

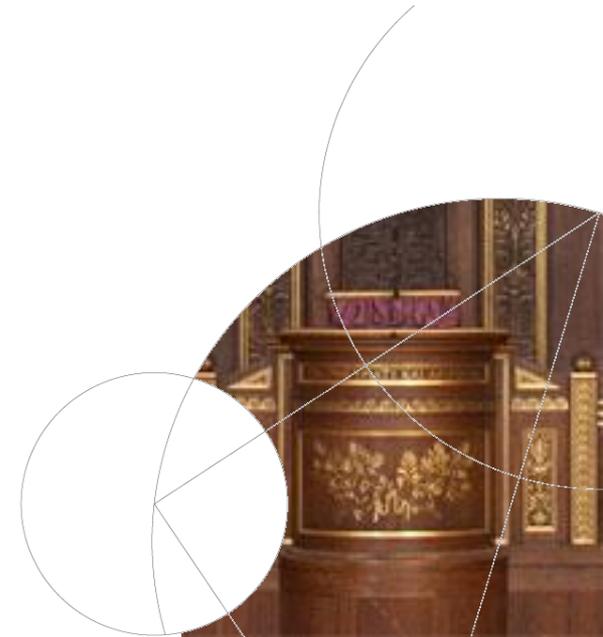


The survey

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	Qualitative	Quantitative
Specific tools	Interview, focus groups, observation	Questionnaire, register-data
Generates knowledge about	Subjective meaning among individuals People's actions, values and attitudes in context	The frequency or averages of some phenomenon in specific population groups Associations between phenomenon
Analytical approach	Focus on <u>understanding</u> and <u>interpretation</u>	Focus on <u>description</u> , <u>testing</u> , and <u>explanation</u>
Degree of standardization	Relatively unstructured (although this varies considerably)	Very structured (open ended-response options are exceptions)
Other characteristics	Depth validity, induction, analytical generalization	Generalization, deduction

Despite these differences:
REMEMBER: we are still looking at the same concepts and phenomena

A qualitative and quantitative example (same phenomena)

Food budget restrictions: [coping strategies](#) and [quality of life](#)

Qualitative personal interview

What kind of changes have you made in your daily life to save money on the food budget?

Shopping: *I don't buy as many of the luxury items anymore.*

Cooking/storing: *Often, you will buy a bag of carrots, and then there are five left, all wrinkled. Why not use those for a snack?*

Eating experience: *We don't go out to eat anymore.*

Loss of quality of life (QOL): *I would like it to be able to open the fridge and say: Now, I want a sandwich with something else than sausage, liver paste or ham. That is probably what I miss the most.*

No loss of QOL: *Instead of using the big supermarkets as we did when we had more money to spend, we now drive to the farm and get eggs for instance. They could not be more organic. And that's fine. It is good quality, and really I feel that I get more for my money*

Extract of questionnaire items regarding [coping strategies](#)

"I/we have been forced to purchase cheaper foods to be able to purchase other things"

↓ *If yes*

"How often have you done one of the following things in order to save money during last 12 months":

	Very often	Often	Sometimes	Seldom	Never
Shopped in cheaper places than usually....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Stretched the food to make it last longer ..	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Made compromises regarding the tastiness of food and dishes	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

A qualitative and quantitative example (same phenomena)

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Extract of questionnaire items regarding [quality of life](#)

Food-related:

	Disagree totally	Dis- agree	Neither /nor	Agree	Agree totally
Food and meals are positive elements in my life	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

General QOL (satisfaction with life):

Taking everything into consideration, how satisfied are you with your life?

Very satisfied Very unsatisfied



Steal and get inspiration from qualitative knowledge!

Qualitative studies

Your own experiences

Yours/others theoretical knowledge

Colleagues

etc...



Operationalization table – Converting main concepts into specific questions that are operational in questionnaires

- Coping strategy and quality of life

Concept	Dimension	Question formulation	Response options	Position in questionnaire
Key concepts are identified	Dimensions / elements of the concept is specified	How to query about it to the respondent?	The response possibilities offered to the respondent.	
Coping strategies	Shopping Cooking/storing Eating experience	Intro text: "How often have you done one of the following things in order to save money during last 12 months": - Shopped in cheaper places than usually - Stretched the food to make it last longer - I/we don't go out to eat anymore	Very often, often, sometimes, seldom, never, don't know.	
Quality of Life	Food-related General	etc...	etc...	

The questionnaire



How?

Formulate a number of **questions** – and **responses** to these questions

Group questions into **themes** and make concise **introductory text** to the themes that can guide/contextualize the responses

Different questionnaire formats

- Decision on format based on considerations of costs, quality, response rate, population characteristics, geographical dispersion etc.
 - Postal questionnaire (filled out by respondents)
 - CATI – Computer Assisted Telephone Interviewing
 - CAPI – Computer Assisted Personal Interviewing
 - WEB – Survey
 - And some additional

Baggrund

1 Om dig selv: Jeg er

(11) (1) Kvinde (2) Mand

2 Om din husstand: Jeg har en samlever/ægtefælle

(12) (1) Ja (2) Nej

3 Er der børn i husstanden?

(13) (1) Nej
 (2) Ja, 1 barn
 (3) Ja, 2 børn
 (4) Ja, 3 eller flere børn

Økonomiske forhold

Har du flere spørgsmål om din husstands økonomiske forhold i den seneste periode

4 Har din husstands privatøkonomi ændret sig markant indenfor det seneste år?

(14) (1) Ja, jeg/vi har fået flere penge til rådighed *(på 0/1 ssg, 0)*
 (2) Ja, min/vores privatøkonomi er blevet strammere *(uddet, dette svar, 1 ssg, 5 nedenfor)*
 (2) Nej, det er mere eller mindre det samme *(på 0/1 ssg, 0)*

5 Hvad skyldes det, at din/jeres privatøkonomi er blevet strammere? (sæt gerne flere krydser)
 Jeg eller andre voksne i husstanden...

Er gået på pension	<input type="checkbox"/> (01)	(15-40)
Er blevet studerende/er på efteruddannelse	<input type="checkbox"/> (02)	
Er blevet afskediget fra arbejdet	<input type="checkbox"/> (03)	
Arbejder mindre (f.eks. gået på deltid)	<input type="checkbox"/> (04)	
Har fået et mindre vellønnet job	<input type="checkbox"/> (05)	
Har fået højere faste omkostninger (f.eks. pga. boligkøb)	<input type="checkbox"/> (06)	
Oplever at priserne er steget	<input type="checkbox"/> (07)	
Har været/er på barselsorlov eller anden orlov	<input type="checkbox"/> (08)	
Har fået børn	<input type="checkbox"/> (09)	
Har været syg i en længere periode	<input type="checkbox"/> (10)	
Vi er blevet skilt/flyttet fra hinanden	<input type="checkbox"/> (11)	
Andet	<input type="checkbox"/> (12)	
Ved ikke	<input type="checkbox"/> (13)	

Question types*

- Classification questions
 - Demographic variables (such as income, age, education)
 - Usually employed as explanatory variables or quota variables (in which case the question should be posed at the start of the interview)
- Factual questions, e.g.
 - Frequencies of fruit intake
 - Names of newspaper that is read
 - Number of children
- Opinion questions
 - Attitudes, ideas, beliefs etc.
 - Questions can be formulated as statement ("I am very happy with the tax policy in the US") or question ("Are you happy with the tax policy in the US?")
- Knowledge questions
 - "Anti-biotics kills both bacteria and viruses" ("Yes", "No", "Don't know")

* See e.g. Tim May (1997): Social research. Issues, methods and processes (ch. 5)



Constructing questions...(1)*

Use the simplest language possible

Avoid vagueness

- ❑ *"Have you lately had any difficulties getting pregnant?"*

Avoid ambiguity

- ❑ *"Do you think a lot about the food you eat and other things?"*

Avoid multiple factors/issues in one question/statement

- ❑ *"A well done beef tastes excellent and I eat corn flakes in the morning"*
- Unless the multiple issues you prompt for are assumed to be closely related, e.g.:
 - ❑ (Intro text: When you have guests over for dinner, what is served?) *"It is usually something **new** and/or a **bit exotic**."*
 - ❑ *How many times would you say that you have eaten at a restaurant, café **or similar** during the last year?*

* See more in Tim May (1997): Social research. Issues, methods and processes (ch. 98-100)



Constructing questions...(3)

Introductory text:

Often the introductory text to a question (or multiple questions) is an integrated part of the question, because the introduction contextualizes the question for the respondent, e.g.:

Introduction: "Which of these statements describes the food eaten in your household in the last 12 months best"

- "we always have enough to eat and the kinds of food we want"
- "we have enough to eat but not always the kinds of food we want"
- "sometimes we don't have enough to eat"
- "often we don't have enough to eat?"

Are you doing or do you have plans of doing any of the following things with a specific view to decrease the environmental impact?

(Response options here)

- Buying regional food
- Buy organic food
- Avoid products with extensive packaging



The response



Response types

Closed responses

- Response options are fixed and defined by researcher
- Only **ONE** response
 - Advantage: Easy and fast analyzeable, standardized responses
 - Disadvantage: No depth and individual-specific information

Multiple response questions

- Respondents can tick off **SEVERAL** options and not only one
- Response options are fixed
- Necessary when element in the questions are not mutually exclusive
 - Eg: *"What newspapers do you usually read? (tick of as many as relevant)"*
 - New York times,*
 - Washington Post*
 - Etc...*

**Most
used
response
format**

Open-ended questions. e.g.

- *"Please clarify in your own words what your opinion is about public funding of obesity-surgery"*
- *"What is the name of your current occupation?"*
 - Advantage: More in-depth understanding / explorative. Necessary for some types of issues, e.g. occupation
 - Disadvantage: very time-consuming to analyze, more missing data



Constructing response options (1)

Construct **clear response options** that are meaningful and **avoids ambiguity**

Mutually exclusive response options:

- "How many apples to you eat per day?"



Response options must be **exhaustive**

- Ideally, all empirical possible responses should be included
- Difficult in practice
- If fixed options are assumed NOT to cover all possible responses, include a "Other" or "None of these" category (see example later)

Constructing response options (2)

Likert scales

- Places the response to a statement / question on an underlying continuum
 - *"The European Union should not have any influence on taxation in the member countries"*
 - I agree very much*
 - I agree to some extent*
 - I neither agree nor disagree*
 - I disagree to some extent*
 - I disagree very much*
- The continuum can relate to many different things – e.g.
 - an attitude (to the European Union),
 - considerations (health),
 - concepts (trust, ambivalence),
 - importance, influence of (regarding some issue)
- Some degree of flexibility in design of the scale
 - 3, 5, 7, even 10 response options
 - Intermediate / undetermined option (*"neither agree nor disagree"*) can be left out
 - Don't know can be inserted or left out (must be related to the criteria of *"exhaustive response options"*, cf. earlier slide)



Constructing response options (3)

When to use "don't know"?

- Especially important in all types of knowledge questions
- Also useful in most other questions, so as to include exhaustive response options
 - For instance, "Don't know" is not necessarily the same as "I neither agree nor disagree":
 - *The European Union should not have any influence on taxation in the member countries"*
 - I agree very much*
 - I agree to some extent*
 - I neither agree nor disagree*
 - I disagree to some extent*
 - I disagree very much*
 - Don't know*
 - And maybe people don't know the number of apples they eat per day
 - "How many apples do you eat per day?"
 - 1-3
 - 4-5
 - 6 or more
 - Don't know / Cannot remember
- However, in many analyses the "don't know" option is annoying and effectively reduces the sample size that you can analyze on



Multiple response example

In this case, it is necessary with a multiple response set-up so that all venues are covered

Which of the following venues do you purchase food from?
(Tick off as many venues that are relevant)

- 1. Fast food places, burgerbars og similar
- 2. Pizzeria
- 3. Shawarma bar
- 4. Sushi restaurant
- 5. Quality take-away
- 6. Gas station
- 7. Café
- 8. Thai/indian/chinese etc. restaurant
- 9. Cafeteria/restaurant in a shopping mall, amusement park or similar
- 10. Salad bar
- 11. Buffet or "eat as much as you can" restaurant
- 12. Family restaurant
- 13. Traditional [Danish; Finnish; Swedish; Norwegian] (f.eks. [insert appropriate national dishes])
- 14. Raw food, organic, vegetarian restaurants
- 15. Castle- or manor restaurants [OR country-specific similar thing]
- 16. A gourmet restaurant
- 17. Michelin restaurant
- 18. An experimental restaurant
- 19. None of these
- 20. I never eat out
- 21. Don't know



Find 6½ mistakes

To which extent do you agree in the following statements?

(tick off only one item per row)

	Completely agree	Agree	Neither agree nor disagree	Disagree	Completely disagree
The European Union has too much power, and authority should be given back to the member states					
In my view, Denmark should withdraw					
The European Union was founded in 1955					
I often talk with friends and colleagues about the European Union, and we have similar attitudes regarding it					
I do not think it is in Switzerland's interest not to be a member state of the European Union					

Which brands of toothpaste have you used in the last year?

(tick off only one item)

- Gleem
- Colgate
- Pepsodent
- Crest



Constructing measures in practice



Consider the research question:

To which extent are **health considerations in daily life** associated with **age** and **prior experience of critical disease**

“Health consideration” needs further definition in order for the researcher to operationalize the concept

- Perhaps there is already existing literature and measures to draw on?
- Or else define yourself, e.g.:
 - Importance
 - Intention
 - Extent of health consideration
 - How often the informant thinks about health
 - Influence on everyday life (eating, drinking, transporting, during work, socializing)
 - Behavioral aspects pursued due to considerations of health (food, alcohol smoking, exercise)



Poor operationalization (1)

To which extent are **health considerations in daily life** associated with **age** and **prior experience of critical disease**

Operationalization of "health considerations"

"Does health considerations have an impact on your daily life?"

(yes, no)

- Key concept is used in the question
- Health considerations can be interpreted very differently by respondents
- So can "impact on your daily life"
- Make the question more specific and less open for interpretation



Poor operationalization (2)

To which extent are **health considerations in daily life associated with age and prior experience of critical disease**

Operationalization of "health considerations"

At what level do you overall consider yourself being physical active (low, medium, high)?

Low: (Cleaning, slow walking, playing with children)

Moderate: (Biking, fast walking, taking the stairs)

High: (Running, spinning)

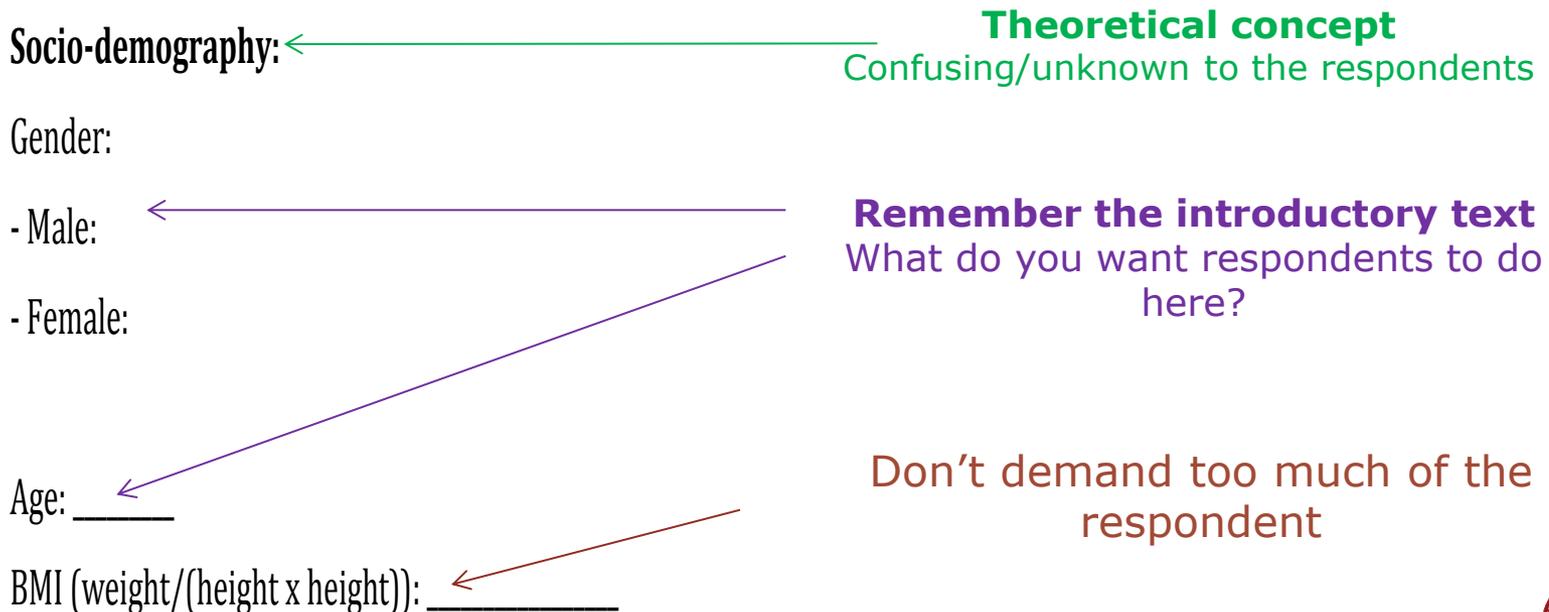
An operationalization of the respondents own account of his/her level of physical activity



Poor operationalization (3)

To which extent are **health considerations in daily life** associated with **age** and **prior experience of critical disease**

Operationalization of socio-demographic factors:



Exercise

To which extent are **health considerations in daily life** associated with **age** and **prior experience of critical disease**

1. Construct one question with the aim of assessing **health considerations in daily life**
 - Measure this as either importance, extent, or behavioral aspects (food, alcohol, smoking, exercise)
 - Don't forget an introductory text (if relevant) and response options

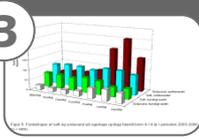
Construct one question with the aim of assessing **prior experience of critical disease**

- Use a multiple response design



Structure of the questionnaire





Structure of the questionnaire

Positioning of questions

- Start with easy and interesting topics
- Boring and sensitive questions at the end of the questionnaire
- Controversial questions as late as possible
- Think about a natural flow
- Make themes that guides the respondent and maintains his/hers interest



Structure of the questionnaire

At the beginning: Remember to make a **brief introduction** to the general theme of the questionnaire

A few examples:

This investigation focusses on the topical debate about obesity. It is a research project conducted by University of Copenhagen. The questions regards the responsibility for treatment of obesity in Denmark. It is your opinions that we are interested in learning about – so answer as truthfully as possible!

Thanks for participating in this questionnaire study which regards your eating habits and food-related attitudes. It is carried out in all Nordic countries and conducted by researchers from [e.g. Copenhagen university] Your answers are very important to us and will be used to compare eating patterns between the Nordic countries.



A few notes on validity

In its most basic form:

A measurement tool is valid if it measures what it claims to measure

- Often only assumed – and not assessed
- How to assess measurement validity?



Some measures of "food budget restrictions" – a Nordic study

- All five items below was expected to be equally good indicators of food budget restrictions

	Denmark (in %)	Norway (in %)	Sweden (in %)	Finland (in %)
Often buy cheaper food	10,4	8,5	10,4	18,2
Not always enough/right food	28,8	28,1	27,6	35,9
Disagree: I a willing to pay extra for and gastronomic experience	53,5	51,2	46,2	55,3
Disagree: We have enough money for luxury	44,5	40,1	41,4	50,9
I try to keep food expenses low	53,9	43,4	55,3	27,2

*This item measures
something else in
Finland*

You can never be sure whether the developed
measure is tapping your theoretical concept

What to do about this?

- Pilot studies
- Consult experts on the subject phenomenon
- On the most important measures of your study (provided that they are not trivial to measure, e.g. gender)
 - Construct multiple question items intended to measure the same underlying construct
 - E.g.: the items regarding food budget restrictions (on previous slide). There are still four candidate items.

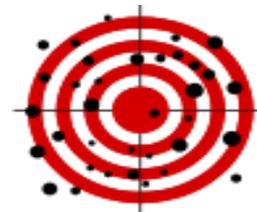


The common solution to the validity issue

- Is to justify/improve the validity claim by using multiple items purporting to measure an phenomenon
- To illustrate: there were multiple question items intended to measure the three dimensions of coping strategies (see slide 4)
- It is possible to test whether a pool of items (or a subset of them) in fact together constitute a reliable measure
 - principle component analysis, factor analysis, item response theory
 - Differential item functioning, measurement invariance



Unreliable & Invalid



Unreliable, But Valid



Reliable, Not Valid



Both Reliable & Valid

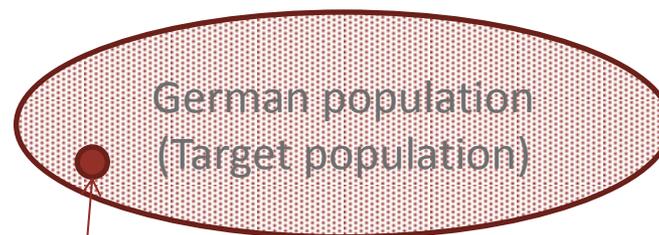
The sample



The sample - some basic terms

Target population

- The group of people you want to know something about
 - E.g. the German population, women in Copenhagen, obese persons,...



Your
sample

Sample

- A group of cases (respondents) from your target population is selected to respond to the questionnaire

Representative sample

- The sample you have obtained represents your target population in a satisfactory way on a number of key variables
- Making it justifiable to generalize about the target population
- Key variables are typically socio-demographic, e.g. sex, region, age, education
- Watch out for nonresponse error

Non-representative samples

- E.g. convenience samples (students)
- Not usable for inferences and generalizations about a specific population
- However, may be used for examining associations and patterns between e.g. theoretical concepts or mechanisms



Importantly: When you try to obtain data that "represents" the population in question...

You need to make sure that you in fact have such a sample

- Nonresponse = people invited to participate, but
 - Did not finish the questionnaire (dropout)
 - Did not even begin the questionnaire
- Nonresponse error
 - Distortion of population estimates (From OECD: "...a bias is introduced to the extent that non-respondents differ from respondents within a selected sample.")
- **THEREFORE:**
- Make sure you know to how many the questionnaire was issued (so you can compute response rates)
- Always compare your sample with the population on available objective factors

