# Cognitive Interviewing and what it can be used for

## Section 1 - What cognitive interviewing is - Transcript

Cognitive interviewing and what it can be used for.

What cognitive interviewing is, and why we might use this as a research method.

In finishing this section, we will learn about the theory which underpins the cognitive interviewing technique.

Cognitive interviewing is a set of qualitative techniques, which can be used to check if questions are working or not.

As this method is routed in cognitive theory, this method explores individuals thought processes when presented with a task or information. In particular, this method looks into how individual’s interpret information, how they understand what is being asked of them and how this information is recalled.

As a method, cognitive interviewing is traditionally used in the pre-testing of surveys, but as we will discover in this resource it can be used in many other ways.

*Cognitive interviewing is the practice of administering a survey questionnaire while collecting additional verbal information about the survey responses; this additional information is used to evaluate the quality of the response or to help determine whether the question is generating the sort of information that its author intends”*

There are a number of reasons why we might want to use the cognitive interviewing method to test things like our survey questions.

When designing a questionnaire or survey, we want to make sure that it is a **good** instrument.

To have a good survey or questionnaire it needs to be the following:

Firstly, our questions need to be **valid,** in that the questions measure what we want them to measure and only that.

Cognitive interviewing can help us ensure our questions are valid. In a cognitive interview, we can ask individual’s what they think the question is asking about.

To give an example, imagine if I asked you to rate your health on a scale from 1-10, with 1 being poor health and 10 being excellent health. It might be easy to give me answer, but in a cognitive interview, we would be wanting to know more about how you got to this answer.

In a cognitive interview, we might ask individuals what they understand by the term health. Doing this is beneficial as some people may think of health in purely physical terms, whereas others might think of health as a combination on their physical and mental health.

How people interpret the term ‘health’ may affect the score individual’s give for this question, which could compromise the validity of the question.

Secondly, we want to make sure our questions are **reliable**, in that the responses do not contain too much random variability and if a survey was to be repeated over time we would be likely to achieve consistent results.

We can use the cognitive interviewing method to ensure that our questions are consistent, and therefore would produce reliable answers.

Imagine if you were asked the question: Does your workplace adhere to the European Working Time Directive? With the response options being ‘Yes’, ‘No’ or ‘Don’t Know’.

Chances are most people would not know what the European Working Time Directive was, and therefore would select ‘Don’t know’ not because they do not know if their workplace does this, but because they do not know what the term means.

In a cognitive interview we could explore the reasons why people selected ‘Don’t know’, and make changes to the question which would allow for more reliable answers, for example using a simpler term such as – Does your workplace allow you to take at least four weeks paid holiday a year.

Thirdly, we want to make sure our questions are **Sensitive,** in that they are appropriate to ask and measure real change and differences. Imagine if we wanted to measure on an average day, how long individuals spend watching television for, with the response options being: Less than 1 hour, More than 1 hour but less than 2 hours, and More than 2 hours.

In a cognitive interview we could explore this question to see how sensitive this question is. For example, would the option ‘More than 2 hours’ be suitable enough to capture how much television people watch in an average day, or would it need to be higher?

Fourthly, we want to make sure our questions and response options are **unbiased**. When we design survey questions and response options we always want to ensure that our questions are balanced and not leading.

However, sometimes biases are not always obvious. Remember when I asked you to rate your health on a scale from 1-10. Depending on your background and your personal experiences, some of you may have rated based on physical health alone, whereas some may have rated based on overall health, including mental health within this score.

If you asked this question within a general population, we may expect to see some biases, in that younger people may be more likely to consider their mental health, whereas older populations may be more likely to consider their physical health. Through using cognitive interviews, we can explore individual’s perceptions of the questions and can explore fully if these questions are biased.

Finally, we want to make sure our survey questions are **complete**. By this we mean that missing data is reduced and that the questions are designed in a way with allows for full data.

There are a number of ways in which cognitive interviewing can be of benefit here. In a cognitive interview, we can explore if there are any questions which may cause an individual discomfort to answer. Imagine if you were asked ‘Do you have a criminal record?’. If the survey was about crime, individuals may feel more comfortable in answering this question, but if individuals perceive this sensitive question to be unrelated to the survey topic, this may cause individual’s to not answer this question or worse withdraw from the survey.

In cognitive interviews we can explore if participants have any concerns about any questions; we can see how individual’s interpret them, and also explore if any questions would lead to missing data in that participants would not answer them or they would withdraw from the survey.

We will now discuss what cognitive interviewing actually is and why we should use it, but what actually happens within a cognitive interview?

So cognitive interviews are typically one on one sessions between a trained interviewed and a participant. Cognitive interviews traditionally have taken place in a participant’s home, workplace or within a neutral interview location, however since the pandemic interviews now typically take place online.

Participants are asked the survey questions or the materials we want to test in an environment that best mirrors how they would be asked in the ‘real life setting’. For example, if the survey is meant to be administered by an interviewer in a face to face setting, the interviewer will read the questions aloud to the participant. However, if the survey is meant to be self-completed by the participant, the participant will complete the survey without the interviewer reading aloud the questions, or providing any assistance to how should they respond.

When the participant is answering the survey questions, in a cognitive interview we are more interested in focusing on the mental processes used to come up with an answer rather than the actual answer to the question.

During a cognitive interview, we are interested in exploring the following mental processes:

Firstly, we want to explore how an individual interprets the survey question and any other important terms within that question.

Secondly, we want to know how an individual retrieves and recalls the information needed to answer the question, including any estimation strategies they may use.

Thirdly, we want to know how an individual judges and perceives the question and their comfort level associated with answering.

And finally, we want to know how confident an individual feels in answering a question, including how accurate they think their answers are.

The model on this slide is a visual representation of how these mental processes work together. What is important to remember is that these stages are not necessarily sequential and that they may overlap and cross-over.

To illustrate how this model would work in practice, I am going to imagine that I was asked the question:

How many hours do you work in a week?

Firstly, I have to comprehend the question, so I have to think what this question is asking of me, and as I've just read, I can see that this question is asking me how many hours I work in a week.

Next, I must retrieve this information. For me, I may be thinking about the number of hours I worked in the last week as this is easier for me to remember as I have flexible working hours. To do this I might be thinking about other activities I did in the last week before and after work, such as doing shopping and going on walks, and going out for dinner.

Then I have to make a judgement around how accurate this question is requiring me to be. For example, could I make a guess of about 20 hours per week (as this is what I am contracted to do), or do I have to make the effort to really be specific and think about the exact number of hours I worked last week, and to what level would they require this information from me – would it be to the nearest 20 minutes, half an hour, or could I go to the nearest hour?

Finally, I must respond in the format they have given me. This might mean I have to adjust my in-mind answer if it doesn’t quite fit the response option I am presented with, and it might mean that I have to pick the most suitable response option I am offered.

We are now at the end of the section on cognitive interviewing theory. Hopefully, you will now have an understanding of what the cognitive interviewing method is and why we use it.

In the other sections of this resource, you can learn about how to conduct a cognitive interview and other situations where the cognitive interviewing technique is beneficial.

Video: <https://www.youtube.com/watch?v=JJESquW2czw>

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