

OTHER TERMS.

Validity - 1.

In the context of a **clinical measurement**:
whether or not a particular measurement does in fact
measure the characteristic of interest.
A valid measurement must be **accurate** and **reliable**.

Validity - 2.

In the context of a study:
whether or not the results of the study are **biased**.
Studies need to have:
• **internal validity**.
• **external validity**.

Accuracy.

Whether or not the measurement made is correct.
A correct measurement should be both accurate and precise, although accuracy is more important than precision.

Reliability.

Refers to a method of measurement which is not only accurate, but consistently so.
This may be in the context of one individual getting the same result many times
or
many individuals getting the same result.

Kappa statistic.

A measure of reliability.
Assess agreement between measurements on a categorical scale, called an R value.
R = 0: total disagreement.
R = 1: total agreement.
E.g. Used to assess level of agreement between two individuals scoring a questionnaire.

Precision.

The number of digits after the decimal point obtained for a measurement.

A precise measurement is not necessarily an accurate one.

Example.

The time is 12.35.

Your cheap plastic watch tells you the time is 12.36.

The atomic clock tells you the time is 12.32689.

Which is more precise?

Which is more accurate?

Internal validity.

Whether differences in the observed effects of a study are due to differences in the intervention.

Often due to allocation bias.

Solutions include:

- randomisation.
- adjustments during the analysis.

External validity.

The extent to which findings from a study are generalisable to all potential recipients.

Potential threats include:

- exclusion of particular types of patient from the study.
- non-participation of certain types of patient, practitioner, centre, or area.

Bias.

Systematic error.

Leads to results which are consistently wrong in one or another direction.

Many types of bias, all of which affect the **validity** of a study.
