real-life context, for example whether survey representatives will be able to scan QR codes on the doorstep in order to initiate a questionnaire.

3.2.1 Feedback on the DeviceCTRL system

No major issues were reported with the utility of the DeviceCTRL during the acceptance testing. In general, agencies reported this system was easy to use. Agencies were able to input respondent serials numbers, link these to devices and to generate QR codes to use in acceptance testing. Some functionality of DeviceCTRL was not used for the acceptance (i.e. logging of shipping details) but this could potentially be of use in other scenarios if this mode of data collection is upscaled.

One comment raised by agencies regarding DeviceCTRL was that there was no tabular view that allowed agencies to view all respondents and whether data had been

transmitted for each respondent or not. This reporting feature should be enabled for agencies should the system be developed further. Furthermore, it was felt that tabular reports on device may be beneficial- for example it may be useful for agencies to be able to view a table of all devices, and which respondents were assigned to each device.

Recommendations

- Reporting features should be enabled for fieldwork agencies if DeviceCTRL is used for future ESS EQD tests. Agencies should be able to generate reports on data transmission and device history as described above.

It is important to note that fieldwork agencies only had to manually input a small number of serial numbers for the acceptance testing (the maximum number of respondents per country was 40). In a real-life push-to-web ESS setting countries need to collect data from 800-1,500 respondents depending on the population of the country. It should also be noted the mode of each interview was always known in advance (i.e. ESS EQDs were the only mode offered in acceptance testing, whereas in practice ESS EQDs would be offered alongside web modes if they are adopted). Therefore, it was known in advance that all respondents would require an ESS EQD QR code. In a mixed mode study, a far greater number of respondents will be sampled and it will be unclear from the outset which people will require an ESS EQD QR code and which will not.

Recommendations

- If the ESS EQD system should be offered alongside a web mode in the future, further testing would be required to establish whether DeviceCTRL works well alongside existing web survey sample management systems.
- One option would be to generate QR codes for the entire sample (with the understanding that these codes would only be used for people who do not take part online). Survey representatives who do the knock-to-nudge exercise with non-responders could then opt to use the QR codes if they come across groups who are declining to take part due to lack of internet access.
- The scanning of the QR code could be done by the survey representatives off a smartphone (assuming they have one) or by scanning paperwork held on the participant (for example a QR code could be embedded into a paper record of the address to visit). The exact mechanism may need to vary from country to country depending on what equipment is issued to field staff who do door-knocking as standard.
- The above process would need further testing as fieldwork agencies are likely to have different processes and equipment.

3.2.2 Use of QR codes

As described above, all fieldwork agencies found it easy to generate a unique QR code for each respondent ID using the DeviceCTRL system for the acceptance testing.

These QR codes were either printed and given to the survey representatives who were doing the placement, or they were scanned directly from a survey representative's

computer screen. Both modes of scanning were used during the acceptance test, depending on what equipment was available to the survey representatives doing the doorstep placement. Survey representatives were also typically provided with 'test' QR codes that they could use to test devices with, prior to data collection starting.

> **Recommendation**
> - Survey representatives found it useful to be able to use test QRs to practise scanning, to be able to see the training questions and to understand the survey content in case of telephone queries. Therefore, test QRs should be made available to survey representatives.
> - However, test cases had to be manually removed from the data collected as part of the data cleaning process. Should the ESS EQD process be upscaled ideally a mechanism should be designed to automatically separate test cases from real survey data.

It was the responsibility of the survey representatives placing the device to ensure the correct QR code was scanned prior to starting the training questions. No issues were reported with survey representatives scanning the wrong QR codes in our acceptance test. However, if the ESS EQD method is used in the future it may be useful to add an additional screen to the start of the programme reminding survey representatives to check they are using the correct code. It may also be useful to add a way of going 'back' to the scan screen if the wrong QR code is scanned in error.

There was some feedback from the survey representatives doing the placement that it was easier to scan the relevant QR code prior to doing the doorstep interaction (i.e. in car beforehand or even prior to the survey representative leaving their house). This was because it was easier to do the scanning on a flat surface. Scanning in advance also meant that survey representatives had one less task to do on the doorstep.

> **Recommendations**
> - The QR code scanning worked well in the acceptance test.
> - It may be useful to introduce some survey representative facing screens reminding them to check they are scanning the correct code and giving them an option to scan a different code if an error has been made. These screens should appear before the training question module.
> - Some survey representatives reported that it was easier to scan the printed QR codes on a flat surface, rather than doing it on the doorstep. This indicates that, Covid-19 permitting, it may be better for survey representatives to do the placement activity inside the dwelling, rather than in the threshold. Doorstep placement is still possible if entry to the dwelling is not permitted. Alternatively, survey representatives could use the mobile phone version of DeviceCTRL which allows the QR code to be accessed at the doorstep (equipment permitting).

3.3 Reasons for refusal

One objective of the acceptance testing was to look at reasons why members of our target population refused to take part in the ESS EQD trial. As described in Chapter 2,

purposive sampling was used for this study, and each country took a different approach to recruitment.

All countries were tasked with identifying members of the study's target population. These were defined as:
1. People who have no internet access at home or who never or only rarely use the internet (once a month or less often)
2. People who have no or limited experience using a tablet, computer, smartphone (e.g. mainly using a smartphone for making calls but not other activities)
3. Disabled people for whom barriers usually exist to using a smartphone/tablet/computer (e.g. in relation to vision and/or dexterity).

Slovakia and Serbia fieldwork agencies used snowballing techniques as the main method of recruitment. A small number of 'seed' participants were recruited via asking colleagues, students and acquaintances to take part. The remaining participants were recruited via asking these participants to identify other potential candidates. Through these opt-in methods, these countries experienced a low number of refusals. The refusals received were due to potential participants having:
- No confidence in using new technology. These individuals described themselves as being 'non-technical.'
- Having a distrust or dislike of new technology.

Both Slovakia and Serbia felt that the financial incentive offered was a key reason as to why they had limited issues with recruitment. However, the snowballing technique may have also increased the propensity of people to take part.

Recommendation
- Further quantitative testing would be needed to establish the benefit of different incentive values for ESS EQD take up in a push-to-web survey.

Portugal first attempted to recruit participants by advertising the study at day-care centres, senior universities and social clubs. Portugal reported difficulty when using these recruitment methods and felt there was a general disinterest in using any new technology from the target population. Therefore, Portugal conducted a second phase of recruitment using snowballing methods through colleagues and family contacts.

The UK recruited participants through the NatCen Random Probability Panel, targeting those who were known to not have internet access or who met one of the other sampling criteria. A range of reasons for refusal were noted. Some refusals were unrelated to the ESS EQD (e.g. people being away during the study period). However, other refusals were related to the device. These included:
- **Lack of confidence with technology**: Some potential participants stated they did not wish to take part because they were unfamiliar with the technology with one potential recruit asking: 'what is a tablet?'
- **Refusals due to health**: these participants described having dexterity issues such as arthritic hands or general poor health.

Generally, all countries agreed that some 'near refusals' could be persuaded to take part with reassurance from the survey representatives about the device. Survey

representatives were briefed to explain that the device had been designed for people who may not have used a tablet before and to stress ease of usage. All countries agreed that the doorstep demonstration and the practice questions at the beginning of the questionnaire were very important in encouraging reticent groups to try the device.

> **Recommendations**
> - Given these findings we predict that remote methods of contact (such as mail invitations) may not work well at persuading the target population to try the ESS EQD.
> - Should the ESS EQD method be retained we recommend having trained survey representatives to help 'sell' the device and to provide training in how to use it.
> - Further testing would be required to understand levels of uptake in a random probability survey setting.

All fieldwork agencies who took part in the testing were asked to comment on what modifications could be helpful for encouraging participation from those who are not confident with (or who dislike) technology. The suggestions generated were:
- Refusal conversion training for doorstep representatives;
- Emphasising ease of usage, even for people who have not used a tablet before;
- Being allowed to do 'in-home' demonstrations;
- Making sure that 'tapping' issues are always resolved as part of the demonstration (see section 4.2);
- Potentially providing additional attractive materials, such as leaflets or booklets, explaining the importance of using technology. Explaining that using a tablet helps keeps their answers private, is quicker, saves on paper etc;
- For the least able groups allowing the survey representative, or another household member, to do the data entry.

However, all agencies felt that the above would not be the universal panacea that would prevent all distrust issues. It is highly likely there will be a minority group of people who will not take part because of the technology aspect.

3.4 Doorstep placement

One aim of the acceptance testing was to establish whether doorstep placement worked as intended. All survey representatives were briefed to place the device with participants on the doorstep, and not to enter the dwelling even when asked to. Participants were provided with a set of paper instructions to refer to.

When placing the device survey representatives were briefed to go through a short training session with the respondent; in this training exercise respondents were asked to try turning the tablet on and off, and they were asked to complete some practice questions (a single response question and a 'check-all-that apply' question).

Demonstrating the ESS EQD on the doorstep mostly worked well. One aspect of training was showing respondents how to turn off the screen if they wanted to have a break when using the device. Devices given to participants had a sticker placed next to

the on/off button so participants could see which button to press. Participants were able to turn the screen on and off and found the sticker was helpful.

Survey representatives thought the training questions were very helpful. However, some representatives reported difficulties doing the training questions on the doorstep. This was because some participants were only able to use the device when it was laid flat on a table as this allowed for easier on-screen selections.

All countries reported that some participants requested that survey representatives stay and help them through the questionnaire. This occurred even after the participant had successfully completed the training exercise. In the acceptance testing the representative was not permitted to stay and help. However, as will be described in Chapter 4, a minority of participants struggled to use the ESS EQD, and this group would have benefited from further assistance with both understanding questions and operating the device. Further thought needs to be given as to whether survey representatives should be allowed to stay and help the groups who require the most assistance, or whether the ESS EQD should only ever be used as a self-completion mode.

Recommendations
- If the ESS EQD is used in the future, we recommend the use of an on/off sticker.
- The practice questions were very helpful and should be retained.
- Covid-19 permitting it would be beneficial for survey representatives to have the option to demonstrate the device in the dwelling place, rather than staying on the threshold.

3.5 Collection of devices

Another important aspect of the acceptance test was to establish whether all devices would be returned in a timely fashion, and (if not) to establish what impact this would have on placements. In most cases each survey representative in the test only had access to one device.

The collection of the devices went well in all countries. No devices were reported as damaged, lost or stolen during fieldwork. The placement method (i.e. with survey representatives hand delivering and picking up the device from a named respondent) is likely to have acted as some deterrent against loss or theft. This further indicates the 'value-add' of having survey representatives (or equivalent) involved in placement activities.

Some countries did report minor issues in retrieving some devices. In the UK one survey representative stated they found it difficult to retrieve a device on the agreed date because the participant said they were busy. After negotiation with the participant the survey representative was able to retrieve the device, but only a couple questions were completed. In Slovakia, some survey representatives reported participants being confused when collecting the device as they thought the device was their own to keep. In Serbia there was a delay collecting a device as one of the participants had to self-

isolate due to coronavirus. None of the above issue led to major disruptions to fieldwork.

Recommendations
- It is recommended that survey representatives are explicit during placement that they will return to collect the device at a certain date and time. We recommend that appointment cards are used to remind respondents of their collection time and to reinforce the message that they do not get to keep the device.
- At present, it is unclear what the ESS EQD uptake will be in a mixed mode random probability survey i.e. web-first and then knock-to-nudge with ESS EQD as an alternative mode. It is likely that in certain areas there will be higher proportions of people who have no internet connection. In these areas, survey representatives may require multiple ESS EQD devices if they are to complete their assignment in a timely fashion.
- If the ESS EQD mode is used again, but this time in a random probability context, more work is required to establish what the maximum amount of time should be that the device is left with a participant and whether some survey representatives should have multiple devices.

Survey representatives were advised to arrange collection of the device 1-3 days after placement. In the UK some survey representatives raised concerns about returning on a different day for pick-up due to the travel time required in reaching the address. In one case a UK survey representative waited in the driveway whilst the participant was completing the questionnaire. There were other reports of survey representatives arranging 'same day' pick up. This occurred in cases where participants had said they would complete the ESS EQD straight away, and when survey representatives felt that waiting would take less time than completing a separate pick-up trip. Survey representatives felt that time spent waiting outside for a one hour later pick-up should be paid for time.

Recommendation
- If the ESS EQD method is adopted fieldwork agencies may need to develop new rules on what tasks are 'in-scope' and 'out-of-scope' for payment to cover the above types of scenario.

3.6 Covid-19 security

It was the survey representative's responsibility to ensure that their ESS EQD was cleaned with alcohol wipes between each use, to minimise the risk of coronavirus transmission. No difficulties were reported in terms of cleaning the devices. In the UK some survey representatives decided to wear gloves and produce the device from a sterile bag in front of the participant. This was to demonstrate the steps they are taking to reduce the risk to the participant. Any paper instructions provided to participants were not collected and were not reused for other participants.

Recommendation

- If the ESS EQD is taken forward the cleaning steps used in the trial should be retained.

3.7 Contact during fieldwork

All participants who agreed to take an ESS EQD into their home were provided with the telephone number of their survey representative. In some cases, an office contact number was also provided. One aim of acceptance testing was to establish whether participants would contact anyone for help with their device. Another aim was to establish what types of help are requested, and whether these requests can be managed remotely.

Generally, participants raised few issues during fieldwork. More details of the types of help requested are listed Chapter 4. Some, but not all of the requests for help, could be managed remotely. For example, some participants contacted the helpline as they were having issues with basic functionality (such as not being able to use the touch screen) or devices being out of battery. In Slovakia and Portugal, some participants were unable to complete the questionnaire due to the device requesting to synchronise before the end of the questionnaire was reached. In this case survey representatives needed to return and offer an alternative device.

Recommendations
- If the ESS EQD is taken forward, it is recommended that a telephone number is made available for participants who have technical issues (this could either be the survey representative or a dedicated office number).
- In a minority of cases issues may need to be escalated from fieldwork agencies to a technical team at CenterData. It should also be noted a survey representative visit may be necessary to resolve some issues, which will have an impact on how ESS EQD fieldwork is costed.

3.8 Data transfer and deletion

The ESS EQD devices were deliberately designed so they could not connect to the internet when they were in the respondents' home. The reasons for this were as follows:
- We did not want respondents to accidentally transmit data prior to instrument completion;
- We did not want respondents (accidentally or deliberately) to use the ESS EQD for any purpose other than questionnaire completion.

All ESS EQDs were locked in 'kiosk mode' so the only visible application was the ESS EQD questionnaire. After device collection, survey representatives were able to transmit data securely to the secure server only if the ESS EQD was tethered to a specific mobile hotspot. The hotspot had a pre-agreed name and password. One aim of testing was to get feedback from the survey representatives regarding:

- How easy or difficult they found setting up the hotspot for ESS EQD tethering; and
- How easy of difficult survey representatives found securely uploading survey data, automatically deleting the data and activating a new blank questionnaire,

Survey representatives varied in terms of how easy or difficult they found setting up the hotspot. Variations were most likely due to survey representative experience, as some had prior experience of setting up a mobile hotspot whereas others had not done this before.

In the UK, there were initial difficulties setting up the hotspots as the survey representatives had different mobile devices and operating systems. The different devices meant that the instructions given to survey representatives on hotspot set-up did not completely match what they needed to do to on their own device. Survey representatives who struggled with hotspot set-up called the office for assistance. Once connected survey representatives had no issue with syncing the data.

For one survey representative in Serbia, there was an issue with syncing the data using the hotspot on their mobile device. It is unclear why this issue occurred, but the survey representative had to go into the field office to synchronise the data.

Recommendations
- If the ESS EQD is taken forward it will be important to establish whether the survey representatives in each country have mobile phones which they can use for the hotspot set-up and data transmission.
- Additional training and support will be needed for some staff when setting up the hotspots i.e. technical support for the ESS EQD will be required for field staff as well as for respondents.
- Fieldwork agencies will need to ensure all staff have appropriate devices for the hotspot, and a test case should be transmitted from each interviewer and should be submitted prior to fieldwork starting.

3.9   Other feedback from fieldwork agencies

Fieldwork agencies had mixed views on how well the ESS EQD method would work if it were upscaled. Some fieldwork agencies were confident that the ESS EQD would be a useful supplement to web data collection modes, whereas others had concerns about whether the ESS EQD was the most appropriate mode for the target population.

Fieldwork agencies agreed that the systems used in this exercise may need further refinement for them to work well alongside existing web survey/ knock-to-nudge processes. For example, it will be important for the ESS EQD system to integrate with the web survey and knock-to-nudge systems (so it is possible to tell who from the selected sample has taken part by web, who has taken part by ESS EQD, who has refused and who is yet to respond). The exact nature of these refinements may vary from agency to agency, depending on what their current processes are.

Recommendations
- Further scoping work is required with other ESS agencies regarding how well the ESS EQD approach suggested could integrate with their existing systems (i.e. web sample management and knock-to-nudge sample management).
- Further work is required to determine the optimum method for data management, i.e. what the process should be for combining and cleaning data from web and ESS EQD modes.

For the acceptance testing all data collected on the ESS EQD device in all countries, was transmitted to a central location (a secure CenterData server). National teams only had access to a small amount of questionnaire data (i.e. open responses to questions on occupation/ industry). These data were sent to National teams via CenterData via a file transfer i.e. National teams had no direct access to these data.

For our coding exercise some open responses were accidentally omitted in the original file share from CenterData. However, it was not immediately obvious to the teams doing the coding that some cases were missing (as no information was held by them on whether respondents should have been routed to occupation questions or whether they had broken off prior to this). The error in the file-share was only discovered when we compared feedback from qualitative interviews to the number of open responses received (which would not have been possible in a survey setting). This indicates the importance of national teams being able access full questionnaire data, in order for them to perform quality checking.

Recommendation
- The data flows for the ESS EQD project should be re-examined if the project is upscaled. It is recommended that national teams are able to download their own questionnaire data in order to run quality checks as well as to do coding.

It is unclear at this point how much fieldwork involving an ESS EQD device would cost, and a formal costing exercise would be required to answer this question. Setting aside technical set-up (done in office) and device costs, there would be a cost attached to fieldwork which would not be incurred using web only methods. By this we mean:
- Travel time for knock-to-nudge activities (i.e. to encourage response from non-responding households).
- Placement time (i.e. doing the demonstration and training questions).
- Travel time for pick-up.
- Data transfer and device cleaning.

This includes time for additional trips for broken appointments and remote device support. As mentioned for our acceptance test all participants had the survey representative's phone number. We recommend that this continue to be offered (as it is useful for participants to be able to get in contact directly with representatives in case they are no longer going to be in at a scheduled pick-up time). However, in practice this may mean that representatives are contacted for other reasons, such as technical support, and this is time they will need to be compensated for.

Completing a costing activity for a web-ESS EQD study would require agreement on the following parameters:

- The volume of sample issued;
- Details of clustering;
- The expected response rate from the mail invite for the web-component;
- The expected number of trips to each address for non-responders;
- Details of whether all non-responders would be offered the ESS EQD during the knock-to-nudge, or whether it would only be offered to target population; and
- The value of any incentive offered.

Consideration would also need to be given as to whether survey representative assistance should be offered to people who are unable to operate the device independently (even after the demonstration) or whether the ESS EQD should only ever be offered as a self-completion mode. The current study did identify members of the study's target population who were unable to operate the tablet. In our study these were a minority group. However, as we used various 'opt-in' and targeted recruitment methods it is not possible for us to extrapolate the size of this group in the general population. Further development work would be beneficial to quantify the size of both the target population and the proportion of those who could not use the device.

Recommendation
- Further scoping work is required with ESS fieldwork agencies regarding the cost implications for the ESS EQD approach, especially regarding the costs of knock-to-nudge fieldwork and face-to-face placement.

4 Feedback from Participants

This section summarises the findings from the qualitative interviews that were conducted with participants shortly after they had completed the ESS questionnaire on the ESS EQD.

4.1 Initial reactions to the ESS EQD

One aim of acceptance testing was to get feedback on participant's initial reactions to the ESS EQD. There was some variation in initial reactions. Two broad types of respondents were identified; those with *higher levels of reticence*, and those with *lower levels of reticence*.

Participants with higher levels of reticence were typically those who had no, or very limited experience, of using computers, tablets or smartphones (although some more experienced people also fell in this group). Higher reticence participants expressed more initial concerns about using the device, both during recruitment and during follow-up contact. This group stated how they felt nervous about not knowing how to use a device or how they had a fear of doing 'something wrong.'

"Panic! I've never had a computer or tablet and am not used to it. I'm 77 and it's too late to learn, now, isn't it?" EN-272144

"I was stressed that I would be able to answer correctly…" SK-330000

"I was worried that I wasn't technically proficient enough and that I wouldn't help you" SK-330000-01

Some members of the higher reticence group described how they had never seen a tablet and were not at all confident in their ability to use one. The higher reticence group also included some respondents with concerns about their disabilities or physical impairments. These individuals commented how they were worried their condition would affect their ability to use the device, especially those with conditions relating to dexterity.

For the higher reticence group, the doorstep demonstration was particularly important. Higher reticence participants commented that although they were initially anxious about using the device, guidance from the survey representative, and completing the practice questions reassured them that they would be able to complete the questionnaire. The implication is that the doorstep demonstration will be particularly key in persuading some members of the target population to use the device. And that it could be even more powerful if this could include a within home demo to get the respondents started.

> **Recommendation**
> * It is recommended that survey representatives are used for the initial placement of the device. Survey representatives are important for both allaying concerns about the device, and for demonstrating ease of usage. If 'mail only' contact is used it is

> likely members of the target population with higher levels of reticence will decline to come forward.

Despite some initial hesitation or fear at the prospect of using the device, many higher reticence respondents reported that using the device was much easier than anticipated and that they were pleasantly surprised by the experience. However, others had greater difficulty using the device. This group we call *strugglers* and the problems they encountered are described in more detail in the following chapter.

Those with slightly more experience of using digital devices generally had lower levels of reticence. Some participants in this group had experience using the internet but no had internet access at home. Other participants in this group had experience using a smartphone (for limited activities) but not a tablet. There were participants in this group who described how they had not used digital devices personally but noted how they had seen children or grandchildren use them.

"I've seen them before, 'cos my great/grandchildren use them, but I never have. The screen is just like the ones I use at the doctor's and in the hospital, when I sign-in."
EN- 32811923

The group with lower levels of reticence generally had positive experience of using the ESS EQD device.

4.2 Main issues encountered

One key aim of testing was to establish whether participants were able to complete the full ESS R10 questionnaire on the ESS EQD without assistance.

4.2.1 Questionnaire break-off

The majority of the participants who took part in the acceptance test did complete the entire questionnaire. In total 104 out of 121 participants (86%) were able reach the end of the ESS EQD questionnaire. By 'reach the end' we mean they reached the penultimate or the final screen the questionnaire (i.e. the thank you page or the page instructing them to return the device to the survey representative). However, these figures on break-off should be treated with some caution as we have used purposive sampling methods for this study, rather than representative samples.

> **Recommendation**
> - A larger pilot study, combining both web and EQD modes in a random probability sample, would be required to verify the uptake and break-off rate.

The qualitative interviews were useful to determine the reasons *why* some respondents dropped out part way through the questionnaire. Some of the reasons for drop-off were related to features of the device and could potentially have been avoided if a different method of self-completion questionnaire had been used (i.e. paper). Other reasons for drop-off were not related to the device and may have applied if an alternative mode of

self-completion had been offered. The reasons for break-off are summarised in Table 4.2 below.

Table 4.2: Reasons for break-off raised in qualitative interviews

ESS EQD specific reasons for break-off	Reasons for break-off that could apply in any ESS self-completion mode
• Feeling very nervous about using the device. • The device did not respond when the participant tapped the screen. • Not being able to turn the screen on after it powered down. • The device ran out of battery. • Skipping to the end to check how many more questions there were left to answer and not being able to go back to complete the final questions.	• The questionnaire was too long. • The question topics were not interesting. • The questions were too difficult • The participant was too busy/ did not get around to it.

Some of the ESS EQD specific issues for drop off could potentially be addressed in future trials. However, other reasons for drop off are likely to be beyond our control. These include lack of motivation because of questionnaire issues (length and topic coverage) and some members of the product's target audience lacking technical proficiency.

There was a group of participants who found it difficult to use the ESS EQD even with the demonstration. We will refer to this group as the *struggler group*. Members of the struggler group described how they felt nervous using the device and worried they were incapable of using it. One feature of the struggler group was they found the screen less responsive to their touch. Twenty-four participants (approximately 20%) reported having some level of difficulty with tapping the screen at least once. For most people this problem was resolved with perseverance, and after trying a few times the device did respond and they could move on. However, some strugglers were unable to get the tapping consistently right, and for them this was a source of great frustration. This led to some strugglers not completing the questionnaire and dropping out part way through.

Recommendation
- The practice questions on the doorstep helped train some respondents in how to tap the ESS EQD screen, and the instruction to put the device on a flat surface also helped others. These features should be retained.
- Despite this help some participants struggled getting the right pressure to tap the buttons. It is recommended that a stylus could be offered to individuals who demonstrate greater difficulties with tapping during the placement activity.

Some participants did not complete the questionnaire as the screen went blank and they were unable to proceed. In one case this was because a participant turned off the screen and did not know how to turn it on again (despite the training and the on/off sticker). In other cases, the screen would not turn on due to battery drainage. An issue

with battery life was reported with some (but not all) Dragon devices, even in cases where the devices had been fully charged prior to placement.

> **Recommendation**
> - We recommend that Dragon devices or other lower priced budget devices are not used in subsequent ESS EQD tests due to some failing to hold charge after repeated usage.

One participant described how they had skipped multiple questions in order to try and work out how many questions were left. This participant then 'had a break' from answering before returning to answer the skipped questions later. However, as a security feature, the ESS EQD was designed so that the back button was disabled after a certain length of time. The purpose of this was meant to prevent anyone (who was not the respondent) being able to pick up the ESS EQD and review answers given. This security feature had not been explained to participants. Other participants also described issues with wanting to go back and review answers, or return to skipped questions, and not being able to do this.

> **Recommendation**
> - Remove the security feature that prevents respondents from going back after the device has gone to sleep, as some respondents wish to review/ change their answers or complete questions in a non-linear fashion (i.e. go back to more difficult questions after seeking help).

4.3 When did participants complete the questionnaire?

One aim of testing was to ascertain how long it would take participants to complete the ESS EQD questionnaire, and whether they chose to complete it straight after placement.

Most participants reported that they started to complete the questionnaire straight after it was dropped off. For some, this was motivated by the worry that the device would run out of battery and so they wanted to complete it quickly. Others seemed keen to start whilst the instructions were fresh in their mind. Reasons given for not completing the questionnaire straight away were:
- They were busy;
- They wanted to do it at a time when they could concentrate;
- It was dark when the device was delivered, or
- They were waiting for another member of their household to return home who could help them if necessary.

The implication of this is that there will be variation in the ideal amount of time to leave a device with a participant. In some cases, completion will occur straight away and in others completion may take a few days. Therefore, agencies and representatives

should offer flexibility in when devices can be picked-up, rather than having a 'one-size fits all' approach to device retrievals.

Recommendation
• There needs to be flexibility on placement of how long a device stays within the respondents' home. Survey representatives should be able to agree a pick-up time based on the participants' needs.   • We recommend that appointment cards or similar are used to help prevent broken appointments.

4.4 How long did the questionnaire take?

Another aim of testing was to get qualitative information on how long the ESS EQD took to complete. Some participants opted to complete the questionnaire in one sitting, whereas others opted to answer the questions in multiple sittings, sometimes over multiple days. Reasons for taking a break were:

- Having other commitments,
- Wanting to have a break to maintain concentration,
- Needing a break due to pain or discomfort resulting from a physical condition; or
- For strugglers, frustration at finding the device difficult to use.

Self-reported estimates of completion time ranged from around 20 minutes (this respondent did not complete the entire questionnaire) to several hours. Timestamp data was collected, although as participants reported taking multiple breaks it is hard to establish how much time can be attributed to ESS EQD use, and how much can be attributed to rest time.

Recommendations
• It should be anticipated that members of the target population will want to have breaks when completing the ESS EQD. Devices should <u>not</u> have screens that 'time out' after a period of inactivity.   • Participants should be able to go back and review earlier answers after a period of inactivity, rather than being 'locked-out' from viewing earlier responses.

4.5 Did participants ask for help?

The majority of participants stated they were able to complete the questionnaire without help. Participants who did require some help either:

- Asked for assistance from another householder;
- Asked for assistance by telephone from the survey agency;
- Asked for assistance from the survey representative who came to collect the device.

The reasons people asked for help were due to:

- Difficulty with screen responsiveness/ moving on to the next question;
- Devices running out of battery/ screens freezing;
- Wanting to know why they could not go back to change answers;

- Help with specific questions and what they meant.

Therefore, the types of things people were seeking help with were similar to the reasons given for drop-out.

> **Recommendations**
> - If the ESS EQD mode is used in the future fieldwork agencies should be required to run a helpline to help address issues.
> - It is likely that participants who have issues could also ask questions to the survey representatives who do placement and pick-up. Therefore, it is important that these representatives have training in how to use the device, and answers to common questions that may arise.

4.6 Views on doorstep placement

One aim of testing was to establish how useful the doorstep placement was for participants. Participants gave positive feedback about the interaction with the survey representative on the doorstep. They described receiving clear verbal instructions about how to use the device and often reported feeling more confident in their ability to use the device.

All participants successfully completed the practice questions. As described in Chapter three, some participants were not able to do these whilst standing on the doorstep threshold, as they found it easier to use the device on a flat surface. The practice questions proved to be very useful in preparing participants to use the devices. Very few participants later reported issues with the basic elements of using the device that were covered, e.g. knowing how to select responses or moving from page to page.

> **Recommendations**
> - The doorstep placement and practice questions worked well, and face-to-face initial placement should continue to be used in favour of placement by mail.
> - Covid-19 regulations permitting, in some cases it may be beneficial for the demonstrations to take part in the participants home, rather than on the doorstep. This is because it is easier to do the demonstration if the participant can have the ESS EQD on a flat surface.

4.7 Views on paper instructions

One aim of testing was to establish how useful the paper instructions were for participants. Participants were provided with a paper 'help sheet' in addition to the instructions provided on the ESS EQD screen. The paper instructions included solutions to issues that participants may have had with the ESS EQD, including how to turn it on, what to do if it turned off, and how to skip a question. The paper instructions were used to varying degrees;
- Some participants read the instructions in full before they started completing the questionnaire;
- Others only read them if they encountered an issue with the device,

- Some participants did not read the help sheet at all as they felt they did not need them. In some instances, these participants contacted the fieldwork agency for help without seeing the relevant information on the help-sheet.

The paper instructions were generally seen to be helpful by those who read them. Most participants did not suggest any improvements to the instructions; many said they found them very clear and straightforward. The help-sheet was sometimes useful in enabling people to address issues independently without contacting the fieldwork agency. For example, some participants reported that they used the paper instructions to work out how to turn on the device's screen back on.

Some of the more common issues encountered by participants were not covered on the help sheet. These issues included:

- Help on whether they should turn the device off when they had completed the questionnaire;
- Help with screen non-responsiveness. One participant who had a lot of difficulty with the touch screen suggested including guidance on how to tap the screen in the correct way and to instruct people not to be "too heavy handed".
- Information on how to change answers.
- Information on how to go back and review answers/ what to do if you are not able to go back.
- Help with specific questions which were not understood.

Recommendations
- Even though the paper instructions were not always read we recommend they are retained, alongside the option for a respondent helpline.
- We have previously recommended that a stylus could be offered to respondents who have issues with screen non-responsiveness. Some further brief information could be added to the help-sheet regarding this.
- We have previously recommended that the feature that blocks participants from going back and reviewing earlier questions should be removed.
- More information should be added to the last screen of the questionnaire regarding what the respondent should do after completing the questionnaire (it can explicitly say they do not need to power down the screen)

4.8 Views on usability

In the following section we have collated participants feedback on the usability issues related to the device. This includes feedback on:
- Text size
- Selecting responses and using the next and back button;
- Inputting open responses using typing and voice recording;
- Differences in experience between device type (Dragon devices and Samsung devices); and
- Screen dimming.

We will conclude with some views on overall acceptability of the ESS EQD amongst the members of the target population who agreed to take part in the acceptance test.

4.8.1 Text-size

During recruitment, only a very small number of participants reported having any disability or condition that would make it difficult to use a device. However, during the qualitative interviews, a few participants mentioned that their visual impairment made it more difficult to read the text on the screen. In one case, this meant that the participant had to take a number of breaks when completing the questions.

"It bothered me that it was very long and since I have vision problems, my letters were already merging at the end. Looking at a tablet or a computer probably doesn't do me any good." SK-330000-07

Some of these participants suggested that it would be easier if the font size was larger, however, all of these participants indicated that they would be willing to use the device again, suggesting that the font size was not prohibitive to their participation.

Recommendation
- We recommend, if the cost is not prohibitive, the use of larger screen devices (such as the 10.1" Samsung) over small screen devices (such as the Dragon or 8" Samsung) in order to maximise the text size possible. Please note there will be limits to font size due to the requirement to not use scrolling identified in usability testing.
- Please note that this recommendation was based maximising respondent comfort. The 8" Samsung is an acceptable alternative if the additional costs of 10.1" screens are prohibitive.

4.8.2 Selecting responses and use of 'Next' and 'Back' buttons

Most participants did not report any issues with using the touch screen, however this feature presented a challenge to some participants (i.e. the *struggler group*).

The first issue with the touch screen was participants accidentally selecting incorrect answers to the questions. Most were able to correct this by tapping on a different answer, but others did not realise that this was possible, despite the training on how to do this in the introduction.

"I had to click multiple times and it didn't always mark what I wanted, I wanted to click 2 and it marked 3, so I left it at that." SK-330000-02

Some participants acknowledged that they had made a mistake, but proceeded to the next question without issue, whereas others were more worried about giving an incorrect response. In one case, the participant waited until the device was collected to request help from the survey representative to change their response. Guidance on

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how to change answers was not provided on the help-sheet, so this could be added if the study were to be upscaled.

Some respondents cited physical issues as reasons why they selected wrong answers, for example having large fingers, shaky hands or problems with dexterity. These individuals suggested making the spaces between response buttons larger to prevent this.

> **Recommendation**
> - Again, if cost is not a concern, we would recommend the use of larger screen devices (such as the 10.1" Samsung) over small screen devices (such as the Dragon or 8" Samsung) in order to maximise the space between response options.
> - Please note that this recommendation was based maximising respondent comfort. The 8" Samsung is an acceptable alternative if the additional costs of 10.1" screens are prohibitive.

The second issue, which has already been discussed, was with the responsiveness of the screen to participants' touch. A minority of participants (twenty-four) reported having some level of difficulty with tapping the screen at least once. Some of these participants described repeatedly tapping on the screen (either on an answer option or the 'next' button) with no response. For some, this problem was a matter of perseverance and after trying a few times the device did respond and they could move on.

"Sometimes it didn't work right away. I had to press it several more times."
SK-330000-15

They explained that tapping took some practice to get right and a gentle tap was most effective. Some also mentioned that putting the device on a table was helpful, rather than holding the tablet in their hands or on their lap.

For others, tapping was an issue throughout the questionnaire and they described having to tap the screen many times before it responded. As described in section 4.2 (reasons for drop-off) frustration with screen non-responsiveness was one reason given for not completing the survey. For one participant, the device did not respond to their taps despite many attempts and they were unable to move to the next question. They tried to use different levels of pressure and put the device on a table but were still unsuccessful and eventually gave up after around three questions. When the survey representative collected the device, they were able to use the touch screen without issue, suggesting that this is an issue with the participant's technique (or fingers, or dexterity) rather than the device.

There were a few comments from participants in the qualitative interviews that their fingers were dry or hardened from years of manual labour which they believed to be the cause of the issue. The instructions at the start of the questionnaire suggest that the user blow on their fingers or moisturise them if they are having difficulty tapping the screen, but it was not clear if all those who had an issue with tapping tried this. It would therefore be prudent to include guidance on this in the help-sheet as well so that this information is easy to find.

Recommendations
- As described previously survey representatives should provide help and assistance to strugglers about how to tap in such a way so the screen is responsive. This may be best done during a demonstration (with an option of a stylus for the groups who struggle the most).
- More information on how to increase screen responsiveness should be added the help-sheet.

4.8.3 Open questions

For questions which require longer open responses (i.e. questions used for industry and occupation coding) participants were given the option of either typing their responses using the keyboard or using voice recording to give their answers. One aim of the acceptance testing was to establish which option for data entry was preferred and why.

There was a clear preference for typing responses, with fewer than 20 participants opting to audio record their answers. Reasons given for choosing to type their answers using the keyboard are outlined below:

1. **Typing was perceived as 'easier.'** Participants described how they were more familiar with the act of writing or typing, and less familiar with how to do voice recording. As voice recording was unfamiliar some respondents expressed how they were worried about 'getting it wrong.' Other participants felt that it would be faster for them to type their answers.
2. **People felt 'uncomfortable' recording their voice.** Participants described how typing felt more natural and therefore more comfortable. They described how they felt 'self-conscious' recording their voice around others. Even if others were not present, people described how it feels more natural talking to a person rather than 'talking to a machine.' Participants also expressed how they did not like listening to recordings of their voice.
3. **Privacy concerns.** Some participants described how they preferred typing as their answers would not be overheard. They also had less trust in how a voice recording would be used.
4. **Issues with the practice audio recording.** Some participants tried the audio recording practice question and were unable to unable to listen back to their answer. It is possible this is due to a lag between the making the recording and being able to play it.

Reasons given for choosing to record answers were homogenous; they were either unfamiliar with digital keyboards or thought it would be easier and quicker to voice record than typing out their answer.

Recommendation
- It is anticipated that if the respondents are offered the choice between typing and audio-recording the majority will continue to opt for typing.
- However, it may still be worth offering the audio-recording option as some members of our target population had issues with the keyboard due to dexterity issues.

> Therefore, there is an argument to continue to offer the audio-recording option on accessibility grounds.

4.8.4 Issues with typing

To simplify the task of typing, a basic keyboard was used which limited the actions that the user could perform using the keyboard, e.g. removing the option to navigate to other keyboards with special characters or emojis.

Participants varied in terms of whether they were able to use the keyboard function. Most participants reported no difficulties typing, however there were some specific issues that arose due to lack of familiarity with digital keyboards. These issues tended to occur in groups with no typing experience.

- One participant did not know how to use the space bar on the keyboard, which resulted in answers with no spaces between words.
- A number of participants reported accidentally tapping the wrong numbers or letters on the keyboard which made it more difficult and time-consuming to type their answers. Some of these participants lacked the knowledge of how to use the backspace key, leading to spelling errors and mistakes in their answers.

Recommendations
- The typing training questions should be refined so participants are asked to enter a multiple word answer, and to delete some letters. This training will allow the survey representative who is doing the placement to check if the participant is able to use the spacebar and backspace, and to provide training on this if it is required.

In a small number of cases, it appeared that the Simple keyboard was not working as intended for all open questions, or that other keyboards were being accidentally accessed. One participant recalled trying to answer a numerical entry question but seeing symbols, indicating that the device was not displaying the simple numeric keyboard.

"I started to flounder a little bit, 'cos I did not know what to do with all those symbols."
EN-2954024

A couple of participants also mentioned other characters coming up when they held down a letter on the keyboard. The participants who had these issues were typically those with no experience using digital devices who did not have the knowledge to overcome these issues. Some of these individuals who had encountered problems said that they skipped the remaining open answer questions rather than attempting to give a response.

One participant in Portugal reported difficulty finding specific Portuguese characters with accents on the keyboard, but this was not mentioned by any other Portuguese participants. One Serbian participant thought the keyboard should use the Cyrillic alphabet.

Recommendation

- All ESS EQDs had Simple alphanumeric-only keyboards installed. It is important for fieldwork agencies to check that these are being implemented as intended for all questions prior to ESS EQD use.
- Country specific keyboards/ characters will need to be enabled in some cases.

4.8.5 Issues with audio-recording

In general, those who chose to audio record their answers did not have difficulty doing so. Most did not listen back to their answers, or only listened back to the first answer to check that the recording had worked. One participant mentioned that they had only given short answers as they lacked confidence, but this seemed to be a lack of confidence in their answers rather than with the technology. Another mentioned that they did not have issues with the recording but was unsure if it had worked properly, which indicates either unwillingness to listen back to the recording, or lack of knowledge about how to do this.

4.8.6 Differences between Dragon and Samsung devices

One aim of acceptance testing was to ascertain whether there were any differences in acceptability between (low-end budget) Dragon EQDs or (mid-tier) Samsung EQDs, and between smaller 7- or 8- inch and larger 10-inch devices. Participants only ever received one type of device, so direct comparisons by participants themselves was not possible. Looking at the qualitative data there is little difference between participants' views on Dragon devices versus their views on Samsung devices.

Two Dragon tablets, which were used in Serbia, ran out of charge when participants were completing the survey. Short battery life appeared to be issue with some of the Dragon tablets. Some survey representative also reported there was more of a delay when scanning QR codes on a Dragon device compared to a Samsung.

One Samsung tablet also ran out of charge, however the survey representative who the device was assigned to had commented that it took many hours to charge the device, so it is possible that the device was not fully charged when delivered to the participant.

A few respondents suggested making the text larger so that it would be easier to read the questions. This comment was made by both people who had the Dragon (smaller screen) and the 10.1" Samsung (larger screen) device.

Recommendations
- Based on battery life Samsung appears to be the preferable of make of the two tested.
- Some participants commented that a larger font would be desirable which would indicate that 10.1" may be preferable if costs allow. However, there were no cases of participants in our sample being unable to take part due to font size on the smaller screen devices.

4.8.7 Battery life

All survey representatives were briefed to fully charge the ESS EQD between each placement. Some survey representatives told participants to complete the questionnaire as soon as possible before the battery runs out. This warning triggered some participants to believe that the battery would run out imminently and gave them the false belief they had to complete the questionnaire immediately. The survey representatives reported that the Samsung devices generally lasted two to five days before charging was required, whereas the Dragon device sometimes ran out of charge in less than one day. On a couple of occasions, the Dragon device did run out of charge before participants had completed the survey, so the timing of survey completion was important in some cases.

Recommendations
- If the ESS EQD is retained, survey representatives should continue to charge the devices fully before placement. Survey representatives should inform the participant the battery will run out after a few days, and the survey representative should also instruct the participant how to read the level of charge displayed on the ESS EQD screen

4.8.8 Screen dimming

Around ten participants (all in Slovakia) mentioned that the screen dimmed after a short period of inactivity and they felt this happened much too frequently.

"…it disturbed me that the screen darkened after a short time, I was still reading the question and it was getting darker, then I knocked it to light up, but it took me a while to find out where I stopped ..."
SK-330000-02

ESS EQD screens are set to dim after a certain period to help maintain battery life. However, it is possible that the part of the policy responsible for screen timeout was not applied correctly in this country. Despite these comments, all of these participants knew (or worked out) how to turn the screen to return to standard brightness again (i.e. by touching the screen).

Recommendation
- Although battery conservation is important for the ESS EQD, battery saving measures should not annoy participants. Screens should ideally not dim mid-way through reading a question.
- Any policy features related to battery saving and screen dimming should be reviewed. Screens should not dim unless one minute has passed with no taps.

4.8.9 Overall acceptability of ESS EQD

Generally, the ESS EQDs were well-received by participants across all four countries, with most finding the device straightforward to use. In all countries there were some 'higher reticence' participants who reported that the ESS EQD was easier than they had expected. This group described how they were pleasantly surprised by the

experience. However, it should also be noted there was a minority group of strugglers who reported feeling nervous about using the device, and who had issues with basic functionality such as being able to tap buttons and move between screens. In addition, the initial difficulties placing the devices in Portugal suggest there might be challenges in using the device here, although testing with a representative sample is needed to explore this further.

In the qualitative follow-up interviews all participants were asked whether they would be willing to use an ESS EQD again in the future. Most indicated that they would be willing to use an ESS EQD again (87% of people who took part). The reasons given for not wanting to use the tablet again included finding the tablet too difficult to use or generally having no interest in surveys.

5 Data Quality

In the following chapter we will discuss data quality issues investigated post acceptance testing. These issues included

- Partial completions and break-off points
- Quality of open responses

Please note that all figures in this chapter should be treated with some caution in terms of drawing wider inferences. As stated previously we have used purposive sampling methods for this study, rather than representative samples, and thus these figures cannot be used to draw conclusions on the prevalence of issues within the general survey population.

5.1   Partial completions and break-off points

One aim of testing was to establish how many participants attempted to use the ESS EQD after the doorstep placement, and of these how many go on to complete the entire ESS questionnaire using the ESS EQD. Another aim was to establish how many participants partially complete the questionnaire (by this we mean they stop answering at a certain point and no longer continue, rather than they skip a question) and whether there were any patterns in break-off points.

5.1.1 No data collected and partial completions

In total 121 participants received an ESS EQD device. Of these:
- Two (1.7%) submitted no data (i.e. they did not answer any questions other than those they did with the interviewer during the placement activity);
- 15 (12.4%) did proceed beyond the training questions but did not complete the entire questionnaire (i.e. they were a partial completion); and
- 104 (86%) completed the entire questionnaire.

Table 5.1.1 below shows the number of cases, per country, where the participant reached the end of the questionnaire. Please note 'complete survey data' indicates that the participant navigated to the end of the questionnaire (i.e. they reached the penultimate or final screen of the questionnaire) irrespective of whether they skipped any questions.

Table 5.1.1: Number of complete questionnaire data, incomplete data and no data

Country	UK	Portugal	Serbia	Slovakia	Total (%)
No data	1	1	0	0	2 (1.7%)
Incomplete data (partial completion)	3	4	6	2	15 (12.4%)
Complete survey data	24	18	34	28	104 (86.0%)
Base	*28*	*23*	*40*	*40*	*121*

As described in the section on findings from the qualitative interviews, participants gave various reasons for not completing the questionnaire or not being able to use the

device to complete the survey at all. These included technical difficulties, inability to use the device and lack of motivation to continue the questionnaire due to length or content. There did not appear to be any difference in the proportion of break-offs between the different device types.

5.1.2 Break-off points

Excluding cases where no questionnaire data was collected, there were 15 (12.4%) participants who did not complete the entire questionnaire (i.e. partial completions). Paradata was collected on the last question the participant answered which shows where in the questionnaire the break-offs occurred. Table 5.1.2 shows a breakdown of these break-off points for each country according to the sections of the questionnaire the question was in.

Table 5.1.2: Break-off points for incomplete surveys per country

Country	UK	Portugal	Serbia	Slovakia	Total no. of break-offs
Section K (a) – Attitudes towards Covid-19	-	1	-	-	**1**
Section A - Media use; Internet use; Social trust	1	1	-	-	**2**
Section B - Politics	-	-	2	2	**4**
Section C - Subjective Wellbeing	1	-	1	-	**2**
Section F - Socio-demographic Profile	1	-	2	-	**3**
Section H - Human Values Scale	-	1	-	-	**1**
Section K (b) – Attitudes towards Covid-19	-	1	1	-	**2**

As the overall number of break-offs are small, it is problematic to infer whether they are indicative of problems with specific questions or sections of the questionnaire. Table 5.1.2 shows that break-offs occurred at various stages during the questionnaire and does not indicate that there was a particular section or point in the questionnaire where participants were more likely to stop using the device.

Qualitative findings have shown that participants who failed to complete the questionnaire sometimes had difficulties using the touchscreen, or the device ran out of charge. These are device specific issues that will have influenced break-off. However, other break-offs, according to the qualitative findings, were due to participants being unwilling to finish the questionnaire, e.g. due to the length of the survey or lack of interest in the questions. Therefore, not all break-offs are ESS EQD specific and these could have also occurred if an alternative self-completion mode had been offered.

Analysis of the individual questions where break-offs occurred did not indicate any pattern with regards to question type. Two break-offs occurred at an open-ended question, which suggests that the increased effort required to answer these types of questions generally did not deter participants from continuing with the survey (although open questions did have a high level of item non-response, see section 5.2). The rest of the break-offs occurred at questions with radio buttons, which were the most common question format.

Recommendations
- The vast majority of the sample attempted to answer some of the survey questions post the placement activity.
- Out of 121 participants, fifteen partial completions were noted. There was no evidence of systematic break-off at any one point in the questionnaire, so no changes are recommended as a result of this test.

5.2   Quality of open responses

One aim of ESS EQD testing was to establish whether open ended questions on the ESS EQD would capture data that are of sufficient quality to facilitate coding. We will focus on the quality of open responses to the questions on industry and occupation.

5.2.1 Questions tested

This section will briefly describe the methods used to analyse the quality of open responses provided using the ESS EQD device.

Seven open-ended questions of interest were tested to assess the quality of open questions in the ESS EQD. The open questions used to code occupation and industry are presented below.

|		
Main respondent's industry	F31	What {does/did} the firm/organisation you {work/worked} for mainly make or do?
	F32	Which of the types of organisation on this card {do/did} you work for? 1. Central or local government 2. Other public sector (such as education and health) 3. A state-owned enterprise 4. A private firm/Self-employed 5. Other
Main respondent's occupation	F21	In your main job {are/were} you… 1. An employee 2. Self employed 3. Working for your own family's business
	F22	How many employees (if any) {do/did} you have?
	F23	{Do/did} you have a work contract of… 1. Unlimited duration 2. Limited duration 3. No contract

	F24	Including yourself, about how many people {are/were} employed at the place where you usually {work/worked} …
		1. Under 10
		2. 10 to 24
		3. 25 to 99
		4. 100 to 499
		5. 500 or more
	F25	In your main job, {do/did} you have any responsibility for supervising the work of other employees?
		1. Yes
		2. No
	F26	How many people {are/were} you responsible for?
	F33	What [is/was] the name or title of your main job? Please be as specific as possible, e.g. type 'Assistant Electrical Design Engineer' rather than 'Engineer'.
	F34	In your main job, what kind of work [do/did] you do most of the time? Please give specific examples of your day-to-day duties.
	F34a	What training or qualifications [are/were] needed for the job? We are interested in what qualifications are normally required for this job. This may be different to your highest qualification.
Partner's industry	F47	What is the name or title of his/her main job?
Partner's occupation	F48	In his/her main job, what kind of work does he/she do most of the time?
	F49	What training or qualifications are needed for the job?

Participants were able to answer these questions using one of two methods:
1. Audio recording; or
2. Text-entry (typing).

Participants were given the opportunity to practice typing and audio recording answers before choosing their preferred format (see screenshot 5.2.1 below). The format they chose became the default for all open-ended questions.

Screenshot 5.2.1: Audio-recording training question
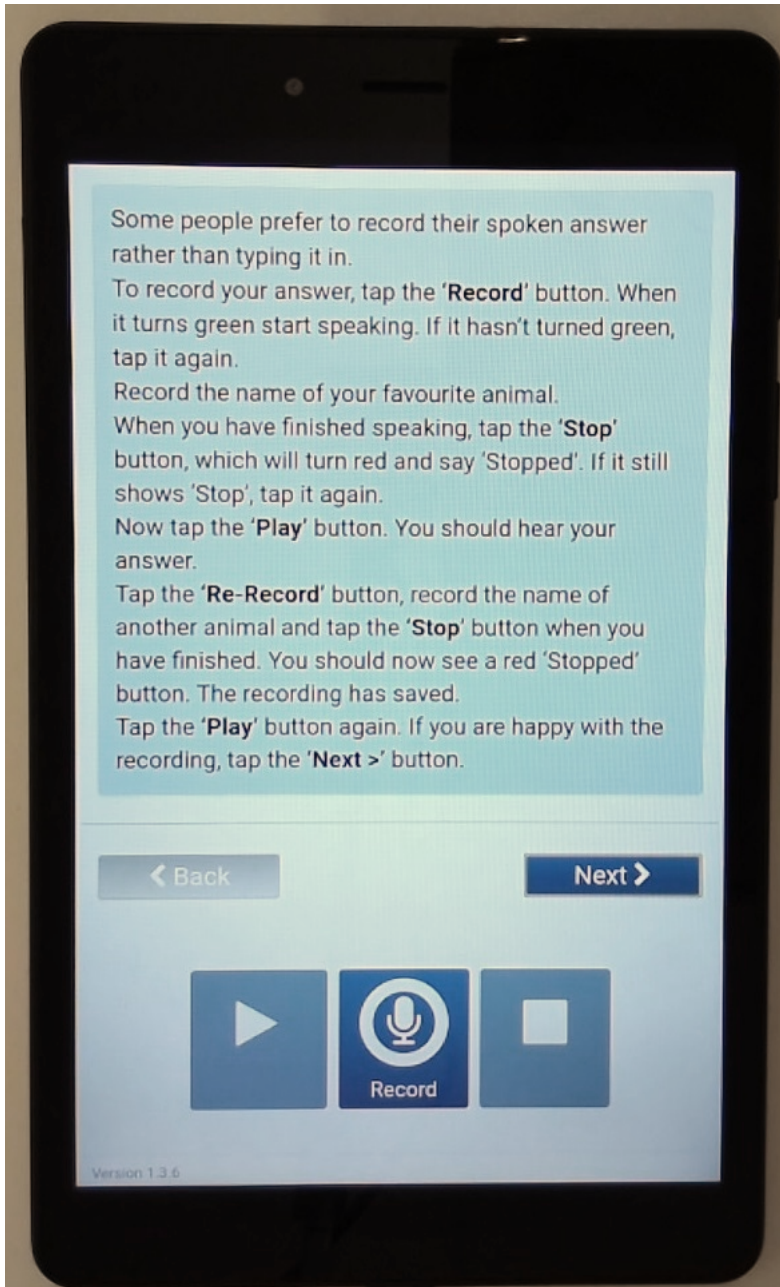
The aim of offering audio recording was to try and elicit longer responses and to minimise the burden associated with typing answers.

The testing aimed to
1. Establish how many participants chose to audio record responses to open questions versus typing using the keyboard;
2. Identify the percentage of responses which were either audible or readable, depending on response format;
3. Establish whether audio or text responses were longer;
4. Establish whether the responses provided allowed for coding of industry and occupation (and to what level of detail).

5.2.2 How the testing was undertaken

Each country coded data separately using a standardised coding template created by the UK team. The open-ended responses were first transcribed (if they were from a sound file) or copied into the coding template. Coders were asked to decide if each answer (sound-file or text response) was usable, and if there was any missing data. The word count of each of the open-ended responses was calculated, with any comments on the quality of responses documented.

Using the information provided within the open-ended responses, coders then identified the industry code (using the NACE-Rev 2) and occupational code (using the ISCO-08). The code schemes for both industry and occupation are hierarchical, with four-digit numerical codes providing the most detailed information on industry and occupation, with one-digit codes providing the least. All coders were instructed to give the most detailed code with the information provided and to aim to provide four-digit codes wherever possible. A debriefing session was held with all national teams to gain further qualitative information on how the coding went, and in particular whether it was easier to code audio data or textual data.

5.2.3 Uptake of audio recording versus typing for open questions

The first aim of testing was to establish how many participants would opt to audio record their responses and how many would opt to type their answers.

Only ten participants (approximately 8%) opted to audio record answers. Most participants typed in their responses (55%-63% of answers were typed-in, depending on the question being considered). It is important to note there was a high proportion of missing data at all the open questions. This was caused by a combination of earlier break-off and respondents skipping some (or all) of the open questions. For example, for Q34 (on job role), eleven respondents had dropped out prior to reaching this question (approximately 9%), and a further thirty-five respondents chose to skip the question when they were routed to it (approximately 29%).

The tables below summarise the number of respondents typing and audio recording their responses, and also the number who opted to skip each question.

Table 5.2.3a: Responses type to question F31 (industry) by country

Country	UK	Portugal	Serbia	Slovakia	Total (%)
Typed response	16	14	26	16	72 (59.5%)
Audio response	5	0	2	3	10 (8.3%)
No data (break-off prior to F31)	4	2	3	2	11 (9.1%)
No data (skipped)	3	7	9	9	28 (23.1%)
Base	*28*	*23*	*40*	*30*	121

Table 5.2.3b: Responses type to question F33 (job title) by country

Country	UK	Portugal	Serbia	Slovakia	Total (%)
Typed response	16	16	25	19	76 (62.8%)
Audio response	5	0	2	3	10 (8.3%)
No data (break-off prior to F33)	4	2	3	2	11 (9.1%)
No data (skipped)	3	5	10	6	24 (19.8%)
Base	*28*	*23*	*40*	*30*	*121*

Table 5.2.3c: Responses type to question F34 (job role) by country

Country	UK	Portugal	Serbia	Slovakia	Total (%)
Typed response	16	16	23	14	69 (57.0%)
Audio response	3	0	1	2	6 (5.0%)
No data (break-off prior to F34)	4	2	3	2	11 (9.1%)
No data (skipped)	5	5	13	12	35 (28.9%)
Base	*28*	*23*	*40*	*30*	*121*

Table 5.2.3d: Responses type to question F34a (qualifications) by country

Country	UK	Portugal	Serbia	Slovakia	Total (%)
Typed response	15	13	24	15	67 (55.4%)
Audio response	4	0	2	2	8 (6.6%)
No data (break-off prior to F34)	4	2	3	2	11 (9.1%)
No data (skipped)	5	7	11	11	34 (28.1%)
Base	*28*	*23*	*40*	*30*	*121*

There are two reasons that could account for the high proportion of missing data of the industry and occupation questions (i.e. the skipped questions):

1. Participants could not easily input data using either the audio-recording or the typing format; and/or
2. Participants did not consider the questions to be relevant as they no longer worked.

Questions F31-F34 were meant to collect information about the participants last job if the participant has previously stated they are retired/ not working. However, some participants just typed in 'retired' or similar. It is possible therefore that some of the skips were due to question content for our target audience in addition to difficulties with data entry. Therefore, this issue with F13-F34 may have occurred in any self-completion survey with this cohort, and it is not necessarily an ESS EQD specific issue.

Please note findings on partner questions (F47, F48, F49) have been dropped from our analysis. This is because only thirteen participants across all countries provided answers to the open questions on partners' industry and occupation, and all these responses were typed. The small base rates for responding were due to questionnaire routing, as the partner questions were only asked regarding a partner's *current employment* (whereas F31, F33, F34 and F34a were about current or last employment).

5.2.4 Comparing usability in text and audio responses

One aspect of quality testing was to establish whether the open responses collected on the ESS EQD were usable. By this we mean:

- Whether audio recordings were audible (i.e. whether the recordings were clear enough to hear and transcribe) and
- Whether textual responses were readable (i.e. whether responses were clear written phrases or just incoherent letter strings).

Coders were asked to assess the above in a binary (Yes/No) format. Across countries, almost all responses to open-ended questions were coded as audible or readable, suggesting both formats are usable. Only three responses were marked as incomprehensible; one audio response at F33 where the second word could not be heard, and two typed responses at F33 and F34 (from the same participant) which were unintelligible.

Some coders reported that background noise was picked up in the audio recording. This included background noise from the television, other householders speaking and so on. Some participants were also heard trying to work out whether the recording had started or being instructed on how to record by another household member. Despite these additional noises, coders were still able to transcribe participants' answers without difficulty. For typed responses, coders sometimes noted participants not including spaces between words in their responses, however they were still able to decipher their answer if spaces were omitted. Therefore, for participants who gave an answer, the quality of audible and readable responses is encouraging.

5.2.5 Comparing length of text and audio responses

Another aim of testing was to establish whether participants gave more detailed answers to open questions when using the audio recording option, or the typing option.

As previously stated, the number of participants providing audio responses is low (the maximum number of recordings per question was ten). Therefore, any conclusions made regarding differences in response length by question format must be tentative. The indicative findings show that the word counts for the audio-recordings were longer, in keeping with our expectations. This was true for all questions tested. For example, for item F31 (on industry) the median word count was two words when using typing (with a range of 1-16). In contrast the median word count when recording was six (with a range of 2-82 words). Coders also reported that the longer responses were generally relevant i.e. when people audio recorded their responses the extra words were 'on topic' rather than ramblings or digressions.

The average (median) word count for each open question is shown in tables 5.2.5 below. The lowest and highest number of words given per question (i.e. the range) is also shown.

Table 5.2.5a: Median word count (and range) of responses to question F31 by country

Country	UK	Portugal	Serbia	Slovakia	All countries
Typed response	1 (1-10)	1.5 (1-11)	2 (1-7)	2 (1-16)	2 (1-16)
Base Rs	*16*	*14*	*26*	*16*	*72*
Audio response	15 (4-82)	-	5.5 (4-7)	3 (2-24)	6 (2-82)
Base Rs	*5*	*0*	*2*	*3*	*10*

Table 5.2.5b: Median word count (and range) of responses to question F33 by country

Country	UK	Portugal	Serbia	Slovakia	All countries
Typed response	2 (1-3)	2.5 (1-10)	2 (1-6)	2 (1-5)	2 (1-10)
Base Rs	*16*	*16*	*25*	*19*	*76*
Audio response	6 (1-50)	-	2 (2-2)	1 (1-3)	2 (1-50)
Base Rs	*5*	*0*	*2*	*3*	*10*

Table 5.2.5c: Median word count (and range) of responses to question F34 by country

Country	UK	Portugal	Serbia	Slovakia	All countries
Typed response	2.5 (1-6)	2.5 (1-9)	2 (1-20)	1.5 (1-14)	2 (1-20)
Base Rs	*16*	*16*	*23*	*14*	*69*
Audio response	11 (4-18)	-	4 (4-4)	10 (3-17)	7.5 (3-18)
Base Rs	*3*	*0*	*1*	*2*	*6*

Table 5.2.5d: Median word count (and range) of responses to question F34a by country

Country	UK	Portugal	Serbia	Slovakia	All countries
Typed response	1 (1-27)	2 (1-8)	2 (1-5)	2 (1-9)	2 (1-27)
Base Rs	*15*	*13*	*24*	*15*	*67*
Audio response	20.5 (5-34)	-	8 (2-14)	2 (1-3)	8 (1-34)
Base Rs	*4*	*0*	*2*	*2*	*8*

5.2.6 Findings on industry coding

The final aim of testing was to establish whether open responses captured on the ESS EQD device could be coded. This section presents findings on industry coding.

Open responses to F31 were coded using the NACE (rev 2) standardised coding scheme. The closed question F32 was used as supplementary information when coding this question. NACE codes are hierarchical. The greater the number of digits assigned, the higher the degree of accuracy in terms of describing the industry. For the ESS two-digit coding is acceptable.

> *Example of NACE code hierarchy*
> - A two-digit numerical code (division) provides a high-level industry description (e.g. code 10 is the 'Manufacture of food products');
> - A three-digit numerical code (group) provides a more detailed industry description (e.g. code 10.5 is the 'Manufacture of dairy products');
> - A four-digit numerical code (class) provides the most detailed industry description (e.g. code 10.52 is the 'Manufacture of ice cream').

In cases where responses were given, 94% were codeable to NACE using at least two digits, and 59% were codeable to the full four digits. Table 5.2.6 below shows what level of coding was possible for all the open responses collected at F31

Table 5.2.6: Respondent's industry code level by country

Country	UK	Portugal	Serbia	Slovakia	Total (%)
Not codeable to two digits	0	2	1	1	4 (4.8%)
Coding possible to at least 2 digits	20	12	28	18	78 (94.0%)
Coding possible to at least 3 digits	14	1	26	11	52 (62.7%)
Coding possible to at least 4 digits	14	1	24	10	49 (59.0%)

5.2.7 Findings on occupation coding

Open responses to F33, F34 and F34a were coded into standardised occupation codes using the ISCO-08 coding scheme. The closed questions (and numerical entry questions) from F21 to F26 were used as supplementary information when coding this question.

> *Example of ISCO code hierarchy*
> - A two-digit numerical code (sub-major) provides a high-level occupational description (e.g. code 22 is the 'Health professional');
> - A three-digit numerical code (minor) provides a more detailed description (e.g. code 22-1 is 'Medical doctor');
> - A four-digit numerical code (unit) provides the most detailed description (e.g. code 2211 is 'Medical doctor- General practitioner/ GP').

In cases where responses were given 87.5% were codeable to ISCO-08 using at least two digits, and 79.5% were codeable to the full four digits. Table 5.2.7 below shows what level of coding was possible for all the open responses collected at F33, F34 and F34a.

Table 5.2.7: Respondent's occupation code level by country

Country	UK	Portugal	Serbia	Slovakia	Total (%)
Not codeable to two digits	1	4	3	2	10 (11.4%)
Coding possible to at least 2 digits	20	13	27	18	77 (87.5%)
Coding possible to at least 3 digits	19	11	25	17	72 (81.8%)
Coding possible to at least 4 digits	19	11	23	17	70 (79.5%)

5.2.8 Further comments on open responses

All national teams were asked to provide feedback on the coding exercise at a debriefing session. The consensus was that both audio responses and textual responses were relatively easy to code. However, as the number of participants opting to use the audio recordings was so low it is not possible to make definitive conclusions on which were easier to code. Coders reported that most of the issues that arose with coding could have applied in any mode e.g. people skipping questions, giving brief responses, giving 'outdated' job titles or using generational slang.

Audio recordings, when used, were clear. The process for coding audio recordings took slightly longer than the process for coding textual responses. This was because recordings had to be matched, played and transcribed prior to any coding being done, rather than being delivered in a format that was 'ready to code.' It was suggested, should audio-recording be retained and the coding system be upscaled, more thought needs to be given to sound-file labelling, so it is easier to identify which sound-files match each question numbers and serial number.

Recommendations

- The main data quality issue detected was that participants were frequently skipping open questions on industry and occupation. This occurred regardless of the fact two modes of responding were offered (either typing or audio-recording). Future trials could test the use of soft checks to reduce item non-response.

- In practice the audio-record mode was rarely used. ESS HQ need to consider whether this low level of uptake is evidence that this feature should be dropped, or whether it is worth retaining the feature for a larger scale (more representative) test. There is an argument to retain the audio-recording feature even if it is rarely used in order to improve accessibility for groups who struggle to type. Audio recorded responses may yield higher word counts than text input, but this would need to be verified given the low levels of uptake in our trial.

- Those who did provide open responses (either via text or recording) typically gave enough information for coding to at least the two-digit level (94% of responses could be coded for industry questions, and 86% of responses could be coded for the occupation items).

6 Conclusions

We interpret the level of acceptance of the ESS EQD demonstrated in this study to be encouraging.

The study has demonstrated a 'proof of concept' that it is possible to customise a tablet to enable people to complete a large part of the ESS questionnaire as an offline self-completion exercise. The study has also demonstrated that it is possible for our target population to successfully use this product i.e. people who have no internet connection or who have very limited experience using the internet or digital devices. Some data quality issues were detected (i.e. partial completions and non-response to open ended questions). However, such issues are not unique to the ESS EQD, and mirror data quality issues we would expect to see for online modes in general.

It should be noted that acceptance was gained via use of a face-to-face doorstep training session and, even with training from a survey representative, acceptance was not universal. The product did not meet the needs of every user and there is likely to be a group of our target population who struggle to use the product, regardless of what customisations we make to it. We are unable to quantify the size of this group without further piloting work. Consideration needs to be given as to whether survey representative assistance should ever be offered to the group who are unable to operate the device independently or whether the ESS EQD should only ever be offered as a self-completion mode.

The current study was not designed to investigate the likely uptake of the ESS EQD device in a random probability sample survey, which allows for both web and ESS EQD options for self-completion. Further work needs to be done to establish what ESS EQD uptake would be in this context, and what proportion of our target audience decline to use the device. Further work is also required to establish how well the ESS EQD will integrate with fieldwork agencies' existing web sample management systems, knock-to-nudge data collection systems and data coding processes.

Finally, although the study has demonstrated that it is possible to use ESS EQDs to collect ESS data from offline populations, it has not demonstrated if this is the *optimal* mode alternative for this group. Further work would be beneficial to establish whether the ESS EQD or paper alternatives would be better if the ESS adopts online data collection in the future. This would require a comparison of the costs, uptake rates and data-quality for both alternatives. This would need to be balanced by the added benefits of capturing the information digitally (such as improved data quality and the absence of keying costs).

Appendix A.   Invitation letter and information sheet

Dear [Name here],

Help us to improve the European Social Survey

We are writing to invite you to take part in an important study. You have previously taken part in the British Social Attitudes survey and indicated that you would be happy for us to invite you to take part in other research projects.

The aims of this study are to assess whether people with little or no experience of using the internet or computers would be willing to try using a tablet to complete a survey questionnaire, and to assess how easy or difficult people find using the tablet. A tablet is a small computer that you use by touching the screen.

NatCen Social Research is carrying out this study for the European Social Survey European Research Infrastructure Consortium (ESS ERIC) in collaboration with CentERdata.

Everyone who takes part will receive a **£30 Love2Shop voucher**.

What does taking part involve?

Taking part involves two tasks.

1. Fill in a questionnaire on a tablet. You do not need internet access or previous experience with computers to use the tablet. We will deliver the tablet to your home at a time convenient for you. You then attempt to fill in the questionnaire at home, and someone will come to collect the tablet when you are finished. Completing the questionnaire should take no longer than 60 minutes.

2. Complete a short telephone interview to give your feedback on your experience of trying to use the tablet to complete the survey questionnaire. This should take no longer than 20 minutes.

Next steps

In the next few weeks, an interviewer from NatCen will call you to tell you more about the study. If you have any questions, or if you do not wish to be contacted further about this study, please contact Emma Berteen at NatCen on 0207 549 7067 or emma.berteen@natcen.ac.uk.

Thank you

Thank you in advance for your interest in the study. You can find more information on the back of this letter.

Best wishes,

EBerteen

Senior Researcher, NatCen Social Research

What is the research about?

This project is being carried out by NatCen in collaboration with CentERdata, on behalf of ESS ERIC. It aims to assess whether people who do not regularly use the internet, or who have little or no experience with computers, would be willing to try using a tablet to complete a survey questionnaire and to assess how easy or difficult people find using the tablet. A tablet is a small computer that you use by touching the screen. It has been designed to be used by people like you, who have little or no prior experience with digital devices.

What does taking part involve?

We would like you to try to use the tablet to fill in a survey questionnaire. The survey asks questions about your opinions on a range of different topics. We will deliver the tablet to your home at a time that is convenient for you and ask you to attempt to fill in the questionnaire within a few days. We will make an appointment to collect the tablet when you are finished. You do not need internet access to use the tablet. Completing the questionnaire should take no longer than 60 minutes and you do not have to answer any questions you do not want to. Within a few days of you attempting to complete the questionnaire, you would take part in a short telephone interview to give your feedback on the tablet. This would take no longer than 20 minutes. Everyone who takes part will get a £30 voucher.

Is taking part voluntary?

Yes, taking part in this study is completely voluntary. You are free to stop taking part at any time. If you don't want to answer certain questions, you don't have to.

What happens with my data?

We will treat all information that you give in strict confidence. The lawful basis for this research is that it is a task in the public interest and necessary for research purposes, in accordance with the General Data Protection Regulation (GDPR) and national laws. NatCen will hold personal details such as your name and contact details securely, and will delete these 10 days after the project has finished and no later than 31st December 2021. After this date, all data will be anonymised, and no personal data will be retained.

Your survey answers (but not your name or contact details) will be uploaded to a secure central server maintained by CentERdata. Survey responses will be shared with NatCen and ESS ERIC (its HQ at City, University of London and its team at the University of Ljubljana), who will securely store these and delete them after 5 years (by 31st Dec 2026). With your permission, the follow-up telephone interview will be recorded. Recordings will be held securely by NatCen and deleted 3 months after the project has finished and no later than 31st December 2021. Findings from the study will be written up into a report for ESS ERIC, but no names or other identifying information will be included. The ESS ERIC Research Ethics Board have approved this study.

ESS ERIC HQ will have access to the survey answers and is located in the UK. This access will be considered a transfer of personal data. This transfer will be based on the adequacy decision provided by the European Commission in June 2021 and means that any processing that takes place in the UK is in line with the GDPR.

What rights do I have to information stored about me?

As long as we can identify you, you have the right to tell us that you do not agree with us processing your personal information. You also have the right to ask us to correct or delete any information about you, or to ask us what information we hold about you. To make a request, please contact the NatCen Data Protection Officer or the ESS ERIC Data

Protection Officer (details below). You also have the right to make a complaint to the UK Information Commissioner's Office at: Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF, +44 (0)303 123 1113, ico.org.uk/global/contact-us/email

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Data Controller: ESS ERIC, ESS ERIC HQ, c/o City, University of London, ess@city.ac.uk

ESS GDPR Representative: ess-gdpr@cessda.eu

ESS ERIC Data Protection Officer: Mathilde Steinsvåg Hansen, dpo.esseric@europeansocialsurvey.org

NatCen Data Protection Officer: Simon Holroyd, dpo@natcen.ac.uk

ESS Privacy Notice: www.europeansocialsurvey.org/about/privacy.html

Still have questions? Contact Emma Berteen on 0207 549 7067 or emma.berteen@natcen.ac.uk

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Appendix B.   Topic guide for qualitative feedback interview

ESS EQD Qualitative Follow-up interview guide with acceptance testing participants
(Interviews conducted by telephone)

Aims of interview
- To explore people's initial reaction to the device
- To explore whether and how the interviewer protocol for placement of the device supports people in going on to use the device to complete the questionnaire
- To explore how easy or difficult people found the device to use to complete the questionnaire
- To identify any specific problems or issues participants had with using the device
- To identify areas where improvements could be made to the placement of the device and to the functionality of the device
- To assess whether people would be willing to use this type of device to complete a survey questionnaire

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1. **Introduction**

Aim:
- To introduce this aspect of the study, provide an opportunity for the participant to ask any questions and to collect verbal, informed consent

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- Thank participant
- Introduce self and [fieldwork agency]
- Remind participant that this study is being carried out on behalf of the European Social Survey research team. The survey collects information about the attitudes and values of people living in countries across Europe.
- [My colleague] visited you a few days ago and asked you to fill in a survey questionnaire using a device that they left with you. We would like to talk with you about your experience of using that device to complete the questionnaire. This will involve me asking you to talk through your experience and explore any issues or difficulties that you encountered.
- Taking part in this interview is entirely voluntary – this isn't a 'test' and there are no 'right or wrong' answers
- The interview will last no more than 20 minutes.
- Stress confidentiality. The findings from all the interviews will be written up as a report. We never include the names of the people who take part in our reports or any information that would identify individuals.
- I would like to record the interview so that I have an accurate record of what you said and so that I don't have to make lots of notes during the interview, which would distract me from listening to you.
    - The recording is stored securely and only the research team at NatCen will have access to the recordings.

- o   Check this is OK with the participant.
- Do you have any questions?
- Check that participant is happy to proceed with the follow up interview.

2.   Placement of the device

Aims
- To explore people's initial reaction to the device
- To explore whether and how the interviewer protocol for placement of the device supports people in going on to use the device to complete the questionnaire
- To identify participants who were not able to complete the questionnaire

- What did the interviewer tell you when they gave you the device?
- Did they show you how to use it?
- How did you feel when you saw the device for the first time? *Explore:* Why was that?
- Ask participant to talk you through what they did with the device after the interviewer dropped it off. *Probe for:*
  - o   When started to try to use device (e.g. straight after interviewer had gone, later that day, next day etc).
  - o   Were they able to turn it on?
  - o   Did they read the instructions – on paper, on-screen? How useful/helpful were the instructions
  - o   Were they able to complete the questionnaire? If not, how far did they get? Why did they stop?
  - o   Did they complete the questionnaire all in one go or in stages? If stages – explore why that was.
  - Did you record any of your answers using the voice recording function? Why did they choose (not) to?

3.   Completing the questionnaire

Aims
- To explore how easy or difficult people found the device to use to complete the questionnaire
- To identify any specific problems or issues participants had with using the device or that stopped people from completing the device

- How easy or difficult did you find using the device?

  Explore the following, with the aims of understanding the nature, potential causes of issues/problems/difficulties encountered and their impact on the participant.
  - o   Any issues with being able to read the text, e.g. the size of the text, the font, colour of the text or screen background
  - o   Any issues with the Next button or Back button, e.g. tapping the back button but not being taken back to a previous screen
  - o   Any issues/difficulties with being able to select an answer or answers to questions (*Prompt:* if they can remember, which question(s)?)

- o Any issues/problems with entering numbers or text at open questions
- o *(If used voice recording)* Issues/problems with recording your answers e.g. with recording, playing back the recording or with re-recording (*Prompt:* which question(s)?)
- o Any issues with the device turning off unexpectedly
- o Any other issues – explore

4. Improvements and acceptance

> Aims
> - To identify areas where improvements could be made to the placement of the device and to the functionality of the device
> - To assess whether people would be willing to use this type of device to complete a survey questionnaire

- What improvements, if any, could be made to the instructions…
    - o Provided by the interviewer when the device is delivered?
    - o Provided within the device (in the questionnaire)?
    - o Paper instructions?
- What improvements, if any, could be made to the device? *[If participant had difficulties, encourage them to think about those when thinking about improvements]*
- Would you use this type of device to complete a survey again, if you were asked to? *Explore:* Why/why not?
- Anything else the participant wants to say about the device and their experience of using it.

5. Close

Thank participant.
Reaffirm confidentiality.
Remind participant that incentives will be sent out via post at the end of the fieldwork period.
End interview.

Appendix C.   Images of different question types on the ESS EQD

Figure 1: Practice question with instructions
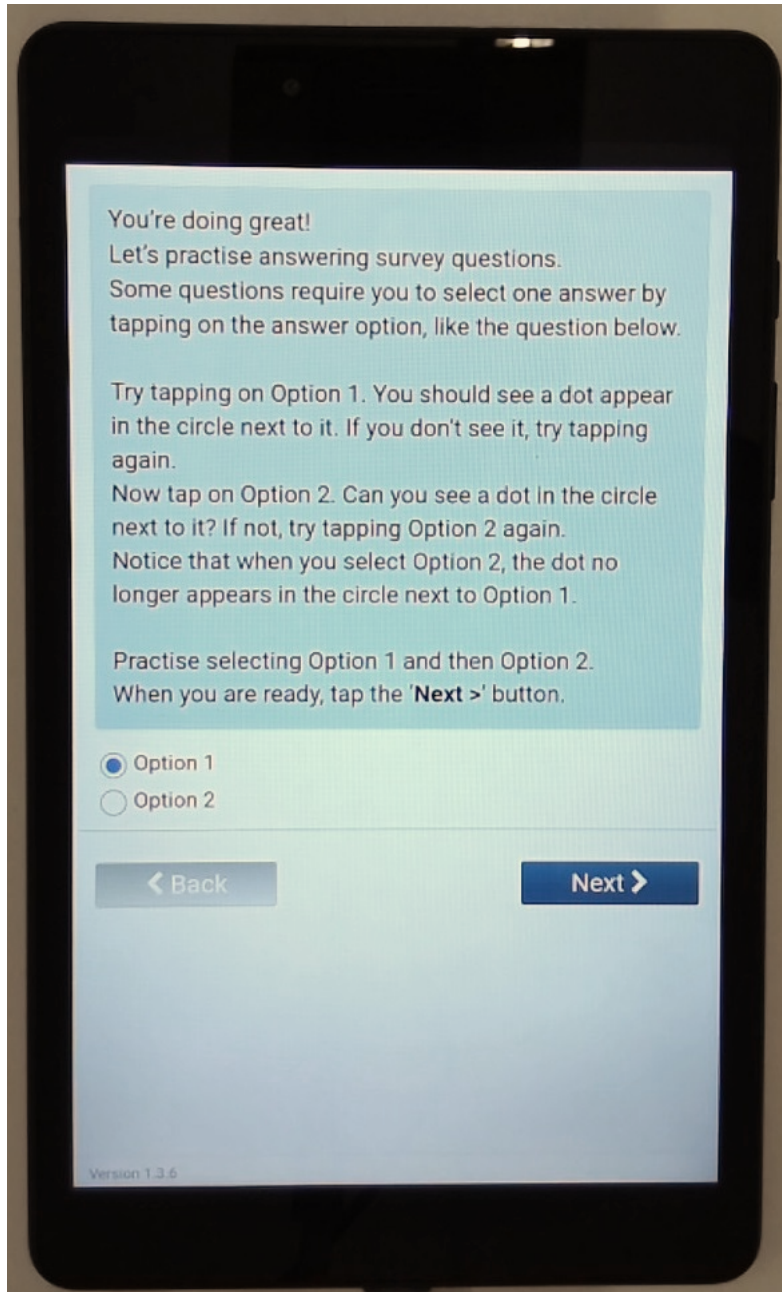
Figure 2: Likert scale (B33)

Figure 3: 11-point scale question (A6)

Figure 4: Education question

Starting from the top and moving down the list, please select the highest level of education you have completed.

If you have not completed any of these, select 'None of these' at the bottom. You will be able to select other qualifications on the next pages if none of these apply to you.

○ - 5 or more GCSEs A*- C or 4-9, CSE Grade 1, GCE O-level Grades A-C or 1-6
- Scottish SCE Ordinary Bands A-C or Pass, Scottish Standard Grades 1-3 or Pass
- School Certificate or Matriculation
- Scottish School Leaving Certificate Lower Grade, SUPE Ordinary, Scottish Intermediate 1 (A grade), Scottish Intermediate 2
- Intermediate / National Welsh Baccalaureate
- 1 A-level or equivalent

○ - 1-4 GCSEs A*- C or 4-9, GCSE Grades D-G or 1-3, Short course GCSE, CSE Grades 2-5, GCE O-level Grades D-E or 7-9
- Scottish (SCE) Ordinary Bands D-E, Scottish Standard Grades 4-7,
- Scottish School Leaving Certificate - no grade, Scottish Access 1-3
- GNVQ or GSVQ Foundation level
- Foundation Welsh Baccalaureate

○ None of these

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Figure 5: Numeric entry question (F1)
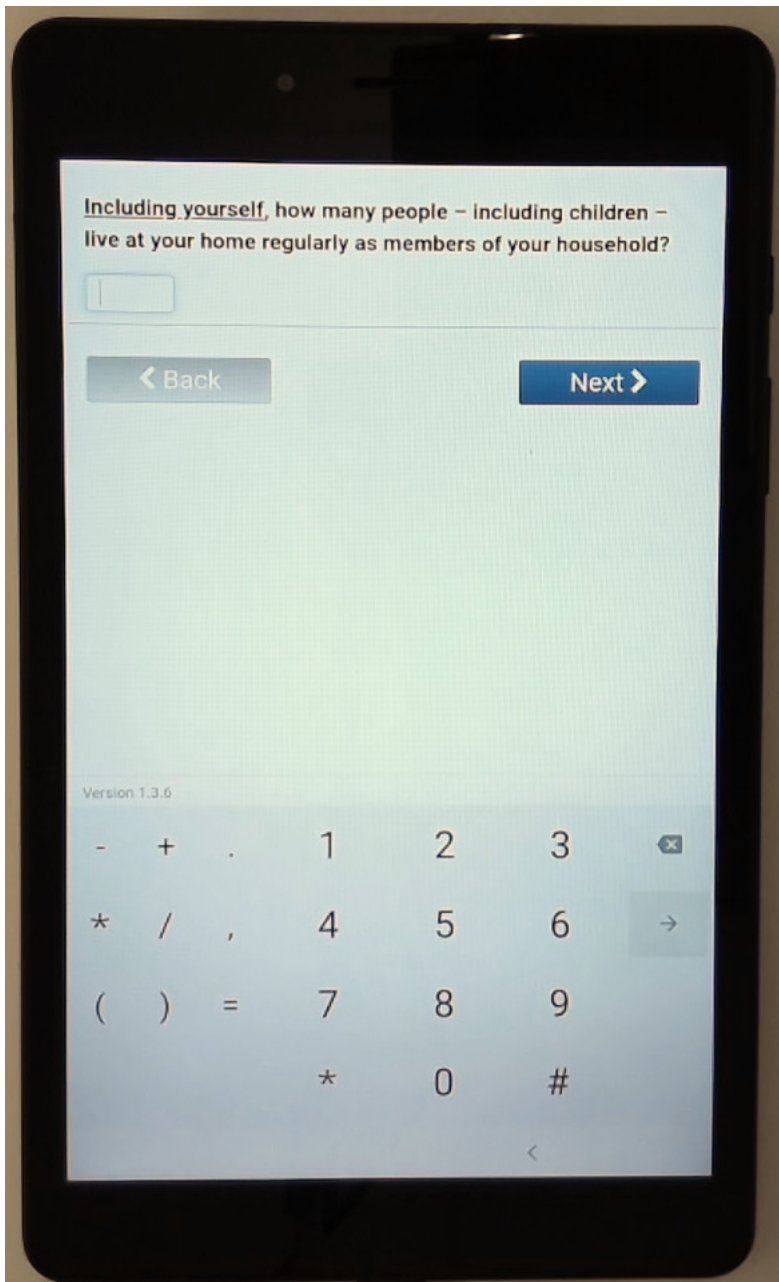
Figure 6: Typing question with keyboard (C24)
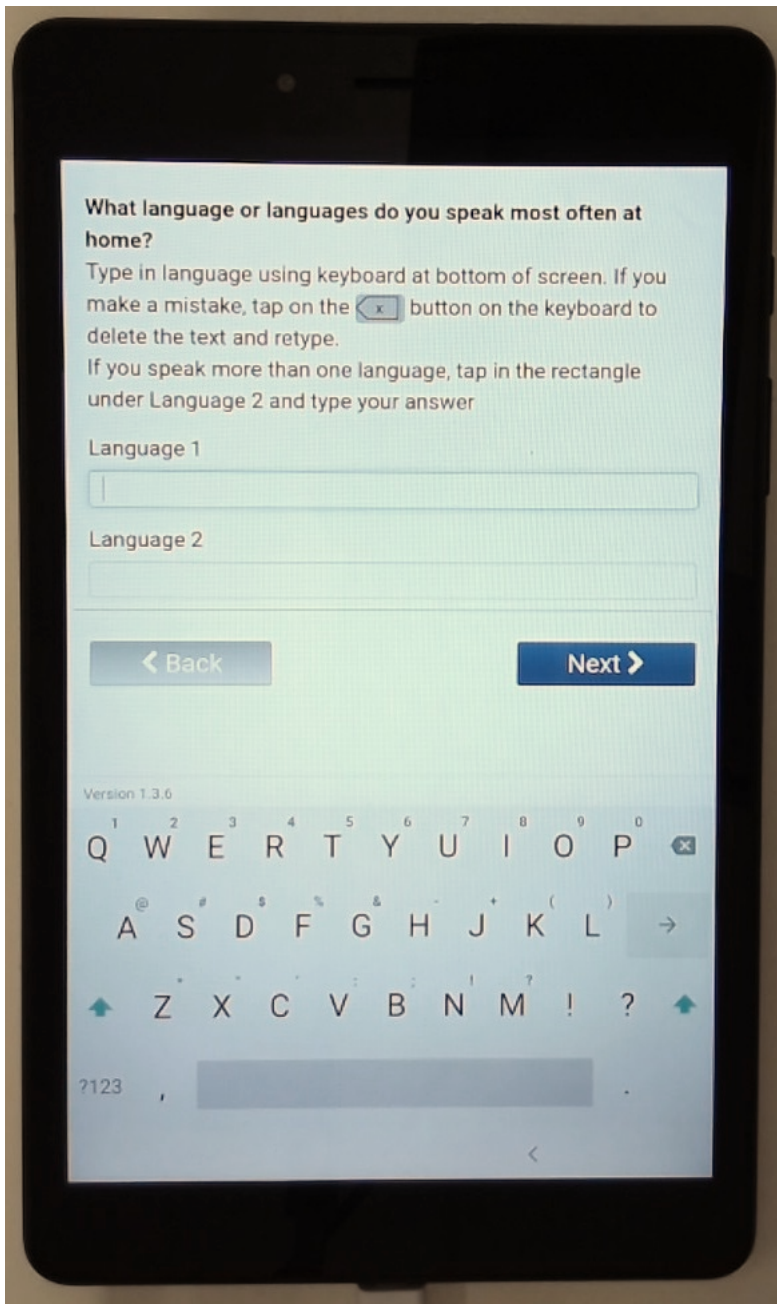
Figure 7: Recording practice question with instructions
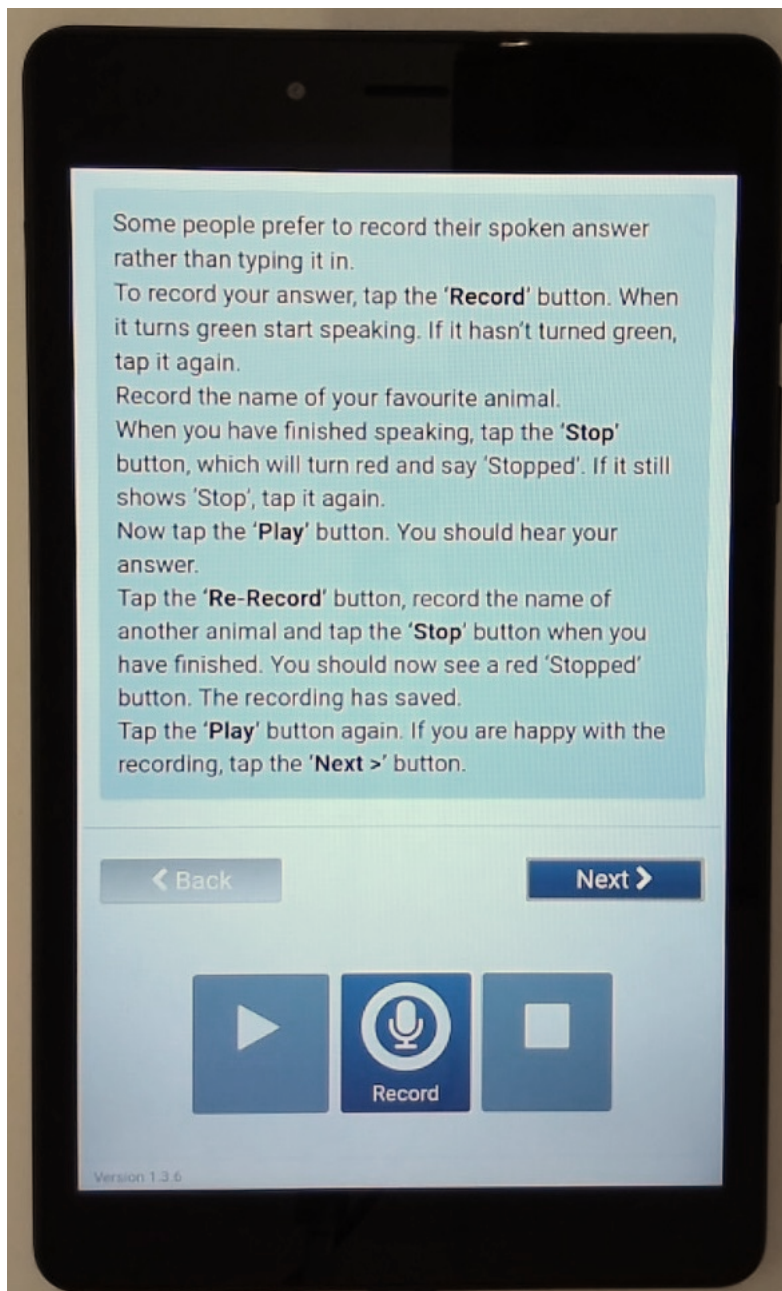
Appendix D. Images of occupation and industry questions

Figure 1: F31
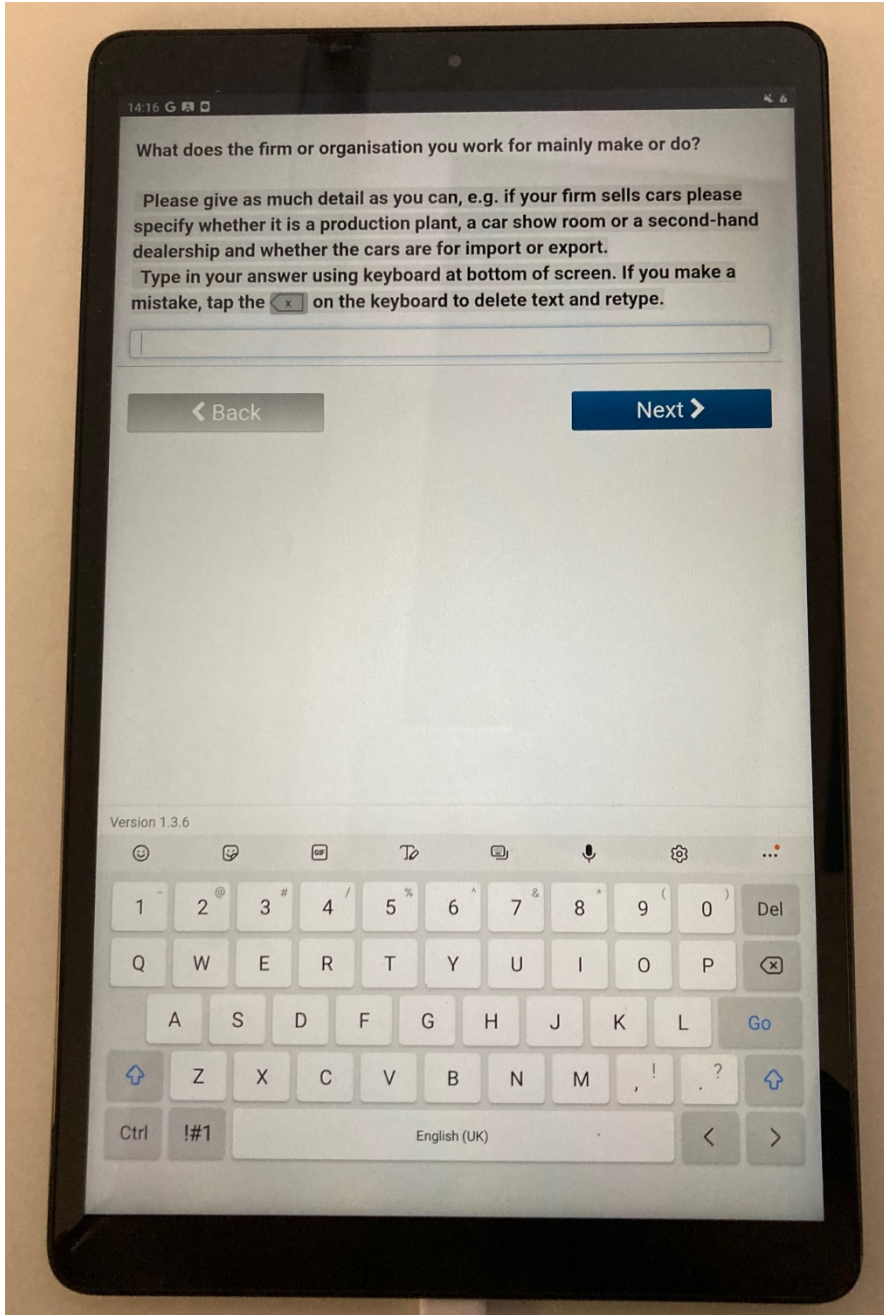
Figure 2: F32
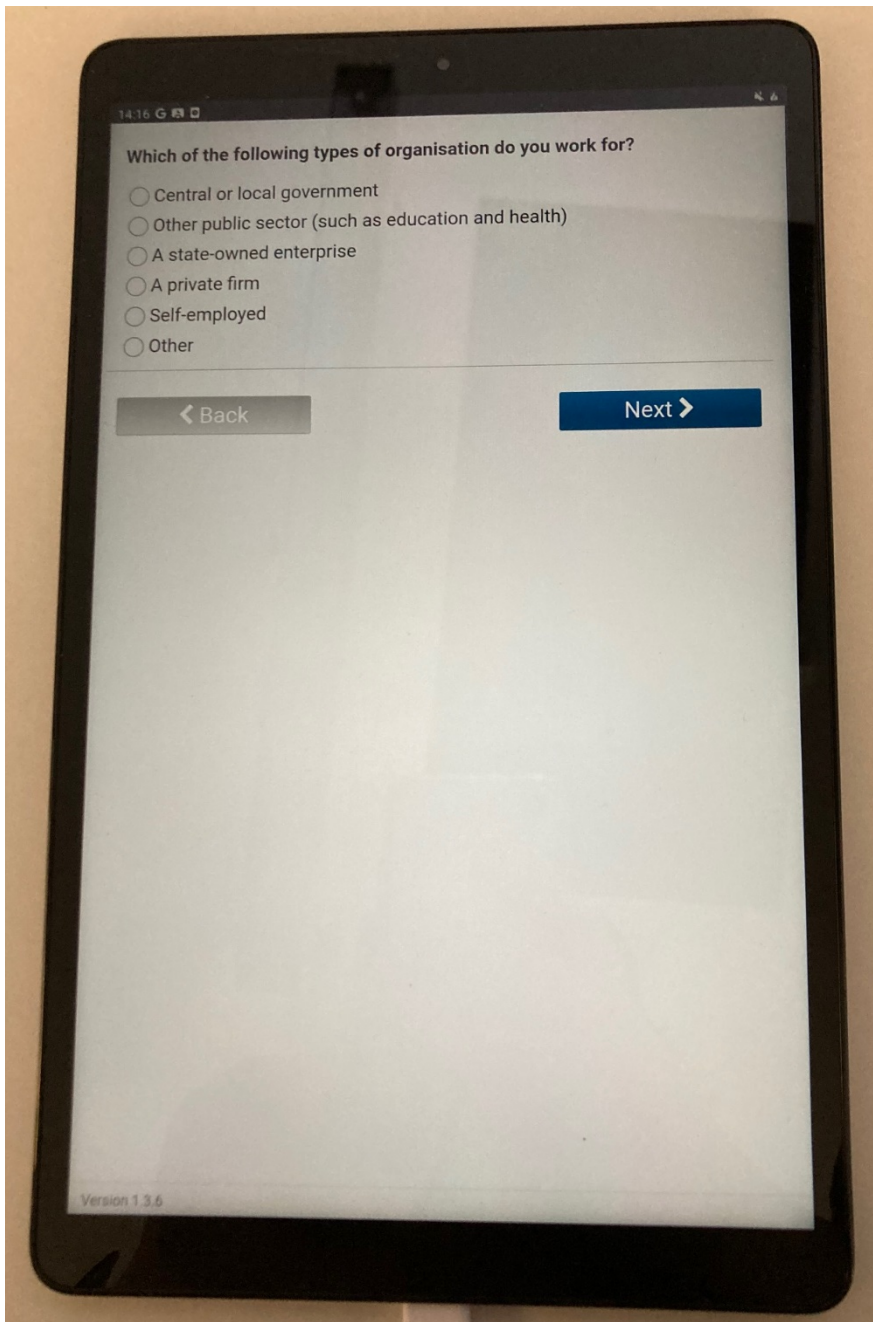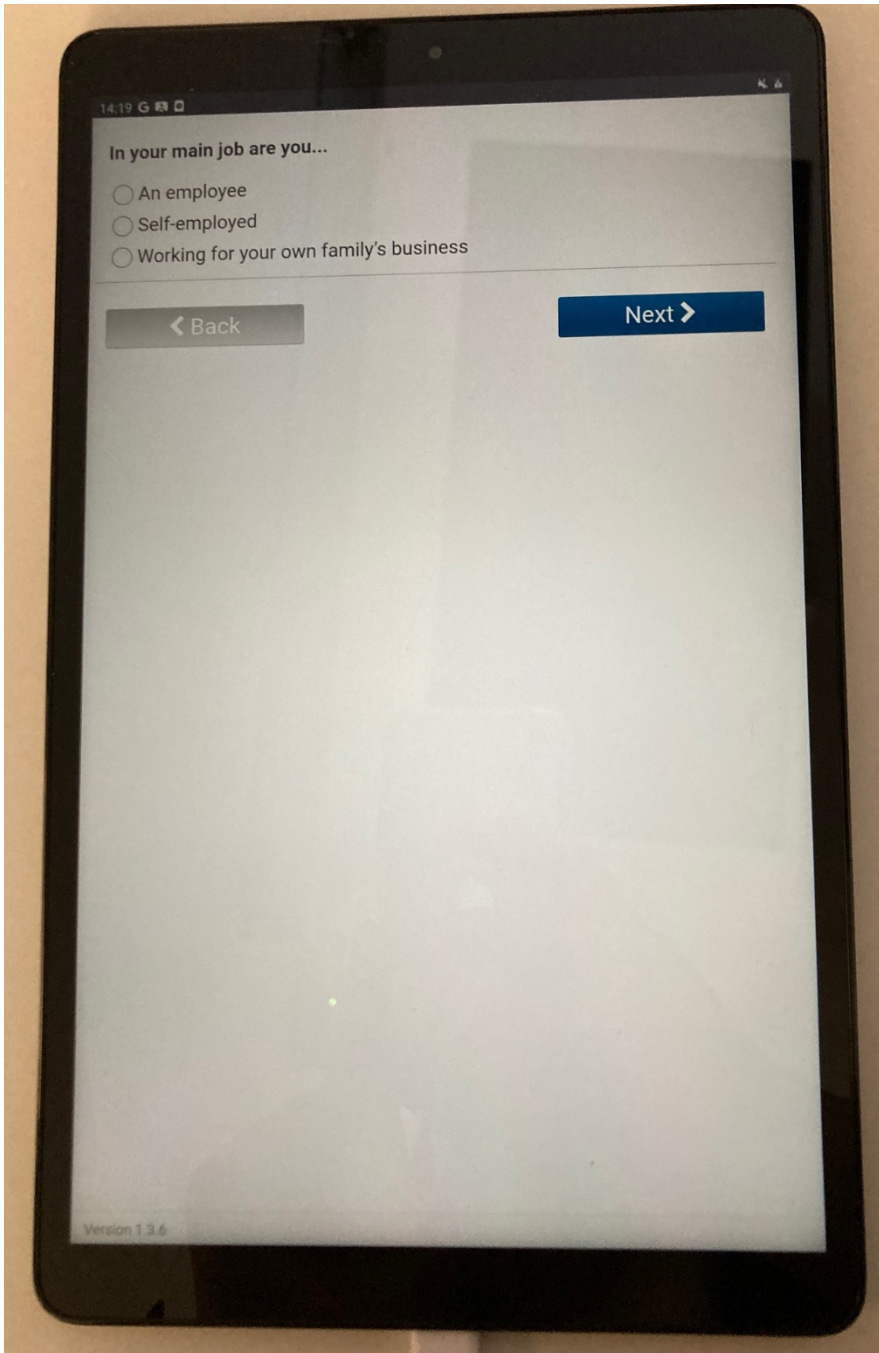
Figure 3: F21

Figure 4: F22
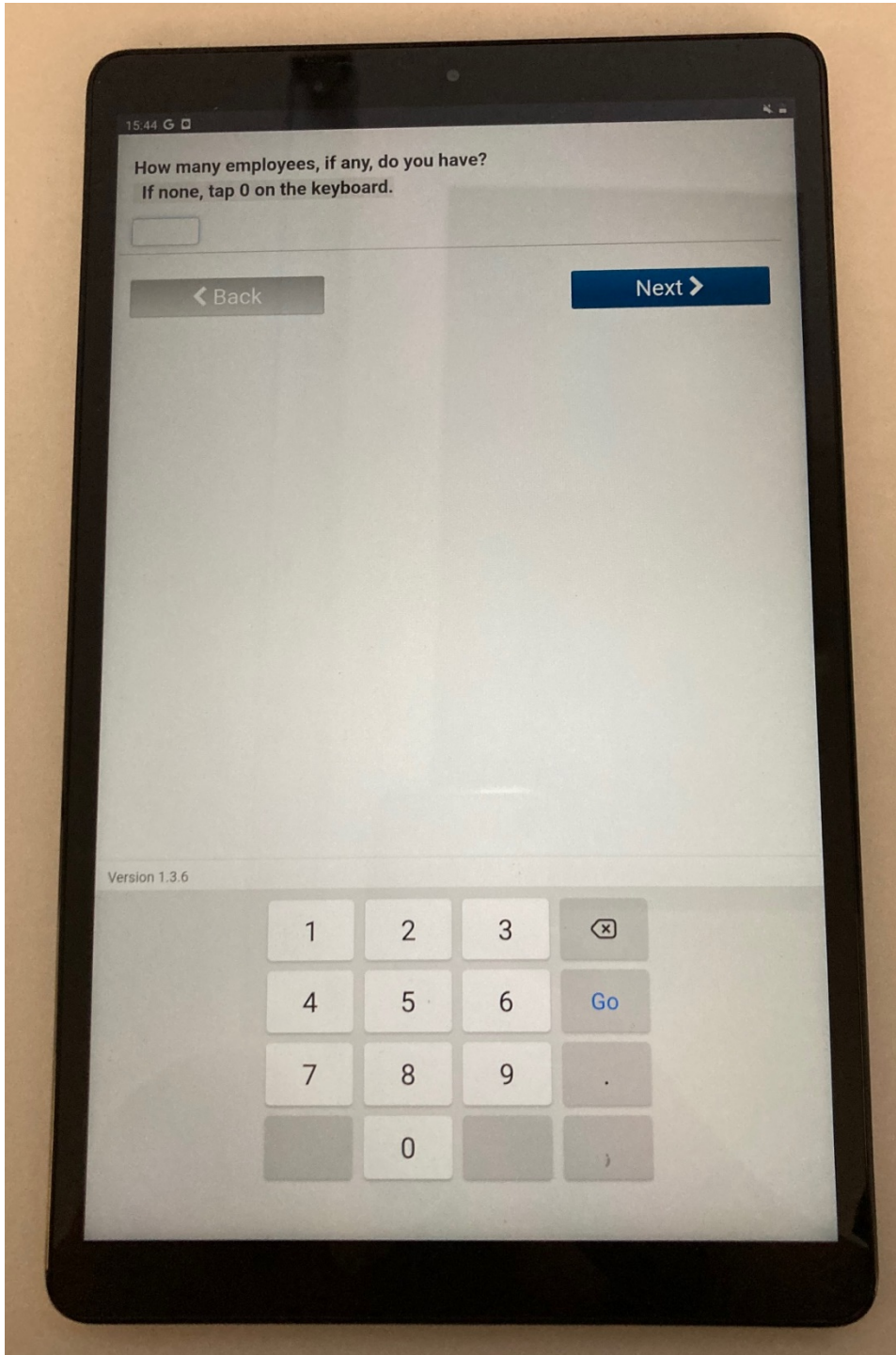
Figure 5: F23
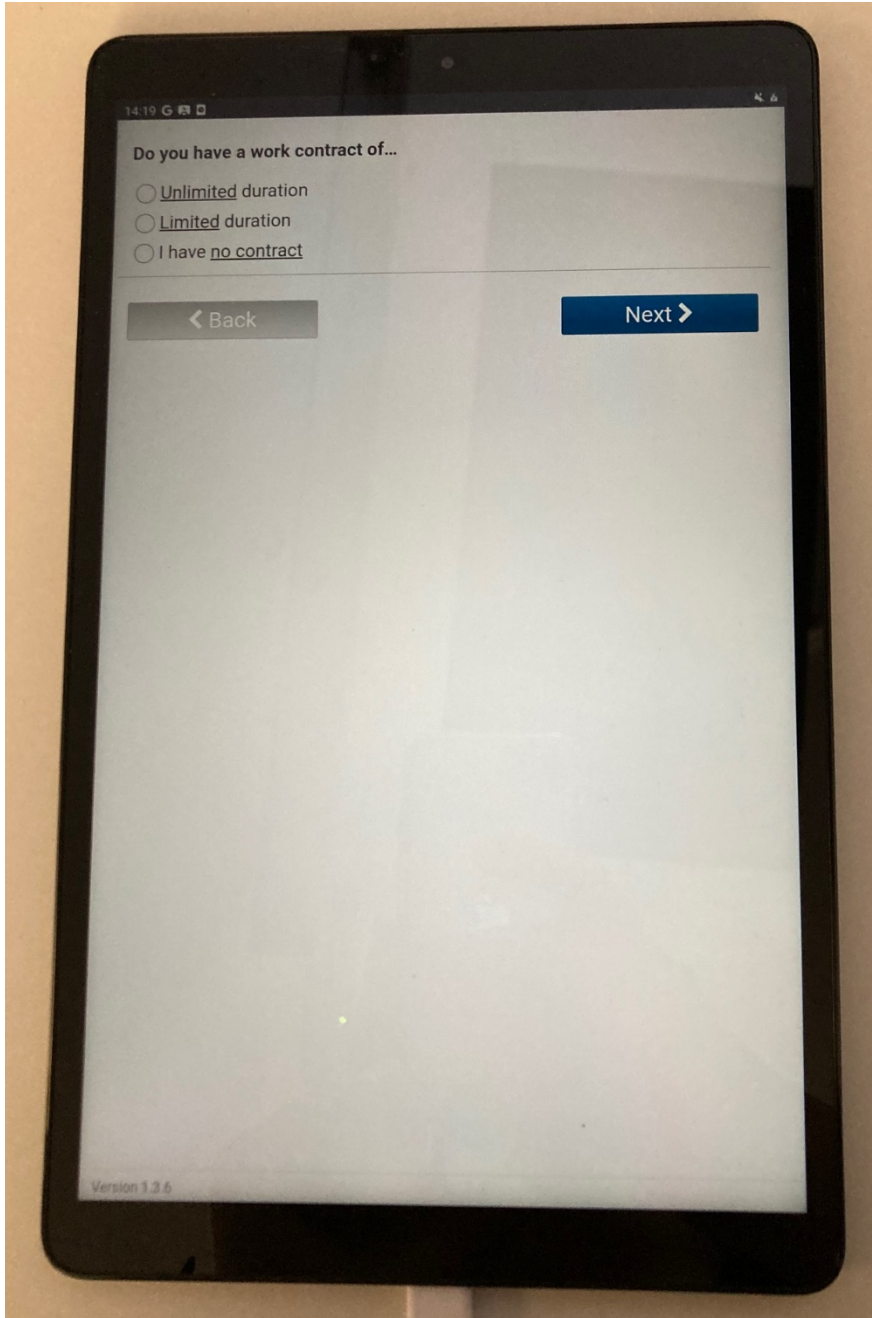
Figure 6: F24

Figure 7: F25

Figure 8: F26

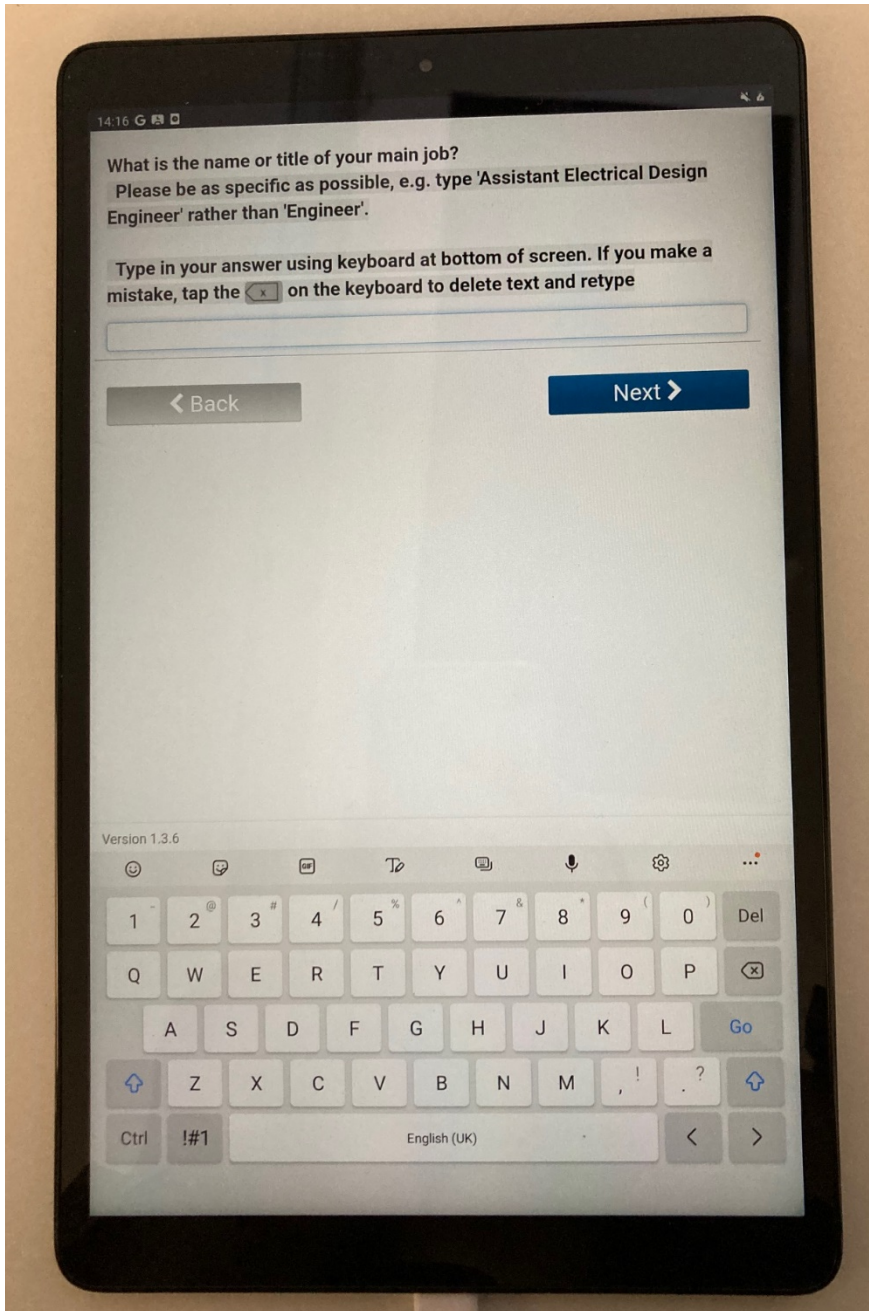**NatCen Social Research** | European Social Survey Electronic Questionnaire Device
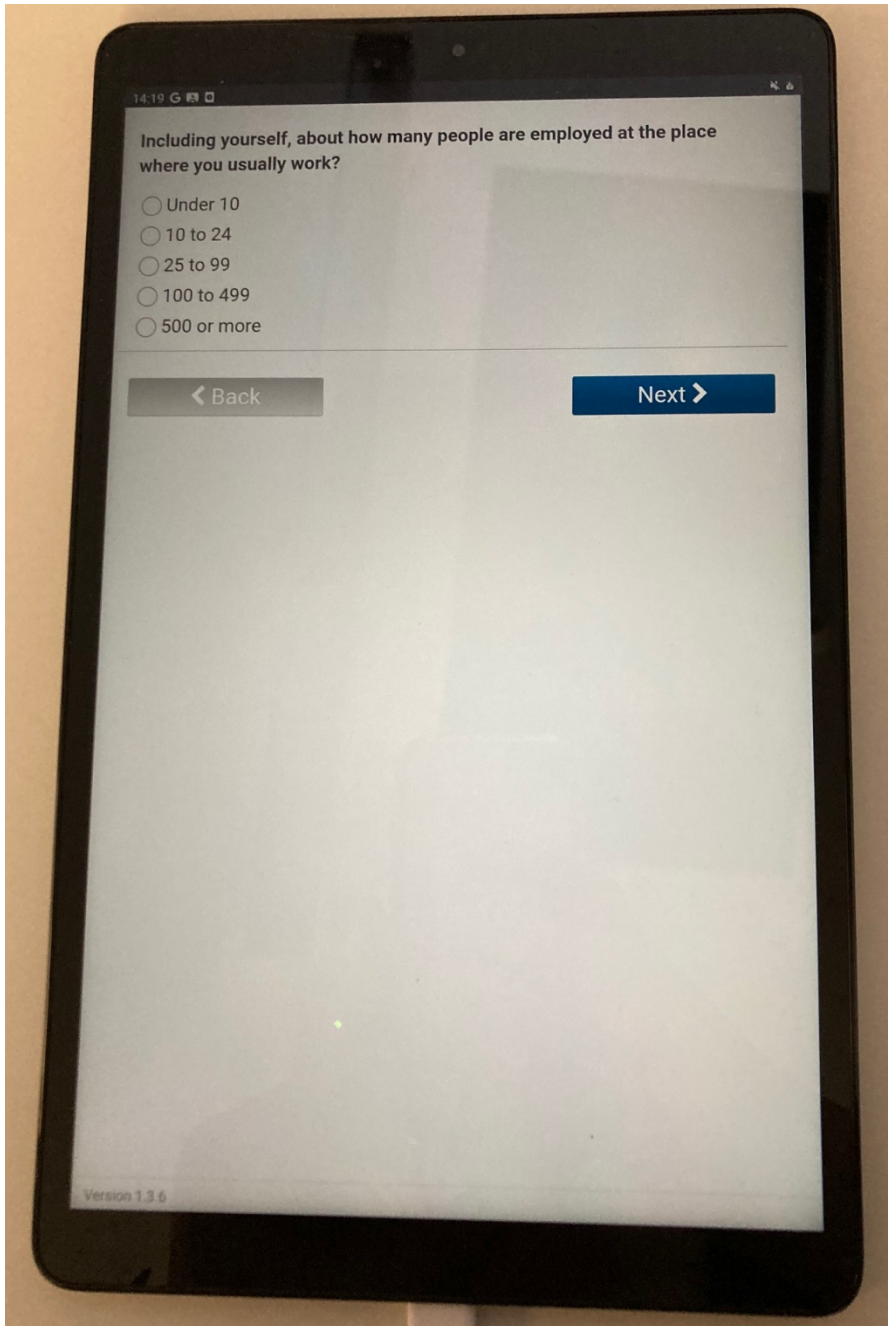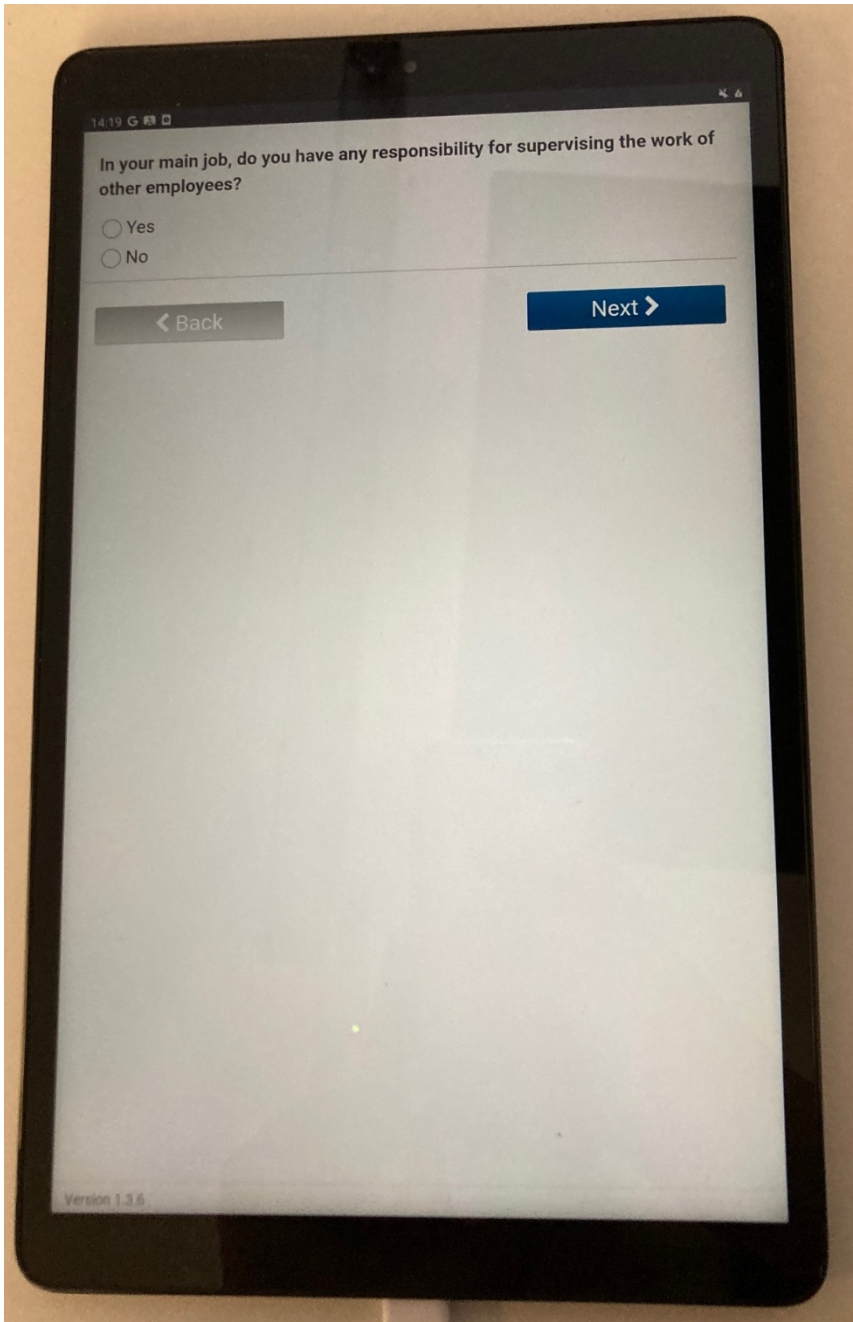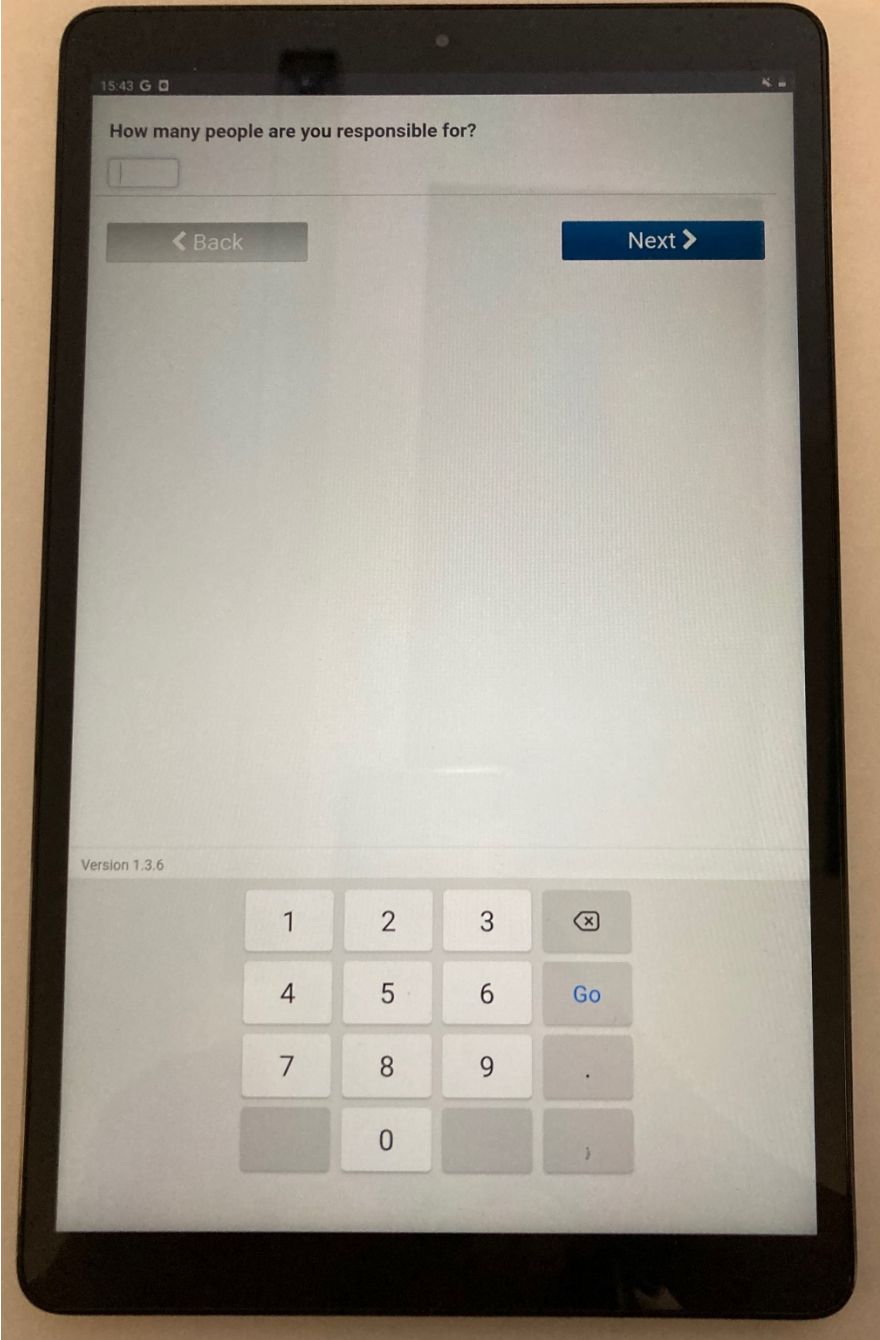
Figure 9: F33

Figure 10: F34

Figure 11: F34a