Introduction to Psychometrics

The Flynn Effect   Average IQ scores have increased in most industrialised countries in the past 50-75 years. This could partly explain why we use criterion referencing so much in education.

- Unlikely to be genetic (e.g. the correlation between IQ and fertility has gone down).
- People may be more used to IQ tests.
- Changes in social class.
- Better, longer education
- Public health improvements.

Psychometrics is the term used to describe technological aspects of psychological measurement.

Constant: This is a variable that does not differ

Variable: A value that differs across individuals or conditions.

These can be **discrete** (intervals)...

...or continuous (can be subdivided continuously**)**.

Dichotomous Variables discrete variables that can only assume two variables (male vs. female).

Polytomous Variables discrete variables that can have more than two variables (e.g. socioeconomic status).

These theoretically have no limit (e.g. time or distant). Our measure is only an estimate of the true value (e.g. Extraversion)

Test Score Interpretation

Norm-Referenced Interpretations: An individuals performance is compared with that of the group. Used for **development** (e.g. Piaget's stages of cog dev) and **within group norms** (percentiles, std scores in personality and IQ).

Domain Referenced Interpretation: How well a person performs on the kinds of task found in the test, or how likely the person in everyday life is to show that behaviour (Jim is expected to answer correctly about two-thirds of all of these types of questions)

Criterion Referenced Interpretations: Whether someone has achieved a required level of performance.

These two are often conflated!

Interval scales all the information that ordinal scales do, plus the fact that the difference between two numbers is equal to the difference between any other two numbers on the scale. (degrees c). 0 However is arbitrary.

Many scores are reported in percentiles. The problem with this however is that the difference between say the 40 and 45th percentile will not be the same as the difference betwen people in the 90-95th percentile. Distribution differences between rank scores are always greater in the extremes compared to the middle.

Ratio Scores: With regards to IQ (particularly the Stanford-Binet scale), ratio scoring has been shown as ineffective. This is because mental development is not linear over the lifespan, and so dividing CA by MA one year will mean something different 10 years down the line. We now use **deviation IQs (e.g WAIS; predicted age/chronological age x 100)**