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Understanding Society Innovation Panel Wave 14: results from methodological experiments

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Understanding Society Innovation Panel Wave 14:

Results from Methodological Experiments

Annette Jäckle (ed.)

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Understanding Society

UKRI Economic and Social Research Council

Non-technical summary

The *Understanding Society* survey includes what is known as an 'Innovation Panel' sample (IP). This sample of originally 1,500 households is used to test different methods for conducting longitudinal surveys in order to produce the highest quality data. The results from the Innovation Panel provide evidence about the best way to conduct a longitudinal survey which is of relevance for all survey practitioners as well as influencing decisions made about how to conduct *Understanding Society*. This paper reports the experiments and methodological tests carried out at wave 14 of the Innovation Panel in the summer of 2021.

IP14 employed a web-first and telephone follow-up mixed-mode design, which differed from past waves but was necessitated due COVID-19. It also continued ongoing experiments on the impact of incentives, and as with prior waves, several other methodological experiments were included in the survey. Experiments were conducted on how to ask respondents for consent to link data from their LinkedIn accounts to their survey responses, how to ask respondents for contact details of partners that do not live in the same household, and how to ask respondents to nominate a proxy who could complete a short interview if they themselves become unable or move into an institution in the future. The survey also included an experiment testing preference-based valuations of mental health outcomes and an experimental vignette study that examined preferences for preparing for automation in the workplace.

The IP14 data also include a refreshment sample that was surveyed as part of a pilot study testing methods to recruit a new sample for a web survey. This included experiments with prenotification letters and the number of reminders, logos/branding on envelopes, gift incentives, explaining the longitudinal nature of the survey, early bird incentives, explaining the household nature of the survey, collecting email addresses of all adults in the household grid, and encouraging messages during the survey. The results of these experiments are reported separately.

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Abstract: This paper presents some preliminary findings from Wave 14 of the Innovation Panel (IP14) of *Understanding Society*: The UK Household Longitudinal Study. *Understanding Society* is a major panel survey in the UK. In May 2021, the fourteenth wave of the Innovation Panel went into the field. IP14 used a mixed-mode design, using on-line interviews and telephone interviews. This paper describes the design of IP14, the experiments carried and the preliminary findings from early analyses of the data.

Keywords: longitudinal, survey methodology, experimental design, question wording, questionnaire design.

JEL classification: C80, C81, C83

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1. Introduction

This paper presents early findings from the fourteenth wave of the Innovation Panel (IP14) of *Understanding Society*: The UK Household Longitudinal Study. *Understanding Society* is a major panel survey for the UK. The first twelve waves of data collection on the main sample have been completed, and thirteenth and fourteenth waves are currently in the field. The data from the first eleven waves of the main samples are available from the UK Data Service, and the twelfth will be available towards the end of 2022. Data from a nurse visit to collect bio-markers from the general population sample and the British Household Panel Survey (BHPS) are also available. Data for all completed waves of the Innovation Panel are also available from the UK Data Service[1].

One of the features of *Understanding Society*, alongside the large sample size (40,000 households at Wave 1) and the ethnic minority boost sample and the collection of bio-markers, is the desire to be innovative. This has been a key element of the design of *Understanding Society* since it was first proposed. Part of this drive for innovation is embodied within the Innovation Panel (IP). This panel of 1,500 households was first interviewed in 2008. Refreshment samples of around 500 respondent households each have been added in waves 4, 7, 10, 11, and 14 of the Innovation Panel.

The design in terms of the fieldwork protocols, sample following rules, and questionnaire content are modelled on the main *Understanding Society* survey. The IP is used for methodological testing and experimentation that would not be feasible on the main sample. The IP is used to test different fieldwork designs, new survey questions and new ways of asking existing questions. The design of the Innovation Panel, fieldwork and outcomes, and the content of the survey at each wave are documented in the User Guide.[2]

Working Papers which cover the experiments carried out in all previous Innovation Panels are available from the *Understanding Society* website.[3]

This paper describes the design of IP14, the experimental studies carried and some preliminary findings from early analyses of the data. The IP14 data are available from the UK

[1] http://discover.ukdataservice.ac.uk/series/?sn=2000053
[2] https://www.understandingsociety.ac.uk/documentation/innovation-panel/user-guide
[3] https://www.understandingsociety.ac.uk/research/publications/working-papers

Data Service.[4] Section 2 outlines the main design features of *Understanding Society*. Section 3 describes the design and conduct of IP14. Section 4 then reports on the experiments carried at IP14.

2. Understanding Society: The UK Household Longitudinal Study

Understanding Society is an initiative of the Economic and Social Research Council (ESRC) and is one of the major investments in social science in the UK. The study is managed by the Executive Team (ET), based at the Institute for Social and Economic Research (ISER) at the University of Essex and includes topical experts from a number of institutions. The fieldwork and delivery of the survey data for the first five waves of the main samples were undertaken by NatCen Social Research (NatCen). Since Waves 6, Kantar Public has been the lead contractor. *Understanding Society* aims to be the largest survey of its kind in the world. The sample covers the whole of the UK, including Northern Ireland and the Highlands and Islands of Scotland. *Understanding Society* provides high quality, longitudinal survey data for academic and policy research across different disciplines. The use of geo-coded linked data enables greater research on neighbourhood and area effects, whilst the introduction of bio-markers and physical measurements (Waves 2 and 3) opens up the survey to health analysts.

The design of the main *Understanding Society* study is similar to that of the British Household Panel Survey (BHPS) and other national panels around the world. In the first wave of data collection, a sample of addresses was issued. Up to three dwelling units at each address were randomly selected, and then up to three households within each dwelling unit were randomly selected. Sample households were then contacted by NatCen interviewers and the membership of the household enumerated. Those aged 16 or over were eligible for a full adult interview, whilst those aged 10-15 were eligible for a youth self-completion. Sample members are interviewed annually, although the fieldwork for each wave is spread over two years: for each wave, the sample is split into 24 monthly batches with one issued to the field every month.

The adult interviews were conducted using computer-assisted personal interviewing (CAPI).

[4] University of Essex, Institute for Social and Economic Research. (2022). Understanding Society: Innovation Panel, Waves 1-14, 2008-2021. [data collection]. 12th Edition. UK Data Service. SN: 6849, http://doi.org/10.5255/UKDA-SN-6849-15.

Adults who participated in *Understanding Society* were also asked to complete a self-completion questionnaire, in which questions thought to be more sensitive were placed. The adult self-completions at Waves 1 and 2, and the youth self-completions, were paper questionnaires. From Wave 3 onwards the adult self-completion instrument was integrated into the interviewing instrument and the respondent used the interviewer's lap-top to complete that portion of the questionnaire themselves (Computer-Assisted Self-Interviewing, CASI). For the first seven waves, surveys of continuing sample members were interviewer-administered. Before Wave 7 was issued, a random 20% of households were designated as ring-fenced face-to-face and would only be issued to CAPI first. Except for this ring-fenced sample, households that had not responded at Wave 6 were issued at Wave 7 to a sequential mixed mode design in which adults in those households were initially invited to participate online, and then those who did not take part online were issued to interviewers ("Web-first"). At Wave 8, the proportion of households that were issued web-first increased to 40%; this included households that had not participated at Wave 7, as well as those households who were predicted to be most likely to complete online – except for those who were in the ring-fenced sample. The remaining 60% of households were issued to interviewers, with non-respondents at the reissue stage invited to complete online ("F2F-first"). In each successive wave the proportion of the sample invited to take part online first has increases to a maximum of 80%. In mid-March 2020, face-to-face interviewing was suspended due to the 'lock-down' associated with the COVID-19 pandemic. Adult sample members who were allocated to interviewers at that time were sent a letter, explaining the position with face-to-face interviewing, and giving them their log-in details so they could complete online. Those who did not complete online were followed up by interviewers who tried to conduct the interview by telephone. From the April 2020 monthly sample onwards, all adult sample members were issued web-first, with telephone as the follow-up mode.

In between each wave of data collection, sample members are sent short reports of early findings from the survey, and a change-of-address card, to allow them to inform ISER of any change in their address and contact details. Before each sample month is issued to field, each adult is sent a letter which informs them about the new wave of a survey, includes a token of appreciation in the form of a gift voucher and also includes a change-of-address card. Interviewers then attempt to contact households and enumerate them, getting information of any new entrants into the household and the location of anyone who has

moved from the household. For households completing the survey online, the information about household members is collected as part of the online survey. New entrants are eligible for inclusion in the household. Those who move, within the UK, are traced and interviewed at their new address. Those people living with the sample member are also temporarily eligible for interview. More information about the sampling design of *Understanding Society* is available in Lynn (2009).[5] From Wave 2, the BHPS sample has been incorporated into the *Understanding Society* sample. The BHPS sample is interviewed in the first half of each wave.

3. Innovation Panel Wave 14: Design

IP14 was comprised of six samples: the original sample from IP1, and refreshment samples taken at IP4, IP7 IP10, IP11, and IP14. The IP14 refreshment sample was part of a pilot to test methods of recruiting a new sample to a web survey. The pilot included a clustered sample (which was used as the IP14 refreshment sample) and an unclustered sample (which was not contacted again). The pilot sample was fielded in parallel to the IP14 fieldwork, using the IP14 questionnaire. The pilot included a number of experiments with fieldwork protocols that are reported separately in Williams et al (2022)[6].

Starting at IP5, the modes which were mixed were on-line (web) and face-to-face (CAPI) interviewing. In IP5, a random selection of two-thirds of households was allocated to the mixed-mode design with the remaining third of households allocated directly to face-to-face interviewers. This sample allocation has been maintained at each wave. However, starting at IP8 a subgroup of households with a very low propensity to respond via the web in in the web condition was assigned to CAPI to begin fieldwork. Very low web propensity was determined by modelling web-completion using previous IP data. Unlike previous refreshment samples, the IP11 refreshment sampled households were allocated to either face-to-face or web-first recruitment. In England and Wales, face-to-face interviewing assignments were evenly split between Kantar (the lead contractor) and NatCen. Kantar conducted all the face-to-face interviewing assignments in Scotland.

[5] https://www.understandingsociety.ac.uk/research/publications/working-paper/understanding-society/2009-01.pdf

[6] Williams et al (2022) *Understanding Society* Wave 14 Boost Trial: Experiments with methods of recruiting a probability online boost sample, Understanding Society Working Paper 2022-07. Colchester: University of Essex.

At Wave 12, fieldwork was split between Kantar Public and NatCen Social Research. IP12 had a focus on health, and for comparisons of biomarkers collected in interview, three types of interviews were conducted: by nurse face-to-face first, or interviewer face-to-face first and web first sequential mixed-mode designs similar to past waves. Households were randomly allocated to one of these three modes. Nurse fieldwork was undertaken by NatCen. Interviewer fieldwork in England and Wales was split between Kantar and NatCen, and Kantar undertook all interviewer fieldwork in Scotland.

The plan for IP13 had been to return to the mixed-mode design used at IP11 and previous waves, with households allocated to face-to-face first or web-first designs. However, due to COVID-19, all households were issued to web-first. This was again the case for IP14. Fieldwork took place between 19th May and 29th September 2021. Households were initially invited to take part online only for the first five weeks of fieldwork. At the end of these five weeks, any households and individuals that had not completed online were issued to an interviewer for contact via the telephone, although the web survey remained open for respondents to complete. At the end of the eight-week telephone period, the 'mop up' phase began for the remainder of fieldwork, with interviews conducted via the telephone. Both Kantar Public and NatCen Social Research conducted telephone interviews during all fieldwork periods. The IP14 refreshment sample was only invited to the online survey. Since there was no telephone follow-up for this sample, the fieldwork period was shorter and took place between the 3rd September and 3rd October 2021.

All eligible sample members aged 16 or over were sent a letter on the first day of web fieldwork asking them to complete the survey online and providing the web address and their login details for doing so. The letter also explained that if they were unable to complete the survey online an interviewer would contact them as usual. Adults were sent four reminder emails (if an email address was available) and two reminder letters if they had not completed online by the time these reminder mailings were being prepared. These reminders were sent during the initial five week web-only fieldwork period before households were issued to an interviewer.

3.1 Call for experiments

IP14 was the eleventh time the Innovation Panel was open for researchers outside the scientific team of *Understanding Society* to propose experiments. A public call for proposals was made and five proposal were received with two being accepted. The initial proposals were reviewed by a panel formed of members of the *Understanding Society* executive team and of the fieldwork agency. In addition to the accepted experiments, three additional experiments were included by the executive team in order to develop methodology for the main *Understanding Society* survey. One further experiment that is core to the fieldwork design of the study was planned to continue from past waves: the mixed-mode design, which was not carried due to COVID-19.

3.2 Sample

There were six samples issued at IP14: the original sample from IP1 and refreshment samples issued at IP4, IP7, IP10, IP11, and IP14. Samples were comprised of those households who had responded at IP13, plus some households which had not responded at IP13. Households which had adamantly refused or were deemed to be mentally or physically incapable of giving an interview were withdrawn from the sample. There were 669 original sample households, 308 IP4 refreshment sample households, 387 IP7 refreshment sample households, 302 IP10 refreshment sample households, and 492 IP11 refreshment sample households issued. In addition, the wave 14 pilot included 6047 households used as the IP14 refreshment sample. There were 8205 total sample households issued at IP14. All of the households were originally selected from the Postcode Address File (PAF) using the same methods.[7] As noted above all households were allocated to a web-first, telephone follow-up design in response to Covid-19 restrictions.

[7] See Lynn, P. (2009). Sample Design for Understanding Society *Understanding Society Working Paper Series No. 2009 – 01* at https://www.understandingsociety.ac.uk/research/publications/working-paper/understanding-society/2009-01

3.3 Questionnaire design

The questionnaire at IP14 followed the standard format used in the previous Innovation Panels as well as the main-stage of *Understanding Society*. The questionnaires used at IP14 are available from the *Understanding Society* website.[8] The interview included the following sections with the corresponding target times for each:

- Household roster and household questionnaire: 15 minutes per household
- Individual questionnaire: average 31 minutes for each person aged 16 or over
- Adult self-completion: around 9 minutes, computer self-administered interview (CASI). In web and telephone interviews this was administered in the same way as the individual questionnaire.
- Youth self-completion: 10 minutes for each child aged 10-15 years
- Proxy questionnaire: 10 minutes for adults ages 16 or over who are not able to be interviewed.

There were some changes made to the questionnaire to enable participants to complete it on-line at IP5 when the web design was first introduced, and can be described more in-depth in the working paper containing results from the experiments in IP5.[9] Briefly, the changes made to the questionnaire are as follows. Questions were reworded as needed to include interviewer instructions that may clarify the definition of the question. Text was altered to be more participant-focused rather than interviewer-focused. The first person in the household to log in to the web survey would be asked to complete the household enumeration. A question about who was responsible for paying household bills was included; the person or people indicated as responsible were routed first to the household questionnaire and then to the individual questionnaire.

If a participant had started to answer their questionnaire and left the computer for 10 minutes, they were automatically logged out. The participant was able to log back in using the same process as they had originally logged in, and they would be taken to the place that they had left the interview. This also applies to those who had closed down the browser

[8] https://www.understandingsociety.ac.uk/documentation/innovation-panel/questionnaires
[9]https://www.understandingsociety.ac.uk/research/publications/working-paper/understanding-society/2013-06

mid-interview. A 'partial interview' marker was put into place about two-thirds of the way through the interview, after the benefits section. If a participant reached this stage, the interview was considered to be a 'partial interview'. They could log back in and complete if they wanted, but otherwise they were not contacted by an interviewer. If the participant had not reached this marker before closing down the browser, they were sent an email overnight which thanked them for their work so far and encouraged them to complete the survey, giving them the URL to click through to the survey. Again, they would start at the point where they had left off. In addition, those who had started but not reached the partial interview marker were, after the initial five weeks, issued to interviewers who would be able to finish the survey with them, from where they had left off.

3.4 Response rates

This section sets out the response rates for IP14. The issued sample at the fourteenth wave consisted of 2158 continuing sample households and 6047 refreshment sample households. Table 1 displays the household-level response at IP14 for the continuing samples. Since all households were allocated to web-first, the response rates are shown by sample origin but not split by mode allocation as in previous years. The lower panel displays individual response rates for each sample. For each cell, the percent is reported above the number of units the percent represents, in italics. The total number of eligible sampled units is in the Total rows, in bold.

There were 1353 interviewed households from the continuing samples, for a 62.7% overall household response rate. Within these households, 2092 people were interviewed, for a conditional individual response rate of 77.2%.

Table 2 shows the household-level and individual-level response at IP14 for the IP14 refreshment sample. The fourteenth wave was the initial wave for this sample. A total of 773 households were surveyed, a 12.8% response rate. Of all of the enumerated individuals in these households, 966 were interviewed, equalling a 67.1% conditional individual response rate.

Given the mixed-mode design used, not all individuals responded in the same mode. Table 3 shows the mode of completion and device used by individuals. The continuing samples (Original, IP4 refreshment, IP7 refreshment, IP10 refreshment, and IP11 refreshment) are

combined, with the IP14 refreshment sample presented separately given the initial invitation and difference in design for this group this wave.

Starting in IP8, it was possible to access the web survey using any internet-enabled device. In previous waves, smartphones were blocked from accessing the survey, although tablets could access the questionnaire. A number of variables were captured about the device the survey was accessed with, including what type of device was used, the operating system, the device model, the browser used, browser version, and screen resolution. These variables are now available in the IP from the seventh wave as w_deviceused w_deviceos w_devicemodel w_browserused w_browserversion w_screenresolution in the file w_indresp_ip. The distribution of devices among web respondents used across all samples in IP14 is presented in Table 3.

Table 1: Household and Individual Response Outcomes for Continuing Samples, IP14

	Original	IP4 Refreshment	IP7 Refreshment	IP10 Refreshment	IP11 Refreshment	**Total**
Household RR						
Complete HH	49.6% *332*	45.1% *139*	40.9% *158*	32.1% *97*	39.4% *194*	42.6% *920*
Partial HH	22.7% *152*	20.5% *63*	17.6% *68*	20.9% *63*	17.7% *87*	37.3% *433*
Total Responding HH	72.4% *484*	65.6% *202*	58.4% *226*	53.0% *160*	57.1% *281*	62.7% *1353*
Nonresponding HH	27.7% *185*	34.4 % *106*	41.6% *161*	47.0% *142*	42.9% *211*	37.3.% *805*
Total HH	**669**	**308**	**387**	**302**	**492**	**2158**
Conditional Individual RR						
Responding individuals	78.9% *778*	79.3% *321*	78.4% *355*	68.7% *224*	76.8% *414*	77.2% *2092*
Nonresponding individuals	21.1% *208*	20.7% *84*	21.6% *98*	31.3% *102*	23.2% *125*	22.8% *617*
Total Ind.	**986**	**405**	**453**	**326**	**539**	**2709**

Table 2: Household and Individual Response Outcomes for IP14 Refreshment sample, IP14

Household RR	Total
Complete HH	7.0% *425*
Partial HH	5.8% *213*
Total Responding HH	12.8% *773*
Nonresponding HH	87.2% *5274*
Total HH	**6047**
Conditional Individual RR	
Responding individuals	67.1% *966*
Nonresponding individuals	32.9% *473*
Total Individuals	**1439**

Table 3: Mode of Response and Device Used, IP14 Continuing Respondents and IP14 Refreshment

	Continuing Respondents	IP 14 Refreshment
Responding Mode		
Telephone	12.8% *266*	NA
Web	87.3% *1821*	100.0% *966*
Total Respondents	**2087**	**966**
Web Device Used		
PC/Laptop	55.3% *1153*	62.3% *602*
Large Tablet	5.2% *109*	4.8% *46*
Small/Medium Tablet	19.4% *405*	16.9% *154*
Smartphone	20.1% *420*	16.9% *163*
Total Web Respondents	**2087**	**966**

3.5 Longitudinal response outcomes

The individual re-interview rate is an important outcome in a longitudinal survey, since analyses require pairs of observations to measure change. Re-interview rates are calculated as the percentage of eligible units responding at later waves who were also surveyed at the initial wave. For those in the original sample, the percentage is predicated on response at IP1, while the fourth wave is the initial wave for the IP4 refreshment sample, the seventh wave was the first for the IP7 refreshment sample, the tenth wave was the first for the IP10 refreshment sample, and the eleventh was the first for the IP11 refreshment sample.

Table 4 presents the longitudinal individual re-interview rates for the original sample (for IP2-IP14), the IP4 refreshment sample (for IP5-IP14), IP7 (for IP8-IP14), IP10 (IP11-IP14) and IP11 (IP12-IP14). For each cell, the percent is reported above the number of individuals the percent represents, in italics.

As with any longitudinal study, there has been attrition at each wave, decreasing the overall numbers for each sample. At IP14, 558 individuals from the original sample who responded at IP1 were successfully interviewed, representing a 23.3% re-interview rate. For the IP4 refreshment sample, the IP14 was their eleventh wave and 250 responded, for a 34.6% re-interview rate. IP13 was the eighth wave for the IP7 refreshment sample, with 271 responses for a 41.3% re-interview rate. The IP10 refreshment sample was in its fifth wave at IP14, with 195 responding for a 39.4% re-interview rate. The IP11 refreshment sample was asked to participate for the fourth time at IP14, and had 338 completes, a 44.7% re-interview rate.

Table 4: Longitudinal re-interview rates

	IP2	IP3	IP4	IP5	IP6	IP7	IP8	IP9	IP10	IP11	IP12	IP13	IP14
Original Sample	69.3% *1654*	60.6% *1442*	54.8% *1270*	45.9% *1095*	46.2% *1100*	38.4% *917*	36.2% *867*	35.8% *814*	31.2% *746*	28.9% *691*	25.1% *600*	25.4% *609*	23.3% 558
IP4 Refreshment				81.4% *586*	77.1% *554*	62.1% *447*	58.8% *423*	58.7% *396*	48.4% *350*	44.5% *321*	35.8% *258*	37.8% *272*	34.6% 250
IP7 Refreshment							79.2% *520*	82.7% *487*	61.8% *404*	56.9% *371*	47.3% *309*	45.7% *299*	41.3% 271
IP10 Refreshment										59.8% *297*	43.7% *216*	44.9% *222*	39.4% 195
IP11 Refreshment											48.9% *371*	46.4% *351*	44.7% 338

4. Experimentation in IP14

The following sections contain summaries of the experimental studies fielded in IP14, describing the design of each experiment and some initial results from early analysis of the data. The analyses in this working paper were based on a preliminary data-set which contained all cases but did not have weights or derived variables. The authors and proposers of the experiment of each sub-section below are given in the headings.

The IP14 data include a refreshment sample that was surveyed as part of a pilot study testing methods to recruit a new sample for a web survey. This included experiments with prenotification letters and the number of reminders, logos/branding on envelopes, gift incentives, explaining the longitudinal nature of the survey, early bird incentives, explaining the household nature of the survey, collecting email addresses of all adults in the household grid, and encouraging messages during the survey. The results of these experiments are reported separately in Williams et al (2022)[10].

4.1 Linking LinkedIn data (Tarek Al Baghal, Luke Sloan and Curtis Jessop)

Recent work on linking Twitter data to survey data has suggested the potential for improving research through these combined data (e.g. Al Baghal et al. 2021). Linking survey data to multiple social media data sources could further add different types of data, populations, and facets of individuals' experiences (Breuer et al. 2021). Expanding upon this research, an experiment was carried out in IP14 exploring the feasibility of linking LinkedIn data to individuals' survey responses.

LinkedIn is a social media site that focuses on skills, employment and businesses and is used largely for professional networking. A recent survey in the UK by regulator Ofcom (2019) (albeit with a somewhat different sample composition than the IP) found that 16% of UK internet users used LinkedIn, compared to 25% using Twitter. However, LinkedIn's focus on skills and employment means its target population/users are generally a subset of internet users who are or would like to be economically active. Relative to Twitter's general

[10] Williams et al (2022) *Understanding Society* Wave 14 Boost Trial: Experiments with methods of recruiting a probability online boost sample, Understanding Society Working Paper 2022-07. Colchester: University of Essex.

population target audience, a larger portion of people who are in work or looking for employment could be active on LinkedIn.

The questions carried in IP14 aimed to provide evidence on the proportion of the population that have a LinkedIn account and the willingness of these users to have their LinkedIn data linked to their survey responses. An experimental component also looked at the impact of the positioning of the consent question within the questionnaire. Previous research has shown that consent questions obtain higher consent rates when placed earlier in the questionnaire rather than later (e.g. Jäckle et al. 2021), but this has not been explored in social media data linkage requests. A split-sample design was used with half of respondents asked about LinkedIn usage and consent to linkage early in the survey and half asked the same questions late in the survey.

As expected, significantly more respondents identifying as employed said they had a LinkedIn account (36.1%) than those not employed (11.5%) ($\chi_1^2 = 240.2, p < 0.0001$) (Table 5). Perhaps more surprising is that one in four people in Great Britain indicated they had an account, which is larger than Ofcom estimates, and similar to estimates of the proportion using the more general population oriented Twitter. (There is no difference in LinkedIn usage based on the experimental condition with 25% reporting they have a LinkedIn account both early and late in the survey.) This greater than expected usage is a positive in efforts to gain consent from more respondents to create linked survey and social media data sets.

Table 5: LinkedIn Usage by Employment Status and Overall

	Has LinkedIn	No LinkedIn
Employed	36.1% (n=599)	63.9% (n=1060)
Not Employed	11.5% (n=157)	88.5% (n=1203)
Total	25.0% (n=756)	75.0% (n=2263)

Table 6 presents the outcome of the consent to link request made to the 756 respondents indicating they have a LinkedIn account. Overall, the percent consenting (41.1%) may be

seen as relatively low compared to other consent studies, but it is higher than the 27.1% consent rate to link Twitter and survey data seen in IP10 (Al Baghal et al. 2020).

Table 6 also confirms previous research that asking for consent to link data earlier in the survey results in higher consent rates, with more people consenting to link their LinkedIn data to their survey data when asked earlier (44.2%) in the survey than when asked later (38.1%) ($\chi_1^2 = 2.9, p = 0.089$).

Table 6: LinkedIn Linkage Consent by Placement and Overall

	Consent	No Consent
Early	44.2% (n=167)	55.8% (n=211)
Late	38.1% (n=144)	61.9% (n=234)
Total	41.1% (n=311)	58.9% (n=445)

Further research will explore the reasons why such differences exist, including a within-person analysis of consent among respondents asked both Twitter and LinkedIn requests. Efforts will explore personal factors that lead to differences in consent, following a similar framework used exploring Twitter consent (Al Baghal et al. 2020). Work will also focus on the actual process of linking LinkedIn and survey data for consenters. Collecting user data from LinkedIn to link to survey data is not as direct it is from Twitter, as access to LinkedIn APIs are largely closed to research, and data need to be scraped. LinkedIn's user ID's are largely not known to individuals, and most are assigned a user ID based on the person's name with an alphanumeric string appended. Therefore, consenters were asked for profile ID, if known, but also their name and most recent place of work listed on the profile, job title, and most recent place of education listed. We will explore the extent to which consenters were able to provide this information, and the extent to which this enables the correct identification of the individual's profile using a range of statistical matching techniques.

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4.2 Individuals' intentions to prepare for automation: The wording effects of the severity and time horizon of technological developments in question introductions (Giedo Jansen and Suzanne Janssen)

With the rise of smart technology, artificial intelligence, robotics, and algorithms, it is increasingly important that individuals upgrade their skills to stay employable. However, scholars are inconclusive about how many jobs are at risk of automation and during what time horizon. Consequently, we hypothesized that in survey responses, the respondent's reported re/upskilling attitudes and behaviors might be dependent on the specific information about the impact of technology that is provided by researchers. In IP14, we investigated the effects of the framing of the expected impact of automation on (a) the extent to which individuals are concerned about automation, (b) are interested in re/upskilling to prepare for automation, and (c) intend to undertake actions accordingly. Both the effect of the prospected severity of technological developments (severe threat vs. minor threat) and the prospected timeframe of such developments (short-term vs. long-term) on individuals' re/upskilling attitudes and behaviours were investigated.

Experimental Design

Respondents currently doing paid work (i.e., full- or part-time paid employment, or self-employed) received an introductory text about the survey, explaining that the survey was about technological developments at work. In this introduction, the severity of technological replacement (severe threat vs. minor threat) and the prospected timeframe (short-term vs. long-term) were manipulated. Respondents (N = 1061) were randomised at the household level into one of the following five experimental conditions (survey introduction in italics):

(1) long-term & major severity (n = 208); *"Experts predict that in the upcoming 20 years, 50% of all jobs now being done by humans could be done by new technology (e.g., robots, artificial intelligence, or algorithms)."*

(2) short-term & major severity (n = 199); *"Experts predict that in the upcoming 5 years, 50% of all jobs now being done by humans could be done by new technology (e.g., robots, artificial intelligence, or algorithms)."*

(3) long-term & minor severity (n = 223); *"Experts predict that in the upcoming 20 years, 10% of all jobs now being done by humans could be done by new technology (e.g., robots, artificial intelligence, or algorithms)."*

(4) short-term & minor severity (n = 233); *"Experts predict that in the upcoming 5 years, 10% of all jobs now being done by humans could be done by new technology (e.g., robots, artificial intelligence, or algorithms)."*

(5) control group (n = 198); "*Some experts think that in the future, work now being done by humans could be done by new technology (e.g., artificial intelligence, robots, or algorithms). Other experts think that new technology cannot replace work by humans, or only to a limited extent."*

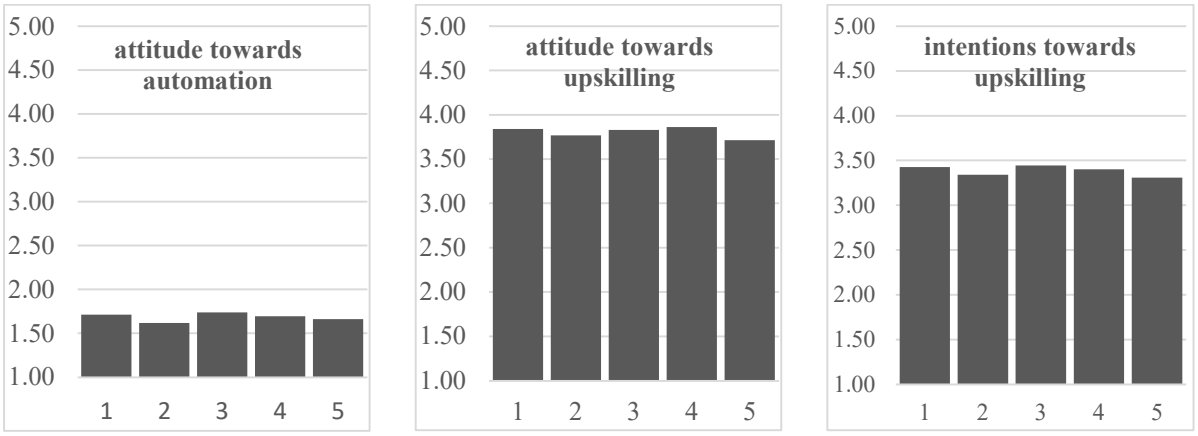
After reading this text, respondents answered questions about their (a) attitudes towards automation, (b) their attitudes towards re/upskilling, and their (c) behavioural intentions to educate themselves further to prepare for this automation. All questions had 5-point Likert type response categories ranging from 1 'totally disagree' to 5 'totally agree'. Scales were constructed by calculating the means of the following sets of items: First, attitudes towards automation measured by *'I think my job could be replaced by new technology'* and '*I am personally worried that what I am doing now in my job can also be done by new technology'.* Second, attitudes towards re/upskilling measured by *'I find it important to keep up with new technological developments at my work'* and '*I think that new technology offers me the opportunity to acquire new skills'.* Third, intentions to towards re/upskilling behavior measured by *'I need further training to keep up with technological developments at work' , 'I am willing to spend extra time learning new technological skills for my work'* and *'I am considering training to start a different job because new technology is replacing my work'.*

Results

Figure 1 shows the mean in attitude scores and intention scores for the different experimental groups. A one-way between-groups analysis of variance was conducted to compare the impact of the wording effects of the severity and time horizon of technological developments in the survey introduction on respondents' attitudes towards automation, their attitudes towards re/upskilling, and their behavioral intentions to educate themselves

further to prepare for automation. The impact of both the severity and the prospected timeframe were non-significant for attitudes towards automation ($F(4, 1053) = 0.52$, $p > .05$), attitudes towards re/upskilling ($F(4, 1055) = 0.75$, $p > .05$), and behavioral intentions ($F(4, 1053) = 0.60$, $p > .05$).

Figure 1: Mean values on outcome measures, by experimental conditions



Conclusion

We found no statistical differences at the $p<.05$ level in attitude scores and intention scores for the different experimental groups. In conclusion, there is no evidence that providing specific information about the prospected impact of technology has an impact on respondents' reported re/upskilling attitudes and behaviors in survey research.

4.3 An experiment to identify an appropriate instrument for preference-based valuation of mental health outcomes (Daniel Kopasker and Anju D. Keetharuth)

Decisions regarding the efficient allocation of scarce public sector resources rely on the ability to consistently measure and value outcomes. Whether for a public policy or new medical treatment, both The Green Book and the National Institute for Health and Care Excellence (NICE) recommend the use of quality-adjusted life years (QALYs) as a generic measure of health and wellbeing outcomes (HM Treasury 2020, National Institute for Health and Care Excellence 2014). QALYs combine a metric of value, indicated by a utility score, with the length of time spent in a health state. A monetary value can be attached to a QALY to enable cost-effectiveness analysis on a cost-per-QALY basis. However, for mental health outcomes, there are unresolved methodological issues that have caused uncertainty about the validity of valuations (Brazier et al. 2014).

Methodological issues arise from the instruments being used to generate utility scores for mental health states. When calculating QALYs it is necessary to measure health outcomes using a validated questionnaire that can be linked to a value set reflecting the country-specific preferences of a population for different health states. The use of preferences as the basis of measurement is crucial as they reflect utility, a metric that can be consistently expressed in monetary terms. Non-preference-based measures, while useful to describe a health state, do not reflect utility and cannot be used to directly assign a monetary value to a health state.

The preference-based instrument currently recommended by NICE, and widely used elsewhere, is EQ-5D-3L (developed by EuroQol, National Institute for Health Care and Excellence 2014). This instrument is a set of five questions each with a three-level response scale. Each question concerns a single dimension of health (mobility, self-care, usual activities, pain/discomfort, anxiety/depression). Respondents indicate the level to which they have difficulties in the specific dimension. The combination of responses indicates a health state, for which country-specific preferences have been independently estimated to provide a utility score (Dolan 1997). Since only one dimension of EQ-5D-3L relates to mental health, and this dimension involves only a small element (anxiety/depression) of the diverse range of mental health conditions, it is widely recognised that EQ-5D-3L inadequately

measures utility in respect of mental health (Brazier et al. 2014). For this reason, the 10-item Recovering Quality of Life questionnaire (ReQoL-10) was developed and has been widely adopted as a patient reported outcome measure within the NHS in England (Keetharuth et al. 2018). The ReQoL-10 questions cover seven dimensions of health (activity, hope, belonging and relationships, self-perception, well-being, autonomy, and physical health). The combination of responses can be linked to an associated value set, the Recovering Quality of Life Utility Index (ReQoL-UI, Keetharuth et al. 2021), to generate a utility score that is directly comparable with the utility score from EQ-5D-3L. However, despite important decisions being reliant on the suitability of the instrument used to value health states, a direct comparison of utility scores resulting from EQ-5D-3L and ReQoL-UI has not yet been conducted.

Our aim is to identify the most appropriate instrument, and associated value set, for estimating the preference-based utility for mental health states. We begin by conducting an initial comparison in a general population sample of the Recovering Quality of Life Utility Index (ReQoL-UI) against the EQ-5D 3-level version (EQ-5D-3L). Additionally, we investigate whether the utility scores are influenced by the position in the survey of the preference-based instruments relative to a non-preference-based measure of psychological distress – the 12-item General Health Questionnaire (GHQ-12). Lastly, we test whether the mode of administration for the survey influences scores on the instruments.

Method

All adult participants (n=3,044) in wave 14 of the Innovation Panel were asked to complete EQ-5D-3L, the 10-item Recovering Quality of Life questionnaire (ReQoL-10), and one question regarding physical health. This provided data from a general population sample of individuals indicating their health state using multiple instruments at the same time point. To test for ordering effects, half of respondents were presented with ReQoL-10 and EQ-5D-3L early in the survey and GHQ-12 late in the survey, and half presented with ReQoL-10 and EQ-5D-3L late and GHQ-12 early. Using responses, utility scores were estimated based on the EQ-5D-3L UK value set,[4] and from the ReQoL-10 based on the ReQoL-UI UK value set (Keetharuth et al. 2021). We compare the distributions of health state utility scores

obtained from the ReQoL-UI and EQ-5D-3L using standard statistical tests and regression analysis.

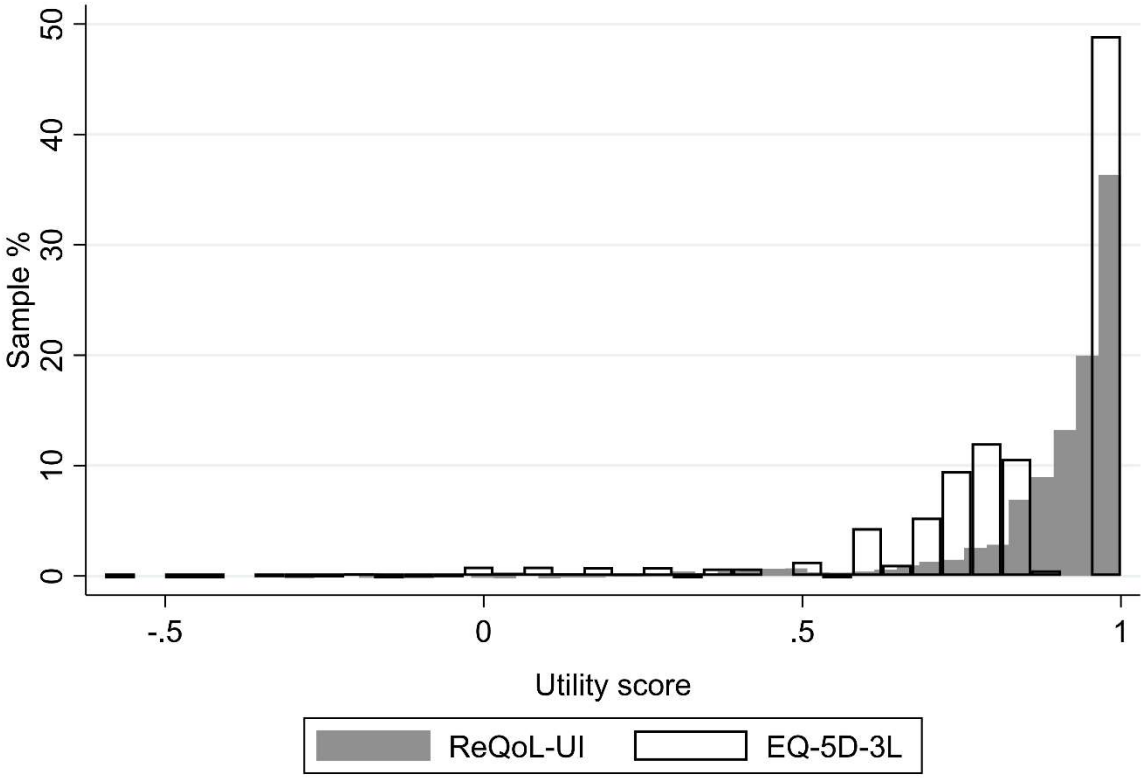
Survey mode effects were not controlled in the experiment but were tested in post-hoc analysis as the outcome may be of operational interest to NHS England.

Relationship between utility scores

The combined histogram in Figure 2 illustrates the distributions of utility scores obtained from ReQoL-UI and EQ-5D-3L for identical samples of individuals. Visual inspection indicates that the overall distributions are similar in that the majority of utility scores are between 0.5 and 1, with both instruments indicating the largest proportion of the sample near or at perfect health (utility score=1). However, the percentage of the sample with a utility score of exactly one is much larger (48.92% vs. 12.32%) for the EQ-5D-3L instrument. Below perfect health, there is a gap between 1 and a score of 0.883 on the EQ-5D-3L utility score distribution. This gap is not evident for utility scores from ReQoL-UI where there is a relatively smooth downslope from perfect health. For EQ-5D-3L a relatively smooth downslope begins from 0.883 to 0.5. Only 3.84% of the sample has a utility score below 0.5 using the ReQoL-UI, for EQ-5D-3L the equivalent figure is 6.44%.

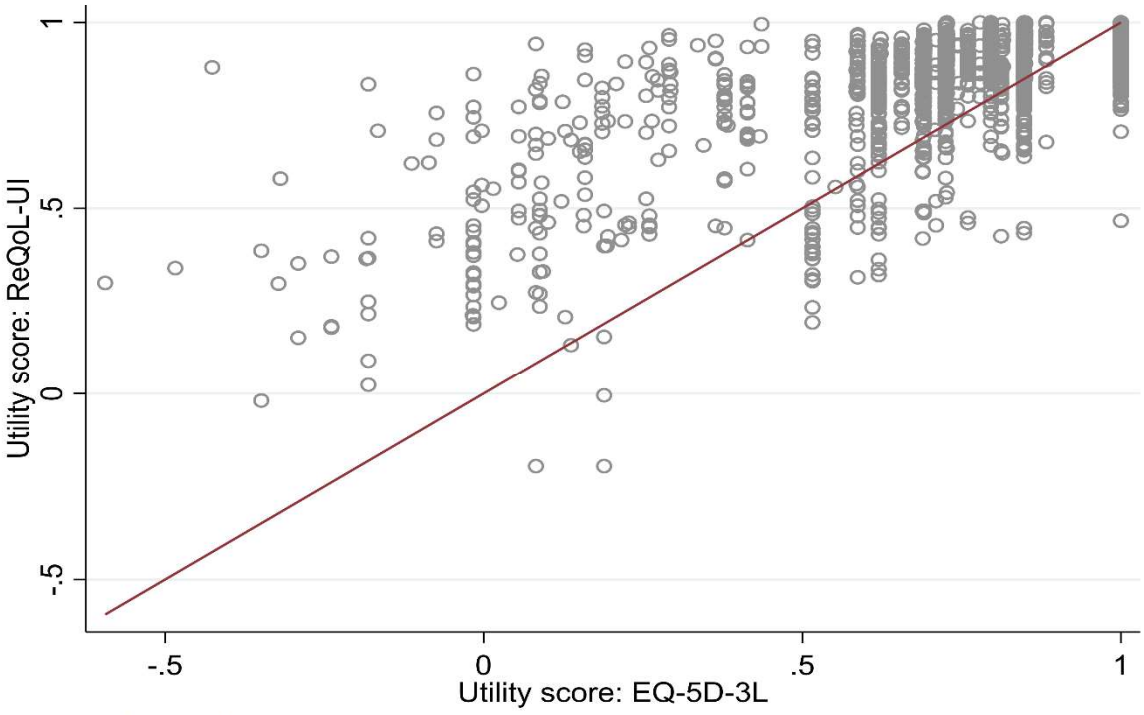
The relationship between the utility scores from the two instruments is illustrated in Figure 3. The 45-degree line indicates equality between the utility scores. Observations above this line have a higher utility score from ReQoL-UI than EQ-5D-3L. Observations below this line have a higher score on EQ-5D-3L than ReQoL-UI. It appears that most observations are above the 45-degree line. The group with an EQ-5D-3L utility score of one, indicating no health issues on any of the EQ-5D-3L dimensions, have a range of utility scores using ReQoL-UI, indicating less than perfect health on at least one of the ReQoL dimensions. The 196 observations with an EQ-5D-3L utility score below 0.5 are dispersed around ReQoL-UI scores, but almost always above the 45-degree line.

Figure 2: Combined histograms of utility scores from ReQoL-UI and EQ-5D-3L



Note: N=3,044 for both measures

Figure 3: Scatterplot of utility scores on the ReQoL-UI and EQ-5D-3L instruments for identical individuals indicating their health state at a single time point.



Note: N=3,044 for both measures

Statistical tests were conducted to compare the distributions of utility scores. The Wilcoxon signed rank sum test provides a test of the difference between two non-normally distributed variables from matched pairs. The Wilcoxon test clearly rejects the null hypothesis that distributions of utility scores from ReQoL-UI and EQ-5D-3L are equal ($p<0.01$). The result of this test is unaffected by whether the preference-based instruments were conducted early or late in the survey.

To further test for ordering effects on responses, we compare the mean utility scores on the two preference-based instruments and the Likert score from GHQ-12 responses. Table 8 shows that all mean scores were lower when answers were given later in the survey, and the difference was statistically significant for all except EQ-5D-3L. However, as shown in Table 7, this does not substantially alter the relationship between the overall distributions of utility scores.

Table 7: Summary of Wilcoxon signed rank sum test comparing distributions of utility scores from ReQoL-UI and EQ-5D-3L.

	Full sample	Early sample	Late sample
Positive (ReQoL-UI > EQ-5D-3L)	1395	741	654
Negative (ReQoL-UI < EQ-5D-3L)	1300	674	626
Zero (ReQoL-UI = EQ-5D-3L)	349	188	161
p value	0.000	0.000	0.000

Table 8: Mean score on three instruments with varying position (early or late) within the survey

	Early	Late	T test/P value
ReQoL-UI	0.91	0.89	t=3.34/p=0.001
EQ-5D-3L	0.84	0.83	t=1.19/p=0.263
GHQ-12	12.17	11.21	t=-4.33/p=0.000

Overall, visual inspection of Figure 2 and Figure 3 indicate that ReQoL-UI utility scores are often higher than EQ-5D-3L utility scores. However, due to the large number of observations with an EQ-5D-3L utility score indicating perfect health, the pattern of difference between the two utility scores is not as strong as Figure 2 and Figure 3 suggest. Only 95 more individuals had a positive difference than the number that had a negative difference between the utility scores. Very few had a difference of zero, but the mean within-individual difference was small at 0.06. The overall correlation between the two utility scores was quite high at 0.73.

Relationship to psychological distress

One of the main drivers for the development of ReQoL-10 was the need to capture changes in mental health within a preference-based instrument. Therefore, the relationship between the utility scores from ReQoL-UI, EQ-5D-3L, and an existing measure of psychological distress included within Understanding Society (GHQ-12) was examined. Linear regression models were estimated controlling for the ordering of the instruments, age, gender, survey mode, and GHQ-12 Likert score. We use linear regression for this initial analysis, but given the distributions of ReQoL-UI and EQ-5D-3L, non-linear techniques may provide further insights and will be applied in future work. Separate models were estimated for the ReQoL-UI utility score, EQ-5D-3L utility score, and the difference between the utility scores.

Table 9: Linear regression results for the determinants of utility scores and difference in utility score

	(1) Utility score: ReQoL-UI	(2) Utility score: EQ-5D-3L	(3) Utility score: difference
Base: ReQoL and EQ5D early and GHQ late			
ReQoL and EQ5D late and GHQ early	-0.002	0.011	-0.013**
	[-0.010,0.006]	[-0.003,0.025]	[-0.024,-0.002]
Age at interview	-0.001***	-0.002***	0.002***
	[-0.001,-0.000]	[-0.003,-0.002]	[0.001,0.002]
Base: female			
Male	0.003	0.021***	-0.018***
	[-0.005,0.011]	[0.007,0.035]	[-0.029,-0.007]
Base: web interview			
Personal interview	-0.053	0.029	-0.082
	[-0.200,0.095]	[-0.243,0.301]	[-0.296,0.133]
Telephone interview	-0.011	-0.042***	0.031***
	[-0.025,0.003]	[-0.067,-0.016]	[0.011,0.051]
GHQ-12 Likert score	-0.015***	-0.020***	0.005***
	[-0.016,-0.015]	[-0.021,-0.019]	[0.004,0.005]
Constant	1.104***	1.167***	-0.063***
	[1.089,1.119]	[1.139,1.195]	[-0.085,-0.041]
Observations	2947	2947	2947
R^2	0.432	0.287	0.068
95% confidence intervals in brackets	* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$		

Comparison between columns 1 and 2 of Table 9 indicates that increases in psychological distress (GHQ-12) reduce the utility score from EQ-5D-3L to a greater extent than for ReQoL-UI. A cross-equation test of the coefficients for GHQ-12 strongly rejects the null hypothesis of equality ($p<0.01$). Furthermore, column 3 indicates that the difference between utility scores increases with higher levels of psychological distress. Restricting the sample to only those completing a computer-assisted web interview does not substantially alter this result.

During the COVID-19 pandemic it has been increasingly necessary for NHS England to collect patient reported outcomes using ReQoL-10 from telephone interviews. The results in column 1 of Table 9 indicate that this has no statistically significant effect on the resulting utility score compared to other modes of data collection. It should be noted that the number of in-person interviews was very small, but the comparison between web and telephone interviews involves 2,686 and 259, respectively.

Summary

It was hypothesised that a comparison between the ReQoL-UI and EQ-5D-3L utility scores would reveal important differences that could inform discussions and decisions on the most appropriate instrument to use when evaluating mental health outcomes. Any health state has only one 'true' utility score for any individual at any point in time, but this cannot be fully observed. Measurement instruments attempt to approximate the 'true' utility of a health state. However, due to variation in the focus and content of measurement instruments, a health state may only be partially captured, and this will have implications for economic evaluations. Systematic differences could indicate under or over valuation for groups of health states, such as those involving mental health conditions.

The initial comparison indicates that important differences between utility scores from EQ-5D-3L and ReQoL-UI exist. The relationship is complex with ReQoL-UI often providing higher utility scores for health states, but EQ-5D-3L indicating far more people in perfect health. There is an early indication that differences may be systematically, at least in part, related to levels of psychological distress. Further research will unravel the complexity of this relationship and provide guidance on the most appropriate instrument for estimating the preference-based utility for mental health states.

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4.4 Couples living apart together: Seeking contact details of non-coresident partners within and between interviews (Kelly Reeve and Michaela Benzeval)

One of the main innovations planned for Understanding Society is to invite significant others to participate in the Study; that is individuals who are associated with sample members, such as non-coresident partners, parents living apart and external carers or care recipients. As part of this initiative, we have commissioned qualitative research (Kantar Public 2017) and trialled various ways of obtaining contact details of significant others and assessing participants' willingness to share these.

This experiment focused on obtaining contact details for couples who live apart. Each wave, about 9% of adults report living in a different household from their romantic partner. As Understanding Society is a household study, this means that these significant others are not currently part of the study sample but would be a source of valuable information about sample members' lives.

In IP13 we asked participants for their non-coresident partner's contact details, with a view to inviting the partner to participate in Understanding Society in the future (Benzeval et al. 2021). This module followed the questions about their non-coresident relationship more generally. Previous Understanding Society research showed that asking for consent after a module of questions related to the content of the data to be linked increased consent compared to asking at the end of the questionnaire (Sala et al. 2014). One fifth of participants shared useable contact details in IP13. In IP14 we built on this learning and tested two new approaches, with the aim of increasing the proportion of participants who give us contact details of their non-coresident partner:

a) improving the wording of the request for contact details and changing the order of the types of details requested within the interview and;

b) writing to participants between waves to request contact details.

The results will inform our approach for obtaining contact details of significant others in our main survey, for couples living apart and parents living apart.

Design

In IP13, 186 participants confirmed they were in a non-resident relationship and 20% provided useable contact details in the survey, i.e. partner's name and either a valid postal address, email address or telephone number.

In IP14, 241 participants confirmed they were in a non-resident relationship, 89 of whom were in the same LAT relationship as they had reported in IP13. IP13 participants who provided useable contact details of their partner in IP13 and confirmed they were in the same non-coresident relationship in IP14 were not asked for contact details again in IP14 (n=18). IP13 LATs who did not provide useable contact details previously but were in the same non-coresident relationship in IP14 were allocated to an experimental group (n=34), along with new IP14 LATs. Households were randomly allocated into two equal experimental groups before the survey was launched. Final numbers in each group are below. These numbers are not equal because of differences between groups in response, the number of LATs, the numbers who had provided contact details at the previous wave, and the number who were in the same/different LAT partnership.

1) Within-interview group: n=127
2) Between-wave group: n=96

Within-interview group

For group 1, we asked for contact details in the survey, but made three changes to our approach at IP13. First, we adapted the wording in the request for contact details to explain in more detail why we were asking and emphasised the pro-social aspects, which we did not do in IP13, and we reiterated that the partner is not obliged to take part and that both participants' answers are confidential:

> *Understanding more about the people who affect your life is very important to us. We would be interested in contacting your partner as part of this study to ask them to complete a one-off, 10-minute web survey about their lives. The information about their lives would be of great benefit to researchers and policy-makers relying on this study.*

All of your survey answers are completely confidential and we would not pass on any information that you tell us to your partner, only that they are invited because you are part of Understanding Society.

In giving these details you are not committing your partner to take part. All participation is entirely voluntary and they could choose whether or not to take part.

Second, we updated the response format for the partner's name so that it was split into three entries for title, forename and surname, rather than a single text-fill as in IP13, to maximise the chance of obtaining a useable name.

Third, we changed the ordering of contact detail options to ask for postal address first, followed by email address then phone number, rather than email first as in IP13. This is because in IP13 19% of participants provided a postal address whereas only 15% provided an email address.

For those who did not choose to provide contact details of their non-coresident partner, we also added an open text question to find out the reason why contact details were not provided.

Between-wave group

For group 2, we trialled an 'opt-in approach' between waves to give participants an opportunity to discuss the request with their partner before providing contact details. We sent a tailored email or letter to participants in April 2022, explaining our desire to interview the sample member and their partner separately about Living Apart Together, why it is of value, and encouraging the participant to discuss with and/or share details of the study with their partner. See the Appendix for an example email. Further information was provided on a participant information webpage including links to the privacy notice and FAQs (see https://www.understandingsociety.ac.uk/participants/lats). To maximise response from both participants and their partners we gave the participant the choice of giving us their partner's contact details directly or the partner themselves opting-in having received information about the study through their sample member partner. A dedicated web-form was set up to collect contact details (see

https://www.understandingsociety.ac.uk/research/LATS/contact-details). One reminder email or letter was sent.

Results

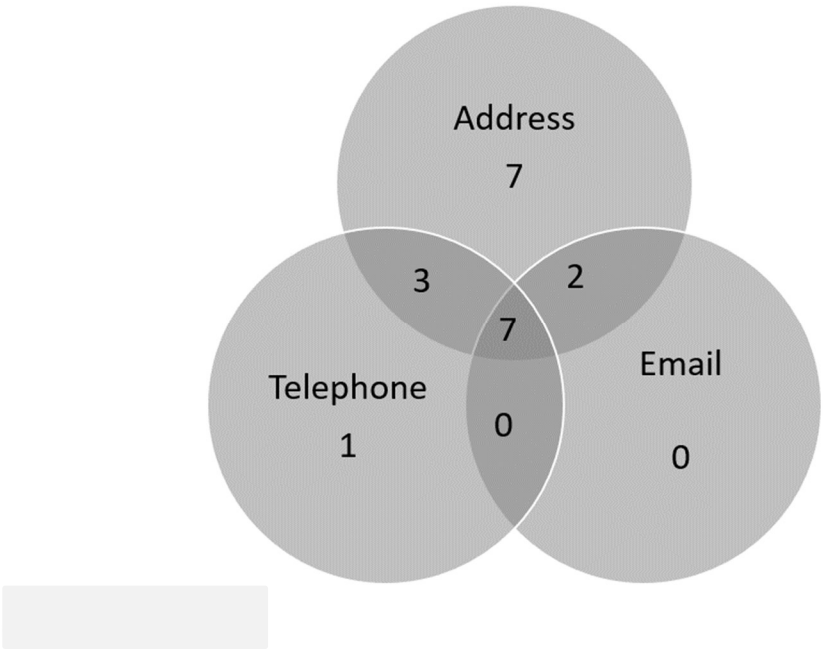
Table 10 compares the useable contact details we obtained within the IP13 survey, and those obtained for the 'within-interview group' using preliminary data from IP14. Figure 4 shows the breakdown of contact detail type (email, postal address or telephone) for those providing useable contact details (defined as a valid name and postal address; a valid name and email address; or a valid name and telephone number).

Table 10: Useable contact details obtained in IP13 and IP14

Contact details	IP13	IP14
N respondents with non-coresident partner asked in interview	186	127
Valid name[1]	55 (29%)	38 (30%)
Valid postal address[2]	36 (19%)	21 (17%)
Valid email address	28 (15%)	9 (7%)
Valid telephone number	28 (15%)	12 (9%)
Useable contact details[3]	38 (20%)	20 (16%)

Notes: [1]In IP14 this was defined as either a valid title and surname or valid first name/initial and surname. [2]Defined as at least the house number and postcode. [3]Defined as either a valid name and postal address, valid name and email address or valid name and telephone number.

Figure 4: IP14 contact details



Although the numbers are low, the results in both IP13 and IP14 (Table 10) suggest that participants are more likely to share their partner's postal address than email addresses or telephone numbers. Figure 4 presents the breakdown of the 20 participants providing contact details in IP14, and shows that asking for email address in addition to postal address did not yield any new respondents, and asking for telephone number only yielded one more. This provides important learning for future attempts to collect contact details. It also implies an extra stage to the contact process will be required as we will have to write to significant others to provide web links for the survey, rather than being able to email them a link that they can directly enter.

In IP14, by asking separately for title, forename and surname we were given useable names from 30% of the sample (5 invalid), compared with 29% of the sample (2 invalid) in IP13. We are unable to conclusively say whether this approach was more fruitful.

Table 11, below, shows the numbers of participants providing contact details at IP14, based on whether they had been asked before. The results show that the rate of providing contact details when asked for the first time remained relatively consistent (18%) with the level at IP13 (20%). Table 11 shows that 80% of those who provided useable contact details in IP14 had not been previously asked in IP13. Of those who were asked in both IP13 and IP14 only

10% chose to provide useable details when asked again and only one person providing this was in an ongoing relationship. This suggests repeated requests for contact details, even with amended wording, in itself does not yield many more contact details.

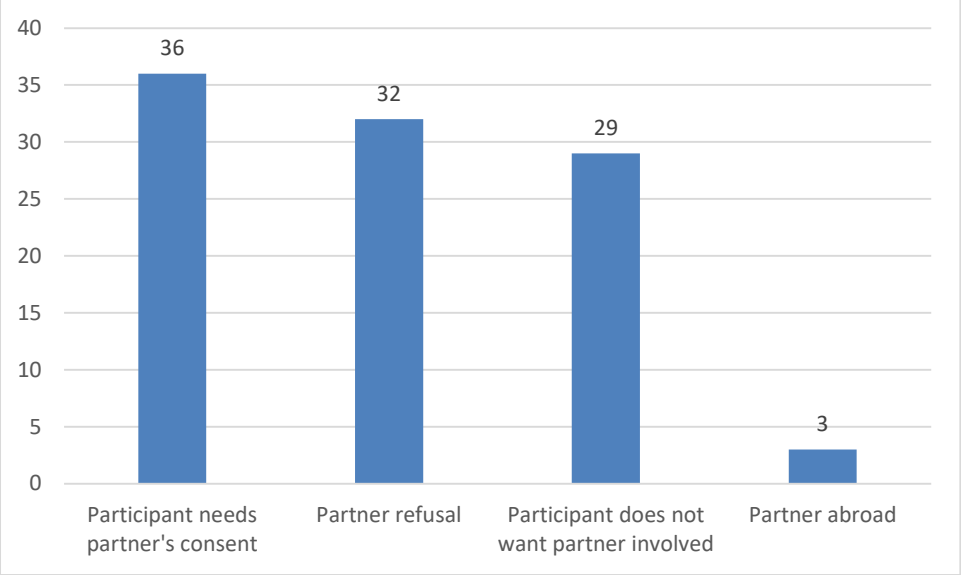
Table 11: Willingness to provide contact details in IP14 according to IP13 participation

	Useable details in IP14			No details in IP14			Total
	n	Row %	Col %	n	Row %	Col %	
Asked but did not provide details in IP13	4	10	20	36	90	34	40
Not asked in IP13[1]	16	18	80	71	82	66	87
Total	20			107			127

Notes: [1]Either not in a LAT relationship in IP13 (n=6) or not in wave 13 (n=10).

Our results from IP14 do not provide any evidence to suggest that the amended wording in IP14 improved the proportion of participants who gave us contact details, however any way in which we can make a request more informative to participants is welcome. Other studies have cognitively tested asking participants for contact details of a significant other and found that "the phrasing of the request, in particular, providing an explanation of why the details were being requested, was helpful in making the request relevant and acceptable, even amongst respondents who declined" (Goldman et al. 2019). Our IP14 wording makes explicit why we are requesting the details but could perhaps be improved further to mention that participation in the survey would involve an incentive, and emphasising the real world value of taking part more.

Figure 5: Reason given for refusing to provide contact details (%)



Data collected as to why contact details were not provided was very informative: Figure 4 shows that 32% said their partner did not want to be involved or wouldn't be interested, implying that they had discussed it with them. Just over half of those giving this reason had been asked previously for contact details in IP13 and so may have had opportunity to discuss this with their partner. Other research on consent about how respondents decide whether or not to consent within online surveys, showed there is scope to change decisions by providing more information or asking again at a later stage, or through a different mode (Jäckle et al. 2021). At IP14 we tried the first of these two approaches, improve the information provided and asked 12 months later, which did not lead to an increase in participants willingness to provide details. In the second part of this experiment, we will request details through a different mode; by letter or email, and it will be interesting to see if this works better both for those asked either for the first and second time.

Figure 5 also shows that 29% said they did not want their partner involved, which highlights participants' significant gatekeeping role in this type of research. Of this group, some participants further explained they thought it was too early in the relationship to do this, or they just did not want to at that time. Others questioned the relevancy or expressed worry that their partner would not appreciate them signing them up. If this reluctance is evident between those in an ongoing romantic relationship it provides important learning for our approach when asking for contact details of parents living apart in future surveys where

relationships may be sensitive, strained or even acrimonious. Perhaps more could be done to explain our rationale for wanting to include their partner in the study, and what it is we are asking of them. We could also emphasise that we collect similar information from cohabiting couples and explain the value of making non-cohabiting relationships more visible to policymakers, especially in light of the recent COVID-19 pandemic where these relationships were overlooked.

Interestingly, 36% indicated they would need their partner's consent before sharing their details, citing concerns about their privacy, and 3% did not share because their partner is living abroad, so they thought it unnecessary. These latter two groups leave scope for the Study team to follow up with these individuals to provide further information about the reason for the request and allow time for the participant to seek their partner's consent first and for them to consider opting in. This is being tested in group 2 (between-wave request), and it will be helpful to see whether the proportion providing details through this method yields more useable contact details.

For the 'between-wave group' limb of the experiment (group 2) we asked 96 sample members, either via email or letter, for their partner's contact details. Preliminary data shows that we received 1 set of contact details back via webform. This doesn't currently account for those who told us they are no longer in a relationship and further analysis will follow in due course. However, this does suggest that asking within survey is the better route to obtaining partner contact details.

Lessons and future work

Subsequent engagement with the Couples Living Apart Survey by partners whose contact details were obtained within survey and between surveys will provide important learning for which approach translates into actual participation, to inform the design for the main survey.

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4.5 Proxy nominations (Jonathan Burton)

As a longitudinal panel study, *Understanding Society* attempts to re-interview the same sample members each year. There are times when the sample member is not available to give an interview, but someone else might be willing and able to complete an interview on their behalf. These 'proxy' interviews collect basic information about the sample member, and so they are not as useful as a full individual interview, but are better than having no information at all. Some proxies are done for people within a household who do not want to do an interview themselves, but are happy for someone else to answer questions on their behalf. Some proxies are done because the sample member is not available, either because they are temporarily living or working elsewhere. There is also a set of circumstances where a sample member has moved out of the household and into an institution and they are no longer able to participate themselves.

We would like to increase the number of proxy interviews that we collect for those who move into an institution, such as a nursing home or care home. Although the survey aims to follow people when they move into an institution, there are additional obstacles compared to a residential move. Firstly, the sample members still living in the original household may be more reluctant to pass on the new contact details for someone who has moved into a care home, because they do not want to burden the sample member, or they may believe that the sample member is no longer mentally or physically capable of participating. If an address is given, it is usually harder to make contact with someone living in a care home, with additional gate-keepers that need to be negotiated before attempting to make contact with the sample member. Therefore, being able to collect proxy information about someone who has moved into an institution will be of great use to researchers, even if that sample member then also gives a full interview.

It may be easier to collect a proxy interview if we know who would be the most appropriate person to ask, and if we could tell them that we have permission from the sample member to ask the proxy interview. To begin to develop these best practices, we included a set of questions at IP14 asking the participant who would be the best placed person to answer this small set of questions if they were not able to be interviewed themselves. There were two versions of this initial consent question, and participants were randomly asked one as the

first part of the experiment. If they consented to nominate someone to answer questions on their behalf in the future, there were a number of follow-up questions collecting information about that person. These follow-up questions were based on the Stable Contacts module. This is the module where we ask for the contact details of someone who would know how we can contact the sample member if we lost contact with them. Given the nature of these questions, it made sense to have the Proxy Nomination module near the Stable Contacts module. However, there may be perceived overlap and/or repetition in these modules, and so the ordering of which is asked first may affect the responses to the other module. Therefore, the second part of the experiment rotates the order of the Stable Contacts and Proxy Nomination modules, where one comes first and the other follows immediately after.

The two versions of the Proxy Nomination question are below. The second version gives more information about the circumstances in which the proxy would be taken, the extra text is in red.

Question version 1:

> We would like to contact you again in the future. If we are unable to contact you personally next time, for example if you were away from home for an extended time or too ill, would you be prepared for us to collect information about your circumstances from a (spouse, /partner,) relative or a close friend? We would not give the person details of what you have said in previous interviews.

Question version 2:

> We would like to contact you again in the future. If we are unable to contact you personally next time, for example if you were away from home for an extended time or too ill, would you be prepared for us to collect information about your circumstances from a (spouse, /partner,) relative or a close friend? We would not intentionally approach someone if you were away on holiday or temporarily ill.
>
> We would only approach the person if you were away from home for an extended time or too ill. We would not give the person details of what you have said in previous interviews.

Overall, around half of participants gave consent for us to collect proxy information about them (49.6%). There was no statistically significant differences between the groups (Table 12). Combining the two question versions, there was also no difference in consent rates between those asked before the stable contacts module and those asked after (Table 13). Combining the placement of the question, there was no statistically significant difference in consent between version 1 and version 2 of the question (Table 14) although the second version appeared to do slightly better.

Table 12: Consent for proxy interview across experimental groups

	Early Version 1	Early Version 2	Late Version 1	Late Version 2	Total
Yes	357	386	355	399	1497
	47.7%	50.9%	48.4%	51.6%	49.6%
No	392	373	379	375	1519
	52.3%	49.1%	51.6%	48.5%	50.4%
Total	749	759	734	774	3016

Pearson chi2(3) = 3.2268 Pr = 0.358

Table 13: Consent for proxy interview – early versus late placement

	Early	Late	Total
Yes	743	754	1497
	49.3%	50.0%	49.6%
No	765	754	1519
	50.7%	50.0%	50.4%
Total	1508	1508	3016

Pearson chi2(1) = 0.1605 Pr = 0.689

Table 14: Consent for proxy interview – version 1 versus version 2 of the question

	Version 1	Version 2	Total
Yes	712	785	1497
	48.0%	51.2%	49.6%
No	771	748	1519
	52.0%	48.8%	50.4%
Total	1483	1533	3016

Pearson chi2(1) = 3.0800 Pr = 0.079

When we asked for the proxy nomination before the stable contact module, we did get a slightly higher proportion of respondents who then did not give the details of a stable contact: 40.7% did not give a stable contact when we asked the proxy nomination first, compared to 37.0% when the stable contact was asked first (p=0.036). There was no statistical difference in the proportion of participants who did not give a stable contact between those who got version 1 and version 2 of the proxy nomination question. This is quite a high proportion of people who did not give a stable contact. It should be noted that at IP14 there was a web-only boost sample, for whom this was their first interview. The proportion who did not give a stable contact in the boost sample was 66.4%, compared to just 29.3% in the longitudinal (non-boost) sample. For the boost sample a higher proportion did not give stable contact details when the proxy nomination module was asked first (67.2%) than when the stable contacts were asked first (60.7%). This difference was statistically significant (p=0.036).

We conclude that although the placement or wording of the request to nominate a proxy informant had no statistically significant effect on the proportion of participants who were willing to give us this information, if we asked this before the stable contact module, people were slightly less willing to then give us the contact details of a stable contact. We propose to ask for a nominated proxy on the main survey, using version 2 of the question and asking after the stable contact module.

5. Appendix for Experiment 4.4: Example e-mail sent to sample members requesting contact details of their partner

Help us with new research on couples relationships

No images? Click here

Understanding Society

Invite your partner to take part in our new Couples Living Apart Together survey

Personal Identification number:

Dear

Thank you for being part of Understanding Society. Your survey answers help us understand what real people think, feel and do. Understanding Society helps us see how society is changing over time and how family relationships are evolving.

In your last interview you told us about your relationship with a partner living in another household.

We recently invited you to take part in the Couples Living Apart Together survey and would like to invite your partner to take part too.

If your relationship has changed since your interview and you are no longer living apart from your partner, or are no longer in a relationship together, please let us know, providing your name and Personal Identification number which you will find at the top of this email, and we won't contact you again about this project.

How your partner can take part

Please discuss this special study with your partner. You can find information about this project on our website. You can also send them this leaflet, which has further information about the project and about Understanding Society, or forward them this email.

If your partner would like to take part, they can either give us their contact details by clicking the button below or, if you have discussed the survey with them, you can give us their contact details.

When you click on the button you will be asked to provide your Personal Identification number.

Partner contact details

By giving their contact details you are not committing your partner to take part. Taking part is entirely voluntary, though we very much hope everybody who has given us details about their relationship will complete the online survey so that our results give an accurate picture of people's experiences of living together.

The online survey will be sent to your partner in the next few weeks. It should take approximately 15-20 minutes to complete online. **As a 'thank you' for taking part in the living apart together survey we will send your partner a £5 gift card.**

Why are we interested in Living Apart Together relationships?

There are lots of stereotypes about couples living apart - that they are working professionals/students who live near their place of work/study and see their partner at weekends or less frequently. Or they are young couples who can't afford to get a place of their own or are still in the 'dating' stage of their relationship.

But research using Understanding Society has shown how diverse this group of people are and reveals how Living Apart Together makes it possible for some to have intimate relationships alongside other commitments and ties, like children from previous relationships or caring responsibilities. Some people choose to live apart, some have to because of their circumstances. Some see it as a step towards eventually living together, whereas other see it as a long-term committed relationship that works for them.

Taking part in research like this will help us understand who is living apart together, why and what their future intentions might be. Policies are often household focused and overlook those couples who live across different households. We hope that this new project will tells us more about Living Apart Together and help make these relationships more visible to policymakers.

Current research on Living Apart Together

Researcher Kelly Reeve outlines what research currently tells us about Living Apart Together relationships.

We hope that you will take part in this project

If you have any questions about the survey, or would like more information on our Living Apart Together work, please get in touch.

Contact us

With many thanks,

Professor Michaela Benzeval

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The Living Apart Together survey is managed in accordance with the Data Protection Act. The results of the study will be use for research purposes only. You can read the Privacy Notice for this study here.

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