

## Summary of Data Errors and Fixes

Error	Fix	When fix is needed
sampling	<b>replication</b> (reduces but does not eliminate)	how much replication is needed depends on the goal and on the population variation
bias	<b>blind</b>	human subjects, human observers of subjective properties
	<b>random</b>	virtually always when choosing things
human & technical	<b>design</b> of good protocols, <b>test</b> 'knowns' or standards (proficiency tests)	always
RPA	<b>better</b> equipment <b>calculate</b> averages of many objects	when greater accuracy is desired
Flawed analysis	<b>independent</b> analysis, <b>publish</b> raw data	Especially when data are processed heavily before use
all	good protocol	always