

# **ESS Round 10**

Rotating module:  
Digital social contacts in work and family life

## **Module documentation – Pilot**

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### **Digital Social Contacts module development timetable**

<b>Meeting / Testing stage</b>	<b>Dates</b>
1st Question Module Design Team (QDT) meeting	24 September 2018
11th ESS ERIC National Coordinators (NC) Forum	20-21 November 2018
11 <sup>th</sup> ESS ERIC Scientific Advisory Board (SAB) meeting	21 January 2019
2nd QDT meeting	28 February 2019
12th ESS ERIC NC Forum	4-5 April 2019
<b>Pre-test (omnibus and cognitive interviews)</b>	<b>April-May 2019</b>
3rd QDT meeting	20 September 2019
<b>Pilot</b>	<b>October-December 2019</b>
13th ESS ERIC NC Forum	19-20 November 2019
4th QDT meeting	7 February 2020
Round 10 Questionnaire – COVID-19 Update	April 2020

## 1 Digital social contacts in work and family life

Digitalization has led to major changes in communication both in work and family life. On the one hand, great optimism exists regarding the implications of digital social contacts, e.g. via smartphone, for increased efficiency of communication and improved relationship quality due to new possibilities of contact. On the other hand, major concerns include a decline in family or workplace solidarity as well as greater distractions from family or work interactions and tasks. Rejecting any technological determinism which forecasts the same consequences from digitalization for all individuals in all countries, we suggest a rotating module for Round 10 of the ESS which 1) identifies different dimensions of digital social contact (frequency, content, costs and benefits involved) to allow for a broader understanding of digital phenomena, and 2) creates new possibilities from a European country-comparative perspective for multivariate analyses of the determinants of digital social contacts (e.g., social inequalities) and their consequences, especially for relationship quality, work-life balance, and well-being. We propose items on opportunities for access to digital communication (e.g., Internet access at home), the need for them (e.g., lower co-residence) and trust in digital social contact (e.g., privacy concerns), as complements to questions on workplace culture and available country information (e.g. on work related state policies) which are likely to shape individual agency to establish digital social contact in a way that it facilitates work-life balance and encourages relationship quality or well-being. We consider digital social contacts both in the family and at work.

## 1.1 DEFINITIONS

**Face-to-face contact in the family domain** refers to in-person communication with family members. We focus on communication with family members as we are interested in the expression of solidarity (support and appreciation), coordination of family activities, monitoring, as well as an “always-on-accessibility” in in this module. We consider major relationships in the family, namely parents and children, irrespectively of whether they are biological children or foster or adopted children.

**Digital social contact in the family domain** involves communication which is transmitted by electronic and especially computerized technology and which is not in person communication. We distinguish different types of digital communication taking into account whether the communication is flexible in location, whether it is synchronous communication, and how rich it the communication is when it is synchronous communication (visual vs. audio). Synchronous digital communication can be visual and audio communication at the same time (e.g. on a screen video chatting) or only audio communication which is flexible in location (e.g. on a mobile phone or smartphone) or not flexible in location (talking on a landline phone). For asynchronous communication we refer to contacting someone via text, email or messaging apps.

**Face-to-face contact in the work domain** refers to in-person communication at the workplace. We focus on communication with supervisors and co-workers as we are interested in the expression of solidarity (support and appreciation), coordination of work tasks, monitoring of job performance, work autonomy in time and place as well as an “always-on-accessibility” in in this module.

**Digital social contact in the work domain** involves communication which is transmitted by electronic and especially computerized technology and which is not in person communication. We distinguish different types of digital communication taking into account whether the communication is flexible in location, whether it is synchronous communication, and how rich it the communication is when it is synchronous communication (visual vs. audio). Synchronous digital communication can be visual and audio communication at the same time (e.g. on a screen video chatting) or only audio communication which is flexible in location (e.g. on a mobile phone or smartphone) or not flexible in location (talking on a landline phone). For asynchronous communication we refer to contacting someone via text, email or messaging apps.

## 1.2 GENERAL

### 1.2.1 Internet access

Internet access measures the location where the respondent has access to the Internet. Respondents can choose from a list of several locations and check all that apply. This measurement has been validated in prior research and only been slightly modified (Hargittai & Hsieh 2012).

*Expected relationship with other complex and simple concepts:*

Internet access indicates the opportunity of digital social contacts with work relations (supervisor, co-workers) and family relations (child, parent). Thus, we expect an association of internet access with digital social contact with the line manager, co-workers, child, and parent. Internet access might further be associated with internet skill and privacy concerns using digital technologies.

#### **Comments received from 3<sup>rd</sup> QDT Meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Amending the wording so that ‘If you wanted it’ is at the start of the question.
- Specifying which type of connection respondents should be thinking about with reference to home and workplace
- Reordering response categories so that ‘at some other place’ would be the last substantive option.
- Amending the first example for ‘at some other place’ to café rather than library, as it was felt this can be closer to the experience of a larger share of respondents.
- Adding a fifth category ‘None of the above’ for respondents who don’t have access from any of the listed locations. This should be programmed to behave differently from other categories (i.e. be single code rather than multi-code).

#### **Pilot – Items**

H1

#### **CARD 1**

If you wanted it, at which of the following locations would you have access to the Internet? Select all that apply

**PROMPT:** At which others?

**CODE ALL THAT APPLY**

Mixed [InternetAccess4 + DKREF]		
MIXED	Mixed [InternetAccess4 + DKREF]	
LIST	InternetAccess4	
	At home, using my home connection	1
	At my workplace, using its internet connection	2
	On the move <sup>1</sup> , using my mobile <sup>2</sup> connection	3
	At some other place (such as a café or a friend’s house) , using their internet connection	4

	None of the above	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

Translation notes:

<sup>1</sup> 'On the move' in the sense of when moving between different locations.

<sup>2</sup> 'Mobile' in the sense of any connection functioning on transportable devices, including but not limited to mobile phones.

### **Pilot – Results and comments**

#### Translation queries:

- Translators requested a rephrasing of the question to make it clearer for respondents, some took a while to understand the question is referring to possible locations with an internet connection.

#### Pilot testing:

- INR was very low for both countries.

#### Survey Quality Predictor scores (SQP):

- Measurement quality assessed as 'stable' compared to omnibus version.

#### Timings data:

- Mean time to complete H1 is significantly longer than the mean time for the module with a mean of 18.1 seconds (SD=9s).
- This could be explained by it being the first question about this topic.

#### Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.

#### CST recommendations:

- It was expected that 'some other place' would over selected.
- The response time judged as being too long.
- It was suggested that the question should be changed from hypothetical to being about the respondent's circumstances.
- It was also suggested that the question should ask directly about internet connections rather than asking about locations.

#### **Comments from 13<sup>th</sup> NC Forum (18/12/2019):**

- An NC noted that these answers are long, which may hinder the perception of this question. There is a risk that the respondent will not read the answers on the card carefully and will not select all the answers that apply to him. We suggest asking four separate questions with "Yes / No" options.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- The QDT is more interested in: Opportunity of access over actual access and location over type of connection.
- The following changes were therefore agreed: Drop types of connection and only include location to simplify response categories. Include an 'All of the above' category to aid interviewers. Ensure interviewers are briefed to prompt for more than one answer if only one is given.
- The decision to include an 'All of the above' category was reverted.

### **Round 10 – Items**

This concept was included in the final Round 10 module (item G1).

### 1.2.2 Familiarity with internet-related items

Internet skill provides information on the competence of the respondent to use computer and internet-related items which is also important for the opportunity to use digital contact with work and family relations. We suggest a validated measurement which lists different computer and Internet related items (Advanced settings, PDF) and asks how familiar the respondent is with these items (Hargittai & Hsieh 2012).

*Expected relationship with other complex and simple concepts:*

Internet skill indicates whether digital social contact is an available opportunity of contact with work relations (supervisor, co-workers) and family relations (child, parent) of the respondent. Thus, we expect an association of internet skill with digital social contact with the supervisor (supdsc), co-workers (cowdsc), child (chdsc) and parent (pardsc). Internet access might further be associated with internet access (internac) and privacy concerns using digital technologies (privcon).

### **Early development – Comments**

#### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Changing the concept name to 'Familiarity with (three) Internet-related items' to reflect the fact that these items may not fully explain such a broad concept.
- Adding 'if at all' to the question wording.
- Reordering items so that 'Preference settings' is the first item in the battery.
- Adding a split ballot experiment in the pilot using the alternative wording 'How would you rate your own level of skill with...' and the same indicators.
- It was also suggested that the QDT checks further in the pre-testing data whether respondents differentiate between these items, coding the number of times different answers are provided and confirming whether their response patterns can be explained theoretically.
- Amending one of the indicators to be less ambiguous ('PDF editing' instead of just 'PDF', which can be interpreted in several different ways).

### **Pilot – Items**

H2a

[EXPERIMENT x – SPLIT BALLOT DESIGN: We are going to ask questions about familiarity with Internet-related items using different wordings to randomly allocated subgroups within the sample. Create random split variable EXPx, which will NOT BE SHOWN to respondents. Each experimental group should include approximately 50% of respondents. This variable should be populated at the start of the interview.]

ASK IF EXP6 = 1

**CARD 50a**

How familiar, if at all, are you with the following computer and Internet-related items? Preference settings

Mixed [Familiar5 + DKREF]		
MIXED	Mixed [Familiar5 + DKREF]	
LIST	Familiar5	
	Not at all familiar	1
	Not very familiar	2
	Somewhat familiar	3
	Very familiar	4
	Completely familiar	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

**H3a**

[EXPERIMENT x – SPLIT BALLOT DESIGN: We are going to ask questions about familiarity with Internet-related items using different wordings to randomly allocated subgroups within the sample. Create random split variable EXPx, which will NOT BE SHOWN to respondents. Each experimental group should include approximately 50% of respondents. This variable should be populated at the start of the interview.]

ASK IF EXP6 = 1

**CARD 50a**

How familiar, if at all, are you with the following computer and Internet-related items? Advanced search

Mixed [Familiar5 + DKREF]		
MIXED	Mixed [Familiar5 + DKREF]	
LIST	Familiar5	
	Not at all familiar	1
	Not very familiar	2
	Somewhat familiar	3

	Very familiar	4
	Completely familiar	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

#### H4a

[EXPERIMENT x – SPLIT BALLOT DESIGN: We are going to ask questions about familiarity with Internet-related items using different wordings to randomly allocated subgroups within the sample. Create random split variable EXPx, which will NOT BE SHOWN to respondents. Each experimental group should include approximately 50% of respondents. This variable should be populated at the start of the interview.]

ASK IF EXP6 = 1

#### CARD 50a

How familiar, if at all, are you with the following computer and Internet-related items? PDF

	Mixed [Familiar5 + DKREF]	
MIXED	Mixed [Familiar5 + DKREF]	
LIST	Familiar5	
	Not at all familiar	1
	Not very familiar	2
	Somewhat familiar	3
	Very familiar	4
	Completely familiar	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

#### H2b

[EXPERIMENT x – SPLIT BALLOT DESIGN: We are going to ask questions about familiarity with Internet-related items using different wordings to randomly allocated subgroups within the sample. Create random split variable EXPx, which will NOT BE SHOWN to respondents. Each experimental group should include approximately 50% of respondents. This variable should be populated at the start of the interview.]

ASK IF EXP6 = 2

#### CARD 50b

How skilled, if at all, are you at... **READ OUT**...changing preference settings?

Mixed [Familiar5 + DKREF]		
MIXED	Mixed [Familiar5 + DKREF]	
LIST	Familiar5	
	Not at all skilled	1
	Not very skilled	2
	Somewhat skilled	3
	Very skilled	4
	Completely skilled	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

### H3b

[EXPERIMENT x – SPLIT BALLOT DESIGN: We are going to ask questions about familiarity with Internet-related items using different wordings to randomly allocated subgroups within the sample. Create random split variable EXPx, which will NOT BE SHOWN to respondents. Each experimental group should include approximately 50% of respondents. This variable should be populated at the start of the interview.]

ASK IF EXP6 = 2

### CARD 50b

How skilled, if at all, are you at... **READ OUT**...performing an advanced search?

Mixed [Familiar5 + DKREF]		
MIXED	Mixed [Familiar5 + DKREF]	
LIST	Familiar5	
	Not at all skilled	1
	Not very skilled	2
	Somewhat skilled	3
	Very skilled	4
	Completely skilled	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

## H4b

[EXPERIMENT x – SPLIT BALLOT DESIGN: We are going to ask questions about familiarity with Internet-related items using different wordings to randomly allocated subgroups within the sample. Create random split variable EXPx, which will NOT BE SHOWN to respondents. Each experimental group should include approximately 50% of respondents. This variable should be populated at the start of the interview.]

ASK IF EXP6 = 2

### CARD 50b

How skilled, if at all, are you at... **READ OUT**...editing a PDF?

Mixed [Familiar5 + DKREF]		
MIXED	Mixed [Familiar5 + DKREF]	
LIST	Familiar5	
	Not at all skilled	1
	Not very skilled	2
	Somewhat skilled	3
	Very skilled	4
	Completely skilled	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

### Pilot – Results and comments

#### Translation queries:

- For some target languages or countries, it may be better to explain, that is, to add an example, on what ‘preference settings’ refer to.
- Some question as to what is meant by ‘advance search.’

#### Survey quality predictor:

- Measurement quality assessed as 'stable' compared to omnibus version (familiarity).

#### Timings data:

- Timings data was only available for the grouped items H2-4 for both the ‘a’ variants and the ‘b’ variants.
- Austria - Items labelled with ‘a’ (mean=22.4, SD=12.4) took considerably less time than items labelled with ‘b’ (mean=28.5, SD=16.4). Although ‘a’ items took less time, the correlation with

the age of the respondent is not significant. Whereas, for items labelled as 'b', there is a significant correlation with age (~0.1), older respondents took longer to answer.

- UK - Items labelled with 'a' (mean= 12.3, SD=14.5) did not show statistical different times that items labelled with 'b' (mean=10.5, SD=13.5). This result is different from Austria, where items labelled with 'b' took significantly longer.
- A second difference is that items in GB took considerably less time than in AT in a ratio close to 2:1.

#### Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.
- Skill version and familiarity version of digital skill are differently gendered.
- Factor analysis and Cronbach's' alpha not always satisfactory.

#### Interviewer feedback:

UK: -

- No notable difference between the two versions tested - feel that either is acceptable depending on the information required. Some requests for clarification about the computer related items asked about.
- Most respondents said it was easy to choose an answer for both versions. Range of responses to what is understood by a PDF/editing a PDF (mostly not that detailed) but most suggest some knowledge. Some just say 'a file' or 'a folder'.

Austria: -

- Older respondents often do not know what a pdf is (H4a/b) and generally are not very familiar with the different technical terms. No difference observed between the two versions.
- Some comments from interviewer debrief that respondents sometimes asked interviewers for clarification on these items.

#### CST recommendations:

- It was noted that results were similar between the two methods and since a conclusion cannot be drawn about which is better the questionnaire design team should decide based on their preference

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC noted that the question on skills could cause bias due to social desirability. It could be a solution to rephrase the question and ask how often people use certain technologies instead of asking about how skilled or familiar they are with them at the moment. The QDT replied that, in the literature, use of internet is perceived as a proxy for skills. However, there are good reasons for not using it because it does not reflect the actual skill. It was pointed out that the scale could help capture the nuances in skill level.
- An NC said that it is an experimental form of a question based on 2 (not 3 or more) alternatives, the rule of one difference should be kept. Now there are at least two differences – using familiar/skilled verb, which is fine and cutting of the question itself which finds expression in the missing part of a question “with the following computer and Internet-related items”. In a case of observing a difference in answers who will judge if it comes from changing verb or

cutting the whole sentence? It would be fine if the experiment would involve comparing three forms of changes resulting in triple-sample-design, but not split-sample.

- The term "Preference settings" was noted to not be clear to all respondents. The respondent may use "Preference settings" in practice but not recognize this term. The respondent can deal with "Preference settings" of one software and not another.
- An NC noted that editing and being familiar with PDF are completely different things, apart from that editing involves having access to the paid soft. Incomparability is related in this case not with switching from familiarity to the level of being skilled which is a base of split-sample-design experiment but with change of activity. To measure it at least triple-sample experiment is needed.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- The QDT confirmed that they would prefer to use the 'familiarity' items. The number of items will be 3.
- The QDT needs to discuss internally regarding the selection of items - doubts were flagged with 'Advanced search' and 'Preference settings'.
- After the meeting, no changes were made to the selected items.

#### **Round 10 – Items**

This concept was included in the final Round 10 module (items G2, G3, and G4).

### 1.2.3 General perceptions of digital technologies

We aim to measure general perceptions of digital communication in general referring to mobile and online communication. It gives an indication of digital optimism and scepticism which can also be used as an aggregated measure to indicate digital scepticism and optimism in the different ESS countries. It resembles the questions on contents of contact but also includes a question on privacy concerns instead of a question on monitoring which we thought was more important in this case.

The next few questions are about online and mobile communication. This refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.

#### **Early development – Comments**

##### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Shortening the introduction by dropping 'possible consequences of'.
- Retaining 'online and mobile communication' rather than splitting the two dimensions. Also retaining the explanation of what this expression refers to, as this is the first instance where respondents are presented with it.
- Splitting some items from the question battery (G9, G13, Gxx, Gxx) as they are less closely related to each other. Also amend the wording of G13, Gxx to clarify the judgment that respondents are expected to make.
- Not annotating 'online', as a definition is already given in the following sentence and countries that can translate this word in more than one way can receive ad hoc guidance.

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- Agreed to convert H5 to H11 to an 11-point scale from ‘Not at all’ to ‘Completely’

*1.2.3.1 Accessibility and disturbance*

This measurement indicates whether respondents think that online and mobile communication means that work and personal life interrupt one another too often.

**Pilot – Items**

**H6**

**CARD 51**

To what extent do you agree or disagree with each of the following statements? Online and mobile communication...makes work and personal life interrupt each other too often.

Mixed [AgreeDisagree + DKREF]		
MIXED	Mixed [AgreeDisagree + DKREF]	
LIST	AgreeDisagree	
	Agree strongly	1
	Agree	2
	Neither agree not disagree	3
	Disagree	4
	Disagree strongly	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

**Results and comments received from pilot analyses:**

Pilot testing:

- INR was Below 7%.

UK: -

- Majority of respondents agree with all statements, with low levels of disagreement.
- Midpoint used by between 1 in 10 and 2 in 10.

Austria: -

- More than half agree with the item.
- As in UK, low levels of disagreement.
- Quite high proportion at midpoint (24%).

Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.

- Factor analysis and Cronbach's' alpha not always satisfactory.

CST recommendations:

- It was suggested that 11-pont scales should be used ranging from 'not at all' to 'completely.'
- It was also suggested the items should be formulated as questions not statements.

**Round 10 – Items**

This concept was included in the final Round 10 module (item G6).

*1.2.3.2 Coordination*

This measurement indicates whether respondents think that online and mobile communication makes it easier for people to coordinate and manage their activities.

**Pilot – Items**

H7

**CARD 51**

To what extent do you agree or disagree with each of the following statements? Online and mobile communication...makes it easy for people to coordinate and manage their activities.

Mixed [AgreeDisagree + DKREF]		
MIXED	Mixed [AgreeDisagree + DKREF]	
LIST	AgreeDisagree	
	Agree strongly	1
	Agree	2
	Neither agree not disagree	3
	Disagree	4
	Disagree strongly	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

**Pilot – Results and comments**

Translation queries:

- It was pointed out that "for people" was unnecessary and could be deleted.

Pilot testing:

- INR was Below 7%.

UK: -

- Majority of respondents agree with the statement, with H7 possessing the highest level of agreement (86%).
- Midpoint used by between 1 in 10 and 2 in 10.

Austria: -

- More than half of the respondents agree with the statment, with H7 possessing the highest level of agreement (84%).
- As in UK, low levels of disagreement.

Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.
- Factor analysis and Cronbach’s’ alpha not always satisfactory.

CST recommendations:

- It was suggested that 11-pont scales should be used ranging from ‘not at all’ to ‘completely.’
- It was also suggested the item should be formulated as a question not a statement.

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to drop “for people”.

**Round 10 – Items**

This concept was included in the final Round 10 module (item G7).

*1.2.3.3 Misinformation*

This measurement indicates whether respondents think that online and mobile communication exposes people to misinformation.

**Pre-test – Items**

H9

**CARD 51**

To what extent do you agree or disagree with each of the following statements? Online and mobile communication ...exposes people to misinformation.

Mixed [AgreeDisagree + DKREF]		
MIXED	Mixed [AgreeDisagree + DKREF]	
LIST	AgreeDisagree	
	Agree strongly	1
	Agree	2
	Neither agree not disagree	3
	Disagree	4
	Disagree strongly	5

MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

## Pre-test – Results and comments

### Pilot testing:

- INR is 7% .

UK: -

- Majority of respondents agree with the statement (83%), with low levels of disagreement.
- Midpoint used by between 1 in 10 and 2 in 10 .

Austria: -

- 84% of respondents agreed with the statement.
- As in UK, low levels of disagreement.

### Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.
- Factor analysis and Cronbach's' alpha not always satisfactory.

### CST recommendations:

- It was suggested that 11-pont scales should be used ranging from 'not at all' to 'completely.'
- It was also suggested the items should be formulated as questions not statements.

## Round 10 – Items

This concept was included in the final Round 10 module (item G9).

### *1.2.3.4 Overall appreciation of digital social contact in comparison to face-to-face contact*

This concept aims to provide a general evaluation of digital social contact in comparison to face-to-face contact. We ask to what extent do you agree or disagree with the following statement? There is too much reliance on online and mobile communication over face-to-face contact these days.

## Pre-test – Items

H11

### CARD 53

To what extent do you agree or disagree with the following statement? There is too much reliance on online and mobile communication over face-to-face contact these days.

Mixed [AgreeDisagree + DKREF]	
MIXED	Mixed [AgreeDisagree + DKREF]
LIST	AgreeDisagree

	Agree strongly	1
	Agree	2
	Neither agree nor disagree	3
	Disagree	4
	Disagree strongly	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

## **Pilot – Results and comments**

### Translation queries:

- Using ‘people rely’ instead of ‘there is ...’ would be a grammatical form easier to translate.

### Pilot testing:

- Followed trends of other items in section, vast majority (>75%) in both countries chose ‘agree strongly’ or ‘agree’.
- Low INR in both countries.
- INR is below 7%.

### UK: -

- Midpoint used by between 1 in 10 and 2 in 10.

### Austria: -

- As in UK, low levels of disagreement.

### Timings data:

- H10 and H11 took significantly longer in the UK than the mean time for an item in the module.
- It was recommended that H11 were revised to bring down this time.

### Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.
- Factor analysis and Cronbach’s’ alpha not always satisfactory.

### CST recommendations:

- It was suggested that 11-point scales should be used ranging from ‘not at all’ to ‘completely.’
- It was also suggested the items should be formulated as questions not statements.
- It was recommended to drop H11 due to doubts about quality and measurement aims.

### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC suggested formulating these questions in a personalised way (‘people/you rely on...’ instead of ‘there is reliance on...’).
- AN NC said that they do not see this question having any use for analyses and is unsure what it is supposed to measure. They also supported the idea that the measurement is not really clear.

they thought that the symmetry of contacts (equally, unilateral respect) should be measured. The QDT replied that there is the general question about solidarity. Obviously it is not as detailed as the NC suggested, but it still measures the quality of relationship. However, if there is more room for additional questions, the QDT will consider it.

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- There were comments that H11 should be dropped from the module.

**Round 10 – Items**

This concept was not included in the final Round 10 module.

*1.2.3.5 Privacy concerns*

We consider privacy concerns in using Internet and mobile phones. The chosen measurement on privacy concern is related to a study of the Oxford Internet Institute (2007) asking whether people agree or disagree with the statement that people who use the Internet and mobile phones put their privacy at risk: The measurement has also been used in the study of Eynon & Helsper (2011).

*Expected relationship with other complex and simple concepts:*

Privacy concerns indicate the trust in digital social contact and thus are likely to shape the frequency of digital social contacts with work relations and family relations (child, parent). We further expect an association with internet access (internac) and internet skill (intsk).

**Pilot – Items**

**H8**

**CARD 51**

To what extent do you agree or disagree with each of the following statements? Online and mobile communication...undermines personal privacy.

Mixed [AgreeDisagree + DKREF]		
MIXED	Mixed [AgreeDisagree + DKREF]	
LIST	AgreeDisagree	
	Agree strongly	1
	Agree	2
	Neither agree not disagree	3
	Disagree	4
	Disagree strongly	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

**Pilot – Results and comments**

#### Translation queries:

- There was a concern that ‘undermines’ may lead to some problematic translations.
- There was a concern that in Russian ‘personal privacy’ is a legal concept and a better translation would equate more to ‘personal life’ in English.

#### Pilot testing:

- INR is below 7% .

#### UK:-

- Majority of respondents agree with the statement.
- Low levels of disagreement, however the highest of 16% was for this item.
- Midpoint used by between 1 in 10 and 2 in 10 , with this item possessing the highest number of respondents who chose the mid-point (21%).

#### Austria:-

- More than half of the respondents agree with the statement.
- Quite high proportion at midpoint for the item (26%), similar to the UK.

#### Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.
- Factor analysis and Cronbach’s’ alpha not always satisfactory.

#### CST recommendations:

- It was suggested that 11-point scales should be used ranging from ‘not at all’ to ‘completely.’

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- There was a recommendation from an NC to say “...threatens personal privacy” instead of “undermines personal privacy”. The general problem is rather the threat of loss of privacy than the process of losing it.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested that there is a possible translation issue with ‘privacy’, and a translation annotation should be included.

#### **Round 10 – Items**

This concept was included in the final Round 10 module (item G8).

#### *1.2.3.6 Solidarity*

We aim to measure whether respondents perceive that online and mobile communication makes people feel closer to one another indicating digital optimism.

#### **Pilot – Items**

H5

CARD 4

To what extent do you agree or disagree with each of the following statements? Online and mobile communication...makes people feel closer<sup>3</sup> to one another.

Mixed [AgreeDisagree + DKREF]		
MIXED	Mixed [AgreeDisagree + DKREF]	
LIST	AgreeDisagree	
	Agree strongly	1
	Agree	2
	Neither agree not disagree	3
	Disagree	4
	Disagree strongly	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

Translation notes:

<sup>3</sup> 'Closer' in the sense of emotional rather than physical proximity.

### **Pilot – Results and comments**

Translation queries:

- A footnote clarifying that 'feeling/sentiment' is not referring to a false feeling will be helpful for some languages.

Pilot testing:

- INR is below 7%.

UK:-

- Majority of respondents agree with the statement.
- Low levels of disagreement, with this item possessing the highest level of disagreement (16%).
- Midpoint used by between 1 in 10 and 2 in 10, with this item possessing the highest number of respondents who selected the midpoint (19%).

Austria:-

- Much lower agreement in Austria with H5 - 40% in Austria vs. 65% in UK. This could have possibly been due to translation issues.
- There were low levels of disagreement, however this item produced the largest number of disagreements out of all items for the concept (27%).
- Quite high proportion at midpoint (33%).

Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.
- Factor analysis and Cronbach's' alpha not always satisfactory.

CST recommendations:

- It was suggested that 11-point scales should be used ranging from ‘not at all’ to ‘completely.’

**Round 10 – Items**

This concept was included in the final Round 10 module (item G5).

*1.2.3.7 Technical problems*

Technical problems can be an experience while using digital social context. Rather than measuring this as a perception this is now a separate question indicating: How often is online and mobile communication more limited than face-to-face contact because of technical problems?

**H10**

**CARD 52**

How often is online and mobile communication more limited than face-to-face contact because of technical problems?

Mixed [Frequency4 + DKREF]		
MIXED	Mixed [Frequency4 + DKREF]	
LIST	Frequency4	
	Always	1
	Often	2
	Sometimes	3
	Rarely	4
	Never	5
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

**Pilot – Results and comments**

Translation queries:

- It was pointed out ‘face-to-face contact’ does not have a straightforward translation into some languages, if an alternative such as ‘personal contact’ was used it should have and explanatory footnote explaining that the contact is in person and not, for example, including a phone call.

Pilot testing:

- High INR - 10% in UK and 8% in Austria. Question may be cognitively challenging, possible surrounding phrase ‘more limited.’ Also noted to have a different response format to the others in the section.
- In the UK just over half (52%) selected middle option (‘sometimes’). Slightly more likely to say rarely/never (27%) than always/often (21%).

- In Austria, respondents far more likely to say rarely/never (57%) than always/often (6%); 37% said sometimes - much more positive about online/mobile communication in this sense than UK respondents.

#### Timings data:

- H10 and H11 took significantly longer in the UK than the mean time for an item in the module.
- It was recommended that these items were revised to bring down this time.

#### Substantive analyses:

- Overall, the descriptive and correlations show the assumed associations from the theoretical model in the module description.
- Factor analysis and Cronbach's' alpha not always satisfactory.

#### CST recommendations:

- It was suggested that 11-point scales should be used ranging from 'not at all' to 'completely.'
- It was recommended to drop H10 and H11 due to doubts about quality and measurement aims

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC noted that there is an issue more related to the infrastructure condition, which depends on country's development level, than limitations of the way of communication itself, which makes this question a proxy to measuring differences in technology carriers than technology itself (1). The second problem is that the only one true answer to this question is "always" as in general there are no technical problems with communication F2F, until we do not assume that e.g. not coming to the F2F meeting due to the broken car is a technical problem (2). Moreover, it is not clear if it is about the respondent's personal experience with online and mobile communication, or the question is about a general assessment of the problems that may arise during online and mobile communication.
- An NC suggested that it would be valuable to add additional information about how to translate the 'technical problems'. The QDT replied that technical problems mostly include connection problems, such as breaking off during conversations.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020)**

- It was suggested that this item be included in the same format as the H5 to H9 battery – i.e. 'To what extent is online and mobile communication affected by technical problems?' (consider wording of 'disturbed?').

#### **Round 10 – Items**

This concept was not included in the final Round 10 module.

## 1.3 FAMILY

### 1.3.1 Child

#### *1.3.1.1 Child Identifier*

This question is used to identify whether the respondent has a child 12 years or older. This question

is necessary as a filter because questions on digital social contact with children will only be asked to respondents with a child 12 years or older where digital social contact is more likely to occur on a regular basis in contrast to younger ages. We now not only ask whether the respondent has a child 12 or older but also how many to be better able to control for the number of children. To realize a random pick of the child we refer to the one who had his or her birthday most recently

### Early development – Comments

#### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

- It was agreed to address the comment from the wider CST about collecting information on the total number of children aged 12 or over in the family to be able to correct for this. The question wording was amended to collect this number rather than just whether or not the respondent has children aged 12 or over.

### Pilot – Items

#### H12

How many children aged 12 or over do you have, if any? Please include any grown-up children.

**INTERVIEWER:** Children includes any of the respondent’s children, step-children, adopted children, foster children or a partner’s children.

Mixed [NumberChildren + DKREF]		
MIXED	Mixed [NumberChildren + DKREF]	
NUMERIC	NumberChildren	
	TYPE IN	
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

This concept was piloted as a item for routing, without intention to analyse it independently.

#### Comments from 4<sup>th</sup> QDT meeting (07/02/2020):

- It was suggested to delete ‘if any’.
- The CST noted that the interviewer note should be dropped to reduce the likelihood of contact being influenced by (unmeasured) relationship type rather than by measured characteristics.

### Round 10 – Items

This concept was included in the final Round 10 module (item G10).

#### 1.3.1.2 Gender

This concept measures the gender of the previously identified child if it does not live in the household. Demographics of family members not in the same household were asked in the rotating module of the ESS 2004. If parents report that the child lives in the same household, no question on gender of the

child is required. Information on gender and birthdate of others in the household as well as their relation to the respondent are already part of the core module. If the respondents provide the answer category other the first letter of the child is asked for to be better able to ask about this child in the following questions.

*Expected relationship with other complex and simple concepts:*

The gender of the child is likely to impact the frequency of face-to-face with the child (chftf) and digital social contact (chdsc) as previous research indicates that especially women are more likely to sustain family relationships.

**Early development – Comments**

**Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

- It was agreed to amend the wording to avoid a specific reference to ‘sex’ or ‘gender’ and to use a showcard.
- If the respondent selects ‘other’ (rare in the pre-test), it was agreed to add a new question collecting the initial of this child to be fed into the following questions.
- It was agreed to add a country- specific interviewer note for countries where the following questions will use words with a grammatical gender to refer to the respondent’s child.

**Pilot – Items**

**H13**

ASK IF RESPONDENT HAS 2 OR MORE CHILDREN AGED 12 OR OVER AT H12 (IF H12 > 0)

Now please think of your son or daughter<sup>4</sup> aged 12 or over who had his or her birthday most recently.

**INTERVIEWER:** Son or daughter includes the respondent’s children, step-children, adopted children, foster children or a partner’s children. If the respondent has more than one son or daughter with the same birthday, ask for the son or daughter whose name comes first alphabetically.

**CARD 54**

Which of these best describes this child<sup>5</sup>?

Mixed [Sex2 + DKREF]		
MIXED	Mixed [Sex2 + DKREF]	
LIST	Sex2	
	Male	1
	Female	2
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

Translation notes:

<sup>4</sup> ‘Son or daughter’ can be translated as ‘child’ if this term does not imply young age.

<sup>5</sup> ‘Child’ in the sense of a son or daughter of any age.

### **Pilot – Results and comments**

This concept was piloted as a item for routing, without intention to analyse it independently.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- There was a recommendation by an NC to change ‘What best describes?’ with ‘What is the gender of this child?’.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to update the wording to reflect sex question and remove ‘other’ option.
- It was noted that if there was a refusal, the full wording should be used for following questions; and if there was a don’t know answer the next section should be skipped.
- It was suggested to drop the interviewer notes about children other than respondent's biological ones.

### **Round 10 – Items**

This concept was included in the final Round 10 module (item G11a).

#### *1.3.1.3 Birth date*

For parent questions about the face-to-face contact and digital social contact with their children, we randomly pick one child by referring to the child who had his or her birthday most recently. This concept measures the birth date of this child. This allows identifying the child in the general relationship question in the ESS if it lives in the same household. Moreover, it allows calculating the age of the child which is likely to impact the frequency of contact. For the questions on digital and face-to-face contact we however only consider children with a minimum age of 12 years (beginning of secondary school).

#### *Expected relationship with other complex and simple concept:*

We expect that the birth date of the child is an important predictor of the frequency of digital social contact (chdsc) and face-to-face contact (chftfc) as well as of the experiences with digital social contact. Younger children are more likely to live in the same household decreasing the need to exchange family solidarity in a digital way. However, parents of younger children are also more likely to feel major need to monitor what their children are doing increasing the likelihood that digital social contact is used for monitoring.

### **Pilot – Items**

#### **H15**

ASK IF RESPONDENT HAS 1 OR MORE CHILDREN AGED 12 OR OVER AT H12 (IF H12 > 0)

In what year was {he/she/[initial]} born?

**INTERVIEWER:** If respondent doesn’t know or refused to specify the child’s sex, read this question in full. This applies to all questions about that child in this module.

Mixed [Age + DKREF]

MIXED	Mixed [Age + DKREF]	
NUMERIC	Age	
	TYPE IN	
MISSING_GROUP	DKREF	
	Refusal	777
	Don't Know	888

### Pilot – Results and comments

This concept was piloted as a item for routing, without intention to analyse it independently.

### Comments from 4<sup>th</sup> QDT meeting (07/02/2020):

- It was agreed to switch to age rather than year of birth for simplify reporting.
- It was also agreed to add an interviewer instruction to ‘accept the respondent’s estimate if they cannot provide an exact age.’

### Round 10 – Items

This concept was included in the final Round 10 module (item G12).

#### 1.3.1.4 Lives in household

This concept measures whether the previously identified child lives in the household. If parents report that the child lives in the same household, no question on gender of the child is required. Information on gender and birthdate of others in the household as well as their relation to the respondent are already part of the core module. Identifying the survey child is possible via the core roster birthdate. Also, the question on face-to-face contact can be skipped, assuming that parents and children who live together see each other daily.

#### *Expected relationship with other complex and simple concept:*

We expect an association of child lives in Household with the frequency of digital social contact with the child (chdsc) and experiences with digital social contact with family members (expdisoncf). Whether the child lives in the household is likely to lower the need for digital social contact with the child and the need to exchange solidarity to monitor the child in a digital way.

### Pilot – Items

#### H16

Does {he/she/[initial]} live in the same household as you?

	Mixed [YesNo + DKREF]	
MIXED	Mixed [YesNo + DKREF]	
LIST	YesNo	
	Yes	1

	No	2
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

### Pilot – Results and comments

This concept was piloted as a demographic item, without intention to analyse it independently.

#### Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):

- An NC recommended to use: “does [he/she/{initial}] live with you in the same household” instead of “does [he/she/{initial}] live in the same household as you”, to reduce the likelihood of confusion due to differences in defining household (regardless of the formal definition).

#### Comments from 4<sup>th</sup> QDT meeting (07/02/2020):

- It was agreed to add an interviewer instruction: ‘If respondent says ‘Sometimes’, code as ‘Yes’

### Round 10 – Items

- This concept was included in the final Round 10 module (item G13).

#### 1.3.1.5 Relationship quality

Assessments of relationship quality in the family domain have a long tradition (e.g. see Roeters et al 2010; Rogers and White 1998). This concept asks how close the respondent feels to the identified child. It is an established measure of the Longitudinal Study of Generations, 1971, 1985, 1988, 1991, 1994, 1997, 2000, 2005 [California]. Following attachment theory (Hill 1988) and self-expansion theory (Ickes & Duck 2000), the amount of time spent together raises mutual understanding and mutual commitment fostering relationship quality. Research findings confirm that the time spent with family members is key in explaining relationship quality in parent-child relationships (e.g. Hochschild, 1997; Huston et al. 2005; Roeters et al. 2010). Technology use for parent-child interactions can increase intimacy and feelings of closeness because users are less inhibited in their communications, have more frequent interaction allowing for specific knowledge of daily activities, and tend to more self-disclosure in new forms of communication fostering relationship quality (Hertlein 2012). Whether digital social contact can replace face-to-face contact however have been questioned. Face-to-face contact, are necessary for hands-on help and include all communication dimensions important to establish relationship quality (Hertlein 2012, Jamieson 2013). Also media richness theory suggests that the media use for communication with low richness could involve greater risks of misinterpretation (Drfat & Lengel 1986). Frequent initiatives of digital social contact by parents could further be perceived as monitoring or disturbance of other activities negatively impacting relationship quality (Devitt & Roker, 2009). Digital social contact might further only be used for coordinating each other’s lives with little influence on relationship quality.

*Expected relationship with other complex and simple concepts:*

We expect that face-to-face contact and digital social contact with the child (chftfc, chdsc) as well as the experiences with digital social contacts with family relations are important predictors of relationship quality.

### Pilot – Items

#### H17

#### CARD 55

Taking everything into consideration, how close<sup>6</sup> do you feel to {him/her/[initial]}?

Mixed [Close5 + DKREF]		
MIXED	Mixed [Close5 + DKREF]	
LIST	Close5	
	Very close	1
	Quite close	2
	Not very close	3
	Not at all close	4
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

Translation notes:

<sup>6</sup>'Close' in the sense of emotional rather than physical proximity.

### Pilot – Results and comments

This concept was piloted without intention to analyse it independently.

#### Comments from 4<sup>th</sup> QDT meeting (07/02/2020)

- The QDT needed to confirm whether to (a) stick with current scale, (b) switch to 11-point scale with 'not at all close' and 'extremely close' as end points, or (c) add a fifth point with 'Extremely close'.
- It was decided to use a 5-point scale, adding 'Extremely close' as the end point.

### Round 10 – Items

This concept was included in the final Round 10 module (item G14).

#### 1.3.1.6 Distance

If the previously identified child does not live in the household, this concept measures the physical distance in travel time.

*Expected relationship with other complex and simple concept:*

The physical distance between parent and child contributes to identifying the need for digital social contact and the need to exchange solidarity in a digital way. Following from this, it is a major predictor

of the frequency of digital social contact (chdsc) and face-to-face contact (chftfc) as well as of the experiences with digital social contact (expdiconf).

### Early development – Comments

#### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

The following changes were agreed by CST and QDT:

- It was agreed to make all verbs hypothetical, to avoid any assumption about whether or not the respondent travels at all.

### Pilot – Items

#### H18

ASK IF NO AT H16 (IF H16 = 2)

About how long would it take you to get to where {he/she/[initial]} lives, on average? Think of the way you would travel and of the time it would take door to door.

Please give your answer in hours and minutes.

Mixed [HoursMinutes + DKREF]		
MIXED	Mixed [HoursMinutes + DKREF]	
DATETIME	HoursMinutes	
	TYPE IN	
MISSING_GROUP	DKREF	
	Refusal	7777
	Don't Know	8888

### Pilot – Results and comments

This concept was piloted without intention to analyse it independently.

### Round 10 – Items

This concept was included in the final Round 10 module (item G15).

#### 1.3.1.7 Solidarity with child

This concept aims to provide information on overall exchange of solidarity (support and appreciation) with the child. We refer to " If needed, how likely would you and this child be to give help or advice to one another? "

### Pilot – Items

#### H19

ASK IF RESPONDENT HAS 1 OR MORE CHILDREN AGED 12 OR OVER AT H12 (IF H12 > 0)

## CARD 56

How likely would you and {him/her/[initial]} be to give help or advice to one another, if needed?

Mixed [VeryLikely4 + DKREF]		
MIXED	Mixed [VeryLikely4 + DKREF]	
LIST	VeryLikely4	
	Very likely	1
	Likely	2
	Not very likely	3
	Not at all likely	4
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

### **Pilot – Results and comments**

#### Pilot testing:

- Similar results for both countries. Most say they would be very likely to exchange help/advice (75% UK, 59% Austria) and vast majority (both countries - over 90%) likely overall.
- Low INR for both countries

#### CST recommendations:

- It was questioned whether this item needed to be retained as H17 covered the same area and had little differentiation to H19.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC stated there may be confusion over what “does not apply” mean in the context of this question. Does it mean that the respondent and his/her child do not give any advices and/or help each other or that does not apply as the respondent makes no judgments on the issue how easy it is? They suggested to change the scale to “Strongly agree – Strongly disagree” or similar and would not use “apply” phrase.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020)**

- It was agreed to drop this item for the module.

### **Round 10 – Items**

This concept was not included in the final Round 10 module.

#### *1.3.1.8 Frequency of face-to-face contact*

This concept measures the frequency of face-to-face contact with the previously identified child asking the respondent how often you communicate with this child in person, where you are both physically present in the same place. Following the ISSP Social Networks Module 2001, response categories for face to face contact are suggested ranging from daily, at least several times a week, at least once a week,

at least once a month, several times a year, to less often. For seeing/visiting the mother, we see the following distribution over the response categories in the ISSP: Lives in the same household 13.5%, daily 7.2%, several times a week 7.8%, at least once a week 9.4%, at least once a month 9.2%, several times a year 7.4%, less often 3.7%, never 0.7%, mother no longer alive 37.5%. For seeing/visiting son or daughter: 14.4% lives in the same household, daily 7.7%, several times a week 6.1, at least once a week 6.5, at least once a month 5.1%, several times a year 3.6%, less often 1.1%, no son or daughter: 42.4%). However, we suggest differentiating daily and multiple times a day.

*Expected relationship with other complex and simple concepts:*

The frequency of face-to-face contact with the child is likely to lower the need for digital social contact with the child and the trust in the relationship shaping the frequency of digital social contact with the child as well as the experiences with digital social contacts and thus their consequences for relationship quality with the child. In line with Bengtson and Roberts (1991) classic framework, contact measures associational solidarity.

**Early development – Comments**

**Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The changes made in response to comments from the 12th NC Forum were noted. These include:

- Removing ‘usually’ from the item on face-to-face contact, as it is not present in other frequency items.
- Removing the explanation of what ‘in person’ means from the item on face-to-face contact and including it in an introduction to the item.
- On the other hand, at the QDT meeting it was agreed to place this item before all items on contacting at a distance (including contact via landline phone) to improve the questionnaire flow.

**Pilot – Items**

[H20](#)

The next question is about communication between you and this child taking place when you are face to face in the same location.

**CARD 57**

How often do you speak with {him/her/[initial]} in person?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6

	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### **Pilot – Results and comments**

#### Pilot testing:

- In the UK, half of the respondents speak to their child at least once a day (more than a third several times a day).
- In Austria, it is just over a third of the respondents that speak to their child at least once a day (almost 3 in 10 several times a day).
- Very low INR in both countries

#### Interviewer feedback:

- Some Austrian respondents struggled with what the term ‘the same place’ meant in the introductory sentence to H20.
- Many respondents in Austria missed the response ‘once a week,’ it is possible that this was covered by the response ‘several times a month.’

#### CST recommendations:

- It was suggested to drop the introduction before H20.
- There was a recommendation to add a translation annotation for ‘in person.’

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC noted that the preamble regarding being face-to-face with child is unnecessary. Moreover, the explanatory texts between items could be reduced in general across the questionnaire.
- An NC said that this question does not correspond to situation of respondent who does not live with the child in one household.

### **Round 10 – Items**

This concept was included in the final Round 10 module (item G16).

#### *1.3.1.9 Frequency of contact landline phone*

We also aim to measure the frequency of digital social contact via landline phones as they are still common. They do not require to be physical present but are less flexible in the use as digital social contact.

### **Pilot – Items**

[H21](#)

**STILL CARD 57**

How often do you speak with {him/her/[initial]} using a landline phone? Please include calls you make or receive on a landline phone.

**INTERVIEWER:** If respondent has no landline phone, code as 'Never'.

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### **Pilot – Results and comments**

#### Pilot testing:

- In both countries a high proportion responded 'never' - 50%+ in both countries. But a sizeable minority (at least 2 in 10) talk on a landline phone at least several times a month. A bit more common in the UK than Austria.
- Low INR in both countries

#### Interviewer feedback:

- Austrian respondent asked if a call occurs between a mobile and a landline how should this be categorised.

#### CST recommendations:

- The questionnaire design team was to consider whether H21 was necessary as they had relatively low frequencies.
- It was noted that if H21 was retained it should be clear that the respondent is thinking about their own device.
- It was suggested to combine the items on video and audio calling, this is because of the low frequency in video calling, it will also allow simplifying of wording.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- It was noted by an NC that an instruction for the interviewer gives sense of this question only if it will be used in combination with other questions concerning communication. Never in a case of declining lines groups answers of no-communication at all with no communication because of the lack of a line which makes this question useless as a separate question measuring

“old-fashion” style of communication. They suggested to add to the proposed answers 08=Never, don’t have a line and/or my [son,daughter] does not have it.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was noted that the point about this relating to the respondent’s device in interviewer manual should be stressed.
- It was decided to merge this item with the item on audio digital social contact, with the resulting item referring to 'speaking using a phone or other device' (and a hidden code for people who don't have digital social contact).

#### **Round 10 – Items**

This concept was included in the final Round 10 module (item G18).

##### *1.3.1.10 Frequency digital social contact*

The ESS already includes a question on the frequency of Internet use asking “How often do you use the Internet, the world wide web, or e-mail whether at home or at work for your personal use?”, with response options ranging from “No access at home or work” (0) to “Every day” (7). We suggest questions to specify Internet use and the use of mobile phones for contact with specific work and family relations, here the contact with a child. Digital social contact with the child involves communication which is transmitted by electronic and especially computerized technology and which is not in-person communication. We distinguish speaking to your child so that you can see each other on a screen, cspeaking to your child using a mobile phone, computer, tablet or other digital device excluding calls where you can see each other on a screen, contacting your child via text, email or messaging apps. This allows to distinguish flexibility in digital communication, synchronous communication and the richness of synchronous communication.

##### *Expected relationship with other complex and simple concepts*

We suggest that the frequency of face-to-face contact with the identified child (chftfc) (S) as well as co-residence (chinhh) and distance between the parent and the child (chdis) are important predictors of the frequency of digital social contact with the child because they define the need for digital social contact. Also the age of the child is likely to be of importance because it indicates the need for specific care, advice or monitoring. Internet access (internac) (S) and Internet skill (intsk) (S) further define the opportunity for digital social contact with the child and privacy concerns (privcon (S)) the trust in the use of digital communication devices and thus also the frequency of digital social contact with the child. We further suggest that the frequency of digital social contacts with the child are associated with relationship quality with the child (chrelqu (S)) and the experiences with digital social contacts with family members (expdscf).

#### **Early development – Comments**

##### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- The items were moved to follow the items on face- to-face contact and landline phone contact, to improve the questionnaire flow.
- The items were reordered so that the item on written communication comes before the one on (audio) calls, to clarify that only verbal communication should be included at the latter.

- The frequency response scale was amended to have 6 scale points (including both ‘Several times a day’ and ‘Once a day’) throughout the module.
- ‘About’ might be added to simplify the task of assessing frequency throughout the module.
- Items on video and audio calls were not merged, as for the QDT they vary in richness of communication and are likely to hold different implications for relationship quality.
- H22 (text-based digital social contact): ‘contact him/her’ was replaced by ‘communicate with each other’. However, it was acknowledged that it may still be difficult for some respondents to report frequency of communication due to the characteristics of (especially text-based) digital social contact.

### Pilot – Items

#### H22

The next few questions are about communication between you and this child taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.

#### STILL CARD 57

How often do you communicate with each other via text, email or messaging apps?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### H23

#### STILL CARD 57

How often do you speak with {him/her/[initial]} such that you can see each other on a screen?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2

	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

## H24

### STILL CARD 57

How often do you speak with {him/her/[initial]} using a mobile phone, computer, tablet or other digital device? Please include calls you make or receive using any of these devices, and exclude calls where you can see each other on a screen.

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

#### Pilot testing:

H22: -

- Around a quarter in the UK communicated via text, email or messaging apps at least daily; around a quarter never did this.
- In Austria, 14% communicated via text, email or messaging apps at least daily; around a quarter never did this.
- UK INR slightly above desirable at 8.4%, Austrian INR is low.

H23: -

- In the UK more than 6 in 10 never did this (seeing each other on a screen); about 2 in 10 did once a month or more.
- In Austria 87% never did this; only 5% once a month or more.
- UK INR slightly above desirable at 7.2%, Austrian INR is low.

H24: -

- In the UK around a quarter communicated using mobile, computer, etc, at least once a day; 13% said they never did this.
- In Austria, 15% communicated using mobile, computer, etc, at least once a day; 14% said they never did this.
- INR very low for both countries

#### Interviewer feedback:

H22: -

- Some UK respondents were confused by about definitions - for example, some considered Skype to be face-to-face communication

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC noted that item H24 may be too complicated for respondents.

#### **Round 10 – Items**

This concept was included in the final Round 10 module (items G17, G18, and G19).

#### **Round 10 – COVID-19 Items**

The following items were added into the questionnaire, due to the COVID-19 pandemic:

#### **G20**

Now think about occasions where you and {him/her} are physically in the same location. Compared with before the coronavirus pandemic, would you say that you speak with {him/her} in person...

#### **READ OUT...**

Mixed [FrequencyMuchmoreMuchless5 + DKREF]		
MIXED	Mixed [FrequencyMuchmoreMuchless5 + DKREF]	
LIST	FrequencyMuchmoreMuchless5	
	much more often now,	1
	a little more often now	2
	about the same,	3
	a little less often now,	4
	or, much less often now?	5
	(We are never in the same location now due to the pandemic)	55
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

## G21

Compared with before the coronavirus pandemic, would you say that you have online or mobile communication with {him/her}...**READ OUT...**

**INTERVIEWER:** If necessary, remind the respondent that ‘online or mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

Mixed [FrequencyMuchmoreMuchless5 + DKREF]		
MIXED	Mixed [FrequencyMuchmoreMuchless5 + DKREF]	
LIST	FrequencyMuchmoreMuchless5	
	much more often now,	1
	a little more often now	2
	about the same,	3
	a little less often now,	4
	or, much less often now?	5
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### 1.3.1.11 Experiences with Digital Social Contacts

People also have different experiences using online and mobile communication with family members (child, parent). We aim to ask about respondents’ experiences using the Internet and mobile phones for communicating with family relations (children, parents) providing statements on involved contents, costs and benefits which are likely to shape relationship quality. As we include general perception questions on online and mobile communication we here only rely on perceptions on monitoring and solidarity. Respondents are asked to what degree these digital communication experiences apply to them on a 5-point scale. These experiences resemble those described for the work domain.

#### *Expected relationship with other complex and simple concepts*

We suggest that the frequency of face-to-face contact with the identified child (chftfc) (S) and parent (parftfc) (S) as well as co-residence (parinhh, chinhh) and distance between family members (pardis, chdis) are important predictors of the content of contact because they define the need to exchange solidarity digitally as well as the trust in the relationship which is likely to shape whether digital social contact is experienced as monitoring as elaborated in the theory part. Also the age of the parent and the child based on measurements of the birthdate (chbirth, parbirth) are likely to be important because they indicate the need for specific care and advice. Internet access (internac) (S) and Internet skill (intsk) (S) further define the opportunity for digital social contact with family and privacy

concerns (privcon (S)) the trust in the use of digital communication devices and thus also the likelihood to experience the listed digital experiences in the family domain. The way of digital social contact in the family (waydsfc (C)) is further likely to shape the experience of monitoring, support, because the richness of the medium involved shapes misunderstandings and possibilities for accessibility and disturbance. We further suggest that the experiences of digital social contacts in the family domain are important predictors of relationship quality with the child and the parent (chrelqu (S), parrelqu (S)).

### 1.3.1.11.1 Monitoring

Monitoring addresses the feeling of being controlled digitally by frequent digital contact between parents and children. The feeling of being monitored has been addressed for parent-child interactions (for review see Dworkin et al. 2018)

#### **Pilot – Items**

##### H26

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH CHILD (IF H22 = 01, 02, 03, 04, 05, 06 OR H23 = 01, 02, 03, 04, 05, 06 OR H24 = 01, 02, 03, 04, 05, 06)

**INTERVIEWER:** If necessary, remind the respondent that ‘online and mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

##### **CARD 58**

To what extent does each of the following statements apply to the online and mobile communication between you and {him/her/[initial]}? **READ OUT...** it makes it easy for me and {him/her/[initial]} to know what the other is doing.

Mixed [NotAtAllCompletely10 + DKREF]		
MIXED	Mixed [NotAtAllCompletely10 + DKREF]	
SCALE	NotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### **Pilot – Results and comments**

##### Translation queries:

- The overall comment is again that instead of ‘he/she/initial’ some languages prefer saying ‘us’ / ‘the child’ or similar for facilitating the communication – and in gender-specific languages, it would be very complicated as also the verb forms need to adapted each time.

- Some issues also raised that if ‘child’ is used such as in the explanatory sentence it may confuse those with grown up children.

#### Pilot testing:

- This item was asked to approximately 48% of the full sample in AT and 36% of the full sample in GB.
- Low INR in both countries
- In both countries, strong clustering at 10 and some clustering at 8. In AT, also minor at 7, 5 and 0. Little between 0 - 5.

#### Timings data:

- In the UK timestamps of items H25 and H26 were grouped together. The combined time is approximately 50 seconds on average which is very high for two items. Distribution of the timing data indicates a number of respondents are spending more than a minute on these questions. We suggest triangulating this evidence with other analysis to conclude whether the item is problematic or if there were mistakes recording times.

#### CST recommendations:

- It was questioned whether a ‘not at all/completely’ 11-point scale could improve measurement.
- There was a recommendation that the interviewer note should be moved from the introduction to the question stem.
- It was noted that the correlation between items H25 and H26 may suggest to retaining only one, however it was acknowledged that measurement aims are different

#### **Comments received from 13<sup>th</sup> NC Forum (18/12/2019):**

- NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other or that does not apply as respondent makes no judgments on the issue how easy it is? One NC stated they would rather change the scale to “Strongly agree – Strongly disagree” or similar and would not use “apply” phrase.

#### **Round 10 – Items**

This concept was not included in the final Round 10 module.

##### *1.3.1.11.2 Solidarity*

Solidarity addresses intergenerational appreciation and support as part of digital social contact with parents and children. Hertlein (2012) defines approximation as an ecological influence of the use of the internet and mobile phones which have features which allow to approximate face-to-face situations and thus also the exchange of solidarity. Also, other studies suggest that digital social contacts can be a source for the exchange of solidarity (e.g., see review of Dworkin et al. 2018)

#### **Early development – Comments**

##### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Shortening the introduction to the battery and moving the definition of ‘online and mobile communication’ to an interviewer note.

### Pilot – Items

#### H25

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH CHILD (IF H22 = 01, 02, 03, 04, 05, 06 OR H23 = 01, 02, 03, 04, 05, 06 OR H24 = 01, 02, 03, 04, 05, 06)

The next questions are about your experience using online and mobile communication for keeping in touch with this child.

**INTERVIEWER:** If necessary, remind the respondent that ‘online and mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

#### CARD 58

To what extent does each of the following statements apply to the online and mobile communication between you and {him/her/[initial]}? **READ OUT**...it makes it easy for me and {him/her/[initial]} to give help or advice to one another when needed.

Mixed [NotAtAllCompletely10 + DKREF]		
MIXED	Mixed [NotAtAllCompletely10 + DKREF]	
SCALE	NotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

#### Translation queries:

- The overall comment is again that instead of ‘he/she/initial’ some languages prefer saying ‘us’ / ‘the child’ or similar for facilitating the communication – and in gender-specific languages, it would be very complicated as also the verb forms need to be adapted each time.
- Some issues also raised that if ‘child’ is used such as in the explanatory sentence it may confuse those with grown up children.

#### Pilot testing:

- This item was asked to approximately 48% of the full sample in AT and 36% of the full sample in GB.
- Low INR in both countries
- In both countries, strong clustering at 10 and some clustering at 8. In AT, also minor at 7, 5 and 0. Little between 0 - 5.

#### Timings data:

- In the UK timestamps of items H25 and H26 were grouped together. The combined time is approximately 50 seconds on average which is very high for two items. Distribution of the timing data indicates a number of respondents are spending more than a minute on these questions. We suggest triangulating this evidence with other analysis to conclude whether the item is problematic or if there were mistakes recording times.

#### CST recommendations:

- It was questioned whether a ‘not at all/completely’ 11-point scale could improve measurement.
- There was a recommendation that the interviewer note should be moved from the introduction to the question stem.
- It was noted that the correlation between items H25 and H26 may suggest to retaining only one, however it was acknowledged that measurement aims are different

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other or that does not apply as respondent makes no judgments on the issue how easy it is? One NC stated they would rather change the scale to “Strongly agree – Strongly disagree” or similar and would not use “apply” phrase.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to reword the item to ‘To what extent does online and mobile communication make it easy for you and [him/her] to give help or advice to one another when needed’ – review further /finalise wording
- It was also suggested to delete the introduction and interviewer note before H25.
- If necessary, remind respondent about definition of 'online and mobile communication' provided earlier (interviewer note).

#### **Round 10 – Items**

This concept was not included in the final Round 10 module.

### 1.3.2 Parent

#### *1.3.2.1 parent identifier*

This question is aimed to identify the parent for the following questions on the contact and relationship with this parent. It is asked whether either of your parents is still alive. Answer categories refer to all possible answers: both parents alive, only one parent alive. No neither parent alive. If both parents are alive the respondent receives the instruction to think about the parent who had the birthday most recently. The interviewer instruction further clarifies "respondent has more than one parent with the same birthday, ask for the parent whose name comes first alphabetically".

## Early development – Comments

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

- It was agreed that this item will be moved to a self-completion module as it is a sensitive question in some countries. The probe and interviewer instruction will therefore have to be removed/moved further down in the questionnaire due to the change in mode.

## Pilot – Items

### G6

Are any of your parents still alive?

**NOTE:** Parents include any legal guardian, such as foster, step and adoptive parents.

Mixed [YesNoParents4+ DKREF]			
MIXED	Mixed [YesNoParents4 + DKREF]		
LIST	YesNoParents4		
	Yes, both (or multiple) parents	1	<b>ASK G32</b>
	Yes, only my mother	2	<b>GO TO G33</b>
	Yes, only my father	3	<b>GO TO G33</b>
	Yes, only one (other)	4	<b>GO TO G33</b>
	No, no parent	5	<b>GO TO G48</b>
MISSING_GRO UP	DKREF		
	Refusal	7	<b>GO TO G48</b>
	Don't Know	8	<b>GO TO G48</b>

## Pilot – Results and comments

This concept was piloted without intention to analyse it independently.

### Comments from 4<sup>th</sup> QDT meeting (07/02/2020):

- It was noted that G6 needs to be added at start of the section.
- There was a suggestion to remove the ‘other’ code.
- A change to the interviewer note was suggested: ‘By parents we mean biological parents.’

## Round 10 – Items

This concept was included in the final Round 10 module (item G22).

### 1.3.2.2 Gender

The concept identifies the gender of the identified parent asking whether this is your mother or father.

## Early development – Comments

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

- A showcard was added for the item on gender.
- If the respondent selects ‘other’ (rare in the pre-test), it was agreed to add a new question collecting the initial of this parent to be fed into the following questions. Still in this case, it was also agreed to add a country- specific interviewer note for countries where the following questions will use words with a grammatical gender to refer to the respondent’s parent.

## Pilot – Items

### H27

ASK IF BOTH PARENTS ALIVE AT G6 (IF G6 = 1)

Now I would like to ask you about your parents.

#### CARD 59

Which of your parents had his/her birthday most recently?

**INTERVIEWER:** Parents include any legal guardian, such as foster, step and adoptive parents. If respondent has more than one parent with the same birthday, ask for the parent whose name comes first alphabetically.

Mixed [MotherFatherOther3+ DKREF]		
MIXED	Mixed [MotherFatherOther3 + DKREF]	
LIST	MotherFatherOther3	
	My mother	1
	My father	2
	Other	3
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

### H28

ASK IF OTHER AT G6 OR H27 (IF G6 = 4 OR IF H27 = 3)

Please could you tell me the first letter of your parent’s first name?

Mixed [Age + DKREF]		
MIXED	Mixed [Letter + DKREF]	
NUMERIC	Letter	
	TYPE IN	

MISSING_GROUP	DKREF	
	Refusal	777
	Don't Know	888

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to make a random selection if both parents are still alive
- H28 is to be used to record whether parent is male or female.

**Results and comments received from pilot analyses:**

Translation queries:

- It was pointed out that for a list of different types of parent constellations there should be reference to the core.
- There was a question on whether ‘other’ referred to a third gender/sex or another concept

Pilot testing:

- Fairly even distribution between mother and father in both countries.
- Low INR for both countries.

CST recommendations:

- It was recommended that this item should be moved to before H27.
- It was also noted that sensitivities around this item should be considered.

**Round 10 – Items**

This concept was included in the final Round 10 module (items G23). However pilot item H28 was not included in the final Round 10 module.

*1.3.2.3 Birth date*

We suggest a split ballot design so that half of the respondents who have both parents alive are asked about their mothers whereas the others are asked about their fathers. This concept measures the birth date of the parent assigned to gain information on the age of the parent.

*Expected relationship with other complex and simple concept:*

We expect that the birth date of the parent is an important predictor of the frequency of digital social contact (pardsc) and face-to-face contact (parftfc) as well as of the experiences with digital social contacts (expdscf). Older parents often require more care from their children increasing the need for contact.

**Pilot – Items**

**H29**

ASK IF RESPONDENT HAS 1 OR MORE CHILDREN AGED 12 OR OVER AT H12 (IF H12 > 0)

Now please think of your father/mother/[initial].

**INTERVIEWER:** Explain that some of the next few questions will use a male or female wording to refer to the respondent’s parent. Please confirm with the respondent which version they would prefer you to read.

ASK IF ONE OR BOTH PARENTS ALIVE AT G6 (IF G6 = 1, 2, 3, 4)

In what year was {he/she/[initial]} born?

**INTERVIEWER:** If respondent doesn’t know or refused to specify which of their parents had his/her/their birthday most recently, read this question in full. This applies to all questions about that parent in this module.

Mixed [yearbirth + DKREF]		
MIXED	Mixed [yearbirth + DKREF]	
NUMERIC	yearbirth	
	TYPE IN	
MISSING_GROUP	DKREF	
	Refusal	777
	Don't Know	888

### Pilot – Results and comments

This concept was piloted without intention to analyse it independently.

#### Comments from 4<sup>th</sup> QDT meeting (07/02/2020):

- It was agreed to switch to age rather than year of birth to simplify reporting.
- An interviewer instruction was added to ‘accept estimate’.

### Round 10 – Items

This concept was included in the final Round 10 module (item G24).

#### 1.3.2.4 Lives in household

This concept measures whether the previously identified parent lives in the household.

#### *Expected relationship with other complex and simple concepts:*

Whether the parent lives in the household is likely to lower the need for digital social contact with the parent shaping the frequency of digital social contact (pardsc) as well as the experiences with digital social contacts (expdsc).

### Pilot – Items

#### H30

Does {he/she/[initial]} live in the same household as you?

Mixed [YesNo + DKREF]		
MIXED	Mixed [YesNo + DKREF]	
LIST	YesNo	
	Yes	1
	No	2
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

### Pilot – Results and comments

This concept was piloted without intention to analyse it independently.

### Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):

- It was recommended to use: “does [he/she/{initial}] live with you in the same household” instead of “does [he/she/{initial}] live in the same household as you”. Switching accent to respondent from household might reduce the likelihood of confusion due to a differences in defining household (regardless of the formal definition).

### Comments received from 4<sup>th</sup> QDT meeting (07/02/2020):

- It was suggested that an interviewer instruction be added – ‘If respondent says ‘sometimes’ code as ‘yes’.

### Round 10 – Items

This concept was included in the final Round 10 module (item G25).

#### 1.3.2.5 Relationship quality

This concept asks how close the respondent feels to the identified parent. It is based on the US Longitudinal Study of Generations.

#### *Expected relationship with other complex and simple concepts:*

We expect that face-to-face contact and digital social contact with the parent (parftfc, pardsc) as well as the experiences with digital social contacts with family relations (expdicnf) are important predictors of relationship quality.

### Pilot – Items

#### H31

#### CARD 60

Taking everything into consideration, how close<sup>7</sup> do you feel to {him/her/[initial]}?

Mixed [Close5 + DKREF]		
MIXED	Mixed [Close5 + DKREF]	
LIST	Close5	
	Very close	1
	Quite close	2
	Not very close	3
	Not at all close	4
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

Translation notes:

<sup>7</sup>Close' in the sense of emotional rather than physical proximity.

### **Pilot – Results and comments**

#### Translation queries:

- The phrase 'taking everything into consideration' could be simplified to something like 'all in all' in order to avoid translation mistakes.

#### Pilot testing:

- In both countries more than 80% feel very or quite close to the parent.
- Very low INR in both countries.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was decided to use a 5-point scale, adding 'Extremely close' as an end point.

### **Round 10 – Items**

This concept was included in the final Round 10 module (item G26).

#### *1.3.2.6 Distance*

If the previously identified parent does not live in the household this concept measures the physical distance in travel time. The distance contributes to identify the need for digital social contacts. It resembles the question on the distance from the perspective of the child

#### *Expected relationship with other complex and simple concepts:*

The physical distance between parents and child contributes to identify the need for digital social contacts and the need to exchange solidarity digitally. Following from this, it is a major predictor of the frequency of digital social contacts (pardsc) and face- to-face contacts (parftfc) as well as of the experiences with digital social contacts (expdiconf).

### **Early development – Comments**

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

- It was agreed to make all verbs hypothetical, to avoid any assumption about whether or not the respondent travels at all.

#### Pilot – Items

##### H32

ASK IF NO AT H30 (IF H30 = 2)

About how long would it take you to get to where {he/she/[initial]} lives, on average?  
Think of the way you would travel and of the time it would take door to door. Please give your answer in hours and minutes.

Mixed [HoursMinutes + DKREF]		
MIXED	Mixed [HoursMinutes + DKREF]	
DATETIME	HoursMinutes	
	TYPE IN	
MISSING_GROUP	DKREF	
	Refusal	7777
	Don't Know	8888

#### Pilot – Results and comments

This concept was piloted without intention to analyse it independently.

#### Round 10 – Items

This concept was included in the final Round 10 module (item G27).

##### 1.3.2.7 *Solidarity with parents*

The concept solidarity with parents provides information on the overall exchange of solidarity with parents. It asks how often the respondent discusses intimate and personal matters with the identified parent. It is a common measurement of emotional support and also used to identify close ties in the ESS core module.

##### *Expected relationship with other concepts*

This information provides the baseline of solidarity in the contact with parents to better evaluate the information provided on solidarity in digital social contact (see experiences with digital social contacts).

#### Pilot – Items

##### H33

ASK IF ONE OR BOTH PARENTS ALIVE AT G6 (IF G6 = 1, 2, 3, 4)

## CARD 61

How likely would you and {him/her/[initial]} be to give help or advice to one another, if needed?

Mixed [VeryLikely4 + DKREF]		
MIXED	Mixed [VeryLikely4 + DKREF]	
LIST	VeryLikely4	
	Very likely	1
	Likely	2
	Not very likely	3
	Not at all likely	4
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

### Pilot – Results and comments

#### Pilot testing:

- Over 75% likely or very likely to give help or advice to one another.
- Low INR for both countries.

#### CST recommendations:

- It was requested that the questionnaire design team consider whether this item should be retained as it had little differentiation with H31 and seemed to cover the same area.

#### Comments from 4<sup>th</sup> QDT meeting (07/02/2020):

- It was agreed to drop this item for the final module.

### Round 10 – Items

This concept was not included in the final Round 10 module.

#### 1.3.2.8 Frequency of face-to-face contact

This concept measures the frequency of face-to-face contact with the previously identified parent and follows the concept of frequency face-to-face contact with child.

#### *Expected relationship with other complex and simple concepts:*

The frequency of face-to-face contact with the parent is likely to lower the need for digital social contact with the parent and the trust in the relationship shaping the frequency of digital social contact with the parent (pardsc) as well as the experiences with digital social contacts with family relations (expdicnf) and thus their consequences for relationship quality with the parent (parrelqu). In line with Bengtson and Roberts (1991) classic framework, contact measures associational solidarity.

### Early development – Comments

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

The changes made in response to comments from the 12th NC Forum were noted. These included:

- Removing ‘usually’ from the item on face-to-face contact, as it is not present in other frequency items.
- Removing the explanation of what ‘in person’ means from the item on face-to-face contact and including it in an introduction to the item. On the other hand, at the QDT meeting it was agreed to place this item before all items on contacting at a distance (including contact via landline phone) to improve the questionnaire flow.

### H34

The next question is about communication between you and this parent taking place when you are face to face in the same location.

#### CARD 62

How often do you speak with him/her/[initial] in person?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

Pilot testing:

- In the UK more than 3 in 10 speak to parent at least once a day; almost half at least several times a week.
- In Austria more than 3 in 10 speak to parent at least once a day as well; just over half at least several times a week.
- INR low in both countries

CST recommendations:

- It was suggested to drop the introduction before H34.
- There was a recommendation to add a translation annotation for ‘in person.’

### Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):

- An NC noted that the preamble regarding being face-to-face with child is unnecessary. Moreover, the explanatory texts between items could be reduced in general across the questionnaire.
- It was said that this question does not correspond to situation of respondent who does not live with the child in one household.

### Round 10 – Items

This concept was included in the final Round 10 module (item G28).

#### 1.3.2.9 Frequency contact landline phone

Contact via landline phones are still common but strictly speaking no digital social contact. It does not require to meet in person but is less flexible than digital social contact.

### Pilot – Items

H35

#### STILL CARD 62

How often do you speak with {him/her/[initial]} using a landline phone? Please include calls you make or receive on a landline phone.

**INTERVIEWER:** If respondent has no landline phone, code as ‘Never’.

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

#### Pilot testing:

- In both countries a high proportion said 'never' here - 6 in 10 in UK and 8 in 10 in Austria. But a sizeable minority talk on a landline phone at least several times a month. A bit more common in the UK (26%) than Austria (16%).

- INR low in both countries

#### CST recommendations:

- The questionnaire design team was to consider whether H35 was necessary as they had relatively low frequencies.
- It was noted that if H35 was retained it should be clear that the respondent is thinking about their own device.
- It was suggested to combine the items on video and audio calling, this is because of the low frequency in video calling, it will also allow simplifying of wording.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC noted that an instruction for the interviewer gives sense of this question only if it will be used in combination with other questions concerning communication. Never in a case of declining lines groups answers of no-communication at all with no communication because of the lack of a line which makes this question useless as a separate question measuring “old-fashion” style of communication. Additionally, 08=Never, does not have a line and/or my [son,daughter] does not have it.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was agreed to keep the item.
- A point was stressed about this relating to the respondent’s device in interviewer manual
- It was decided to merge this item with the item on audio digital social contact, with the resulting item referring to 'speaking using a phone or other device' (and a hidden code for people who don't have digital social contact).

#### **Round 10 – Items**

- This concept was included in the final Round 10 module (item G30).

#### *1.3.2.10 Frequency of digital social contact*

This concept measures the frequency of digital social contact with the previously identified parent and follows the concept of frequency digital social contact with child.

#### *Expected relationship with other complex and simple concepts:*

We suggest that the frequency of face-to-face contact with the parent (parftfc) (S) as well as co-residence (parinhh) and distance between the parent and the child (pardis) are important predictors of the frequency of digital social contacts with the parent because they define the need for digital social contacts. Also the age of the parent is likely to be of importance because it indicates the need for specific care (parbirth). Internet access (internac) (S) and Internet skill (intsk) (S) further define the opportunity for digital social contacts with the parent and privacy concerns (privcon (S)) the trust in the use of digital communication devices and thus also the frequency of digital social contacts with the parent. We further suggest that the frequency of digital social contacts with the parent are associated with relationship quality with the parent (parrelqu (S)) and the experiences with digital social contacts with family members (expdicnf).

## Early development – Comments

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

The following changes were agreed by CST and QDT:

- The items were moved to follow the items on face- to-face contact and landline phone contact, to improve the questionnaire flow.
- The items were reordered so that the item on written communication comes before the one on (audio) calls, to clarify that only verbal communication should be included at the latter.
- The frequency response scale was amended to have 6 scale points (including both ‘Several times a day’ and ‘Once a day’) throughout the module.
- ‘About’ might be added to simplify the task of assessing frequency throughout the module.
- Items on video and audio calls were not merged, as for the QDT they vary in richness of communication and are likely to hold different implications for relation- ship quality.
- For H37, ‘contact him/her’ was replaced by ‘communicate with each other’. However, it was acknowledged that it may still be difficult for some respondents to report frequency of communication due to the characteristics of (especially text-based) digital social contact.

## Pilot – Items

### H36

The next few questions are about communication between you and this parent taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.

#### STILL CARD 62

How often do you communicate with each other via text, email or messaging apps?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### H37

#### STILL CARD 62

How often do you speak with {him/her/[initial]} such that you can see each other on a screen?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### H38

#### STILL CARD 62

How often do you speak with {him/her/[initial]} using a mobile phone, computer, tablet or other digital device? Please include calls you make or receive using any of these devices and exclude calls where you can see each other on a screen.

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### Pilot – Results and comments

##### Results and comments received from pilot analyses:

##### Translation queries:

- It was pointed out that the word “parents” is usually used in plural in Russian. The singular version “a parent” is outdated or very casual style. Therefore, it would be better to formulate sentences with using words “mother” or “father”.

#### Pilot testing:

#### Pilot testing:

H36: -

- In the UK 16% communicated via text, email or messaging apps at least daily; 27% never did this.
- In Austria the figures were 13% at least daily while 30% never did this.
- INR low in both countries.

H37: -

- In the UK 58% never saw each other on a screen while 31% did at least once a month.
- In Austria, more never did this (88%) and less did once a more or more (7%).
- INR low in both countries

H38: -

- In the UK 23% communicated using mobile, computer, etc, at least once a day; 16% said they never did this.
- In Austria 10% communicated using mobile, computer, etc, at least once a day; 18% said they never did this.
- INR low in both countries

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to drop the introduction before H36.
- The CST suggested to possibly combine video item with audio item, however the former could be interesting on its own to future proof module.
- If audio item is kept as it is now, then ‘can’ should be removed from the wording.
- Keep video and audio digital social contact as separate items, amend audio digital social contact item as described above.

#### **Comments received from 13<sup>th</sup> NC Forum (18/12/2019):**

- For H38,an NC suggested that this question may be too complicated for respondents.

#### **Round 10 – Items**

This concept was included in the final Round 10 module (items G29, G30, and G31).

#### **Round 10 – COVID-19 Items**

The following items were added into the questionnaire, due to the COVID-19 pandemic:

#### **G32**

Now think about occasions where you and {him/her} are physically in the same location. Compared with before the coronavirus pandemic, would you say that you speak with {him/her} in person...

**READ OUT...**

Mixed [FrequencyMuchmoreMuchless5 + DKREF]		
MIXED	Mixed [FrequencyMuchmoreMuchless5 + DKREF]	
LIST	FrequencyMuchmoreMuchless5	
	much more often now,	1
	a little more often now	2
	about the same,	3
	a little less often now,	4
	or, much less often now?	5
	(We are never in the same location now due to the pandemic)	55
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### G33

Compared with before the coronavirus pandemic, would you say that you have online or mobile communication with {him/her}... **READ OUT...**

**INTERVIEWER:** If necessary, remind the respondent that ‘online or mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

Mixed [FrequencyMuchmoreMuchless5 + DKREF]		
MIXED	Mixed [FrequencyMuchmoreMuchless5 + DKREF]	
LIST	FrequencyMuchmoreMuchless5	
	much more often now,	1
	a little more often now	2
	about the same,	3
	a little less often now,	4
	or, much less often now?	5
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### 1.3.2.11 Experiences with Digital Social Contacts

People also have different experiences using online and mobile communicating with family members (child, parent). We aim to ask about respondents’ experiences using online and mobile communicating with family relations (children, parents) providing statements on involved contents, costs and benefits which are likely to shape relationship quality: namely monitoring, solidarity. Respondents are asked to

what degree these digital communication experiences apply to them on a 5 point scale. These experiences resemble those described for the work domain.

#### *Expected relationship with other complex and simple concepts*

We suggest that the frequency of face-to-face contact with the identified child (chftfc) (S) and parent (parftfc) (S) as well as co-residence (parinhh, chinhh) and distance between family members (pardis, chdis) are important predictors of the content of contact because they define the need to exchange solidarity digitally as well as the trust in the relationship which is likely to shape whether digital social contact is experienced as monitoring as elaborated in the theory part. Also, the age of the parent and the child based on measurements of the birthdate (chbirth, parbirth) are likely to be important because they indicate the need for specific care and advice. Internet access (internac) (S) and Internet skill (intsk) (S) further define the opportunity for digital social contact with family and privacy concerns (privcon (S)) the trust in the use of digital communication devices and thus also the likelihood to experience the listed digital experiences in the family domain. The way of digital social contact in the family (waydscf (C) is further likely to shape the experience of monitoring, support, accessibility and disturbance because the richness of the medium involved shapes misunderstandings and possibilities for accessibility and disturbance. We further suggest that the experiences of digital social contacts in the family domain are important predictors of relationship quality with the child and the parent (chrelqu (S), parrelqu (S)).

#### *1.3.2.11.1 Monitoring*

Monitoring addresses the feeling of being controlled digitally by frequent digital contact between parents and children. The feeling of being monitored has been addressed for parent-child interactions (for review see Dworkin et al. 2018).

#### **Early development – Comments**

##### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Shortening the introduction to the battery and moving the definition of ‘online and mobile communication’ to an interviewer note.

#### **Pilot – Items**

##### **H40**

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH PARENT (IF H36 = 01, 02, 03, 04, 05, 06 OR H37 = 01, 02, 03, 04, 05, 06 OR H38 = 01, 02, 03, 04, 05, 06)

The next questions are about your experience using online and mobile communication for keeping in touch with this parent.

**INTERVIEWER:** If necessary, remind the respondent that ‘online and mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

#### **CARD 63**

To what extent does each of the following statements apply to the online and mobile communication between you and {him/her/[initial]}? **READ OUT...** It makes it easy for me and {him/her/[initial]} to know what the other is doing.

Mixed [NotAtAllCompletely10 + DKREF]		
MIXED	Mixed [NotAtAllCompletely10 + DKREF]	
SCALE	NotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### **Pilot – Results and comments**

#### Translation queries:

- It was noted that he/she/initial is less preferable than ‘us’ / ‘the parent’ it also makes the translation easier in gender specific languages.

#### Pilot testing:

- Clustering at 10 and 5 in both countries. There was also clustering at 0 in Austria and at 8 and 7 in the UK. Little between 0 - 5.
- Low INR in both countries.

#### CST recommendations:

- It was questioned whether a ‘not at all/completely’ 11-point scale could improve measurement.
- There was a recommendation that the interviewer note should be moved from the introduction to the question stem.
- It was noted that the correlation between items H39 and H40 may suggest to retaining only one, however it was acknowledged that measurement aims are different

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- Some NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other or that does not apply as respondent makes no judgments on the issue how easy it is? An NC suggested they would rather change the scale to “Strongly agree – Strongly disagree” or similar and would not use the “apply” phrase.

### **Round 10 – Items**

This concept was not included in the final Round 10 module.

### 1.3.2.11.2 Solidarity

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH PARENT (IF H36 = 1, 2, 3, 4, 5 OR H37 = 1, 2, 3, 4, 5 OR H38 = 1, 2, 3, 4, 5)

The next questions are about your experience using online and mobile communication for keeping in touch with this parent.

**INTERVIEWER:** If necessary, remind the respondent that ‘online and mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

#### Pilot – Items

#### H39

#### CARD 63

To what extent does each of the following statements apply to the online and mobile communication between you and {him/her/[initial]}? **READ OUT...** It makes it easy for me and {him/her/[initial]} to give help or advice to one another when needed

Mixed [NotAtAllCompletely10 + DKREF]		
MIXED	Mixed [NotAtAllCompletely10 + DKREF]	
SCALE	NotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### Pilot – Results and comments

##### Pilot testing:

- In both countries, strong clustering at 10, also clustering at 8 and 5. In Austria there was also clustering at 0. Little between 0 - 5.
- Low INR in both countries.

##### CST recommendations:

- It was questioned whether a ‘not at all/completely’ 11-point scale could improve measurement.
- There was a recommendation that the interviewer note should be moved from the introduction to the question stem.
- It was noted that the correlation between items H39 and H40 may suggest to retaining only one, however it was acknowledged that measurement aims are different

##### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- Some NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other

or that does not apply as respondent makes no judgments on the issue how easy it is? An NC suggested they would rather change the scale to “Strongly agree – Strongly disagree” or similar and would not use the “apply” phrase.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to reword H39 to ‘To what extent does online and mobile communication make it easy for you and [him/her] to give help or advice to one another when needed’.
- It was also suggested to delete the introduction and interviewer note before H39.
- If necessary, remind respondent about definition of 'online and mobile communication' provided earlier (interviewer note).

#### **Round 10 – Items**

This concept was not included in the final Round 10 module.

## 1.4 WORK

### 1.4.1 General

#### *1.4.1.1 Job satisfaction*

The concept job satisfaction measures the satisfaction of the respondent with the main job on a 10 point satisfaction scale. This concept has already been part of a rotating module in the ESS 2010 on family, work, and well-being (G53). High job satisfaction has been defined based on need satisfaction models developed; it involves work circumstances where individuals can fulfill their needs (for review see Herzberg et al. 2011 and Sirgi et al. 2001). Basic needs range from social needs (for interpersonal interaction) over survival needs (e.g. pay) to ego-needs (autonomy, self-esteem) (Sirgi et al. 2001). The job demands-resources model (Bakker & Demerouti, 2007) further specifies work characteristics as work resources and demands and their implications for job satisfaction and overall well-being. Job demands have been argued to involve physiological and or psychological costs which decrease job satisfaction. Job resources in contrast have been argued to allow for more motivation and energy and to buffer against negative implications of work-demands increasing job satisfaction (e.g. see Sirgi et al. 2001). Digital technology use for interactions with co-workers and with the supervisor can increase workplace solidarity and cohesion which has been identified as a major workplace resource for job satisfaction and which indicates social cohesion in the work team (for review see Aziri 2011). Digital technology such as the internet or smartphones make supervisors and co-workers more accessible when work problems, or work task questions occur, or when supervisor or co-worker support for balancing work and family tasks is required. Moreover there are additional possibilities to receive appreciation by one’s supervisor via the Internet or mobile phones increasing motivation and energy and thus job satisfaction. Accessibility and approximation are ecological influences specified for digital contact by Hertlein (2012) which advance coordination with supervisors and co-workers and further allow for the exchange of support and appreciation indicating social cohesion in the team. Similarly, to digital social contacts in the family domain it can however be debated whether digital social contact can replace face-to-face contact with supervisors and co-workers and its implications for job

satisfaction. Previous research has shown that telework weakens interpersonal bonds among teleworkers, colleagues, and supervisors, and that additional efforts are necessary to maintain such bonds (Golden 2006). Moreover, accessibility involved in digital social contact can further be used for monitoring and control (is the subordinate working and where? has the subordinate finished the work task already? How is the subordinate doing the work?) decreasing work autonomy which has been identified as a major work resource for job satisfaction in previous research (for review see Aziri 2011). First evidence however suggests that internet use at work increases job autonomy at work (Kirchner 2015).

*Expected relationship with other complex and simple concepts*

We expect that face-to-face contact and digital social contact with supervisors and coworkers (supftfc, supdsc, cowftfc, cowdsc) as well as the experiences with digital social contacts with work relations (expdiconw) are central predictors of job satisfaction. Moreover, job satisfaction is likely to be associated with organizational citizenship behavior, social cohesion in the work team (socwt), work-to-life conflict (wlc), expectations at work (expw) and teleworking (telw).

**Early development – Comments**

**Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- There was a suggestion to include an interviewer instruction about ‘main job’ at H41 to help respondents frame their answers.
- Using the same routing instruction (in paid work at F17a or F18) for consistency. It was acknowledged that this means that repeat items from the ESS5 rotating module would be asked to a different universe, however this can be taken care of in the analysis.

**Pilot – Items**

[H41](#)

ASK IF CURRENTLY IN PAID WORK AT F8a OR F9 (IF 01 AT F8a OR F9 = 1)

Now let’s talk about your work.

**CARD 64**

How satisfied are you in your main job? Use this card where 0 is extremely dissatisfied and 10 is extremely satisfied.

**INTERVIEWER:** If the respondent has more than one job, they should answer about the one which occupies them for the most hours per week. If they have two jobs that are exactly equal, they should answer about the more highly paid of the two<sup>8</sup>.

Mixed [Satisfied10 + DKREF]		
MIXED	Mixed [NotAtAllCompletely10 + DKREF]	
SCALE	NotAtAllCompletely10	
	Extremely dissatisfied	0
	Extremely satisfied	10
MISSING_GROUP	DKREF	

	Refusal	77
	Don't Know	88

Translation notes:

<sup>8</sup> **NEW INTERVIEWER NOTE** added to the ESS10 Digital Social Contacts module. The same translation for this interviewer note should be used as in ESS9 (interviewer note before item F21).

### **Pilot – Results and comments**

Translation queries:

- It was noted the ‘extremely’ was hard to translate into certain Slavic languages but it was argued that this should not be a reason to change the source text.

Pilot testing:

- Both countries report clustering at the positive end of the scale (high job satisfaction) - 73% of respondents in Austria chose 8, 9 or 10 and 74% in the UK chose 7, 8, 9 or 10.
- This item was asked to about 53% of the full sample in Austria and 46% of the full sample in the UK (people in paid work).
- When this item was asked in ESS5 (post-stratification weights applied), the response distribution had very similar clustering in UK and was only slightly lower on average in AT.
- INR low in both countries.

### **Round 10 – Items**

This concept was included in the final Round 10 module (item G34).

#### *1.4.1.2 Work-to-life conflict*

To describe work-life balance, previous research established the well-known concept of work-family conflict, which is ‘a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect’ (Greenhaus & Beutell 1985: 77). This definition stresses the bidirectional relationship between work and family life; work may interfere with family life, and vice versa. Research indicates that spill-overs from work to family are more severe than family to work (Byron 2005). In addition, Greenhaus and Beutell (1985) distinguish time-based and strain-based conflicts between the two life domains. Time-based conflict occurs when time pressure in one domain makes it difficult to fulfill expectations in the other, whereas strain-based conflict is understood as exposure to stress in one domain, which influences the ability to perform in the other. Due to the restricted number of questions possible, we suggest a concept which measures work- to-family conflict reported as more severe in comparison to family-to-work conflict in previous research (e.g., Byron 2005). The concept we suggest has already been integrated in ESS rotating modules in 2010 and 2004 identifying time-based and strain-based conflicts for respondents with and without family (G46-48, 49 and G50-52, 53).

#### *Expected relationship with other complex and simple concepts*

To predict work-family conflict, the job demands-resources model (Bakker & Demerouti 2007) suggests that demands in the domains of work and family life influence an employee’s risk of experiencing stress and strain that then spill over from one life domain to the other, resulting in work-

family conflict. Digital social contact with supervisors and colleagues can be both a resource or a demand increasing or decreasing work-life balance. Digital social contacts with supervisors and co-workers can be a resource to for employees to better balance work and family life involving advanced coordination of work and family demands increasing the autonomy when and where to work. On the other hand, digital social contacts can be used in the interests of the employers to realize their flexibility and accessibility interests blurring the boundaries between work and family life (Abendroth & Reimann 2018). Previous research has shown positive as well as negative implications of flexible workplace arrangements for work-life balance pointing to the context dependence of the implications of digital social contacts for work-life balance (Abendroth & Den Dulk 2011; Abendroth & Reimann 2018; Bittman et al. 2009; Chesley 2005; Kossek 2016; Nam 2014; Wajcman et al. 2008). As a consequence, we expect work-to-life conflict to be associated with frequency and content of digital social contact as well as of face-to- face contact with supervisor and co-workers (expdiconw, supftfc, cowftfc, exsolw).

#### 1.4.1.2.1 Strain-based work-to-family conflict

Strain based conflict refers to restrictions to perform family or personal responsibilities due to work stress and strain. Following the ESS 2010 and 2004 we suggest measuring how often the respondent keeps worrying about work problems when the respondent is not working and how often the respondents feel too tired after work to enjoy the things he or she would like to do at home.

#### Pilot – Items

#### H42

ASK IF CURRENTLY IN PAID WORK AT F8a OR F9 (IF 01 AT F8a OR F9 = 1)

#### CARD 65

Using this card, how often do you...**READ OUT**...keep worrying about work problems when you are not working?

Mixed [NeverAlways + DKREF]		
MIXED	Mixed [NeverAlways + DKREF]	
SCALE	NeverAlways	
	Never	1
	Hardly ever	2
	Sometimes	3
	Often	4
	Always	5
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### H43

ASK IF CURRENTLY IN PAID WORK AT F8a OR F9 (IF 01 AT F8a OR F9 = 1)

### CARD 65

Using this card, how often do you...**READ OUT**...feel too tired after work to enjoy<sup>9</sup> the things you would like to do at home?

Mixed [NeverAlways + DKREF]		
MIXED	Mixed [NeverAlways + DKREF]	
SCALE	NeverAlways	
	Never	1
	Hardly ever	2
	Sometimes	3
	Often	4
	Always	5
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

Translation notes:

<sup>9</sup> 'Enjoy' in the sense of get pleasure from.

### Pilot – Results and comments

Pilot testing:

H42: -

- In both countries, at least a third of respondents chose 'Sometimes' (middle category). The distribution is similar in both countries, with a slightly lower mean value in Austria than the UK, 2.6 and 2.8 respectively. Only 17% of respondents chose 'often' or 'always' in Austria, whereas this was 26% in the UK.
- In ESS5 (post-stratification weights applied here and for the following items), mean values were slightly lower in both countries.
- Low INR in both countries

H43: -

- 48% of UK respondents chose 'Sometimes' compared to only 31% in Austria. The mean value for this item was markedly higher in the UK than in Austria (3.1 vs 2.6).
- In ESS5, mean values were slightly higher in Austria (2.7 compared to 2.6) and slightly lower in the UK (3.0 compared to 3.1) than in the ESS10 pilot.
- INR low in both countries.

### Round 10 – Items

Item H43 for this concept was included in the final Round 10 module (item G35). However, Item H42 for this concept was not included in the final Round 10 module.

### 1.4.1.2.2 Strain-based work-to-family conflict for respondents with children and/or partner

Strain based conflict here refers to the situation that the partner or family gets fed up with the pressure of the respondents' job (see ESS 2010, 2004).

#### **Pilot – Items**

##### H45

ASK IF RESPONDENT DID NOT REPORT HAVING NO PARTNER OR FAMILY AT H44 (IF H44 = 01, 02, 03, 04, 05, 77, 88)

#### **STILL CARD 65**

Using this card, how often do you... **READ OUT**... find that your partner or family<sup>10</sup> gets fed up with the pressure of your job?

Mixed [NeverAlways + DKREF]		
MIXED	Mixed [NeverAlways + DKREF]	
SCALE	NeverAlways	
	Never	1
	Hardly ever	2
	Sometimes	3
	Often	4
	Always	5
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

Translation notes:

<sup>10</sup>‘Family’ in the sense of ‘nuclear’ rather than ‘extended’ family.

#### **Pilot – Results and comments**

##### Translation queries:

- There were some questions about checking that the repeated translation for the phrase “gets fed up with the pressure of your job” from H45 was translated correctly. A suggested for improvement was given for the Russian translation.

##### Pilot testing:

- In both countries the distribution is clustered at the lower end of the scale, although there are differences. In Austria 48% chose 'Never' compared to 31% in the UK and more than two thirds of respondents chose 'Never' or 'Hardly ever'. These two categories only amounted to 58% in UK.

- In ESS5, the differences between the Austrian and UK distributions were much larger than in the ESS10 pilot for this item - Austria had a mean value of 1.95, whereas UK had a mean value of 2.65. In Austria the same share of respondents chose 'Never' or 'Hardly ever' as in the ESS10 pilot (68%), however each of the two categories was chosen by roughly the same proportion of respondents then. In UK, the distribution was centrally clustered and a third of respondents chose 'sometimes.'
- INR low in both countries.

**CST recommendation:**

- It was recommended to remove the annotation from H44/H45.
- It was noted that it was not clear in the British English source that 'family' should be only nuclear and not extended family.

**Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- It was suggested to use the phrase 'family you live with' instead of just 'family'. Referring to the nuclear family is still unclear and does not clarify if (1) the question concerns harm to the nuclear family respondents' live with [which is worse] or not [which is less worse], (2) does not refer to the nuclear family defined as grand-parents – parent or parent – children relations? This can be an issue in a case of 3-generational families.

**Round 10 – Items**

This concept was included in the final Round 10 module (item G37).

*1.4.1.2.3 Time based work-to-family conflict for respondents with children and/or partner*

Time based conflict refers to restrictions in time for family responsibilities due to demands at work. For respondents with children and/or partner this for example indicates how often the respondents finds that the job prevents him or her from giving time to the partner or the family (see ESS 2010, 2004).

**Pilot – Items**

**H44**

ASK IF CURRENTLY IN PAID WORK AT F8a OR F9 (IF 01 AT F8a OR F9 = 1)

**CARD 65**

Using this card, how often do you... **READ OUT...** find that your job prevents you from giving the time you want to your partner or family<sup>11</sup>?

Mixed [NeverAlways + DKREF]		
MIXED	Mixed [NeverAlways + DKREF]	
SCALE	NeverAlways	
	Never	1

	Hardly ever	2
	Sometimes	3
	Often	4
	Always	5
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

Translation notes:

<sup>11</sup>'Family' in the sense of 'nuclear' rather than 'extended' family.

### **Pilot – Results and comments**

#### Pilot testing:

- The mean value was higher in the UK than in Austria, 2.7 and 2.3 respectively. The Austrian distribution is clustered at the low end of the scale (62% of respondents chose 'Never' or 'Hardly ever'), whereas the UK distribution is centrally clustered (30% of respondents chose 'Sometimes').
- 6% of respondents in Austria reported not having a partner/family, while this was only 2% in the UK.
- In ESS5, the differences between the Austrian and UK distributions were more reduced than in the ESS10 pilot, but still present and in the same direction (mean values were 2.5 in AT and 2.65 in UK). About 3% of respondents reported not having a partner/family in both countries.
- INR low in both countries.

#### CST recommendation:

- It was recommended to remove the annotation from H44/H45.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- It was suggested to use the phrase 'family you live with' instead of just 'family'. Referring to the nuclear family is still unclear and does not clarify if (1) the question concerns harm to the nuclear family respondents' live with [which is worse] or not [which is less worse], (2) does not refer to the nuclear family defined as grand-parents – parent or parent – children relations? This can be an issue in a case of 3-generational families.

### **Round 10 – Items**

This concept was included in the final Round 10 module (item G36).

#### *1.4.1.3 Autonomy in time*

We suggest measuring autonomy in time indicating that the respondent can choose when to work due to the use of digital social contact at work. Autonomy in time has been identified as an important aspect of flexibility in the work domain (e.g. Abendroth & Den Dulk 2011). We rely on common measurements of flexibility indicating whether the respondent can decide when her or his work schedule

begins and ends? A further possibility is to ask about whether the respondent can interrupt work for other responsibilities.

*Expected relationship with other complex and simple concepts*

This concept provides some baseline information on autonomy in time. It helps to evaluate the autonomy in time involved in digital social contact measured in the concept on experiences with digital social contact.

**Early development – Comments**

**Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

- No changes required, but the item was identified as a candidate for dropping if necessary.
- It was agreed a three-point scale would be used (not at all/ somewhat/ completely).

**Pilot – Items**

H46

ASK IF CURRENTLY IN PAID WORK AT F8a OR F9 (IF 01 AT F8a OR F9 = 1)

**CARD 66**

To what extent are you allowed to decide your own starting and finishing times at work?

Mixed [NotAtAllCompletely3+ NoTeam]		
MIXED	Mixed [NotAtAllCompletely3+ NoTeam]	
SCALE	NotAtAllCompletely3	
	Not at all	1
	To some extent	2
	Completely	3
MISSING_GROUP		
	Refusal	77
	Don't Know	88

**Pilot – Results and comments**

Pilot testing:

- The two pilot countries have similar distributions for this item. In both countries, at least 40% of respondents chose 'To some extent', about 1 in 3 respondents chose 'Not at all' and less than 1 in 4 respondents chose 'Completely'.
- INR was low for both countries.

CST recommendations:

- No changes were suggested.

## Round 10 – Items

This concept was included in the final Round 10 module (item G38).

### 1.4.1.4 Teleworking / Autonomy in place at work

Measures of telework are well established in existing work-life balance research although questions vary between, for example, working from home, teleworking or telecommuting (for reviews see Allen et al. 2015). We formulate the question based upon Nam (2014) because this study specifies for the frequency of teleworking and adjust it in order to distinguish whether it is during official working hours or whether it is overtime work: How often do you work from home or from another place of your choice during your basic or contracted working hours? How often do you work from home or from another place of your choice during paid or unpaid overtime? Telecommuting is likely to increase the need for digital social contact with supervisors and co-workers and likely to shape the experiences with digital social contacts. Previous research has further shown that it is a central predictor of work-life conflict (wlc) holding also implications for job satisfaction (for review see Allen et al. 2015; Gajendran & Harrison 2007).

#### *Expected relationship with other complex and simple concepts*

We expect that teleworking is a central predictor of face-to-face contact and digital social contact with the supervisor and with co-workers (supffc, cowffc, supdsc, cowdsc). Moreover, an association with expectations at work (expw), with work-life conflict (wlc), job satisfaction (jobsat), social cohesion in the work team (socowt) and (orgcib) can be expected. It is also a baseline for autonomy in place involved in digital social contact.

## Early development – Comments

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

The following changes were agreed by CST and QDT:

- The response scale (originally sourced from core item C2) will be inverted to be consistent with most other items in the digital social contact module. Category 5 ‘Once a week’ will also be dropped from the response scale for consistency with other frequency items (as this is
- No introduction is necessary before these two items.
- Routing items to all respondents in paid work, but adding a hidden code to the first item to let respondents who don’t work in an organisation skip this section.
- Reordering items so H47 comes first, followed by H4, and a potential new item on organizational support for work-personal life balance (in addition to line manager support).
- Amending the response scale to 5 points and adding a showcard for consistency with other frequency items.
- Harmonising wordings to start with ‘How often ...’.

## Pilot – Items

H47

CARD 67

How often do you work from home or from another place of your choice during your basic or contracted working hours?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Every day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

H48

#### STILL CARD 67

How often do you work from home or from another place of your choice during paid or unpaid overtime?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Every day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### Pilot – Results and comments

H47: -

#### Translation queries:

- There were questions on the phrase “basic or contracted working hours” both on what it means and whether it was too complicated to be translated closely.

Pilot testing:

H47: -

- In both countries, 57-59% of respondents reported 'Never' working from home or from another place of their choice, and 1 in 3 reported doing so several times a month or with a higher frequency.
- INR low in both countries.

H48: -

- The proportion of respondents who 'Never' telework is also high at 61% in UK and 66% in Austria. About a quarter of respondents in both countries reported doing so several times a month or with higher frequency.
- INR low in both countries.

**Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- The differentiation between paid and unpaid overtime makes a difference and may best be separated. The QDT replied that they are in agreement that this may be separated, but the combination was partly due to time limitations, but a decision needs to be made which one of the two is more important.

**Comments received from 4<sup>th</sup> QDT meeting (07/020/2020):**

- For H47, it was suggested to reword the items referring to 'during your regular working hours'.
- It was agreed to drop H48.

**Round 10 – Items**

Item H47 for this concept was included in the final Round 10 module (item G39). However, Item H48 for this concept was not included in the final Round 10 module.

**Round 10 – COVID-19 Items**

The following items were added into the questionnaire, due to the COVID-19 pandemic:

**G40**

Compared with before the coronavirus pandemic, would you say that you work from home or from another place of your choice... **READ OUT...**

Mixed [FrequencyMuchmoreMuchless5 + DKREF]		
MIXED	Mixed [FrequencyMuchmoreMuchless5 + DKREF]	
LIST	FrequencyMuchmoreMuchless5	
	much more often now,	1
	a little more often now	2
	about the same,	3
	a little less often now,	4
	or, much less often now?	5
	(I cannot work from home or from another place of my choice)	55

MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### G40a

ASK IF MORE OR LESS OFTEN AT G40 (IF G40 = 01, 02, 04, 05)

**CARD 72** Would you say that this change occurred as a result of the coronavirus pandemic?

**INTERVIEWER:** ‘this change’ refers to the respondent working from home or from another place of their choice more/less often now compared with before the coronavirus pandemic, as reported at G40.

Mixed [YesNo3+ DKREF]		
MIXED	Mixed [YesNo3 + DKREF]	
LIST	YesNo3	
	Yes, entirely	1
	Yes, in part	2
	No	3
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### 1.4.1.5 Expectations at work

We suggest the concept expectations at work to measure the family-friendliness of the workplace culture (Thompson et al. 1999; LEEP-B3: Diewald et al. 2015) including a culture of physical presence and of the ideal worker norm of a worker who has few family obligations and prioritizes work (Acker, 1990; Cha & Weeden, 2014; Hodges & Budig, 2016; Kossek et al., 2010) as well as measurements of a digital workplace culture including practices of digital accessibility. We suggest a common measurement from Thompson et al. 1999 on work-family workplace culture which involves managerial support for work-life balance and organizational time demands. For each sub concept we were only able to choose 1 item due to space limitations. We further suggest to also consider a culture of physical presence which is highly important for the opportunity to use digital social contact for more flexibility in time and place. For a culture of physical presence it is important to consider that some jobs are more likely to require physical presence at the regular workplace.

#### *Expected relationship with other complex and simple concept*

These expectations at work are expected to shape the frequency of digital social contact with work relations (supdsc, cowdsc) and the experiences with digital social contacts. Physical presence reduces the opportunity for digital social contact whereas expectations on accessibility and long hours increase the likelihood that digital social contact involves increased accessibility and disturbance of other activities (expdiconw, 7 items).

### 1.4.1.5.1 Culture of physical presence at work

Culture of physical presence at work refers to expectations to be constantly present at work and opportunities to perform the job at other locations decreasing the opportunity for digital social contact at work (supdsc, cowdsc) and teleworking (telw).

#### Early development – Comments

##### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

The following changes were agreed by CST and QDT:

- Amending the response scale to 5 points and adding a showcard for consistency with other frequency items.
- Amending the question wording accordingly.
- The QDT realised, for culture of physical presence, that the item so far measures whether your job requires to be physically present at a specific location. This is very important. But they have not yet measured a culture of physical presence. Therefore, they suggested bringing that back in with a statement: ‘Employees in my organisation are expected to be physically present at a specific location’.

#### Pilot – Items

##### H49

##### STILL CARD 67

How often does your job require you to be physically present at a specific location?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Every day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

##### H50

The next few questions are about the organisation or company you work for.

##### STILL CARD 67

How often are employees in your organisation expected to be physically present at a specific location?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Every day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### **Pilot – Results and comments**

#### Translation queries:

- It was pointed out that “organisation” is never straightforward in translations, it was seen as unclear whether it includes private firms and public institutions / administrations. A suggestion was made to use the term ‘workplace’ instead.

#### Pilot testing:

- Both countries have similar distributions.
- 80% of respondents in both countries reported that employees in their organisation are expected to be present at a specific location at least several times a week. Like H49 the share of respondents who chose 'every day' is higher in the UK than in Austria (65% vs 56%).
- 6-8% of respondents in both countries volunteered that they do not work for an organisation (e.g. because they are self-employed). This code was not listed on the showcard in the ESS10 pilot.
- INR below 7% for both countries.

#### CST recommendations:

- It was noted that H49 and H50 have similar distributions. H50 is more imprecise by nature, as it asks an assessment about a group of people working under potentially diverse conditions. It is proposed to retain H49 and drop H50.
- It was recommended that if H50 is retained, the code to route away respondents not working in an organisation should probably be added to the showcard.
- It was recommended that if H50 is dropped, a similar code to route away respondents not working in an organisation should be added at H51. As per the comment above, it should probably be listed on the showcard.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC noted that it is difficult to answer these questions in the situation when employees in the company differ due to the above issues. For example, some are expected to be physically present in workplace, others can work online.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- The QDT was asked to reconsider issues with nature of tasks (e.g. not office-based) and frequency scale (maybe better as a yes/no question).
- It was suggested to display 'I don't work in an organisation' on the showcard.
- A new item formulation was proposed by the CST: 'In your organisation, would you say those choosing to work regularly from home or from another place of their choice are seen as...'  
Much less committed to their job, Less committed to their job, At least as committed to their job as those who always work from the workplace, (plus two hidden codes for people without a regular workplace and people who don't work remotely).
- It was agreed to drop H49.

#### **Round 10 – Items**

This concept was not included in the final Round 10 module.

##### *1.4.1.5.2 High demanding work culture*

High demanding work cultures address expectations to be constantly available for work tasks and contact in line with the ideal worker norm of a worker who has few family obligations and prioritizes work (Acker, 1990; Cha & Weeden, 2014; Hodges & Budig, 2016; Kossek et al., 2010). We expect that high demanding work cultures shape experiences with digital social contact at work (expdiconw), especially accessibility and disturbance. High demanding work cultures have already been found to moderate the implications of telework for work-life conflict and gender earning inequalities in German workplaces (Abendroth & Reimann 2018; Abendroth & Diewald, working paper).

#### **Early development – Comments**

##### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Referring to 'personal commitments' rather than 'family commitments' to make item H53 more broadly applicable.
- It was suggested to amend the wording of H53 to read 'does your line manager/organisation support you' to make the item less ambiguous and reduce respondent burden.

#### **Pilot – Items**

##### **H51**

ASK IF RESPONDENT DID NOT REPORT NOT WORKING IN AN ORGANISATION AT H50 (IF H50 = 01, 02, 03, 04, 05, 06, 77, 88)

#### **STILL CARD 67**

How often are employees in your organisation expected to work long hours<sup>12</sup>, whether at the workplace or at home?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Every day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

Translation notes:

<sup>12</sup> 'Work long hours' in the sense of working overtime.

## H52

ASK IF RESPONDENT DID NOT REPORT NOT WORKING IN AN ORGANISATION AT H50 (IF H50 = 01, 02, 03, 04, 05, 06, 77, 88)

## STILL CARD 67

How often are employees in your organisation expected to be responsive to work communications after working hours?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Every day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### H53

ASK IF RESPONDENT DID NOT REPORT NOT WORKING IN AN ORGANISATION AT H50 (IF H50 = 01, 02, 03, 04, 05, 06, 77, 88)

#### CARD 68

How much, if at all, does your organisation support employees in balancing work and personal commitments? Please choose a number from 0 to 10, where 0 means not at all and 10 means completely.

Mixed [NotAtAllCompletely10 + DKREF]		
MIXED	Mixed [NotAtAllCompletely10 + DKREF]	
SCALE	NotAtAllCompletely10	
	Not at all	0
	Completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### Pilot – Results and comments

##### Translation queries:

- It was questioned if the phrase ‘if at all’ was necessary as there was a zero on the response card and it possibly increased the complexity of the question.
- For H51, It was pointed out that if the phrase ‘working long hours’ was meant to mean ‘working overtime’ as the footnote suggests then this should be the wording in the source questionnaire.
- It was suggested that the instructions to the interviewer before H51 be turned from a double negative into a positive.
- It was asked whether the term ‘responsive’ in H52 meant the employee had to react to or just read messages.

##### Pilot testing:

H51: -

- Distributions for this item report notable differences between the two pilot countries.
- In Austria, there is clustering at the low end of the scale: a third of respondents chose 'never' and the majority of respondents reported 'never' of 'less often'.
- In the UK, there is clustering on both ends of the scale: 39% chose 'every day' or 'several times a week' and 37% chose 'less often' or 'never'.
- Item H51 was asked to about 50% of the full sample in Austria and 42% of the full sample in the UK (people in paid work and who did not report not working for an organisation). This also applies to item H52.
- INR below 7% in both countries.

H52: -

- Distributions for this item are less dissimilar between the two pilot countries compared to H51.

- In both countries, there is clustering at the low end of the scale, although this is more pronounced in Austria: 77% of respondents in Austria and 58% in the UK chose 'less often' or 'never'.
- Consistently with item H51, the group that is expected to be responsive at least 'Several times a week' is larger in UK than in AT.
- INR was above 7% in the UK for this question, interviewer feedback implied that this was due to the question being non-applicable to a number of respondents who didn't work for an organisation.

H53: -

- In Austria responses for this item are relatively clustered at the low endpoint and the mid-to-high end of the scale.
- 46% of Austrian respondents reported support of 7 or higher with 26% reporting support of 3 or lower.
- In the UK responses were clustered around the mid to high end of the scale.
- 47% of respondents from the UK reported support of 7 or higher with 20% reporting support of 3 or lower.
- INR is over 7% in Austria with 5% refusals and 3% don't know. In the UK INR was lower and below 7%.

CST recommendations:

- As H53 and H54 had similar distributions it was suggested to only retain one.
- It was noted that H53 had a slightly higher INR and this may be because it is more difficult for respondents to assess level of support at organisational level.
- It was also suggested to drop 'if at all' from the H53.
- It was suggested that there should be further discussion with the questionnaire design team around measurement aims with respect to using 'long hours' or 'overtime.'

**Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC queried whether respondents will be able to make a distinction between colleagues and line managers.
- It was noted that it is difficult to answer these questions in the situation when employees in the company differ. For example, some are expected to be physically present in workplace, others can work online.

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was agreed to drop H53.

**Round 10 – Items**

Item H51 and H52 for this concept was included in the final Round 10 module (item G41 and G42, respectively). However, Item H53 for this concept was not included in the final Round 10 module.

*1.4.1.5.3 Managerial support for work-life balance*

Managerial support for work-life balance has been identified as a key dimension of work-life supportive workplace culture. We test whether the measurement of Thompson et al. 1999 on managerial support or

the measurement on supervisor support in line with the LEEP-B3 data and several other studies is more appropriate. Existing research indicates that the direct supervisor is important for the work-life balance situation of employees.

## Pilot – Items

### H54

#### STILL CARD 68

How much, if at all, does your line manager support employees in balancing work and personal commitments? Please choose a number from 0 to 10, where 0 means not at all and 10 means completely.

**INTERVIEWER:** Line manager refers to the person the respondent receives work instructions from on a regular basis; if the respondent has several line managers, ask them to think of the one they received work instructions from most recently. This applies to all questions referring to the respondent’s line manager in this module.

Mixed [NotAtAllCompletely10 + DKREF]		
MIXED	Mixed [NotAtAllCompletely10 + DKREF]	
SCALE	NotAtAllCompletely10	
	Not at all	0
	Completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

## Pilot – Results and comments

### Translation queries:

- It was questioned if the phrase ‘if at all’ was necessary as there was a zero on the response card and it possibly increased the complexity of the question.
- It was pointed out that ‘line manager’ was not always easy to translate and that manager would possibly be easier.

### Pilot testing:

- Responses for this item were relatively clustered at the low endpoint in Austria and at the mid-to-high end of the scale in Austria and the UK.
- Mean scores are higher than at H53 in both countries. 57% in Austria and 61% in the UK reported high levels of support (7 or higher), whereas 22% in Austria and 16% in the UK reported low levels of support (3 or lower).
- 4-5% of respondents in both countries volunteered that they do not have a line manager. This code was not listed on the showcard in the ESS10 pilot.
- INR was lower than at H53, especially in AT and in both countries below 7%.

### Survey quality predictor:

- The rewording of this question in comparison to D17a in the omnibus leads to a higher SQP score.

#### Interviewer feedback:

- Many Austrian respondents found it difficult to identify who their line manager was, it was suggested that including a reference to directness would cut down on this difficulty.

#### CST recommendations:

- In translation, it was recommended to keep the notion of 'directness' when translating 'line manager'.
- The code to route away respondents without a line manager should be added to the showcard, or alternatively a specific instruction added to the question.
- It was also suggested to drop 'if at all' for reasons stated above.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to delete 'if at all', and include 'I don't have a line manager' on the showcard.

### **Round 10 – Items**

This concept was included in the final Round 10 module (item G44).

## 1.4.2 Supervisor

### *1.4.2.1 Solidarity*

The concept aims to measure the exchange of support and appreciation. Here we rely on common measurements which have also been used in the German LEEP-B3 survey or partly in the Sustainable workforce survey. The for example involve questions on a) how often do you receive support from your supervisor with work-related problems? b) how often does you supervisor show you appreciation for the work you do?, c) How often do you feel unjustly criticized by your supervisor?

#### *Expected relationship with other complex and simple concepts*

This concept provides some baseline information on overall solidarity in the relationship. It helps to evaluate the exchange of solidarity in digital social contact measured in the questions on experiences with digital social contact.

### **Early development – Comments**

#### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Amending wording to be only about receiving help and advice rather than reciprocating and to refer only to 'work-related help or advice'.

### **Pilot – Items**

H55

ASK IF RESPONDENT DID NOT REPORT HAVING NO LINE MANAGER AT H54 (IF H54 = 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 77, 88)

### CARD 69

How likely would your line manager be to give you work-related help or advice, if needed?

Mixed [VeryLikely4 + DKREF]		
MIXED	Mixed [VeryLikely4 + DKREF]	
LIST	VeryLikely4	
	Very likely	1
	Likely	2
	Not very likely	3
	Not at all likely	4
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

### Pilot – Results and comments

#### Translation queries:

- It was suggested to modify the interviewer instructions before H55 to not have a double negative.

#### Pilot testing:

- Responses for this item are highly and similarly clustered at the higher end of the scale in both countries. 77% in Austria and 82% in the UK chose 'likely' or 'very likely'.
- Item H55 was asked to about 48% of the full sample in Austria and 40% of the full sample in the UK.
- INR was below 7% in both countries but higher in the UK at 4.8% compared to 1.4% in Austria.

### Round 10 – Items

This concept was included in the final Round 10 module (item G45).

#### 1.4.2.2 Distance

This concept aims to measure frequency of being at the same workplace at the same time to indicate the opportunity for face-to-face contact.

### Pilot – Items

#### H56

### CARD 70

How often are you and your line manager at the same workplace at the same time?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Every day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

#### Pilot testing:

- Responses for this item are clustered at the more frequent end of the scale in both countries. 62% in Austria and 70% in the UK chose at least 'several times a week'. Only 15% in Austria and 13% in the UK chose 'less often' or 'never'.
- INR was low in both countries.

### Round 10 – Items

This concept was included in the final Round 10 module (item G46).

#### 1.4.2.3 Frequency face-to-face contact

This concept measures the frequency of face-to-face contact with the supervisor of those who are employed and follows the concept frequency digital social contact with child and with parent. Face-to-face contact in the work domain refers to in person communication at the workplace. Communication at the workplace as the expression of solidarity (support and appreciation), coordination of work tasks, monitoring of job performance, and “always-on” accessibility are central content of contact we are interested in in the module.

#### *Expected relationship with other complex and simple concepts*

The frequency of face-to-face contact with the supervisor is likely to lower the need for digital social contact with the supervisor and the trust in the relationship shaping the frequency of digital social contact with the supervisor (supdsc) as well as the experiences with digital social contacts with work relations (expdsc) and thus their consequences for job satisfaction (jobsat), work-life conflict (wlc), organizational citizenship behavior (orgcib) and social cohesion in the work team (socowt). The frequency of face-to-face contact is further associated with telework (telw) restricting the opportunity for face-to-face contact.

## Early development – Comments

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

The changes made in response to comments from the 12<sup>th</sup> NC Forum were noted. These include:

- Removing ‘usually’ from the item on face-to-face contact, as it is not present in other frequency items.
- Removing the explanation of what ‘in person’ means from the item on face-to-face contact and including it in an introduction to the item.
- The introduction was amended to specify that ‘work-related communication’ is meant. On the other hand, it was agreed to place this item before all items on contacting at a distance (including contact via landline phone) to improve the questionnaire flow.

## Pilot – Items

### H57

The next question is about work-related communication between you and your line manager taking place when you are face to face in the same location.

### CARD 71

How often do you speak with your line manager in person?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	
	Once a day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

## Pilot – Results and comments

### Pilot testing:

- In both countries, most respondents speak with their line manager in person several times a week or with higher frequency (71% in AT and 75% in UK).
- INR low in both countries.

### CST recommendations:

- It was recommended to drop the introduction before H57.
- Adding a translation annotation for ‘in person’ was also recommended.

**Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC noted that the question does not correspond to the situation of respondents who work online and is rarely present in the company.

**Round 10 – Items**

This concept was included in the final Round 10 module (item G47).

*1.4.2.4 Frequency contact landline phone*

We also aim to measure contact via landline phones as they are still common. Strictly speaking they are not digital social contact. They do not require to be in the same place in person but involve less locational flexibility in comparison to digital social contact.

**Pilot – Items**

H58

**STILL CARD 71**

How often do you speak with your line manager using a landline phone? Please include calls you make or receive on a landline phone.

**INTERVIEWER:** If respondent has no landline phone at work, code as ‘Never’.

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	
	Once a day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

**Pilot – Results and comments**

Pilot testing:

- In both countries, most respondents never speak with their line manager using a landline phone (68% in AT and 57% in UK) and 'Less often' is the second most selected response (10% to 15%).
- INR low in both countries.

#### CST recommendations:

- The questionnaire design team was to consider whether H58 was necessary as they had relatively low frequencies.
- It was noted that if H58 was retained it should be clear that the respondent is thinking about their own device.
- It was suggested to combine the items on video and audio calling, this is because of the low frequency in video calling, it will also allow simplifying of wording.

#### **Comments received from 13<sup>th</sup> NC Forum (18/12/2019):**

- An NC noted that the instruction for interviewers gives sense of this question only if it will be used in combination with other questions concerning communication. Never in a case of declining lines groups answers of no-communication at all with no communication because of the lack of a line which makes this question useless as a separate question measuring “old-fashion” style of communication. The suggested to add to the proposed answers 08=Never, don't have a line and/or my [son,daughter] does not have it.

#### **Round 10 – Items**

This concept was included in the final Round 10 module (item G49).

#### *1.4.2.5 Frequency digital social contact*

This concept measures the frequency of digital social contact with the supervisor of those who are employed and follows the concept frequency digital social contact with child and with parent. Digital social contact in the work domain involves communication which is transmitted by electronic and especially computerized technology, and which is not in-person communication.

#### *Expected relationship with other complex and simple concepts*

We suggest that the frequency of face-to-face contact with the supervisor (supftfc) (S) and telworking (telw) are important predictors of the frequency of digital social contacts with the supervisor because they define the need for digital social contacts. Internet access (internac) (S) and Internet skill (intsk) (S) as well as specific expectations at work (expw) further define the opportunity for digital social contacts with the supervisor and privacy concerns (privcon (S)) the trust in the use of digital communication devices and thus also the frequency of digital social contacts with the supervisor. We further suggest that the frequency of digital social contacts with supervisors is associated with job satisfaction (jobsat), social cohesion in work team (socowt), organizational citizenship behavior (orgcib) and work-life conflict (wlc). It is further likely to moderate the implications of face-to-face contact with the supervisor (supftfc) for these outcomes.

#### **Comments received from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- The items were moved to follow the items on face- to-face contact and landline phone contact, to improve the questionnaire flow.
- The items were reordered so that the item on written communication comes before the one on (audio) calls, to clarify that only verbal communication should be included at the latter.
- The frequency response scale was amended to have 6 scale points (including both ‘Several times a day’ and ‘Once a day’) throughout the module.
- ‘About’ might be added to simplify the task of assessing frequency throughout the module.
- Items on video and audio calls were not merged, as for the QDT they vary in richness of communication and are likely to hold different implications for relation- ship quality.
- The introduction was amended to specify that ‘work-related communication’ is meant.
- Contact ‘him/her’ was replaced by ‘communicate with each other’. However, it was acknowledged that it may still be difficult for some respondents to report frequency of communication due to the characteristics of (especially text-based) digital social contact.

### Pilot – Items

#### H59

The next few questions are about work-related communication between you and your line manager taking place over the Internet or mobile networks, using mobile phones, computers, tablets, or other digital devices.

#### STILL CARD 71

How often do you communicate with your line manager via text, email or messaging apps?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	
	Once a day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### H60

#### STILL CARD 71

How often do you speak with your line manager such that you can see each other on a screen?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	

LIST	FrequencySeveralNever7	
	Several times a day	
	Once a day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

## H61

### STILL CARD 71

How often do you speak with your line manager using a mobile phone, computer, tablet, or other digital device? Please include calls you make or receive using any of these devices and exclude calls where you can see each other on a screen.

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	
	Once a day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5
	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

#### Pilot testing:

H59: -

- 'Several times a week' is the most used category in the UK at 23% of respondents whereas several times a month is the most used category in Austria at 26%.
- 35% in Austria and 30% in the UK chose 'less often' or 'never'. 13% in both countries chose 'several times a day'.

- SD is relatively high in both countries.
- INR low in both countries.

H60: -

- A large majority of respondents (81% in the UK and 94% in AT) never has video calls with their line manager.
- INR low in both countries.

H61: -

- As for item H59, 'several times a week' is the most used category in the UK (21%) whereas 'several times a month' is the most used category in Austria (29%).
- 32% in Austria and 37% in the UK chose 'less often' or 'never'. 13% in Austria and 16% in the UK chose 'once a day' or 'several times a day'.
- SD is relatively high in both countries. INR low in both countries.

**Comments received from 13<sup>th</sup> NC Forum (18/12/2019):**

- An NC noted that H61 may be too complicated for respondents.

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was agreed to drop the introduction before H59.

**Round 10 – Items**

This concept was included in the final Round 10 module (items G50, G46, G49).

*1.4.2.6 Experiences with Digital Social Contacts*

People have different experiences using online and mobile communicating with work relations (supervisor, co-workers). We aim to ask about respondents' experiences using the Internet and mobile phones for communicating with work relations (supervisors) providing statements on involved contents, costs and benefits which are likely to shape work-life balance, job satisfaction, social cohesion in the team as well organizational citizenship behavior. Respondents are asked to what degree listed digital communication experiences apply to them on a 5-point scale. Based on existing research we distinguish between the following contents, costs, and benefits: solidarity, monitoring, autonomy.

*Expected relationship with other complex and simple concepts*

Opportunity based arguments from research on the digital social divide point to differences in 1) access to digital communication and 2) digital skill (Hargittai 1999, 2006, 2010; Vicente & López 2011). This implies not only inequality in digital social contact use between individuals within and between European countries, but also different possibilities to complement the exchange of family or workplace solidarity digitally, to advance work coordination digitally, or to be able to monitor work relations digitally. Therefore, Internet access (internac) (S) and Internet skill (intsk) (S) are expected to be predictors of experiences with digital social contacts. In the same vein, expectations on physical presence in the workplace (expw) (C) shape the opportunities for digital social contact as well as the experiences involved. The other expectations at work (expw) such as working long hours are likely to shape the experience of accessibility and disturbance. Need based arguments suggest that the internet

and mobile phones are used for digital social contact when specific needs can be satisfied in this way e.g., to connect with or to monitor children, parents, and work relations or to advance coordination of joined activities and tasks (Rubin 2002; Dworkin et al. 2018). The need to share solidarity via digital social contact and to monitor is especially likely when restrictions on face-to-face contact exist due to geographic distance, living arrangements, teleworking. Following from this we expect the frequency of face-to-face contact with co-workers (cowftfc) (S) and the frequency of face-to-face contact with supervisors (supftfc) (S) as well as teleworking (telw) (S) to be important predictors. Telework is further likely to increase the likelihood that digital social contact is used for advanced coordination to reconnect the teleworker to the workplace. Privacy concerns (privcon (S)) indicate the trust in the use of digital communication devices and thus also the likelihood to experience the listed digital experiences in the work domain. Frequent face-to-face contact might further establish trust in the relationship, facilitating the exchange of workplace solidarity in digital social contacts and reducing the likelihood of monitoring by work relations (Jamieson 2013). The way of digital social contact at work (waydscw, 5 items) (C) is further likely to shape the experience of monitoring, support, accessibility, and disturbance because the richness of the medium involved shapes misunderstandings and possibilities for accessibility and disturbance. We further suggest that the experiences of digital social contacts in the work domain are important predictors of job satisfaction (jobsat) (S), work-to-life conflict (wlc, 4 items) (C), organizational citizenship behavior (orgcib, 5 items) (C), social cohesion in work team (socowt, 3 items) (C) and that they are likely to moderate the implications of the frequency of face-to-face contact with supervisors and co-workers for these outcomes.

#### *1.4.2.6.1 Autonomy in place*

Autonomy is an important predictor for job satisfaction and work-life balance. We suggest measuring autonomy in place. Measurements of autonomy have been established using scales on control on how one does job tasks (Karasek and Theorell 1990) and on control over work time and place (Abendroth & Den Dulk 2011). Due to space limits, we focus on opportunities of teleworking because an association between digital social contact and telecommuting could also relate to reversed causality. With this perception we know at least whether we find that digital social contact increases locational flexibility.

We suggest measuring autonomy in place indicating that digital social contacts provide more flexibility in where to work. It indicates possibilities of teleworking irrespectively of formal policies. Autonomy in place has been identified as an important aspect of flexibility in the work domain (e.g. Allen et al., 2015; Gajendran & Harrison, 2007).

#### **Pilot – Items**

##### **H64**

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH LINE MANAGER (IF H59= 01, 02, 03, 04, 05, 06 OR H60 = 01, 02, 03, 04, 05, 06 OR H61 = 01, 02, 03, 04, 05, 06)

The next questions are about your experience using online and mobile communication for keeping in touch with your line manager.

INTERVIEWER: If necessary, remind the respondent that ‘online and mobile communication

refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

**CARD 72**

To what extent does each of the following statements apply to the online and mobile communication between you and your line manager? **READ OUT...** It makes it possible to work from home or from another place of my choice.

Mixed [ApplyNotAtAllCompletely10 + DKREF]		
MIXED	Mixed [ApplyNotAtAllCompletely10 + DKREF]	
SCALE	ApplyNotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

**Pilot – Results and comments**

Translation queries:

- It was recommended to add ‘online and mobile communication’ at the beginning of the sentence for the battery, in order to have in each question.

Pilot testing:

- Strong clustering at 0 for both countries, this is especially pronounced in Austria with 55% of respondents selecting 0.
- Clustering at 10 also present in both with very low 1-7 in Austria.
- Low INR in both countries.

CST recommendations:

- It was suggested that a ‘not at all/completely’ scale may improve measurement.
- It was also recommended that the interviewer note should be moved from the introduction to the question stem to immediately before the battery.
- It was also suggested that items concerning experiences with DSC between supervisors and colleagues should be merged. The resulting battery should concern ‘people you work with.’ H63 would still refer to manager only.

**Comments received from 13<sup>th</sup> NC Forum (18/12/2019):**

- Some NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other or that does not apply as respondent makes no judgments on the issue how easy it is? An NC suggested to change the scale to “Strongly agree – Strongly disagree” or similar and would not use “apply” phrase.
- It was noted that respondents might not be able to make a distinction between colleagues and line-managers.

**Comments received from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to drop the introduction.
- It was suggested to merge with the colleagues battery and change to standalone questions.

### Round 10 – Items

This concept was not included in the final Round 10 module.

#### 1.4.2.6.2 Monitoring

Monitoring addresses the feeling of being controlled digitally, e.g. by supervisors and co-workers by frequent digital contact. The feeling of being monitored has been addressed for parent-child interactions (for review see Dworkin et al. 2018) but is also likely to be relevant for the work domain. Moreover, whether digital technologies involve more autonomy or control at the workplace is a key discussion in technical sociology (Pfeiffer 2010). Baseline information on monitoring and control at work is already provided by the question on job autonomy in the core module of the ESS.

### Pilot – Items

#### H63

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH LINE MANAGER (IF H59 = 01, 02, 03, 04, 05, 06 OR H60 = 01, 02, 03, 04, 05, 06 OR H61 = 01, 02, 03, 04, 05, 06)

The next questions are about your experience using online and mobile communication for keeping in touch with your line manager.

**INTERVIEWER:** If necessary, remind the respondent that ‘online and mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

#### CARD 72

To what extent does each of the following statements apply to the online and mobile communication between you and your line manager? **READ OUT...** It makes it easy for my line manager to keep track of my job performance.

Mixed [ApplyNotAtAllCompletely10 + DKREF]		
MIXED	Mixed [ApplyNotAtAllCompletely10 + DKREF]	
SCALE	ApplyNotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

#### Pilot testing:

- There was clustering at 10 and 8 in both countries and clustering at 0 in Austria. There was minor clustering at 0 and 5 in the UK.
- Low INR in both countries.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- Some NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other or that does not apply as respondent makes no judgments on the issue how easy it is? An NC suggested to change the scale to “Strongly agree – Strongly disagree” or similar and would not use “apply” phrase.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was agreed to drop H63

### **Round 10 – Items**

This concept was not included in the final Round 10 module.

#### *1.4.2.6.3 Solidarity*

Solidarity addresses appreciation and support from co-workers and supervisors which has been found to increase job satisfaction work-life balance, organizational citizenship behavior and which indicates social cohesion in the workplace (Abendroth & Den Dulk 2011; Cohen & Wills 1985; de Lange et al. 2003; Gilbreath & Benson 2004; Organ & Ryan 1995). Hertlein (2012) further defines approximation as an ecological influence of the use of the internet and mobile phones which have features which allow to approximate face-to-face situations and thus also the exchange of solidarity. Also, other studies suggest that digital social contacts can be a source for the exchange of solidarity (e.g. see review of Dworkin et al. 2018).

### **Pilot – Items**

#### **H62**

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH LINE MANAGER (IF H59 = 01, 02, 03, 04, 05, 06 OR H60 = 01, 02, 03, 04, 05, 06 OR H61 = 01, 02, 03, 04, 05, 06)

The next questions are about your experience using online and mobile communication for keeping in touch with your line manager.

**INTERVIEWER:** If necessary, remind the respondent that ‘online and mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

#### **CARD 72**

To what extent does each of the following statements apply to the online and mobile communication between you and your line manager? **READ OUT...** ... It makes it easy for my line manager to give me work-related help or advice when needed.

Mixed [ApplyNotAtAllCompletely10 + DKREF]		
MIXED	Mixed [ApplyNotAtAllCompletely10 + DKREF]	
SCALE	ApplyNotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### **Pilot – Results and comments**

#### Pilot testing:

- There was clustering at 10 and 8 in both countries and clustering at 5 in Austria.
- Clustering in general toward the high end of the scale.
- Low INR in both countries.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- Some NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other or that does not apply as respondent makes no judgments on the issue how easy it is? An NC suggested to change the scale to “Strongly agree – Strongly disagree” or similar and would not use “apply” phrase.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to merge these items with the colleagues battery and change to standalone questions.

### **Round 10 – Items**

This concept was not included in the final Round 10 module.

## 1.4.3 Co-Workers

### *1.4.3.1 Social cohesion in work team*

The concept social cohesion identifies the climate in the work team. We suggest measuring to what degree the respondents agree or disagree to three statements on the climate in the work team or department. This is a shortened version of the concept validated in the Sustainable Workforce Survey.

#### *Expected relationship with other complex and simple concepts*

Social cohesion in the work team is expected to be associated with frequency and content of digital social contact as well as of face-to-face contact with supervisor and co-workers of (expdscw, supftfc, cowftfc, exsolw) which indicate associational solidarity (Bengtson and Roberts 1991).

### **Early development – Comments**

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

The following changes were agreed by CST and QDT:

- Referring only to the respondent's team rather than 'team or department' and moving this reference to an introduction rather than repeating it in each item

### Pilot – Items

#### H65

ASK IF CURRENTLY IN PAID WORK AT F8a OR F9 (IF 01 AT F8a OR F9 = 1)

The next few questions are about the team in which you work.

#### CARD 73

How much, if at all, do you feel like part of your team? Please choose a number from 0 to 10, where 0 means not at all and 10 means completely.

Mixed [NotAtAllCompletely10 + DKREF]		
MIXED	Mixed [NotAtAllCompletely10 + DKREF]	
SCALE	NotAtAllCompletely10	
	Not at all	0
	Completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

#### Pilot testing:

- Responses for this item are clustered at the higher end of the scale in both countries.
- 37% in Austria and 31% in the UK feel 'completely' part of a team at work, and 78% in Austria and 74% in the UK chose a response of 7 or higher.
- 8% (UK) to 14% (AT) volunteered that they do not work in a team. This code was not listed on the showcard in the ESS10 pilot.
- Low INR for both countries.

Survey quality predictor:

- The SQP score was higher than for D26 in the omnibus.

CST recommendations:

- It was recommended that the code to route away respondents not working in a team should be added to the showcard, or alternatively a specific instruction added to the question.

### Comments from 4<sup>th</sup> QDT meeting (07/02/2020):

- Include 'I don't work in a team' on the showcard.

## Round 10 – Items

This concept was included in the final Round 10 module (item G51).

### 1.4.3.2 Organizational citizenship behavior

Organizational citizenship behavior refers to a person's voluntary commitment within an organization or company that is not part of his or her contractual tasks (for review see Organ & Ryan 1995). This measurement has been validated in the Sustainable Workforce Questionnaire.

#### *Expected relationship with other complex and simple concepts*

Organizational citizenship behavior is expected to be associated with frequency of and experiences with digital social contact as well as of face-to-face contact with supervisor and co-workers (expdscw, supftfc, cowftfc, exsolw) as previous research indicates that organizational citizenship behavior depends on solidarity and cohesion in the workplace (Organ & Ryan 1995). We further expect an association with work- to-life conflict (wlc), social cohesion in the work team (socwt), and job satisfaction (jobsat).

## Early development – Comments

### Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):

The following changes were agreed by CST and QDT:

- Referring only to the respondent's team rather than 'team or department' and moving this reference to an introduction rather than repeating it in each item
- QDT to propose alternative wordings for this item. It could be a candidate for dropping due to the assumptions behind the item.

## Pilot – Items

### H66

ASK IF RESPONDENT DID NOT REPORT NOT WORKING IN TEAM AT H65 (IF H65 = 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 77, 88)

### CARD 74

How often, if at all, do people in your team share their expertise with one another?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Every day	1
	Several times a week	2
	Several times a month	3
	Once a month	4
	Less often	5

	Never	6
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

## H67

### CARD 75

If needed, how willing would you be to take on extra responsibilities at work beyond what you are required to do? Please choose a number from 0 to 10, where 0 means not at all willing and 10 means completely willing.

	Mixed [WillingNotAtAllCompletely10 + DKREF]	
MIXED	Mixed [WillingNotAtAllCompletely10 + DKREF]	
SCALE	WillingNotAtAllCompletely10	
	Not at all willing	0
	Completely willing	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### Pilot – Results and comments

#### Translation queries:

- It was suggested to modify the interviewer instructions before H66 to not have a double negative.
- There was a question about what exactly was meant by the phrase 'if needed' in question H67.

#### Pilot testing:

- Items H66 and H67 were asked to about 45% of the full sample in AT and 42% of the full sample in UK (people in paid work and who did not report not working in a team).

#### H66: -

- Responses are clustered at the higher end of the scale, although more heavily so in the UK than in Austria.
- 70% in the UK and 50% in Austria chose 'several times a week' or 'every day'. Only 19% in Austria and 12% in the UK chose 'less often' or 'never'.
- INR over 7% in Austria at 8.1% this is mostly made up of don't knows. INR in the UK was low.

#### H67: -

- In both countries 'completely willing' is the most used category (chosen by 26% in Austria and 29% in the UK).
- 'Not at all willing' was chosen by 12% in Austria and 8% in the UK; '7' or '8' was chosen by 22% in Austria and 29% in the UK.

- Low INR in both countries.

#### Interviewer feedback:

- In the UK at least two respondents found H67 unclear.
- In Austria some respondents had difficulty with understanding the phrase ‘extra responsibilities’ in H67.

#### CST recommendations:

- It was noted that both items had issues, H66 had a higher INR in Austria, H67 had some comprehension issues.
- It was recommended to retain H66 but with the scale used in H67.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- NCs were unsure if the ‘extra responsibilities at work’ refer to for free or for money.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- For H67, it was suggested to change ‘beyond what you are required to do’ to ‘without being paid more’.
- It was agreed to drop H66.

#### **Round 10 – Items**

Item H67 for this concept was included in the final Round 10 module (item G52). However, item H66 for this concept was not included in the final Round 10 module.

#### *1.4.3.3 Distance*

This concept aims to measure the proportion of regular colleagues which are based at the same workplace as the respondent indicating the opportunity for face-to-face contact and the need for digital social contact. Answer categories also involve I have no colleagues.

#### **Early development – Comments**

#### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Routing items to all respondents in paid work, but with a code allowing respondents without colleagues to skip this section.
- Dropping ‘regardless of whether they work for the same employer or for a different one’ from the introduction as this caused confusion in some languages. Leave this to respondent to interpret depending on the way their work is organised.
- Keeping the term ‘colleagues’ rather than ‘people you work with’, as this could be misleading for certain types of respondents (e.g. self-employed).
- Referring to ‘location’ rather than ‘workplace’ to reduce ambiguity.

#### **Pilot – Items**

#### **H68**

ASK IF CURRENTLY IN PAID WORK AT F8a OR F9 (IF 01 AT F8a OR F9 = 1)

Now let's talk about the colleagues you work with on a regular basis.

**CARD 76**

On a normal working day, what proportion of your regular colleagues are based at the same location as you?

**INTERVIEWER:** If respondent asks which colleagues to consider, ask them to refer to the colleagues they work with on a regular basis. If respondent works at more than one location, ask them to think about the location they work at most frequently.

Mixed [AllNoneProportion + DKREF]			
MIXED	Mixed [FrequencySeveralNever7 + DKREF]		
LIST	FrequencySeveralNever7		
	All	1	ASK H69
	Very large	2	ASK H69
	Over a half	3	ASK H69
	About a half	4	ASK H69
	Under a half	5	ASK H69
	Very small	6	ASK H69
	None	7	ASK H69
MISSING_GROU P	DKREF		
	I don't have colleagues	55	GO TO SECTION I
	Refusal	77	ASK H69
	Don't Know	88	ASK H69

**Pilot – Results and comments**

This concept was piloted without intention to analyse it independently.

**Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC suggested to change 'colleagues' to 'collaborators'.

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was agreed to drop 'regular' (colleagues).

**Round 10 – Items**

This concept was included in the final Round 10 module (item G53).

### 1.4.3.4 Solidarity

The concept aims to measure the exchange of support and appreciation. Here we rely on common measurements which have also been used in the German LEEP-B3 survey or partly in the Sustainable workforce survey. For example it involves questions on a) how often do you receive support from your co-worker with work-related problems? b) How often do you feel unjustly criticized by your co-workers?

#### *Expected relationship with other complex and simple concepts*

This concept provides some baseline information on overall solidarity in the relationship. It helps to evaluate the exchange of solidarity in digital social contact measured in the questions on experiences with digital social contact.

#### **Early development – Comments**

##### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Amending wording to be only about receiving help and advice rather than reciprocating and to refer only to ‘work-related help or advice’.

#### **Pilot – Items**

##### H69

ASK IF RESPONDENT DID NOT REPORT HAVING NO COLLEAGUES AT H68 (IF H68 = 01, 02, 03, 04, 05, 06, 07, 77, 88)

##### **CARD 77**

How likely would your colleagues be to give you work-related help or advice, if needed?

Mixed [VeryLikely4 + DKREF]		
MIXED	Mixed [VeryLikely4 + DKREF]	
LIST	VeryLikely4	
	Very likely	1
	Likely	2
	Not very likely	3
	Not at all likely	4
MISSING_GROUP	DKREF	
	Refusal	7
	Don't Know	8

#### **Pilot – Results and comments**

**Results and comments received from pilot analyses:**

### Pilot testing:

- Even more so than for item H55, responses for this item are highly and similarly clustered at the higher end of the scale in both countries. 85% in Austria and 88% in the UK chose 'likely' or 'very likely'.
- Item H69 was asked to about 47% of the full sample in AT and 42% of the full sample in UK (people in paid work and who have colleagues).
- INR was low in both countries.

### **Round 10 – Items**

This concept was included in the final Round 10 module (item G54).

#### *1.4.3.5 Frequency face-to-face contact*

This concept measures the frequency of face-to-face contact with co-workers of those who are employed and follows the concept frequency digital social contact with child, parent and supervisor. Those who are self-employed receive questions on contact with their co-workers when they have personnel. location. Face-to-face contact in the work domain refers to in person communication at the workplace. Communication at the workplace as the expression of solidarity (support and appreciation), coordination of work tasks, monitoring of job performance, and “always-on” accessibility are central content of contact we are interested in in the module.

#### *Expected relationship with other complex and simple concepts*

The frequency of face-to-face contact with co-workers is likely to lower the need for digital social contact with co-workers and the trust in the relationship shaping the frequency of digital social contact with co-workers (cowdsc) as well as the experiences with digital social contacts with work relations (expdsc) and thus their consequences for job satisfaction (jobsat), work-life conflict (wlc), organizational citizenship behavior (orgcib) and social cohesion in the work team (socowt).

### **Early development – Comments**

#### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The changes made in response to comments from the 12<sup>th</sup> NC Forum were noted. These include:

- Removing ‘usually’ from the item on face-to-face contact, as it is not present in other frequency items.
- Removing the explanation of what ‘in person’ means from the item on face-to-face contact and including it in an introduction to the item.
- The introduction was amended to specify that ‘work-related communication’ is meant. On the other hand, at the QDT meeting it was agreed to place this item before all items on contacting at a distance (including contact via landline phone) to improve the questionnaire flow.

### **Pilot – Items**

#### **H70**

ASK IF RESPONDENT DID NOT REPORT HAVING NO COLLEAGUES AT H68 (IF H68 = 01, 02, 03, 04, 05, 06, 07, 77, 88)

The next question is about work-related communication between you and your colleagues taking place when you are face to face in the same location.

**CARD 78**

How often do you speak with your colleagues in person?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

**Pilot – Results and comments**

Pilot testing:

- Responses are highly clustered at the higher end of the scale in both countries: 74% in Austria and 65% in the UK chose 'several times a day'. Only 8% in both countries chose 'several times a month' or lower frequencies.
- INR low in both countries

CST recommendations:

- It was recommended to drop the introduction before H70.
- Adding a translation annotation for 'in person' was also recommended

**Round 10 – Items**

This concept was included in the final Round 10 module (item G55).

*1.4.3.6 Frequency contact landline phones*

Landline phones are still used as a way of contact. This form of contact does not require to be at the same location but is less flexible than digital social contact.

**Pilot – Items**

H71

**STILL CARD 78**

How often do you speak with your colleagues using a landline phone? Please include calls you make or receive on a landline phone.

**INTERVIEWER:** If respondent has no landline phone at work, code as 'Never'.

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### **Pilot – Results and comments**

#### Pilot testing:

- In both countries, most respondents never speak with their colleagues using a landline phone (69% in Austria and 60% in the UK). 'Several times a day' is the second most selected response in Austria at 11%, whereas 'several times a week' is the second most selected response in UK with 15%.
- INR low in both countries

#### CST recommendations:

- The questionnaire design team was to consider whether H71 was necessary as they had relatively low frequencies.
- It was noted that if H71 was retained it should be clear that the respondent is thinking about their own device.
- It was suggested to combine the items on video and audio calling, this is because of the low frequency in video calling, it will also allow simplifying of wording.

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC noted that the instruction for interviewer gives sense of this question only if it will be used in combination with other questions concerning communication. Never in a case of declining lines groups answers of no-communication at all with no communication because of the lack of a line which makes this question useless as a separate question measuring “old-fashion” style of communication. They suggested to add to the proposed answers 08=Never, don't have a line and/or my [son,daughter] does not have it.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was decided to merge this item with the item on audio digital social contact, with the resulting item referring to 'speaking using a phone or other device'.

## **Round 10 – Items**

This concept was included in the final Round 10 module (item G57).

### *1.4.3.7 Frequency digital social contact*

This concept measures the frequency of digital social contact with coworkers of those who are employed and follows the concept frequency digital social contact with child, parent and supervisor. Those who are self-employed receive questions on contact with their co-workers when they have personnel or when they work with other self-employed.

#### *Expected relationship with other complex and simple concepts*

We suggest that the frequency of face-to-face contact with co-workers (cowffc) (S) and telworking (telw) are important predictors of the frequency of digital social contacts with the co-worker because they define the need for digital social contacts. Internet access (internac) (S) and Internet skill (intsk) (S) as well as specific expectations at work (expw) further define the opportunity for digital social contacts with co-workers and privacy concerns (privcon (S)) the trust in the use of digital communication devices and thus also the frequency of digital social contacts with co-workers. We further suggest that the frequency of digital social contacts with co-workers is associated with job satisfaction (jobsat), social cohesion in work team (socowt), organizational citizenship behavior (orgcib) and work-life conflict (wlc).

## **Early development – Comments**

### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- The items were moved to follow the items on face-to-face contact and landline phone contact, to improve the questionnaire flow.
- The items were reordered so that the item on written communication comes before the one on (audio) calls, to clarify that only verbal communication should be included at the latter.
- The frequency response scale was amended to have 6 scale points (including both 'Several times a day' and 'Once a day') throughout the module.
- 'About' might be added to simplify the task of assessing frequency throughout the module.
- Items on video and audio calls were not merged, as for the QDT they vary in richness of communication and are likely to hold different implications for relationship quality.
- For the text-based digital social contact item, 'contact him/her' was replaced by 'communicate with each other'. However, it was acknowledged that it may still be difficult for some respondents to report frequency of communication due to the characteristics of (especially text-based) digital social contact.
- The introduction was amended to specify that 'work-related communication' is meant.
- For H72, 'Contact him/her' was replaced by 'communicate with each other'. However, it was acknowledged that it may still be difficult for some respondents to report frequency of communication due to the characteristics of (especially text-based) digital social contact.

## Pilot – Items

### H72

The next few questions are about work-related communication between you and your colleagues taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.

#### STILL CARD 78

How often do you communicate with your colleagues via text, email or messaging apps?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### H73

#### STILL CARD 78

How often do you speak with your colleagues such that you can see each other on a screen?

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77

	Don't Know	88
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#### H74

#### STILL CARD 78

How often do you speak with your colleagues using a mobile phone, computer, tablet or other digital device? Please include calls you make or receive using any of these devices, and exclude calls where you and your colleagues can see each other on a screen.

Mixed [FrequencySeveralNever7 + DKREF]		
MIXED	Mixed [FrequencySeveralNever7 + DKREF]	
LIST	FrequencySeveralNever7	
	Several times a day	1
	Once a day	2
	Several times a week	3
	Several times a month	4
	Once a month	5
	Less often	6
	Never	7
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### **Pilot – Results and comments**

##### Pilot testing:

H72: -

- 61% of respondents in the UK chose 'several times a week' or higher frequencies, whereas these were chosen by 45% in Austria (half of these used 'several times a day', which is the most used category in Austria). 28% in Austria and 27% in the UK chose 'less often' or 'never'.
- INR low in both countries

H73: -

- Similarly, to what was observed at H60, a large majority of respondents (73% in the UK and 91% in Austria) never has video calls with their colleagues.
- INR low in both countries.

H74: -

- A majority of respondents in the UK chose 'several times a week' or higher frequencies (54%), whereas these were chosen by 44% in Austria. 'Several times a month' was the most used category in Austria (23%). 28% in Austria and 27% in the UK chose 'less often' or 'never'.
- INR low in both countries

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- An NC commented that item H74 may be too complicated for respondents

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- It was suggested to drop the introduction before H72.
- It was agreed to keep video and audio digital social contact as separate items and amend the audio digital social contact item.

**Round 10 – Items**

This concept was included in the final Round 10 module (items G58, G56, G57).

**Round 10 – COVID-19 Items**

The following items were added into the questionnaire, due to the COVID-19 pandemic:

**G59**

ASK IF RESPONDENT DID NOT REPORT HAVING NO LINE MANAGER AT G44 AND NO COLLEAGUES AT G53 (IF G44 = 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 77, 88 OR IF G53 = 01, 02, 03, 04, 05, 06, 07, 77, 88)

For the next few questions, please think about all the people you work with, regardless of whether they are your line manager or your colleagues.

Now think about occasions where you and the people you work with are physically in the same location. Compared with before the coronavirus pandemic, would you say that you speak with the people you work with in person... **READ OUT...**

Mixed [FrequencyMuchmoreMuchless5 + DKREF]		
MIXED	Mixed [FrequencyMuchmoreMuchless5 + DKREF]	
LIST	FrequencyMuchmoreMuchless5	
	much more often now,	1
	a little more often now	2
	about the same,	3
	a little less often now,	4
	or, much less often now?	5
	(We are never in the same location now due to the pandemic)	55
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

**G60**

Compared with before the coronavirus pandemic, would you say that you have online or mobile communication with the people you work with... **READ OUT...**

**INTERVIEWER:** If necessary, remind the respondent that ‘online or mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

Mixed [FrequencyMuchmoreMuchless5 + DKREF]		
MIXED	Mixed [FrequencyMuchmoreMuchless5 + DKREF]	
LIST	FrequencyMuchmoreMuchless5	
	much more often now,	1
	a little more often now	2
	about the same,	3
	a little less often now,	4
	or, much less often now?	5
	(I don't have online or mobile communication with the people I work with)	55
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### 1.4.3.8 Experiences with Digital Social Contacts

People have different experiences using online and mobile communication with work relations (supervisor, co-workers). We aim to ask about respondents' experiences using the Internet and mobile phones for communicating with work relations (supervisors, co-workers) providing statements on involved contents, costs and benefits which are likely to shape work-life balance, job satisfaction, social cohesion in the team as well organizational citizenship behavior. Respondents are asked to what degree listed digital communication experiences apply to them on a 5-point scale. Based on existing research we distinguish between the following contents, costs, and benefits: solidarity, monitoring, autonomy.

##### *Expected relationship with other complex and simple concepts*

Opportunity based arguments from research on the digital social divide point to differences in 1) access to digital communication and 2) digital skill (Hargittai 1999, 2006, 2010; Vicente & López 2011). This implies not only inequality in digital social contact use between individuals within and between European countries, but also different possibilities to complement the exchange of family or workplace solidarity digitally, to advance work coordination digitally, or to be able to monitor work relations digitally. Therefore, Internet access (internac) (S) and Internet skill (intsk) (S) are expected to be predictors of experiences with digital social contacts. In the same vein, expectations on physical presence in the workplace (expw) (C) shape the opportunities for digital social contact as well as the experiences involved. The other expectations at work (expw) such as working long hours are likely to shape the experience of accessibility and disturbance. Need based arguments suggest that the internet and mobile phones are used for digital social contact when specific needs can be satisfied in this way e.g. to connect with or to monitor children, parents, and work relations or to advance coordination of joined activities and tasks (Rubin 2002; Dworkin et al. 2018). The need to share solidarity via digital social contact and to monitor is especially likely when restrictions on face-to-face contact exist due to geographic distance, living arrangements, teleworking. Following from this

we expect the frequency of face-to-face contact with co-workers (cowffc) (S) and the frequency of face-to-face contact with supervisors (supffc) (S) as well as teleworking (telw) (S) to be important predictors. Telework is further likely to increase the likelihood that digital social contact is used for advanced coordination to reconnect the teleworker to the workplace. Privacy concerns (privcon) (S) indicate the trust in the use of digital communication devices and thus also the likelihood to experience the listed digital experiences in the work domain. Frequent face-to-face contact might further establish trust in the relationship, facilitating the exchange of workplace solidarity in digital social contacts and reducing the likelihood of monitoring by work relations (Jamieson 2013). The way of digital social contact at work (waydscw, 5 items) (C) is further likely to shape the experience of monitoring, support, accessibility and disturbance because the richness of the medium involved shapes misunderstandings and possibilities for accessibility and disturbance. We further suggest that the experiences of digital social contacts in the work domain are important predictors of job satisfaction (jobsat) (S), work-to-life conflict (wlc, 4 items) (C), organizational citizenship behavior (orgcib, 5 items) (C), social cohesion in work team (socowt, 3 items) (C) and that they are likely to moderate the implications of the frequency of face-to-face contact with supervisors and co-workers for these outcomes.

#### *1.4.3.8.1 Solidarity*

Solidarity addresses appreciation and support from co-workers and supervisors which has been found to increase job satisfaction work-life balance, organizational citizenship behavior and which indicates social cohesion in the workplace (Abendroth & Den Dulk 2011; Cohen & Wills 1985; de Lange et al. 2003; Gilbreath & Benson 2004; Organ & Ryan 1995). Hertlein (2012) further defines approximation as an ecological influence of the use of the internet and mobile phones which have features which allow to approximate face-to-face situations and thus also the exchange of solidarity. Also, other studies suggest that digital social contacts can be a source for the exchange of solidarity (e.g. see review of Dworkin et al. 2018). Solidarity in digital social contact measures whether support and appreciation is part of digital social contact.

#### **Early development – Comments**

##### **Comments from 3<sup>rd</sup> QDT meeting (20/09/2019):**

The following changes were agreed by CST and QDT:

- Shortening the introduction to the battery and moving the definition of ‘online and mobile communication’ to an interviewer note.

#### **Pilot – Items**

##### **H75**

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH COLLEAGUES  
(IF H72= 01, 02, 03, 04, 05, 06 OR H73 = 01, 02, 03, 04, 05, 06 OR H74 = 01, 02, 03, 04, 05, 06)

The next questions are about your experience using online and mobile communication for keeping in touch with your colleagues.

**INTERVIEWER:** If necessary, remind the respondent that ‘online and mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

#### **CARD 79**

To what extent does each of the following statements apply to the online and mobile communication between you and your colleagues? **READ OUT...** It makes it easy for my colleagues to give me work-related help or advice when needed.

Mixed [AppliesNotAtAllCompletely10+ DKREF]		
MIXED	Mixed [AppliesNotAtAllCompletely10+ DKREF]	
SCALE	AppliesNotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

### **Pilot – Results and comments**

#### Translation queries:

- It was recommended to add ‘online and mobile communication’ at the beginning of the sentence for the battery, in order to have in each question.

#### Pilot testing:

- Strong clustering at 10 in both countries. Also, clustering at 8 in both, and minorly at 7 in the UK.
- Low INR in both countries.

#### CST recommendations:

- It was suggested that a ‘not at all/completely’ scale may improve measurement.
- It was also recommended that the interviewer note should be moved from the introduction to the question stem to immediately before the battery.
- It was also suggested that items concerning experiences with DSC between supervisors and colleagues should be merged. The resulting battery should concern ‘people you work with.’

#### **Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- Some NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other or that does not apply as respondent makes no judgments on the issue how easy it is? An NC suggested to change the scale to “Strongly agree – Strongly disagree” or similar and would not use “apply” phrase.

#### **Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- Merge with line manager battery and change to standalone questions. Delete intro.
- Added an introduction framing as referring b to both line manager and colleagues.
- If necessary, remind respondent about definition of 'online and mobile communication' provided earlier (interviewer note).

### 1.4.3.8.2 Autonomy

Autonomy is an important predictor for job satisfaction and work-life balance. Measurements of autonomy have been established using scales on control on how one does job tasks (Karasek and Theorell 1990) and on control over work time and place (Abendroth & Den Dulk 2011). We now chose to measure locational flexibility in working to identify the direction of the association between digital social contact and the use of telecommuting.

We suggest measuring autonomy in place indicating that digital social contacts provide more flexibility in where to work. It indicates possibilities of telework irrespectively of formal policies. Autonomy in place has been identified as an important aspect of flexibility in the work domain (e.g. Allen et al., 2015; Gajendran & Harrison, 2007).

#### Pilot – Items

##### H76

ASK IF RESPONDENT HAS ONLINE AND MOBILE COMMUNICATION WITH COLLEAGUES (IF H72= 01, 02, 03, 04, 05, 06 OR H73 = 01, 02, 03, 04, 05, 06 OR H74 = 01, 02, 03, 04, 05, 06)

The next questions are about your experience using online and mobile communication for keeping in touch with your colleagues.

**INTERVIEWER:** If necessary, remind the respondent that ‘online and mobile communication refers to communication taking place over the Internet or mobile networks, using mobile phones, computers, tablets or other digital devices.’

#### CARD 79

To what extent does each of the following statements apply to the online and mobile communication between you and your colleagues? **READ OUT...** It makes it possible to work from home or from another place of my choice.

Mixed [AppliesNotAtAllCompletely10+ DKREF]		
MIXED	Mixed [AppliesNotAtAllCompletely10+ DKREF]	
SCALE	AppliesNotAtAllCompletely10	
	Does not apply at all	0
	Applies completely	10
MISSING_GROUP	DKREF	
	Refusal	77
	Don't Know	88

#### Pilot – Results and comments

##### Pilot testing:

- Strong clustering at 0 in both countries (especially in AT: 54%). Clustering also at 10 in both. Again, should this be 'yes/no'?
- INR below 7% in both countries but higher in Austria than the UK, 5% compared to 0.8%.

##### CST recommendations:

- It was suggested that a ‘not at all/completely’ scale may improve measurement.

- It was also suggested that items concerning experiences with DSC between supervisors and colleagues should be merged. The resulting battery should concern ‘people you work with.’

**Comments from 13<sup>th</sup> ESS ERIC NC Forum (19/11/2019):**

- Some NCs were confused over what “does not apply” means in the context of this question. Does it mean that respondent and his/her child do not give any advices and/or help each other or that does not apply as respondent makes no judgments on the issue how easy it is? An NC suggested to change the scale to “Strongly agree – Strongly disagree” or similar and would not use “apply” phrase.
- An NC noted that respondents may not be able to make a distinction between colleagues and line-managers.

**Comments from 4<sup>th</sup> QDT meeting (07/02/2020):**

- Merge with line manager battery and change to standalone questions. Delete intro.

**Round 10 – Items**

This concept was included in the final Round 10 module (item G61).