methods, data, analyses | 2025, pp. 1-30 DOI: 10.25521/mda.663

Live Video Interviewing as a Complementary Mode to In-Person Interviews: Evidence from the European Social Survey

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Abstract

Live video interviewing emerged as a method for collecting survey data during the COVID-19 pandemic, having rarely been used for survey data collection prior to this. There is now a need to assess experiences and outcomes from studies that utilised video interviewing, partly with a view to informing the future feasibility of the method in different contexts. This paper reports on the experience of the European Social Survey (ESS) with video interviewing, having used this approach as a complementary method to in-person interviewing at its 10th round (2020–2022). The ESS can provide a unique perspective, being the first cross-national survey to use video interviews. In total, 16 countries offered video interviewing alongside in-person interviewing at ESS Round 10. In this paper, we present a range of results based on ESS Round 10 in two main categories. We first look at the effectiveness of the implementation of video interviewing and then compare quality between video interviews and in-person interviews across various indicators, including interviewer effects. The results show that the prevalence of video interviews varied widely between countries, likely relating to national contextual factors. However, in countries where a large share of video interviews was carried out, we found that the interview experience was rated positively, and quality indicators were closely comparable with in-person interviews. These results suggest that future use of video interviewing may be more feasible in some countries that others, but in certain contexts it has the potential to offer an effective complementary option to in-person interviewing.

Keywords: live video interviewing, cross-national surveys, European Social Survey, interviewer effects

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The COVID-19 pandemic prompted several surveys to use live video interviewing for quantitative survey data collection for the first time. This included the European Social Survey (ESS), which used live video interviews as a complementary method to in-person interviewing in several countries for its 10th Round, carried out between 2020 and 2022. This paper reports on the experiences and outcomes of live video interviews for ESS[1].

Video Interviewing for Surveys

While use of video interviewing for surveys was rare prior to the pandemic, it had long been foreseen as a potentially promising method. Anderson (2008) considered the potential of video-mediated surveys as a future approach and saw several benefits. These included the scope for greater rapport and engagement with respondents compared with telephone and web surveys, and the potential to appeal to certain population sub-groups that are sometimes underrepresented in surveys (e.g., younger people). However, challenges were also foreseen. These included the risk that the presence of an interviewer, even remotely, may reduce candour in reporting sensitive behaviours compared to a self-administered mode like web surveys, and challenges with some population groups accessing video platforms, including older people and those less technologically experienced. There could also be challenges with low internet connectivity in certain regions. Anderson concluded that "research on [video's] detailed impacts on real survey interviews is urgently needed. Pilot studies of this kind should be undertaken before any widespread adoption is planned" (Anderson, 2008, p. 115).

While video platforms have been used for qualitative research for some time (e.g., Irani, 2019), they were rarely used for quantitative survey data collection prior to the pandemic. This resulted in some studies adopting video interviewing as an approach at speed, and sometimes without the extensive piloting that Anderson (2008) recommended. While publications relating to video interviewing are still rare, there are now several examples of its use that provide early indicators of experiences and outcomes associated with the method.

There is evidence of a good take-up rate of video interviews in some contexts, particularly for longitudinal studies (Dulaney et al., 2023; Sanchez et al., 2023). A study by Conrad et al. (2023) found live video respondents were less likely to give non-differentiated responses and reported higher satisfaction than web respon-

[1] In the remainder of this paper, we generally use 'video interviews' when referring to 'live video interviews' for brevity. In a few places we refer to 'live video interviews' to differentiate from pre-recorded video interviews.

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dents, suggesting the presence of a (remote) interviewer can keep respondents motivated and conscientious. Carr et al. (2023) also reported positive feedback on the experience of video interviews from both respondents and interviewers, with technical issues with the video platform being quite rare. Some studies have observed sample composition differences between video and in-person modes, which may point to the potential for this mode to bring in underrepresented groups (e.g., Dulaney et al., 2023; Þórólfsson et al., 2023).

There are so far relatively few studies that compare measurement between in-person and video modes, but there are some encouraging early findings. Kelley et al. (2023) found no measurement effects from introducing video interviewing as a mode of data collection, while Zavala-Rojas et al. (2023) looked at two concepts measured in the European Social Survey and found generally consistent relationships between variables for video and in-person modes.

Regarding interviewer-respondent interactions, Sun et al. (2021) found no significant difference in respondents' rapport ratings between video-mediated and in-person interviews, suggesting that rapport is just as well established through remote video interviewing. Kelley et al. (2023) found that video interviewing was akin to in-person interviewing, with video interviewers being adept at maintaining the meaning of questions. West et al. (2022) found little evidence of significant interviewer effects for either live or pre-recorded video interviews. They recommended that future studies should compare interviewer effects between video interviews and in-person interviews.

Endres at al. (2023) randomised respondents to either interviewer-administered video or interviewer-administered in-person modes after completing a self-administered online survey wave. They found that video interviewing is more comparable to in-person interviewing than online interviewing across multiple measures of satisficing, social desirability and respondent satisfaction. This is of particular relevance to this paper, since ESS used video interviewing as a complementary mode to in-person interviewing, and combined interviews from each approach in its published data set.

While the above examples provide reassurance and support for use of video interviewing, other studies raise some concerns and limitations. Despite different sample compositions between video and in-person interviewing, video may not lead to a better response rate or improved sample composition compared with a solely in-person approach (Þórólfsson et al., 2023). Take-up of video interviews, when offered alongside other modes, can sometimes be low (Sanchez et al., 2023). Some groups of respondents or households may be less open to video interviewing, while technical aspects of administering video interviews can be more challenging for interviewers (Centeno et al., 2023). Carr et al. (2023) found examples of differential reporting between video and other modes. And Conrad et al. (2023) found higher levels of rounding for numerical questions and more socially desirable answers for live video respondents compared with web

respondents. It's clear from the studies completed to date that evidence is mixed, and that there are different ways that the success, or otherwise, of video interviewing can be assessed.

Contributing to the Existing Evidence

This paper aims to investigate the potential use of video interviewing as a complementary mode to in-person interviewing by analysing data from the 10th Round of the European Social Survey (ESS).

The ESS is conducted as a cross-sectional biennial survey across over 30 countries. Until Round 10, all countries were required to collect fully in-person samples based on a central specification. As with other surveys that rely on in-person data collection, the COVID-19 pandemic posed several challenges to the ESS's usual approach. This resulted in some modifications being made to the specification for ESS Round 10 (carried out in 2020-2022; Hanson et al., 2022), including, for the first time in the ESS's history, allowing video interviewing as a complementary mode to in-person interviewing.

The specific use of video interviewing as a complementary mode to in-person interviewing is an important feature of our study, in two respects. First, there was no attempt to switch to a full video-interviewing approach and replace in-person interviewing. It was not expected that a video-only approach could deliver a representative sample for a cross-sectional, general population survey such as the ESS. The use of video was therefore reliant on in-person interviewing being possible. And second, our approach used two interviewer-administered modes (in-person and video) and was not part of a broader mixed-mode strategy that might include non-interviewer modes (e.g., self-completion web). We can therefore only assess how effectively video interviewing complemented in-person interviewing and not make judgments about the role of video in a wider mixed-mode approach.

There are good reasons why the combination of video and in-person interviewing may present a suitable complementary approach. The sampling design, contact and cooperation processes can remain unchanged. Both modes require interviewers to read out questions and record responses as given by the respondent. The in-person ESS interviews use showcards that display response lists to respondents throughout the interview, and these can be shared with the respondent through the video interview platform. But there are also differences; rather than sharing the same physical space, the interviewer and respondent engage through a remote online platform.

The relative cost-effectiveness of video interviewing compared with in-person interviewing makes it a potentially attractive option. If a large share of interviews that took part in person can move to a remote video approach, this will save significantly on travel costs. Video interviewing may therefore offer sig-

nificant potential beyond the pandemic for surveys that traditionally rely on in-person interviewing. To inform this, more evidence is needed on the experience of video interviewing, and its comparability with in-person interviewing. The ESS was one of the first studies to introduce video interviewing as a complementary approach to in-person interviewing in a full production survey and so can provide evidence on this point.

To our knowledge, the ESS is also the only cross-national study that has used video interviewing. The challenge of achieving equivalence is greatly magnified for cross-national surveys (Jowell et al., 2007). Adding a new data collection mode may present particular challenges and share new insight in this context. For example, there may be differences in the take-up of video interviewing between countries, which may be linked to contextual factors (e.g., sample frames, contact methods, levels of internet use). Experiences of video interviewing may differ due to variations in approaches used. It's also crucial to understand how video and in-person interviewing compare across quality indicators between countries. If, for example, there are differences in the comparability of modes between countries, and different rates of video interviews are observed between countries, this may compromise the comparability of the cross-national data produced.

Expectations for Video Interviewing as a Complementary Approach to In-Person Interviewing

Determining the effectiveness and worth of introducing a complementary mode in a cross-national survey context requires reflection on several key aspects. A good complementary mode must meet certain minimum requirements to be considered beneficial for implementation. These considerations include understanding the characteristics that define a successful complementary mode and identifying the essential criteria it must fulfil to enhance the survey process effectively across different countries. We consider the two central criteria as an approach to our analysis: (I) the effectiveness of implementations, and (II) the quality and comparability of measurements.

For the implementation of video interviews to be effective as a complementary mode to in-person interviewing, it needs to (1) have a substantial use (in terms of the number and/or share of video interviews conducted) and/or enhance survey response, and (2) provide a comparable interview experience to respondents.

For measurement quality to be comparable between video and in-person interviews, the two methods need to (1) provide similar interviewing conditions (e.g., video replicating the in-person approach in terms of being interviewer-administered and using showcards, but through a different medium), (2) generate similar behaviours to answering the questionnaire by the target respondent

(e.g., item nonresponse, level of straightlining), and (3) produce similar interviewer effects on answers. The expectation is that the platform of communication should not significantly influence respondents' answers or the integrity of the data collected.

Approach and Research Questions

The analyses presented in this paper is divided into two parts, both of which are crucial in understanding the effectiveness and suitability of video interviewing. We first look at the *implementation and experience of video interviewing* (see Research Question 1, below). Here we share the prevalence of video interviews conducted in each country, present results from respondent and interviewer 'interview experience' questions, and share findings on technical issues reported.

We then look at the *quality and comparability of video and in-person interviews across modes* (Research Question 2). Here we will make comparisons across two quality metrics: indicators of satisficing, and interviewer effects.

Cross-country comparability is a dimension that goes across both analytical focuses of the paper (Research Question 3). This third dimension allows us to provide a more relative perspective on the findings of video interview as a complementary mode across multiple country-specific contexts and survey conditions.

Through this analysis, our paper seeks to answer the following research questions:

1. How effective is video interviewing in complementing in-person interviewing for large cross-national surveys like the ESS?
2. How did the quality of the interviewing process via video compare to the interviewing process via in-person interviewing in the ESS?
3. How does the assessment of video interviewing vary between countries regarding its implementation, quality, and comparability with in-person interviewing (based on both interviewer and respondent perspectives)?

Data

We use data from the European Social Survey Round 10 (ESS ERIC, 2023), carried out between 2020 and 2022. This was the first ESS round in which video interviewing was offered as a complementary mode to in-person interviewing. This reflected concerns that even where in-person interviewing was possible, some target respondents would be unable or unwilling to take part in an in-person

interview due to the COVID-19 pandemic. This may be due to needing to shield themselves for health reasons, for concerns over being infected, or for other reasons.

Since the video interviewing approach was offered as an 'emergency' measure for Round 10, limited development work was carried out to test the method in the ESS context. A small amount of user testing was carried out among ESS team members and in some countries to assess and refine the approach. The approach was informed by best practice guidance based on experience from other studies (e.g., Schober et al., 2020).

In total, 16 countries offered video interviewing. When describing the prevalence of video interviews, we include all 16 countries in our analysis. However, for the remaining analysis, we focus on only the six countries that conducted the largest number of video interviews (Estonia, Finland, Iceland, Italy, Netherlands and Norway). In these countries, between 240 and 491 video interviews were conducted. In all other countries, the number of video interviews was below 100.

ESS's Approach to Video Interviewing

ESS's data collection model is based on decentralized fieldwork contracting and data collection. National teams are appointed in each country, and they either organize fieldwork in-house (where they have an interviewer fieldforce) or contract this activity to a survey agency. For the Round 10 video interviewing approach, each national team was asked to describe their approach, in response to centrally produced guidelines. Their approach was then reviewed and approved by ESS's central coordination team.

The main process for contacting target respondents was unchanged from the usual fully in-person interviewing approach. In the majority of countries, interviewers attempted in-person contact, sometimes following delivery of an advance letter. A video interview could then be offered as an alternative to an in-person interview. A small number of countries had access to named person samples that included telephone numbers for sample members. In these cases, they could attempt first contact by telephone and offer a video interview at that point (meaning in these cases a video interview could be conducted without any in-person contact).

National teams were allowed to select between the following approaches for carrying out video interviews:

- Option A: Establish a specialist team of video interviewers, separate from those carrying out in-person interviews,
- Option B: Allow all their in-person interviewers to also carry out video interviews.

– Option C: Allow a subset of their in-person interviewers to also carry out video interviews.

There were pros and cons with each approach. Option A allowed for more central control and management but led to a more complex flow of steps between the in-person interviewer and the video interviewer. There may also be concerns with interviewer effects if a small number of interviewers were carrying out a large number of interviews—which applies to option A and to some extent C—as the impact of these effects increases with the size of workload per interviewer (West & Blom, 2017). Increasing workload of interviewers would contradict recommendations to reduce interviewer effects in in-person surveys (Schnell & Kreuter, 2005). Option B (and to some extent C) was a more seamless process as the same interviewer was responsible for both the in-person contact and for administering the video interview. However, particularly for option B, there are challenges with training, equipping and monitoring a large interviewer fieldforce to take on the video interviewing task. A little over half of the countries adopted option A: establishing a small specialist team of video interviewers.

National teams were advised to use Microsoft Teams or Zoom to carry out the video interviews. They were required to use a licensed version of the platforms. Respondents were not required to have a Teams/Zoom account in order to take part, or to download any software. In a small number of cases, countries used alternative platforms, subject to these platforms meeting GDPR requirements and tested with respondents in advance of fieldwork.

Interviewers were instructed to use two screens to carry out the video interviews. One screen included the CAPI questionnaire, which was not shared with the respondent. This allowed the interviewer to read the questions and enter responses. The other screen featured the video call, including the interviewer and respondent videos. This screen also included showcards, which are used throughout the ESS questionnaire and were screen-shared with the respondent. The interviewer moved on to the correct card as required throughout the interview.

Respondents could take part using any internet-enabled device, including smartphones. It was recommended that they used a larger screen device, if available, to allow for clearer display of the video questionnaire and showcards. Other features and requirements regarding ESS's video interviewing are described in Appendix A (Table A1).

Methods

We conduct the analysis in two stages: (I) an assessment of the effectiveness of the implementation of the video interviews as a complementary approach to in-

person interviewing, and (II) an assessment of the comparability of data quality between in-person and video modes.

We assess the *effectiveness* of video interviewing in the ESS (Stage I) in two main steps.

1. *Prevalence of video interviews:* The first step to assessing the effectiveness of video interviews is to establish the level of demand for them (as opposed to in-person interviews) across ESS countries. If only a small number of respondents opt for video interviews, it may not be worthwhile offering this approach in future as impact on the data and potential cost savings would be limited. We look at the proportion of video interviews carried out in each of the 16 countries that offered this approach. Through this, we assess the different contexts and factors present in each country and consider how this may have impacted on the prevalence of video interviews conducted.

2. *Experience of video interviews:* It is important to gain feedback from both interviewers and respondents on the experience of taking part in a video interview, and assess how this compares to in-person interviews. If the experience of a video interview is judged to be worse than an in-person interview, this may point to underlying issues with the video approach in the context of ESS, or perhaps a need for future improvements in how it is provided. To measure this, we compare responses to an 'interview experience' question that was asked of both respondents and interviewers in video and in-person modes ("*How would you rate the overall experience of taking part in this survey? Please answer on a scale from 0 to 10 where 0 is very negative and 10 is very positive*"). The same question was included for both in-person and video interviews, to allow for a comparison of the experience between modes. For the respondent version, the question was asked to the respondent by the interviewer at the end of the interview. For the interviewer version, the interviewer was asked to record their experience score in a short 'interviewer questionnaire' included at the end of the interview. Clearly, there may be interviewer and respondent level effects that influence the interview experience beyond the mode difference. However, by including these questions we intended to gain a broad impression of whether taking part in a video interview seemed to represent a worse (or improved) interviewing experience compared with in-person interviewing. Two sample t-tests were performed to compare experience scores in the in-person interviewing and video interviewing groups. For video interviews, both respondents and interviewers were asked to report any technical issues experienced during the interview. We also present these results.

Similarly, we will compare video and in-person interviews in different ways, with the objective of assessing the *quality and comparability* (Stage II) of the

new video method in comparison to ESS's long-standing in-person interviewing approach.

1. *Satisficing behavior:* Satisficing response behaviour is typical in situations when the respondent is fatigued or unmotivated to answer truthfully. As part of our analysis, we looked at two metrics relating to satisficing behaviour: item non-response and straightlining. Respondents who are less engaged in the interview or less motivated are likely to have higher rates of item non-response and straightlining. We carried out chi-squared tests to assess if these indicators of satisficing differ between in-person and video interviews. For both item non-response and straightlining, we analysed the 21-item Schwartz Human Values Scale[2]. This scale is located at the end of the ESS questionnaire and has been deliberately chosen, since we might expect satisficing behaviours to be more common in the latter part of a long (approx. 1 hour) interview. Respondents selecting the same answer to at least 15 of the 21 human values items are coded as exhibiting straightlining behaviour. The same approach has been previously used by Ainsaar et al. (2013). As these questions ask about the respondent's level of similarity to many different contradicting values, it is unlikely that the respondent would identify with most of the values to the same degree. To compensate for the differences between respondents, we use only data from persons with relatively similar backgrounds: a person living with a partner who has at least a secondary or higher education and who is younger than 60 years old. This allows for in-person sample sizes between 302 and 1,283 per country, and video interviewing sample sizes between 214 and 421 per country.

2. *Interviewer effects:* The communication platform can potentially influence the extent to which interviewers affect responses. The shift to digital communication introduces unique challenges, raising questions about how video-based dynamics, compared to in-person interactions, might alter an interviewer's influence on respondents' answers. West et al. (2022) discuss mechanisms that typically generate interviewer effects in video interviews—such as interviewer behaviour, visible characteristics, and responsiveness to different question types—and how these might vary between live and prerecorded video interviews. These ideas can be applied when comparing video interviews with in-person interviews. For example, real-time interaction in video settings may limit certain nonverbal cues, potentially reducing engagement, although, so far, there is no evidence that video mediated communication changes how interviewers might affect respondents (see Sun & Conrad, in press and Sun et al., 2021).

[2] Items in the human values scale include: "It is important to her/him to be humble and modest. She/He tries not to draw attention to herself/himself" and "Being very successful is important to her/him. She/He hopes that people will recognise her/his achievements".

Comparing live video interviews to in-person interviews allows us to observe to what extent each mode impacts interviewer effects. For video interviews to serve as an effective complement to in-person interviews, interviewer effects should be small and similar across modes. While standardized protocols aim to maintain consistency and reliability across modes, they may not fully mitigate variability introduced by individual interviewers. Thus, we examine how interviewers may differently affect responses in video versus in-person formats, estimating the variance attributable to interviewer clustering across these modes. To assess possible differences in interviewer effects, we estimate how much of the variance from all responses of each single item can be explained by the clustering within interviewers from in-person interviews versus video interviews. Interviewer effects on single items are estimated by taking the average of the intra-interviewer correlations (ICC) of numeric and ordinal items in the questionnaire. ICCs are estimated from linear models with an interviewer-level random effect for all numeric and ordinal items measured on a scale of at least 4-points in the ESS Round 10 questionnaire. A total of 175 items from the ESS questionnaire were selected as suitable for the analysis. To control for similarities between respondents arising from area effects rather than interviewer effects, the geographical region and self-reported degree of urbanization of respondents' domicile are included in the models[3].

A high ICC indicates that responses from respondents interviewed by the same interviewer are more similar than otherwise would be expected and are suggestive of differences between interviewers in the way they interact with or affect respondents during the interview. Large difference between in-person and video interviews in the ICCs would suggest that the impact of interviewers on responses depends on the interview mode. ICCs are also expected to correlate with other indicators of interviewer behavior, such as speed of interviews (Vandenplas et al., 2019). Due to the small sample size of video interviews and the low number of interviewers conducting video interviews across participating countries, estimates were suppressed for items administered in video interviews if they had fewer than 10 interviewers (cluster units) and a ratio lower than 4 interviews per interviewer (instead of the recommended ratio of 5).[4] It should be noted that this reduced number of clusters might affect the accuracy of the estimates and these results should be read with the necessary caution.

[3] Given the lack of random assignment, interviewer and area effects cannot be fully disentangled, and some (presumably small) portion of the intra-interviewer correlations may be attributable to area effects.

[4] This is below the typically recommended number of above 30 clusters (Hox, 2010) but within the parameters considered by other authors as the minimum (Hadler, 2004).

Results

Effectiveness of Implementing Video Interviewing

Prevalence of Video Interviews

The number and proportion of video interviews varied substantially between countries. Table 1 shows the prevalence of video interviews across countries, alongside other information on national approaches to video interviewing and contextual details.

Table 1 Prevalence of interviews across countries and other contextual information

Country	Percentage of all interviews done by video	Number of video interviews	Percentage of respondents who use internet at least most days[a]	Who carried out video interviews?	Sampling unit[b]	Contact approach with target respondents
Iceland	37.0%	333	95.3%	All face-to-face interviewers	Individual	Telephone, in-person
Norway	34.8%	491	94.3%	Subset of face-to-face interviewers	Individual	Telephone, in-person
Italy	17.3%	457	69.9%	All face-to-face interviewers	Individual	In-person
Netherlands	16.9%	248	94.1%	Subset of face-to-face interviewers	Individual	In-person
Estonia	15.6%	240	80.5%	Specialist team of video interviewers	Individual	In-person
Finland	15.2%	240	87.0%	Specialist team of video interviewers	Individual	Telephone, in-person
Croatia	6.0%	95	69.7%	Specialist team of video interviewers	Individual	In-person
United Kingdom	4.8%	55	88.5%	Specialist team of video interviewers	Household	In-person
Switzerland	3.3%	50	88.0%	Specialist team of video interviewers	Individual	In-person

Table 1 (continued)

Country	Percentage of all interviews done by video	Number of video interviews	Percentage of respondents who use internet at least most days[a]	Who carried out video interviews?	Sampling unit[b]	Contact approach with target respondents
France	2.3%	46	79.3%	All face-to-face interviewers	Individual	In-person
Belgium	1.2%	16	84.1%	Specialist team of video interviewers	Individual	In-person
Greece	0.8%	23	70.9%	Specialist team of video interviewers	Household	In-person
Portugal	0.4%	8	66.7%	Subset of face-to-face interviewers	Household	In-person
North Macedonia	0.3%	4	71.9%	Specialist team of video interviewers	Household	In-person
Slovakia	0.0%	0	61.9%	Specialist team of video interviewers	Household	In-person
Slovenia	0.0%	0	73.4%	Specialist team of video interviewers	Individual	In-person

[a] Based on responses to Item A2 in the ESS Round 10 questionnaire: *People can use the internet on different devices such as computers, tablets and smartphones. How often do you use the internet on these or any other devices, whether for work or personal use?*

[b] Where a household-based sample frame is used, interviewers were required to randomly select one adult aged 15+ for interview within the household. The selection was carried out via an electronic contact form. Countries could choose between three different selection methods: a random selection via the electronic questionnaire (replicating a Kish grid), the Rizzo method, or next/last birthday.

The countries can broadly be split into three groups based on their prevalence of video interviews. In the first group, two countries—Iceland and Norway—conducted more than a third of all their interviews by video. In the second group, four countries—Italy, Netherlands, Estonia and Finland—conducted around 1 in 6 of their interviews by video (between 15% and 17%). And finally, the remaining 10 countries conducted a much smaller share of video interviews. The range in this last group varies from Croatia, where 6% of interviews were done by video, to Slovakia and Slovenia, where no video interviews were carried out despite this option being offered.

A few features stand out among the countries that carried out a large compared to a smaller share of video interviews.

First, the countries with the largest share of video interviews include those with the highest level of internet use (daily or most days): Iceland, Norway, and the Netherlands. In contrast, levels of internet use were markedly lower among most countries where video interviewing was less productive (Greece, Portugal, North Macedonia, Slovakia, Slovenia). There was a strong positive correlation between the level of daily internet use and the percentage of video interviews conducted in that country ($r = .65$, $p < .01$).

Second, all countries that carried out a relatively large share of video interviews used samples of individuals. This meant they could contact the target respondents by name in advance of an interviewer visiting—in an advance letter and/or, in some cases, a telephone call. Other countries used household samples, which required the interviewer to visit the household and make a person selection to identify the target respondent. It might be the case that by being able to identify and contact the target respondent earlier in the process, the option of conducting the interview by video can be introduced sooner in the recruitment process.

Third, and expanding on the last point, the two countries with the largest proportion of video interviews, Iceland and Norway, were able to make initial contact with sample members by telephone. It seems logical that the video interviewing option is more likely to be selected by the sample member in such cases as it can be offered without needing to send an interviewer to make any in-person contact. Where an interviewer visit is required, there may be a greater tendency among both the interviewer and respondent to agree to an in-person interview, since the interviewer is already there.

There appears to be no clear relationship between the type of interviewer team and the prevalence of video interviews. Of the six countries to include the largest share of video interviews, two used a specialist team of video interviewers (Estonia and Finland), two selected a subset of their face-to-face interviewers to carry out video interviews (Norway and the Netherlands), and two required all of their face-to-face interviewers to carry out video interviews (Iceland and Italy).

We should also note that there are likely to be other factors behind different rates of video interviewing between countries. Italy, for example, has a relatively low level of internet use and did not have the option of making telephone contact, but had the third highest percentage of video interviews. It was evident in discussions with national teams that some were more positive about the video option and put in place greater resources to support it. Other national teams were more neutral (sometimes sceptical) about video interviewing and set it up on a much smaller scale as a last-resort option. Such differences in expectations and operational planning may also partly explain some of the differences between countries.

Sample Composition

Appendix B (Table A2) includes a comparison of sample compositions between the in-person and video interviewing approaches in the six countries where the highest number of video interviews were achieved. We found that, compared with those interviewed in-person, the video interview sample tends to be younger, from smaller households, were more likely to be doing paid work, and tended to have higher levels of education. There is no clear trend regarding difference in sex, legal partnership status, or immigration background.

Interview Duration

Appendix C (Table A3) consists of a table showing the average interview duration between in-person and video interviews in each of the six countries. Differences in duration could emerge due to different interviewers being used for each mode, technical problems, differences in respondent profiles, or for other reasons linked to the speed of administration for each mode. Interview duration can impact the effectiveness of implementing each mode. For example, if video interviews are found to take significantly longer than in-person interviews, this can impact interviewing costs.

In most countries, we found there was no difference between the length of video and in-person interviews. The only exceptions are Estonia and Italy, where the video interviews on average had longer durations than in-person interviews. It is unclear why the video interviews had a longer duration in these two countries.

Interview Experience and Technical Issues

Table 2 shows the mean scores given by respondents and interviewers to the experience question between in-person and video interviews.

Respondent experience scores were mixed between the two modes. Those interviewed in-person in Finland and Norway had a higher mean experience score, i.e. a more positive experience, compared with those interviewed by video, while the reverse was true in Italy. In the other three countries, there was no significant difference between the scores. There was no difference when the experience scores were combined across all six countries.

Based on interviewer-reported experience scores, there were significant differences between modes in five of the six countries. In three countries—Estonia, Iceland and Italy—the mean experience score was higher for video interviews. In two countries—Netherlands and Norway—it was higher for in-person interviews. Across all six countries, the mean interviewer experience score for video interviewing was significantly higher compared with in-person interviewing.

While there were some (generally small) differences between modes, what is evident from these results is that the interview experience scores are high

for both modes among respondents and interviewers (averaging at more than 8 out of 10), and there is no consistent evidence that the experience of video interviews is worse compared with in-person interviewing.

Table 2 Interview experience in in-person and video interviews (0 – very negative … 10 – very positive) (sample sizes in parentheses after experience scores)

Country	Respondent			Interviewer		
	In-person interviews	Video interviews	*p*-value	In-person interviews	Video interviews	*p*-value
Estonia	8.04 (1,301)	8.22 (240)	.156	8.75 (1,302)	8.95 (240)	.026*
Finland	8.51 (1,332)	8.05 (240)	<.001***	8.76 (1,335)	8.88 (240)	.134
Iceland	8.54 (563)	8.36 (332)	.060	8.55 (551)	8.82 (325)	.006**
Italy	7.75 (2,163)	7.97 (457)	.009**	7.84 (2,136)	8.37 (456)	<.001***
Netherlands	8.37 (1,215)	8.40 (247)	.757	8.44 (1,220)	8.26 (247)	.014*
Norway	8.51 (918)	8.34 (491)	.047*	9.11 (914)	8.85 (491)	<.001***
All 6 countries	8.19 (7,492)	8.22 (2,007)	.467	8.47 (7,458)	8.68 (1,999)	<.001***

*$p < .05$, **$p < .01$, ***$p < .001$.

Respondents and interviewers were also asked to report experiences of any technical issues with the video interviews. Tables 3 (respondents) and 4 (interviewers) show these results by country.

In the majority of cases, both respondents and interviewers reported no technical issues with video interviews. Taking all countries together, the most commonly reported issues were problems starting the video call (reported by respondents in 6.7% of interviews, and interviewers in 7.2% of interviews), with internet connections (6.1%/5.3%), and with audio being unclear (7.5%/5.8%).

The results did vary somewhat between countries. The most notable differences were between Estonia and Italy; respondents reported at least one technical issue in 35% of interviews in Estonia compared with 10% of interviews in Italy.

It was noted earlier that respondents were advised, where possible, to use a device with a larger screen to optimise display of the showcards. However, even among those who completed on smartphones ($n = 450$), only 2.2% of respondents reported issues with seeing or reading the showcards (compared with 1.5% using a desktop or laptop PC and 1.9% using a tablet).

The above findings show that technical issues only occurred in a minority of cases, which may be seen as a positive outcome for video interviewing. Furthermore, since these data are based on complete interviews, the issues were likely resolved by the respondent or interviewer to the extent that the interview

Table 3 Percentage of technical issues experienced (reported by respondents)[5]

Technical issue	Estonia	Finland	Iceland	Italy	Nether-lands	Norway	All 6 countries
Issues with starting video call	14.6	7.5	6.6	2.2	9.3	5.3	6.7
Issues with internet connection affect-ing video call	12.1	7.9	5.4	2.8	8.1	4.7	6.1
Issues with seeing/ reading showcards on screen	2.9	0.8	0.6	2.4	1.2	1.8	1.7
Audio not being clear	9.2	13.3	9.3	1.5	4.8	9.6	7.5
Video display not being clear	1.3	2.1	0.9	1.5	2.4	0.8	1.4
Other issues	1.3	1.7	5.1	1.5	5.6	5.3	3.5
No technical issues	65.0	70.0	74.5	89.7	73.4	75.6	76.4

Table 4 Percentage of technical issues experienced (reported by interviewers)

Technical issue	Estonia	Finland	Iceland	Italy	Nether-lands	Norway	All 6 countries
Issues with starting video call	10.8	10.8	6.9	2.2	8.1	7.9	7.2
Issues with internet connection affect-ing video call	10.4	6.7	4.2	2.8	6.9	4.5	5.3
Issues with display-ing showcards on screen	2.9	1.3	0.9	2.6	2.0	1.8	1.9
Audio not being clear	5.8	7.9	6.6	1.5	4.0	9.0	5.8
Video display not being clear	1.3	2.1	2.1	2.0	2.8	1.6	1.9
Other issues	5.0	5.4	4.8	2.0	5.6	5.7	4.6
No technical issues	70.8	72.9	77.8	89.1	75.4	74.7	77.9

[5] The denominator for the percentages reported in Tables 3 and 4 is all respondents to be interviewed by video in each country. The sum of column percentages may exceed 100 as some respondents/interviewers reported multiple technical issues.

could be completed. But there were other cases where video interviews could not be started or finished due to technical challenges. We do not have any data on the scale of these problems, but have received anecdotal feedback from national teams that this did occur on occasion.

Comparison of Video Interviews and In-Person Interviews Across Different Quality Metrics

Satisficing

Table 5 shows the proportion of missing responses (don't know, refusal, other missing answer) per respondent between modes for each country based on the human values items at the end of the ESS questionnaire. The rate of missing values is low for both in-person and video modes. Where there are differences, in most cases the rate of missing values was higher for in-person interviews compared with video interviews. When results are combined across all six countries, there was a higher rate of missing responses for in-person compared with video interviews.

Table 5 Average number of missing responses per respondent across countries and interview modes and chi-squared test results

Country	In-person	Video	*p*-value
Estonia	0.00	0.08	<.001***
Finland	0.12	0.01	.036*
Iceland	0.36	0.15	.016*
Italy	0.31	0.08	<.001***
Netherlands	0.07	0.07	.806
Norway	0.08	0.04	.015*
All 6 countries	0.15	0.07	.029*

*$p < .05$, **$p < .01$, ***$p < .001$.

Table 6 shows the proportion of respondents identified as straightlining in the human values scale, broken down by country and mode.

Across countries, a significant difference in straightlining between modes is only present in Estonia, with less straightlining in video interviewers. When results are combined across all six countries, there is significantly less straightlining in video than in-person interviews.

Table 6 Percentage of respondents straightlining by countries and modes (Schwartz basic human value question) and chi-squared test results

Country	In-person	Video	*p*-value
Estonia	4.0	0.4	.005**
Finland	1.4	0.0	.063
Iceland	1.4	0.6	.263
Italy	10.5	11.6	.486
Netherlands	3.1	1.6	.196
Norway	1.0	0.6	.474
All 6 countries	4.7	3.1	.002**

*$p < .05$, **$p < .01$, ***$p < .001$.

Interviewer Effects

Across all six countries, it was possible to conduct a total of 509 comparisons of interviewers' intra-class correlations (ICCs) between video and in-person interviews corresponding to a total of 175 items from the ESS questionnaire (see Appendix D, Table A4 for a list of the variable names for these items). From the 175 items included in the analysis, we were able to estimate the ICC for 101 items in Estonia, 48 items in Finland, 86 items in Iceland, 112 items in Italy, 77 items in the Netherlands, and 85 items in Norway. The remaining items had nonconvergent models due to singular fit.

For each country, Figure 1 presents the distribution of the differences in size of the intra-class correlation estimates per item between video and in-person interviews. The x-axis shows the differences between the ICCs in video interviews and the ICCs for in-person interviews, while the y-axis represents the number of items grouped by 5-percentage intervals based on the ICC difference. Each figure has been centered at zero, which represents no difference between the ICCs from video and in-person interview. Following previous empirical studies on the expected size of ICCs (Beullens & Loosveldt, 2016), the differences in ICCs are grouped into color-coded ranges to indicate the magnitude of the differences and support the interpretation of their substantive relevance. Items with differences in their ICCs of plus/minus .5 points (a range of ±5% explained variance from zero) are colored in grey and are considered to be practically equal; while differences larger than .5 are in different colors and are considered substantial (Beullens & Loosveldt, 2016). Differences ranging from ±5% to ±+10% (orange bars) are considered substantial but small differences, while difference larger than ±10% or ±20% explained variance (red and purple bars) can be considered as showing large and very large differences respectively. Bars with positive values on the x-axis (right side) indicate larger interviewer effects in video interviews compared to in-person interviews for those items.

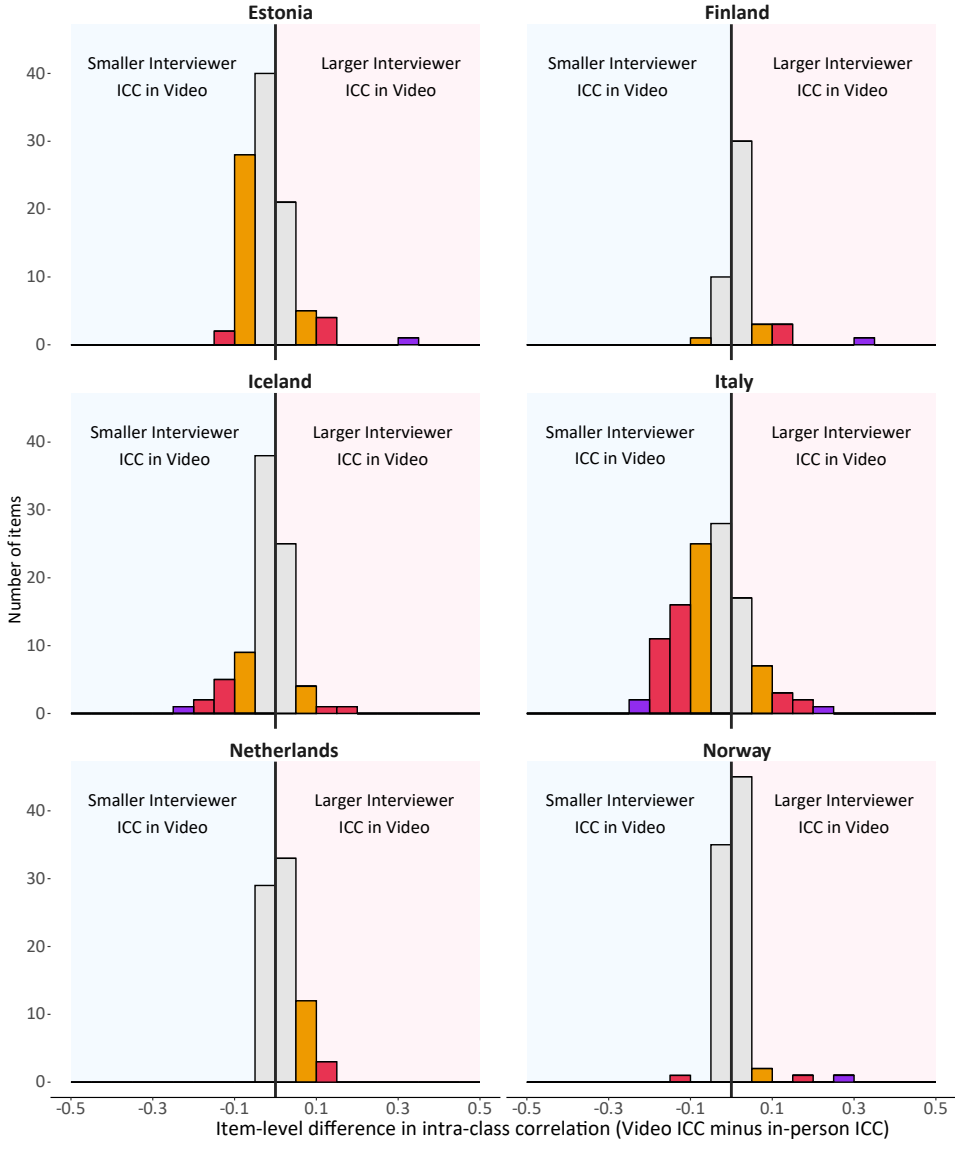

Figure 1 Difference in interviewer effects between video and in-person interviews

Firstly, we focus on the extent that ICCs differ between communications platforms, and secondly, we interpret the results regarding the direction of the observed differences. On average across all countries, 72% of the items have ICCs for video and in-person interviewers that are less than. 5 points from each other (less than 5% difference in variance explained). This indicates a general

tendency of interviewer effects across these communication platforms to be more similar than dissimilar to each other. There are also differences in the interviewer effects across countries. In Norway, Finland, and the Netherlands, only a small number of items had difference in the ICCs larger than ±.5 points of explained variance (respectively 6%, 17%, and 19% of the total items). The lowest was Norway with only 5 items outside the .05 range around zero. For these countries, the observed differences between video and in-person interview can be considered negligible. In Iceland and Estonia, we observe a higher number of items with differences above the 5% range around zero. However, most of the differences observed are within the 5% to 10% range around zero difference in ICCs. The largest differences are observed in Italy, where more than half of the items have an ICC difference larger than ±.5 points. In Italy, a total of 67 items have an ICC difference larger than ±.05 (59.8% of all items in the analysis), from which 35 items (about one third of all items) have a difference larger than ±.1 points. It should be noted this analysis is not focused on the absolute sizes of the ICCs. It is not a measure of how large the interviewer effects are in video or in-person interview for these countries, but to what extent they differ by the interview mode.

Focusing on the direction of the differences in the ICCs, we observed that in countries with larger differences (like Italy, Iceland and Estonia) there are more items with larger interviewer effects in in-person interviews than in video interviews. In relative terms, the interviewer effects in Italy, Estonia and Iceland tend to be smaller in video interviews, while in Finland, the Netherlands, and Norway, the distribution skews towards higher ICCs in video interviews. If we focus only on the right side of the figure (larger ICCs in video interviews), we observe that the distributions are very similar across all countries. All countries have a small number of items with larger ICCs in video interviews (i.e., 5% or 10% above their in-person counterpart). Iceland and Norway show the smallest number of items with larger ICCs in video interviews.

In sum, interviewer effects are generally similar across video and in-person interviews, indicating that interviewers influence survey responses in comparable ways across both modes. In the countries with the largest observed differences in interviewer effects (Italy, Iceland, and Estonia) the tendency was for interviewer effects to be smaller in video interviews compared to in-person interviews, suggesting potential advantages of video platforms for data quality in certain contexts.

Discussion

This paper has taken a first look at the use of video interviewing as a complementary mode to in-person interviewing during Round 10 of the European

Social Survey. This has enabled, for the first time, a comparison of the experiences of video and in-person interviewing between countries in a cross-national survey. We sought to evaluate both experience of the implementation of video interviewing, and assess its comparability to in-person interviewing, including the quality of the data collected via video.

Regarding implementation, experiences varied widely between countries. Of the 16 countries to offer video interviewing, the proportion of respondents participating by video only exceeded 6% of the total achieved sample in six countries: Iceland, Norway, Italy, Netherlands, Estonia and Finland. Nevertheless, in these six countries a substantial proportion of video interviews were conducted, presumably lowering costs due to fewer in-person visits and reduced travel expense, as well as the possible inclusion of some respondents who may not have taken part in an in-person interview.

The reasons for differences in prevalence between countries are not fully known. However, our results suggest that high internet penetration in a country, access to samples of named individuals as opposed to households, and the ability to make prior telephone contact with target respondents, may contribute to higher yields of video interviews. Countries with some or all of those characteristics may therefore be especially well suited to video interviewing.

In those six countries where a substantial share of video interviews was achieved, we also observed positive interview experience ratings from respondents and interviewers, in most cases at least as good as those reported for in-person interviews. Based on cases where interviews were completed, relatively few technical problems were experienced, though there were some differences between countries. These experience results broadly suggest that in countries where there is demand for video interviews, video interviews can be implemented effectively and result in an experience comparable to that of in-person interviewing.

Regarding response quality, the findings for video interviewing provide some reassurance about its comparability with in-person interviewing. Only small differences between modes were observed for missingness and straightlining. Where there were differences, in most cases missingness and straightlining were lower for video compared with in-person interviews. The interviewer effects in video and in-person interviews tended to be more similar than dissimilar to each other; for most single items, the intra-interviewer correlations in video interviews differed by no more than ±5 percentage points from those observed in in-person interviews.

Overall, considering all measures, our results suggest that the interviewing process is equally effective for video interviewing compared with in-person interviewing. However, it does not necessarily follow that video interviewing should be introduced as a complementary option to in-person interviewing in all surveys. There are costs and practical concerns with the set up and implementation of video interviewing that may not always be justified if the number

of interviews conducted by video may be very small. This is a decision that will need to be taken based on national and survey contexts.

The primary objective with ESS's video approach was to support the implementation of ESS Round 10 in challenging circumstances due to the pandemic. This meant that the video approach was not designed experimentally to compare with in-person interviewing in the way that would usually be done for a relatively untested method. Future research should therefore seek to randomly allocate cases to video or in-person modes. The same interviewers could also be used for both modes, with cases randomly assigned to either in-person or video mode, to reveal more about any differences in interviewer effects between modes. Where possible, sample sizes should be large enough to detect small differences between modes.

As we reported, different countries used different approaches for selecting interviewers to collect data via video. Some established a small team of specialist video interviewers, some equipped all their in-person interviewers to carry out video interviewers, and others used a subset of their in-person interviewers. Since the approach varied between countries, and was not tested experimentally, we cannot say which approach might work best in terms of factors such as uptake, practicality, and quality, or how this may vary between different contexts. This would be a fruitful area for future studies to investigate.

The nature of ESS Round 10 data collection during the pandemic may have also presented a non-typical picture. For example, demand for video interviews may have been higher at that point than might be the case in 'normal' circumstances. It will be important to continue to assess the effectiveness and comparability of video interviewing beyond the pandemic. ESS will be able to provide more insight in this regard, since several countries implemented video interviewing, alongside in-person interviewing, for the 11th Round of the survey in 2023–24.

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Appendix A

Key Features of ESS's Video Interviewing Approach

Table A1 Summary of key features of ESS's video interviewing approach

Design element	ESS's approach
Contact with target respondents	The process for contacting target respondents was unchanged from the usual fully in-person interviewing approach. In the majority of countries, interviewers would attempt in-person contact, sometimes following delivery of an advance letter. A video interview could then be offered based on the requirements at that stage of fieldwork (see below). A small number of countries had access to named person samples that included telephone numbers for a large majority of the sample members. In these cases, they could attempt first contact by telephone and offer a video interview at that point (meaning in these cases a video interview could be achieved without any in-person contact).
Structure of video interviewing team	National teams were allowed whether to either a) establish a small specialist team of video interviewers, or b) allow all of their in-person interviewers to also carry out video interviews. There were pros and cons with each approach. Option a) allowed for more central control and management, but led to a more complex flow of steps between the in-person interviewer and the video interviewer. There may also be concerns with interviewer effects if a small number of interviewers were carrying out a large number of interviews. Option b) was a more seamless process as the same interviewer was responsible for both the face-to-face contact and the video interview. However, there were challenges with training, equipping and monitoring a large interviewer fieldforce to take on the video interviewing task. In the event, most countries adopted option a): establishing a small specialist team of video interviewers.
When to offer video interviews	The approach changed over the round. Initially, interviewers were instructed to only offer a video interview in cases where a face-to-face interview was refused. However, feedback was received that it was very hard to convert people to take part in any way after this refusal. Subsequently, interviewers could offer a video interview if they noticed any reluctance to take part in-person. Finally, towards the end of the round, interviewers could offer a video interview from first contact, as an equal option to the in-person interview. This last approach reflected both a need to assist national teams to complete fieldwork in an extremely challenging round, and positive feedback being received based on experiences of video interviews to that point.

Table A1 (continued)

Design element	ESS's approach
Video interviewing platforms	National teams were advised to use Microsoft Teams or Zoom. They were required to use a licensed version of the platforms. Respondents would not be required to have a Teams/Zoom account in order to take part, or to download any software. In a small number of cases, countries were permitted to use alternative platforms, subject to these platforms meeting GDPR requirements and tested with respondents in advance of fieldwork.
Devices – interviewer and respondent	Interviewers should have access to two devices or screen. One would include the CAPI questionnaire, which was not shared with the respondent. This would allow the interviewer to read the questions and enter responses. The other screen would feature the video call, including the interviewer and respondent videos. This screen also included showcards, which would be screen-shared with the respondent. The showcards include response lists for many survey questions and are presented to respondents throughout ESS interviews. The interviewer moved on to the correct card as required throughout the interview. Respondents could take part using any internet-enabled device, including smartphones. It was recommended that they used a larger screen device, if available, to allow for clearer display of the video questionnaire and showcards.
Pre-testing	All countries were required to carry out at least 10 video interviews as part of a pre-test before their main stage fieldwork.
Interviewer briefings	All interviewers engaged in the video interviewing task needed to be briefed by national teams prior to fieldwork. Briefing materials were prepared by the central ESS coordinating team. National teams would need to adapt these materials in some cases to reflect their national approach.

Appendix B

Sample Composition Comparison of In-Person and Video Interviews

Table A2 Sample composition comparison between in-person and video interviews across countries

	Mode of data collection	Mean age	% of men	% legal partner-ship	% uni-versity education	% at work	% Not born in country	Mean house-hold size
Estonia	In-person	53.9**	44.9	40.5	29.4**	59.2**	14.9**	2.4**
	Video	39.5**	45.4	41.3	60.8**	82.1**	7.1**	3**
Finland	In-person	54.7**	50.2	48.1	32.9**	49.1**	3.7	2.2**
	Video	40.9**	45.4	41.7	57.4**	72.9**	2.9	2.6**
Iceland	In-person	54.8**	48.7	49.4	32.5**	57.0**	8.5	2.6**
	Video	42.2**	47.4	49.2	45.0**	82.3**	7.2	3.3**
Italy	In-person	52.4**	47.1	48.2	15.1**	46.7**	7.5	2.5**
	Video	47.9**	49.5	53.6	24.7**	58.6**	6.8	2.9**
Nether-lands	In-person	50.2**	51.8	52.7	37.7**	62.8**	8.4	2.6**
	Video	40.9**	46.8	49.6	54.8**	80.2**	6.9	3.1**
Norway	In-person	50.3**	52.5	48.3	40.8**	62.1**	10.7	2.6**
	Video	41.8**	48.3	42.2	50.3**	77.4**	10.2	2.9**

Notes: Comparisons based on 2-sample *t*-tests.
**$p < .01$.

Appendix C

Comparison of Interview Duration Between In-Person and Video Interviews

Table A3 Length of the main interview (in minutes) by different modes

Country	In-person	Video	*p*-value
Estonia	57.3	66.1	.001***
Finland	60.6	60.9	.421
Iceland	60.7	60.7	.486
Italy	47.6	58.1	.001***
Netherlands	65.6	67.1	.264
Norway	63.6	63.6	.497

*$p < .05$, **$p < .01$, ***$p < .001$.

To compensate for the differences between interviewees, we use only data of persons with a relatively similar background to compare the length of the interviews: a person living with a partner who has at least a secondary or higher education and who younger than 60 years old. This allows for in-person sample sizes between 302 and 1,283 per country, and video interviewing sample sizes between 214 and 421 per country.

Appendix D

Variable Names of Items Included in Intra-Interviewer Correlation

Table A4 Variables used in intra-interviewer correlation

Items compared for ICCs in at least one country	ACTROLGA, AESFDRK, AGEPNT, ANCTRY2, ATCHCTR, ATCHERP, C19MCO12, C19MCPNT, C19SPWRK, C19WHACC, C19WHOME, CHLDO12, CHPLDMC, CHPLDMI, CLOSEPNT, COLCOM, COLHLP, COLPHONE, COLPROP, COLSCRN, COLSPEAK, COMO12, COMPNT, CPTPPOLA, CTTRESA, CTTRESAC, DCSF-WRKA, DFPRTAL, DFPRTALC, EDULVLB, EDULVLFB, EDULVLMB, EDULVLPB, EDUYRS, ESTSZ, EUFTF, FAIRELC, FAIRELCC, FAMADVS, FAMPDF, FAMPREF, FREEHMS, GINCDIF, GOVMONPB, GOVPRIPH, GPTPELC, GPTPELCC, GRD-FINC, GRDFINCC, GVBALC19, GVCONC19, GVCTZPV, GVCTZPVC, GVELDC19, GVFAMC19, GVHANC19, GVIMPC19, GVJOBC19, HAPPY, HEALTH, HHLIO12, HHMMB, HINCFEL, HINCTNTA, HMSACLD, HMSFMLSH, HSCOPC19, IMB-GECO, IMDFETN, IMPCNTR, IMPDIFF, IMPENV, IMPFREE, IMPFUN, IMPRICH, IMPSAFE, IMPTRAD, IMSMETN, IMUECLT, IMWBCNT, INPRDSC, IORGACT, IPADVNT, IPBHPRP, IPCRTIV, IPEQOPT, IPFRULE, IPGDTIM, IPHLPPL, IPLYLFR, IPMODST, IPRSPOT, IPSHABT, IPSTRGV, IPSUCES, IPUDRST, ISCO08, JBPRTFP, KEYDEC, KEYDECC, LRSCALE, MANCOM, MANHLP, MANSCRN, MANSPEAK, MANSUPP, MANWRKPL, MCCLOSE, MCCOORD, MCINTER, MCMSINF, MCPRIV, MCWRKHOM, MEDCRGV, MEDCRGVC, NETU-SOFT, NETUSTM, NJBSPV, NWSPOL, PANCLOBO, PANFOLRU, PANMONPB, PANPRIPH, PANRESMO, PFMFDJBA, POLINTR, PPLFAIR, PPLHLP, PPLTRST, PRAY, PRTDGCL, PSPPIPLA, PSPPSGVA, RGHMGPR, RGHMGPRC, RLGATND, RLGDGR, SCIDECPB, SCLACT, SCLMEET, SCRNO12, SECGRDEC, SPEAKO12, SPEAKPNT, STFDEM, STFECO, STFEDU, STFGOV, STFHLTH, STFLIFE, STFMJOB, TEAMFEEL, TRDAWRK, TRSTEP, TRSTLGL, TRSTPLC, TRSTPLT, TRSTPRL, TRSTPRT, TRSTUN, TTMINO12, VIEPOL, VIEPOLC, VOTEDIR, VOTEDIRC, WKDCORGA, WKHCT, WKHTOT, WKHTOTP, WPESTOP, WPESTOPC, WRKEXTRA, WRKHOME, WRKLONG, YRBRN