

Mitigating Confirmation Biases¹

“Still a man hears what he wants to hear and disregards the rest.”

- *The Boxer*, Paul Simon

What is Confirmation Bias?

Confirmation bias (aka ‘myside bias’) is a general tendency for people to notice and look for information that supports their pre-existing beliefs, and to ignore, not look for, or undervalue the relevance of what doesn’t. In research, it manifests as the tendency for people to test hypotheses, generate evidence, and evaluate evidence in a manner biased toward their own opinions. The more strongly held the opinion or belief, the more we ignore sources of information that might challenge that position.

Like other cognitive biases, this selective thinking/ filtering process happens automatically and unconsciously, so we are usually unable to detect and mitigate it through awareness alone. These biases serve as cognitive shortcuts for handling complex tasks and information, and are persistent, regardless of intelligence levels or cultural differences.



How Can we Mitigate Confirmation Bias?

In conducting your study, consider the following questions:

- How much time are you spending seeking evidence that you’re right vs. evidence that you’re wrong?
- When you come across disconfirming evidence, how seriously do you consider it?
- How can you learn more about negative cases, deviant cases, or unexpected/ surprising evidence that you find?
- What are some plausible alternate explanations for your findings?

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Countering Confirmation Bias: A Checklist:

Study Design

- Structure your hypotheses to test if your assumptions are wrong; not that they are correct (e.g., define indicators and data sources to test a hypothesis that, "CLA has no impact on development indicators." Which data would we need to prove this to be true?)
- Identify which questions your study design seeks to answer, and related questions that you will not be able to answer with the data being collected (as a way of guarding against 'conclusion creep').
- Explicitly identify the strengths, limitations, and delimitations of your design before you start.
- Think about ways to offset some of the limitations before you start (e.g., using multiple data sources, collection methods, and analysis techniques).
- Explicitly identify your verification strategies (qualitative studies) and/ or efforts to increase reliability & validity (quantitative studies) before you start.
- Be transparent about researchers' (and participants') multiple roles, conflicts of interest, explicit or implicit incentives, and other considerations that might influence findings.
- Ask others, including those who would not have the same biases, to review your study design and offer suggestions to help strengthen the credibility of potential findings.
- Contextualize your study with a balanced review of existing, relevant research findings.
- Have discussions, at this early stage, about who has control over how (and what) findings will be reported. Does anyone have veto power? Establish a clear process to review reports of findings, and incorporate or reject comments that are received, that will minimize confirmation and outcome reporting biases.

Data Collection

Data collection methods and situations vary widely. All of these recommendations are made with the prefix, "where possible" and/ or "where appropriate."

- Ask questions in an exploratory (rather than confirmatory) way - i.e., use phrasing that allows opportunity for disconfirming or alternate understandings of the situation. This could include the use of open-ended questions or narrative approaches that create space for unexpected results.
- Look for disconfirming evidence or information that challenges the hypothesis.
- Use pre-tested data collection instruments (e.g., review literature for relevant pre-existing/ validated measures; conduct pilot tests of new instruments).

- Use 'member checks' – i.e., return collected data or results to respondents to check for accuracy and resonance with their experience.
- Ensure you have sufficient data to account for all aspects of the phenomenon you are examining.
- Carefully document your data collection so you don't have to rely on (selective) memory during analyses.
- Be responsive and adaptive as you are collecting data and adjust strategies to ensure you are collecting the kind of information that addresses your primary questions.
- Create an audit trail – i.e., write down decisions/ changes made during the course of the study to adapt or self-correct questions, methods, or analyses. Include the rationale behind the decisions and how they respond/ are sensitive to the data, the participants, and/or the context.
- Use peer debriefing with colleagues who hold impartial views of the study during data collection to get independent feedback about the data and early analyses.

Data Analysis and Interpretation

- Look for the unexpected and embrace surprises – consider how unexpected information can help refine or rework your questions/ hypotheses.
- Guard against creating higher standards for evidence that goes against your expectations.
- Remain open and be willing to relinquish any ideas that are poorly supported, regardless of the excitement and the potential that they first appear to provide.
- Use the Learning Network and Red Team to review preliminary analyses and integrate comments into reporting.

Reporting:

- Be transparent about your data collection & analysis procedures, as well as any problems or changes that arose during the study that may have influenced findings.
- Use the report-review process established in the design phase to ensure critical findings are discussed rather than omitted or soft-pedaled.
- Provide a balanced perspective of the findings in your reports – imagine you are explaining your findings to others who are well-informed, genuinely interested in the truth, and whose views you don't already know.
- Provide a draft report to those likely to challenge your study and address critical perspectives in a final report.

Additional Resources on Confirmation Biases

1. Confirmation Bias – Wikipedia https://en.wikipedia.org/wiki/Confirmation_bias
2. Cognitive Bias Mitigation – Wikipedia https://en.wikipedia.org/wiki/Cognitive_bias_mitigation
3. Confirmation Bias: 3 Effective (and 3 ineffective) Cures.
<http://www.globalcognition.org/confirmation-bias-3-cures/>
4. Confirmation Bias (explained in a minute) - Behavioural Finance
<https://www.youtube.com/watch?v=yxDDrEA497E>
5. Nikerson, R. (1998). Confirmation Bias: A Ubiquitous Phenomenon in Many Guises. *Review of General Psychology*, 2(2). 175-220. <http://landman-psychology.com/ConfirmationBias.pdf>

Other Cognitive Biases that Can Affect Research²

Researcher Biases

Cultural Bias: Assumptions about respondents' actions, motivations and influences that are based on the researcher's cultural lens can create culture bias. To minimize such biases, researchers can partner with local researchers or other cultural interpreters, do member checks with participants to ensure interpretations are accurate, explicitly examine contextual and culture-specific explanations for observed behaviors or self-report style/ content, learn about respondents' culture, and increase self-awareness about one's own cultural assumptions.

Question Order Bias: One question can influence answers to subsequent questions, creating question-order bias. Respondents are primed by the words and ideas presented in questions that impact their thoughts, feelings, and attitudes on subsequent questions. For example, if a respondent rates one product a 10 and is then asked to rate a competitive product, they will make a rating that is relative to the 10 they just provided. While question-order bias is sometimes unavoidable, asking general questions before specific, and unaided before aided, and open-ended before close-ended can help minimize this bias.

Leading Questions and Wording Bias: Elaborating on a respondent's answer puts words in their mouth and, while leading questions and wording aren't types of bias themselves, they lead to bias or are a result of bias. Researchers do this because they are trying to confirm a hypothesis, build rapport or overestimate their understanding of the respondent. To minimize this bias, ask questions that use the respondents' language and inquire about the implications of a respondent's thoughts and reactions. Avoid summarizing what the respondents said in your own words and do not take what they said further. Try not to assume relationships between a feeling and a behavior.

² Adapted from, Sarniak, Becky (2015). 9 Types of Research Bias and How to Avoid Them.
<http://www.imoderate.com/blog/9-types-of-research-bias-and-how-to-avoid-them/>

The Halo Effect: Researchers and respondents have a tendency to see something or someone in a certain light because of a single, positive attribute. There are several cognitive reasons for the halo effect, so researchers must work to address it on many fronts. For example, an interviewer can make assumptions about a respondent because of one positive answer they've provided. Researchers should reflect on their assumptions about each respondent: Why are you asking each question? What is the assumption behind it? Additionally, respondents may rate or respond to a stimulus positively overall due to one factor.

Selective Outcome Reporting: The selective reporting on a subset of the original questions or variables studied, or on some outcomes and not others, because of the nature or direction of results is a common problem in research reporting. It can result when only certain analyses are selected for reporting, certain data are under-reported, or favorable results are overemphasized. Systematic reviews of the full range of findings can help mitigate selective outcome reporting biases.

Respondent Biases

Acquiescence Bias: Also known as “yea-saying” or the friendliness bias, acquiescence bias occurs when a respondent demonstrates a tendency to agree with and be positive about whatever the researcher presents. In other words, they think every idea is a good one. Some people have acquiescent personalities, while others acquiesce because they perceive the interviewer to be an expert. Acquiescence is the easy way out, as it takes less effort than carefully weighing each option. This path escalates if fatigue sets in – some people will agree just to complete the interview. To avoid it, researchers must replace questions that imply there is a right answer with those that focus on the respondent's true point of view.

Social Desirability Bias: This bias involves respondents answering questions in a way that they think will lead to being accepted and liked. Regardless of the research format, some people will report inaccurately on sensitive or personal topics to present themselves in the best possible light. Researchers can minimize this bias by focusing on unconditional positive regard. This includes phrasing questions to show it's okay to answer in a way that is not socially desirable. Indirect questioning – asking about what a third-party thinks, feels and how they will behave – can also be used for socially sensitive questions. This allows respondents to project their own feelings onto others and still provide honest, representative answers.

Habituation: In cases of habituation bias, respondents provide the same answers to questions that are worded in similar ways. Being responsive and paying attention takes a lot of energy. To conserve energy, our brains habituate or go on autopilot. Respondents often show signs of fatigue, such as mentioning that the questions seem repetitive, or start giving similar responses across multiple questions. Researchers must keep the engagement conversational and continue to vary question wording to minimize habituation.

Sponsor Bias: When respondents know – or suspect – the sponsor of the research, their feelings and opinions about that sponsor may bias their answers. Respondents’ views on the sponsoring organization’s mission or core beliefs, for example, can influence how they answer all questions related to CLA. This is an especially important type of bias for researchers to navigate by maintaining a neutral stance on the topic and maintaining, where possible independent status related to the topic being researched.