



TIP SHEET: BIAS IN PROGRAM EVALUATION

Relevant Types of Bias and Why they Matter

In statistics, bias is defined as “a systematic distortion of a statistical result due to a factor not allowed for in its derivation” (from *Oxford Dictionaries*, http://www.oxforddictionaries.com/us/definition/american_english/bias). There are several types of bias that are of particular relevance to the evaluation of social and educational programs involving young participants. These are summarized in the table below:

TYPE OF BIAS	WHAT IT IS	WHY IT MATTERS
Selection Bias	Occurs when participants in a program or intervention differ in a systematic way from non-participants.	If we compare participants to non-participants, and fail to account for selection bias, we may overestimate the impact of our programs.
Maturation Bias	Occurs when phenomena that would have happened naturally are attributed to a program or intervention.	If we look at changes over time, and fail to account for possible maturation effects, we may overestimate (or underestimate!) the impact of our programs.
Attrition Bias	Occurs when participants drop out of a program before the study period is complete.	In a pre-/post- or post- only design, we may fail to account for the effects of a program on participants who have dropped out.
Instrumentation Bias	Occurs when the tools or techniques we use to measure are not accurate or consistent.	The conditions under which kids are assessed can influence the results of the assessment. Evaluation practices (assessor behaviors, survey instructions) should be as consistent as possible. Can also refer to surveys that bias results through question wording.
Social Desirability Bias	Occurs when survey respondents answer questions in a way they think is “right” or socially desirable rather than a way that is accurate or true.	We may not be measuring what we think we are measuring.
Response Shift Bias	Occurs when a program or intervention affects the standard or criteria that participants use to assess themselves (i.e. “you don’t know what you don’t know”).	Can produce counterintuitive results in pre- / post-research designs.

Bias can arise from sampling practices, research design, or from cognitive factors affecting research subjects. In designing program evaluations, we should do our best to minimize bias. However, some degree of bias is *inevitable*, so it is important to acknowledge it when making claims about program impact.