**Research Bias**:

Research bias results from any deviation from the truth, causing distorted results and wrong conclusions. Bias can occur at any phase of your research, including during data collection, data analysis, interpretation, or publication. Research bias can occur in both qualitative and quantitative research.

Understanding research bias is important for several reasons.

1. Bias exists in all research, across research designs, and is difficult to eliminate.
2. Bias can occur at any stage of the research process.
3. Bias impacts the validity and reliability of your findings, leading to misinterpretation of data.

It is almost impossible to conduct a study without some degree of research bias. It’s crucial for you to be aware of the potential types of bias, so you can minimize them.

Suppose that you are researching whether a particular weight loss program is successful for people with diabetes. If you focus purely on whether participants complete the program, you may bias your research.

For example, the success rate of the program will likely be affected if participants start to drop out (attrition). Participants who become disillusioned due to not losing weight may drop out, while those who succeed in losing weight are more likely to continue. This in turn may bias the findings towards more favorable results.

Accounting for the differences between people who remain in a study and those who withdraw is important so as to avoid bias.

**Information bias:**

Information bias, also called measurement bias, arises when key study variables are inaccurately measured or classified. Information bias occurs during the data collection step

**Interviewer bias:**

Interviewer bias stems from the person conducting the research study. It can result from the way they ask questions or react to responses, but also from any aspect of their identity, such as their sex, ethnicity, social class, or perceived attractiveness.

**Publication bias:**

Publication bias occurs when the decision to publish research findings is based on their nature or the direction of their results. Studies reporting results that are perceived as positive, statistically significant, or favoring the study hypotheses are more likely to be published due to publication bias.

**Researcher bias:**

Researcher bias occurs when the researcher’s beliefs or expectations influence the research design or data collection process. Researcher bias can be deliberate (such as claiming that an intervention worked even if it didn’t) or unconscious (such as letting personal feelings, stereotypes, or assumptions influence research questions).

**Response bias:**

Response bias is a general term used to describe a number of different situations where respondents tend to provide inaccurate or false answers to self-report questions, such as those asked on surveys or in structured interviews.

**Selection bias:**

Selection bias is a general term describing situations where bias is introduced into the research from factors affecting the study population.

**How to avoid bias in research**

While very difficult to eliminate entirely, research bias can be mitigated through proper study design and implementation. Here are some tips to keep in mind as you get started.

* Clearly explain in your methodology section how your research design will help you meet the research objectives and why this is the most appropriate research design.
* In quantitative studies, make sure that you use probability sampling to select the participants. If you’re running an experiment, make sure you use random assignment to assign your control and treatment groups.
* Account for participants who withdraw or are lost to follow-up during the study. If they are withdrawing for a particular reason, it could bias your results. This applies especially to longer-term or longitudinal studies.
* Use triangulation to enhance the validity and credibility of your findings.
* Phrase your survey or interview questions in a neutral, non-judgmental tone. Be very careful that your questions do not steer your participants in any particular direction.
* Consider using a reflexive journal. Here, you can log the details of each interview, paying special attention to any influence you may have had on participants. You can include these in your final analysis.