

Survey Design Essentials: Crafting Questions for Accurate Responses.

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Summary and objectives

- Make you aware of the complexity intrinsic to the construction of a questionnaire.
- To introduce a high-level procedure for generating questions to measure complex concepts.
- List a series of practical tips on how to construct questions and questionnaires.

Reference text

- Saris, W. E., & Gallhofer, I. N. (2014). *Design, evaluation, and analysis of questionnaires for survey research*. John Wiley & Sons. (Part I and II).
- Corbetta, P. (2014). *Metodologia e tecniche della ricerca sociale*. Bologna: il Mulino. (in Italian).
- *Interviewer's Manual* (1976/1969). Survey Research Center - Institute for Social Research, The University of Michigan-

Survey Design

- Designing a survey involves many decisions, each with consequences that affect the quality of the study.
- Running a survey requires a considerable investment of resources (time, money, personnel): it is essential to avoid possible errors, and evaluate the questionnaire before collecting the data.

Survey

- A survey is a complex procedure for data collection suitable for descriptive and explanatory (experimental and non-experimental) research.
- A survey is a way of gathering information a) by questioning, b) the same individuals being researched, c) belonging to a representative sample, d) using a standardized questioning procedure, e) for the purpose of studying the relationships existing between variables (Corbetta, 2014, p. 168, translated).

Descriptive and explanatory research

- **Survey for descriptive research:** What is the distribution of media consumption habits among different age groups? How popular is a particular news media? Etc.
- **Survey for explanatory research:** What factors explain the different media consumption habits among different age groups? What factors influence trust in news sources? Etc.

Choice of the Variables (1/2)

There are many choices that the researcher must make to carry out a survey. One of the first important choices concerns the type of variables to include and measure.

- **Survey for descriptive research:** the choice of variables is determined by the topic.
 - Example: What is the distribution of media consumption habits among different age groups? You have to ask questions about media consumption habits.

Choice of the Variables (2/2)

- **Survey for explanatory research:** variables should measure the outcome and the relevant explanatory factors. One can create an inventory of relevant causal factors based on literature:
 - Example: What is the distribution of media consumption habits among different age groups? 1) familiarity with different technologies; 2) Generational Cultural Influences; 3) Educational Background; 4) Economic Status and Affordability of Media Technologies; Etc.

Choice of Data Collection Modes

Surveys can be conducted through **various methods**, yielding varying outcomes with regard to data quality, speed, and expenses, as evidenced in specialized literature:

- Face to face interviews
- CAPI: Computer Assisted Personal Interviewing
- CATI: Computer Assisted Telephone Interviewing
- CAVI: Computer Assisted Video Interviewing
- CAWI: Computer Assisted Web Interviewing
- CASI: Computer Assisted Self Interviewing

Survey interview

Questions	Answers	
	Standardized	Unstandardized
Standardized	Survey	Structured Interview
Unstandardized		Unstructured Interview



**Quantitative
Research**



**Qualitative
Research**

Standardization of the Interview

- Standardization of interviews, in this context, refers to the uniformity of (1) the stimulus/interview and (2) the data collection tool (questionnaire).
- *“The researcher needs to combine and to analyze statistically the data collected in all of the interviews. This means that the data must be collected in a uniform manner from all respondents, and all of the people in a sample must be asked the same questions in the same way”* (Interviewer’s Manual, ISR, 1976/1969, p. 11).

Standardization of the Interview

- *“You should avoid creating the impression that the interview is a quiz or cross-examination; be careful that nothing in your words or manner implies criticism, surprise, approval or disapproval either of the questions you ask or of the respondent’s answers. If you have a normal tone of voice, an attentive way of listening, and a nonjudgmental manner, you will maintain and increase the respondent’s interest.”*
(Interviewer’s Manual, ISR, 1976/1969, p. 11).

Standardization of the Interview

- *“Ask the questions exactly as they are worded in the questionnaire. Since exactly the same questions must be asked of each respondent, you should not make changes in their phrasing.”* (Interviewer’s Manual, ISR, 1976/1969, p. 11).

Standardization of the Questionnaire

- The second aspect of standardization concerns the instrument: the questionnaire.
- Standardization is somehow incompatible with the fact questions are asked in natural language, which is ambiguous and susceptible to subjective interpretation.
- A particular effort must be made to ensure that the questions are crystal clear.

Standardization of the Questionnaire

- Example (ambiguous/incomplete question): What is your view on the impact of micro-targeting in political advertising on social media?
 - A political strategist might consider its effectiveness in swaying voter behavior and opinions.
 - A data privacy advocate might focus on its ethical implications and privacy issues.

Standardization of the Questionnaire

- The questions must also not contain systematic bias.



Operationalization

Operationalization

- Standardization of the questionnaire – alongside other characteristics such as different forms of validity – should be the outcome of an accurate operationalization.
- Operationalization is the translation of the concepts to the questions (from abstract ideas to empirical observations, see *Explication-Communication Concepts* by Steven H. Chaffee).

Designing Questions

- Subject and dimensions (choose a subject and a dimension on which to evaluate the subject of the question).
- Formulation of the question (different formulations of the same question are possible).
- The response categories (choosing an appropriate response scale).
- Additional text (it is also possible to add: an introduction; extra information; definitions; instructions; a motivation to answer).

Subject and dimensions

- Subject and dimensions (choose a subject and a dimension on which to evaluate the subject of the question).
 - **Subject:** What is your view on the impact of micro-targeting in political advertising on social media?
 - **Dimensions:**
 1. Is micro-targeting effective in swaying voter behavior and opinions?
 2. Is micro-targeting ethical?
 3. Does micro-targeting alter the dynamics between politicians and the electorate?

Question types

- Formulation of the question (different formulations of the same question are possible).
 - Is micro-targeting ethical?
 - Please tell me if micro-targeting is ethical.
 - Now I would like to ask you whether micro-targeting is ethical?
 - Do you agree with the statement that micro-targeting is ethical?

The response categories

- The response categories (choosing an appropriate response scale):
 - Is micro-targeting effective in swaying voter behavior and opinions? *Very much/quite/a bit/not at all*
 - Is micro-targeting ethical? *Yes/No*
 - Does micro-targeting alter the dynamics between politicians and the electorate? *Express your opinion with a number between 0 and 100 where 0 = no ethical at all and 100 = completely ethical*

Concepts-by-postulation and by-intuition

- Empirical research is an interplay between abstract concepts (theory) and observation.
- A distinction can be made between concepts-by-postulation and concepts-by-intuition (Blalock, 1990; Northrop, 1947; cit. in Saris & Gallhofer, 2014).
 - **concepts-by-postulation:** require theoretical and empirical support (“constructs”).
 - **concepts-by-intuition:** are intuitively clear (e.g., judgments, feelings, evaluations, norms, and behaviors).
- The objective is to deconstruct a complex construct into more empirically intuitive concepts.

Example

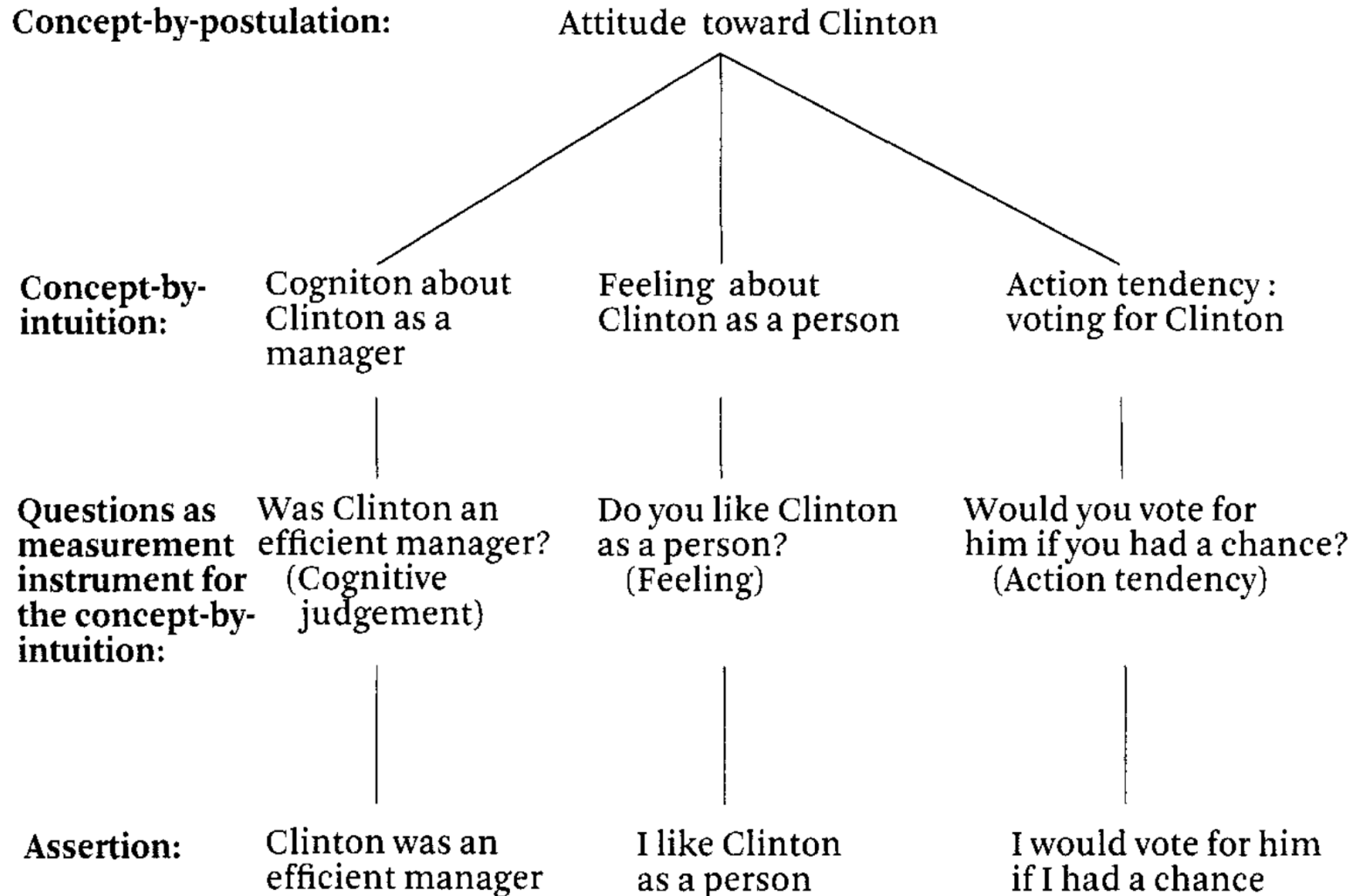


FIGURE 1.1: *Operationalization of an attitude toward Clinton.*

Example

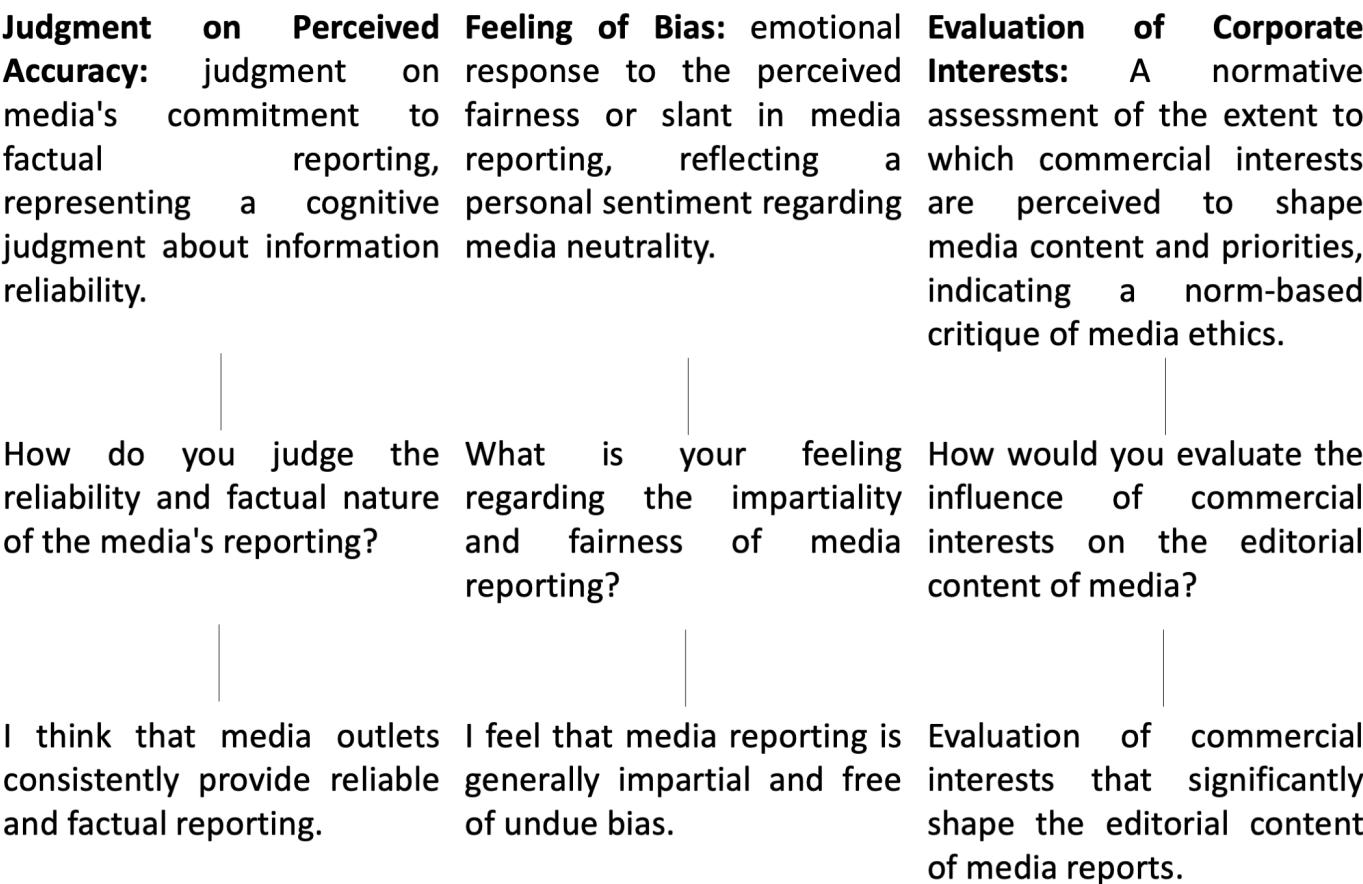
Concept-by-postulation:

Media Bias

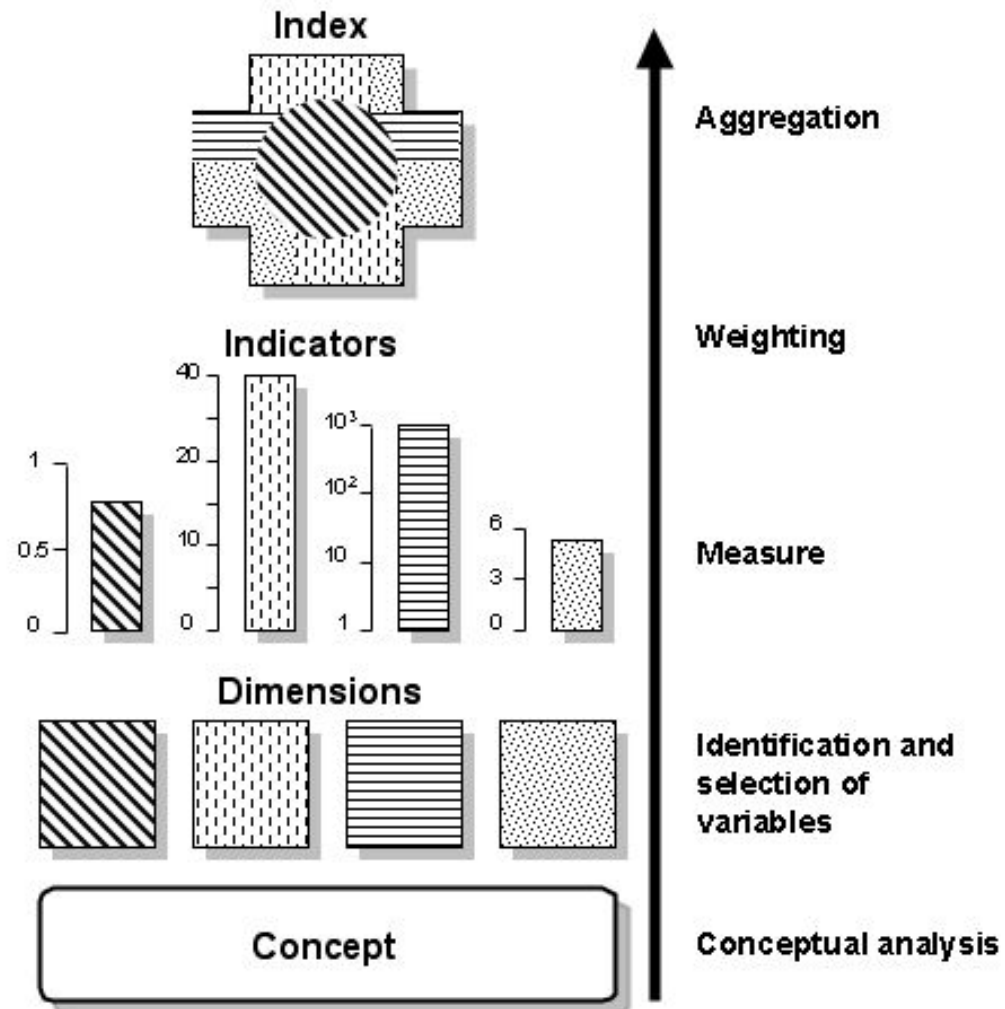
Concept-by-intuition:

Questions as measurement instrument for the concept-by-intuition:

Assertion:



Lazarsfeld's Approach



Other Methodological Choices

Testing the Quality of the Questionnaire

The next step in designing a survey study is to conduct a check of the quality of the questionnaire:

- Check on face validity
- Control of the routing in the questionnaire
- Prediction of quality of the questions with some instrument
- Use of a pilot study to test the questionnaire

After corrections are made, the ideal scenario would be to test the new version again.

Organizational Choices

- Choice of population and sample design
- Decide about the fieldwork
 - Number of interviewers and of interviews for each interviewer
 - Recruitment of interviewers (where, when, how) and how much to pay (per hour/ per interview)
 - Instruction: kind of contacts, number of contacts, when to stop, administration
 - Control procedures: interviews done / not done
 - Registration of incoming forms and coding of forms
 - Necessary staff

Tips

General Tips

Simplicity of language	Focusing on a definite time period
Lengths of questions	Concreteness - abstraction
Number of response alternatives	Behaviors and attitudes
Jargon	Social desirability
Ambiguous definitions	Embarassing questions
Words with strong negative connotations	Lack of opinion and “I don’t know”
Syntactically complex questions	Attitude intensity
Questions with non-unique answers	Acquiescence and response set
Non-discriminative questions	Memory effect
Biased questions	Question Sequence
Presumed behaviors	

Simplicity of language

In general, it should be borne in mind that:

- the language of the questionnaire must be adapted to the characteristics of the sample studied;
- the self-completed questionnaire requires simpler language than the questionnaire with an interviewer, as it may not involve explanations by the interviewer;
- even in the presence of interviewer, people can avoid asking questions

Length of Questions

- Questions should generally be concise for easier comprehension, especially for respondents with limited attention spans.
- However, longer questions are advantageous for complex or sensitive topics as they aid in recall, provide thinking time, and elicit more articulate responses.
- For such topics, it's effective to preface the question with context or examples, as in: “*Given the differing opinions on [...], with some believing [...] and others [...], which viewpoint resonates more with you?*” This approach is more nuanced than a direct “*Are you for or against [...]?*” query.

Number of Response Alternatives

- In closed questions, the response alternatives offered to the respondent cannot be too numerous.
- If they are presented verbally, it is generally recommended that they be no more than five, a limit above which the recollection of the former is too dim when the interviewer lists the latter.
- For higher numbers, it is customary to provide respondents with a card displaying written answer options (though even in this case, the options should not be excessive).

Jargon

- Many subcultures protect li their own slang and are jealous of it.
- Attempting to use it by outsiders may irritate the interviewee or be considered ridiculous.
- In general, the interviewer will secure cooperation not so much by pretending to adhere to the respondents' subculture, but rather by placing emphasis on his or her quality as a scientist.

Ambiguous Definitions

- Great care should be taken not to use terms with ill-defined meanings.
- For example, the question “*Is yours a stable job?*” implies a concept of job stability that has a non-unique meaning.
 - For example, is an annual substitute teaching position in schools to be considered stable? Or a contract renewable from year to year?
 - And so in the question on “How many rooms are there in your house?” what is meant by room? Should the bathroom and kitchenette be included in the calculation?

Words with Strong Negative Connotations

- Avoid using emotionally charged terms, particularly those with negative connotations.
- For instance, when inquiring about corporal punishment by a parent, refrain from using phrases like “*Do you beat your child?*” due to the negative implications of the word “beat”. Likewise, avoid labels like “delinquent” or “criminal” for law violators, as these terms carry strong stigmatization.
- Instead, opt for more neutral expressions, even if it lengthens the question.

Syntactically Complex Questions

- Questions should be straightforward and syntactically simple, avoiding complex structures like double negations. Complex questions can easily lead to misunderstandings.
- For instance, the question, “*Tell me whether you agree or disagree with the following statement: It is not true that the workers are as bad as the unions say*” is overly complicated.
- Avoid negative sentences, particularly those conveying disapproval or condemnation. This is because agreement with such sentiments requires respondents to negate the statement, while disagreement involves affirming the negative, leading to confusion. Employing positive statements about the subject matter circumvents this problem.

Questions with Non-Unique Answers

- Explicitly multiple questions as well as those with insufficiently articulated problems should be avoided.
- Multiple questions combine several inquiries in one, leading to ambiguity when responses vary for each component. For instance, asking “*Were your parents religious?*” is problematic if one parent was religious and the other was not.
- Similarly, an unarticulated issue arises in questions like “*Are you in favor or against abortion?*” which fails to capture nuanced stances, such as opposing abortion generally but supporting it in certain circumstances.

Non-Discriminative Questions

- Questions should be constructed in such a way that they discriminate in the sample of respondents.
- A question that obtains 90 percent responses of the same type is usually a bad question, effectively useless.
- For this reason, in presenting a range of response alternatives, avoid ways that will draw a high proportion of consensus to itself in an obvious way.

Biased Questions (1/2)

- Tendentious questions (also called spoiled or answer driven) should be avoided.
- Occasionally, researchers inadvertently frame questions using specific adjectives or word arrangements that bias respondents towards certain answers, rather than offering a neutral presentation of response options.
- Consider the following question: *“There are 700 French priests who have said that the Gospel is a message for the poor and exploited, and that is why they live poorly, work in factories, and work hard in trade unions and political organizations to help workers to greater social gains. Do you think that these priests do well?”*

Biased Questions (2/2)

- The framing of questions significantly influences the results. Still we can mention the question on abortion: we get significantly different results depending on whether we ask the question from the perspective of the choice of responsible motherhood or that of the unborn child's right to life.
- Bias in closed questions also arises from excluding certain response alternatives, leading to under-representation of these options in the results compared to their real prevalence.

Presumed behaviors

- It is essential to avoid taking behaviors for granted that are not. For example, do not ask the respondent for whom he or she voted in the last election without first asking if he or she went to vote.
- “Filter questions” are called those questions that allow respondents to be selected before asking a question that does not apply to everyone, and “conditional questions” those asked only if the subject answered the filter question in a certain way.

Focusing on a Definite Time Period

- When designing questions about habitual behaviors or time-based averages, it's important to use caution. Respondents may report idealized behaviors or norms rather than their actual actions.
- To address this, combine broad questions with specific, time-limited ones. This helps ground responses in reality and minimizes idealized self-reporting. For instance, pair a question like *“How often do you read the newspaper?”* with a specific inquiry such as *“Did you read the newspaper yesterday?”*.
- This method is also effective for historical facts subject to change; specify the time frame to elicit more accurate responses, like asking about a father's occupation at a specific age of the respondent.

Concreteness - Abstraction

- Abstract inquiries often result in normative or superficial responses, while concrete examples elicit deeper reflection, engagement, clarity, reducing misunderstandings.
- For instance, a study on death penalty attitudes showed a decrease in opposition from 42% to 29% when respondents were given specific criminal cases.
- Presenting specific scenarios, rather than abstract questions, can enhance the effectiveness of the inquiry. This method fosters more meaningful responses.

Behaviors and Attitudes (1/2)

- It's advisable to focus questions on specific behaviors rather than opinions.
- In assessing political participation, inquire whether respondents read political news or watch it on TV, rather than asking if they keep up with politics. Likewise, ask if they personally donate or volunteer for charitable causes, instead of questioning their belief in supporting charity.

Behaviors and Attitudes (2/2)

- Another useful practice is to seek behaviors with empirical evidence. In addition to asking about awareness of politics (an attitude) and newspaper reading (a behavior), one might ask about specific knowledge, like awareness of recent political events or knowing the name of a political leader or local mayor.
- Lastly, rather than asking generic questions like “Do you read books?”, it’s better to ask how many books they have read in the past six months and request titles.

Social Desirability (1/2)

- When asking about habitual behaviors, it's essential to be cautious of social desirability or normative responses. Some techniques can reduce the impact of social desirability (but not eliminate it entirely).
- For example, instead of asking “Do you read the newspaper?” phrase it as “Do you usually find time to read the newspaper?” This helps in making less desirable answers more acceptable.
- A specific question, like asking if they voted on a particular date and acknowledging common reasons for not voting, can also reduce bias.

Social Desirability (2/2)

- Another strategy is to present negative behaviors as normal, for instance, suggesting that everyone has thought about certain negative actions at some point.
- Equally balancing the desirability of responses in a question or attributing a socially undesirable behavior to the respondent (leaving room for them to deny it) can also help.
- Additionally, asking questions in the third person can shift focus and potentially elicit more honest responses.

Embarrassing Questions

- Sensitive issues such as sexual behavior, income, and deviant behaviors (drug use, alcoholism, etc.) are extremely difficult to study using questionnaires.
- Ideally, these should be approached through open-ended questions, allowing respondents to answer in their own words and provide justifications.
- However, these issues are best explored through unstructured interviews, where skilled interviewers can build trust with respondents.

Lack of opinion and “I don’t know”

- In survey design, it’s essential to address the lack of opinion.
- To do this, explicitly include “I don’t know” as a valid response option and consider using filter questions to gauge if the respondent has an opinion. Experiments show that these methods increase the likelihood of “I don’t know” responses.
- Be cautious to phrase questions neutrally and avoid unintentional cues that might lead respondents to guess or seek the “right” answer.
- It’s important to establish whether respondents have an opinion on the topic and to affirm that stating ignorance is acceptable to ensure authentic responses.

Attitudes Intensity (1/2)

- A key issue is not only distinguishing between favorable and unfavorable attitudes but also capturing the intensity of these attitudes, as intensity often dictates behavior.
- For instance, while surveys in the United States have consistently shown a majority favoring gun control, the minority against it is more vehement and active, influencing legislative outcomes (Schuman & Presser, 1981).

Attitudes Intensity (2/2)

- Schuman and Presser (1981) suggest exploring attitude strength by asking about intensity (how strong the feelings are compared to other public issues), centrality (importance of the issue when voting), and behavioral consequences (actions taken related to the issue).
- This approach, demonstrated in their research on gun control, highlights that the minority opposing gun control had significantly stronger feelings than the majority in favor.

Acquiescence and Response-Set (1/2)

- Acquiescence bias refers to respondents' tendency to agree or give affirmative answers, particularly prevalent among less educated individuals.
- Experiment revealed contradictory results when questioning varied subject-object order, suggesting the influence of question phrasing. To counter this, surveys can vary question structure and response polarity.
 - *“In your opinion, who is more guilty of crimes and violations of the law, society or individuals?” vs “In your opinion, who is more guilty of crimes and violations of the law, individuals or society?”*

Acquiescence and Response-Set (2/2)

- Another related bias, 'response set', occurs when respondents consistently answer similarly due to laziness or lack of opinion, which can be mitigated by altering response order and question framing.

Memory Effect (1/3)

- Questions about past events and behaviors pose specific difficulties due to incomplete or distorted memories. To enhance the validity of memory-based questions, several strategies are suggested:
- **Temporal Limits:** Establish time limits for recall. Instead of asking broadly about experiences like foreign travel or victimization by crimes, specify a defined time frame (e.g., the last year, past six months).
- **Temporal Reference Points:** Use significant events as reference points to anchor the timing of a past event. For instance, to determine when someone purchased an appliance, ask if it was before or after the birth of their last child or summer vacations.

Memory Effect (2/3)

- **Providing Response Lists:** Aid memory by presenting lists of possible answers. In questions about job search strategies, for example, provide a list of methods (e.g., reading newspaper ads, employment offices, applying to companies, public competitions, networking) and ask which ones were used.
- **Use of Diaries for Ongoing Behaviors:** For behaviors that span the past, present, and future, avoid reliance on memory. Use diaries or similar tools for real-time recording, like expense diaries used by national statistical offices for family budget surveys.

Memory Effect (3/3)

- **Reconstructing Past Voting Behavior:** Remembering past electoral choices is challenging, especially in contexts with frequent elections like Italy. Compounding this is the 'bandwagon effect' where respondents claim to have voted for the winner, either due to explicit falsehood or an unconscious shift in attitude, replacing their actual past vote with their current preference.

Question Sequence (1/4)

- The sequence in which the questions are asked in the questionnaire is not neutral and can give rise to unexpected and unwanted effects.
- **Interview Dynamics:** Consider the asymmetric relationship between interviewer and respondent. The interviewer is experienced, while the respondent may be anxious or doubtful.
- **Easing the Respondent:** Start with non-intrusive questions on familiar facts, not opinions, to make the respondent comfortable and to explain the interview process.

Question Sequence (2/4)

- **Placing Sensitive Questions:** For potentially embarrassing questions, place them mid-survey after trust is built. Alternatively, put them at the end to minimize the impact of a possible interview termination and to avoid spoiling the conversation's mood from the start.
- **Maintaining Interest:** Structure the survey to keep the respondent's attention, with more challenging questions in the middle and less demanding ones, like sociographic details, at the end.

Question Sequence (3/4)

- **Logical Sequence:** Ensure topics flow logically and naturally, avoiding abrupt subject or time shifts. Introduce new topics smoothly.
- **Questionnaire Length:** The average duration should be around 45 minutes for face-to-face interviews and 25 minutes for phone interviews, though this can vary based on the study's focus and population.
- **Funnel Technique:** Start with broad, general questions and gradually narrow down to specific aspects. For example, to explore the role of trade associations in voting behavior, begin with general employment questions before moving to specific inquiries about the association's voting guidance.

Question Sequence (4/4)

- **Avoiding Contamination Effect:** Be aware that earlier questions can influence responses to subsequent ones. Some research studies illustrate how responses to a question about abortion legality changed based on preceding questions, highlighting the potential for prior questions to influence subsequent answers.

