Survival vocabulary (technical glossary)

Factor Analysis: this is a statistical analysis method that allows common factors to be identified from observed variables. When a strong correlation is found between several variables - for example, people who score high on organization and on respect for rules - , a hypothesis can be made that a common factor exists which accounts for the correlation.

Empirical Approach: this comes from behaviors that are observed in real time and/or from the verbalization of observable behaviors. The data is then retranscribed as items which are later pre-tested by the contrasting groups method.

Factorial Approach: this consists of using statistical analysis that highlights correlations in order to establish personality dimensions.

Lexical Approach: this approach starts out from the principle that certain adjectives that belong to current language function in such a way as to highlight the most important differences between people.

Rational Approach: this consists of using statistical analysis that highlights correlations, so as to establish personality dimensions

Theoretical Approach: this consists of starting from a theoretical model. The aim is to be able to put together items that will be representative of the chosen

theoretical model. The MBTI®, for example, is built on a theoretical approach, that of psychological types.

BARS: the abbreviation for *Behaviorally Anchored Ratings*. This is a method for evaluating leadership performance. This method allows us to avoid explaining the meaning of a numerical evaluation scale (which differentiates a 4 performance from a 5 performance). You just have to read the description for each score, and choose the most appropriate one. This method favors a reliable evaluation, by offering the evaluators precise standards for each behavior.

Classical test: this describes the classic test construction method. The principle is to aggregate for any given person the scores obtained on each item so as to end up with a total score. This total score is then compared to the average score obtained by a representative sample of a given population. This method aims towards standardization, and allows us to highlight the individual's real "potential".

Cluster: this is a classification or a grouping of data and/or variables, done as a result of factor analysis.

Cronbach's Alpha: also called **coefficient a**. This is a statistical indicator used in psychometrics to account for forms of accuracy, and more specifically, the internal consistency of a tool. Presented by Lee Cronbach in 1951, the alpha coefficient can be seen to be a generalization in the case of continuous variables of Kuder-Richardson's formula 20 (KR-20) for dichotomous items. Cronbach's Alpha helps us to account for equivalent items amongst themselves and within the same scale.

Correlation: this is a statistical indicator which allows us to account for a link between two variables. It does not establish a causal link. It tries mainly to determine if two data points vary together and if so in what way. The correlation coefficient varies from -1 to +1. The closer the value is to 1 or -1, the stronger the correlation. The closer the value is to 0, the less possible it is to know whether there is a possible link between the two variables.

Dimension: also called factor. This is a statistical and content grouping (factor analysis) for several facets/traits/scales. The extraversion of the Big Five is an example of dimension. It is a broad and global aspect of the reading of a psychological component.

Sample: here, we are looking at the population (often represented by the letter N) or populations that have been used for the construction and validation stages of a tool. Several years ago already, tests were often validated on samples of psychology students. It is important to be able to see this information in a tool's construction, as what is valid in one sample may not be so in another.

Gutmann Scale: this is an attitude scale, in which questions are set out and classified such that if a "user" agrees with one statement, this supposes her agreement with the previous statements.

Likert Scale: this is a scale which allows a candidate to grade his degree of agreement or disagreement with a given item or statement. It is often expressed as a set of five to seven choices, ranging from "do not agree at all" to "totally agree". This scale is often used in normative personality inventories.

Measurement Error: this makes it possible to determine a confidence interval around an obtained score. There is a relationship between the precision of the test and the extent of probable error. This allows us to identify to what extent a score is more or less true. If a person obtains a 9 sten score, and the measurement error is 1 sten, this means that her true score is to be found between 8 and 10.

Standardization: this refers to an action that consists of moving from the raw score scale to a new scale, with known statistical properties, and to spread the raw scores on the scale with new graduations, so that the frequency per category fits a known theoretical model (often the normal law represented by the Gauss curve for normative psychometric tools). This group of classifications allows us to see an individual's score compared to those of all the individuals in the group or the reference population (six year-old children, primary school children, etc.).

Facet: sometimes called trait, or scale or sub-dimension, or second-level factor. We are talking about finely-detailed, specific characteristics. For example, for personality, gregariousness is a facet of extraversion.

Test Feedback: also known as the report. This is the moment at which the user receives a return on the answers he gave in the psychometric tool. This is generally an interactive process and is the opportunity for the user to confirm or reject points, to add any necessary nuances and to draw links with his experience.

Fidelity of a test: often seen to be a synonym of reliability in psychometrics, the term "fidelity" comes back to the question of measurement error. Any psychometric tool is potentially riddled with errors. These errors must be checked as soon as the test is constructed. When you take a measurement, the score obtained is the true value plus or minus an error. We speak here of random errors. We try to limit the causes of error, but also to evaluate the risk of error. When we build a test, we try to avoid the cause of systematic errors, as well as to play on random errors. Several procedures allow us to control the risk of error. These procedures correspond to different types of fidelity (see below)

Fidelity linked to internal consistency: this is meant to analyze the equivalency of items between each other, especially when they are part of the same underlying dimension. The sample takes the test only once. An analytical and statistical processing program then calculates, most prominently, the Cronbach Alpha. It is equally possible to evaluate the internal consistency by using the Split-Half (see below).

Parallel form reliability: this consists of creating two instruments that measure the same dimensions, but with different items. The sample population takes two tests in this case. This procedure is widespread for knowledge tests or intellectual capacity tests.

Test-retest reliability: this corresponds to the equivalency of measurement across time. What happens is that the psychometric test is given to the same sample of people at two different times.