Levels of Measurement Checklist

Categorical/Nominal: Has two or more categories, but there is no intrinsic ordering to the categories. For example, gender is a categorical variable having two categories (male and female) and there is no intrinsic ordering to the categories, there is no agreed way to order these from highest to lowest. Central tendency used is mode (most common item). Mean, and median are not allowed because there is no order.

Ordinal: Rank or clear ordering of the variables (such as low, medium and high).  The spacing between the values may not be the same across the levels of the variables. If the categories were equally spaced, then the variable would be an interval variable. Central tendency used is median (middle-ranked item). Mode is allowed. Mean is not allowed because there is not equal spacing.

Interval: Rank or clear ordering of the variables that is equally spaced. Mode, median, and mean are allowed to measure central tendency along with measures of statistical dispersion such as range and standard deviation.

Ratio: Measurement between a magnitude of a continuous quantity and a unit magnitude of the same kind. Can be described as specifying "how much" of something (i.e. an amount or magnitude) or "how many" (a count). The [geometric mean](https://en.wikipedia.org/wiki/Geometric_mean) and the [harmonic mean](https://en.wikipedia.org/wiki/Harmonic_mean) are allowed to measure the central tendency, in addition to the mode, median, and arithmetic mean. The [studentized range](https://en.wikipedia.org/wiki/Studentized_range) and the[coefficient of variation](https://en.wikipedia.org/wiki/Coefficient_of_variation) are allowed to measure statistical dispersion. All statistical measures are allowed because all necessary mathematical operations are defined for the ratio scale.

Others: Graded membership, Log-Interval, Extensive Ratio, Cyclical Ratio, Derived Ratio, Counts, Absolute.