adalloc
adaptive allocation of consent

measure to win!

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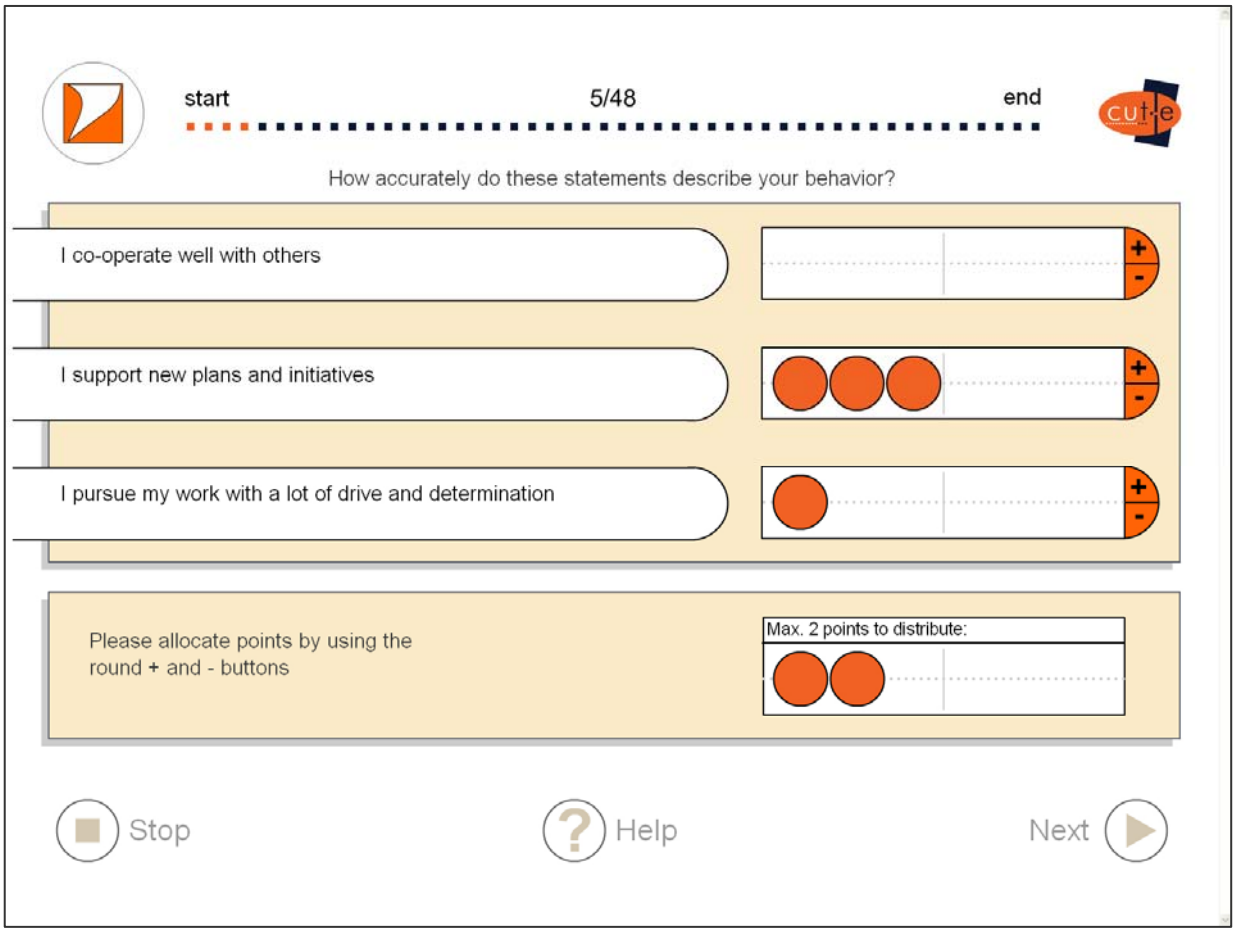
With the adalloc method the company cut-e offers a new and unique technology for adaptive measurement of different types of concepts. The adalloc method is suitable for measurement of competencies, personality dimensions, attitudes, interests, and values, as well as for the assessment of job requirements.

The adalloc method allows for the measurement of psychological constructs for personnel and marketing decisions faster and more precisely than any other existing psychometric procedure.

The advantages of the adalloc method emerge from its defining features:

- The concepts to be assessed are not rated absolutely, but are compared with each other successively;
- The adalloc instrument adapts its sensitivity constantly to the subject that is to be measured during the measurement process.

Like the well-known static normative and ipsative procedures, a basic requirement for the adalloc method is a specific number of concepts to be measured. These concepts constitute the scales which are represented by a number of test items that load onto these scales.



Example block with a block size of 3 (instrument: shapes)

Items are verbal phrases (typically statements; can be more general stimuli as well) which are associated with exactly one concept. I.e. the answer (or more general: reaction) of one person "loads" on exactly one concept.

The adalloc method presents items in blocks. The block size is the number of items per block. Typical block sizes are 3 or 4 items. However, in principle the block size can be any number greater than or equal to 2. The block size within an instrument is constant.

The graphic (example: instrument shapes) depicts a block consisting of 3 items. The task for the candidate is to allocate a specific number of points according to the perceived level of agreement with the items of the block. The number of points to be allocated within a block is a multiple of the block size (typically twice the size of the block). For a block size of 3 items there are therefore e.g. 6 points to assign (8 points for a block size of 4 accordingly). In the example, 3 points have been allocated to the second item, 1 point to the third item, and 2 points have not yet been allocated. The candidate can optionally allocate all points to one item or make any pattern of distribution (5-1-0, 4-2-1, 4-1-1, 3-3-0 etc.). Hence, it is possible to allocate an equal number of points to all items. It is not mandatory to allocate all available points. All items within a block are associated with different concepts.

The adalloc method structures an instrument into sectors. A sector is – according the adalloc method – the number of blocks which in turn present the underlying concepts with exactly one item for each concept. So each concept within one sector has to be represented by exactly one item. 18 underlying concepts and a block size of 3 items, for instance, require 6 blocks in order to represent each concept with exactly one item. For 18 concepts and a block size of 3 items exactly 6 blocks form one sector.

The adalloc method requires that:

- The number of concepts is a multiple of the block size (with a block size of 3 e.g. 15, 18 or 21 concepts; with a block size of 4 e.g. 16, 20 or 24 concepts);
- The number of items per concept is the same for all concepts.

The first sector of an instrument consists of a random sequence of one item per concept in blocks of the according block size. All scales of the concepts are initially set to 0. The points which are allocated to the items by a candidate are added to the respective concept scale.

After the first sector the concepts are sorted by their current values (which have emerged by going through the first sector). For sector 2 the second items representing the concepts are grouped into blocks of the defined block size according the current sorting, which results – from sector 2 onwards – in the grouping of items (each representing one concept) that currently have similar values.

Per sector, each block is given a block weight that results from the concept values of the corresponding block. A block of items in which concepts currently have relatively high values is given a higher block weight than a block of items in which concepts currently have relatively low values.

The points which are allocated to the items by the candidate from sector 2 on incrementally change the current value of the corresponding scale by the product of the number of allocated points and the block weight. The effect is that 6 points allocated to an item in a block with high block weight

have a greater impact than 6 points allocated to an item in a block with low block weight. The number of sectors of an adalloc instrument corresponds to the number of items per concept.

The sum of scale values (raw scores) is always a constant if 100% of the points are allocated.

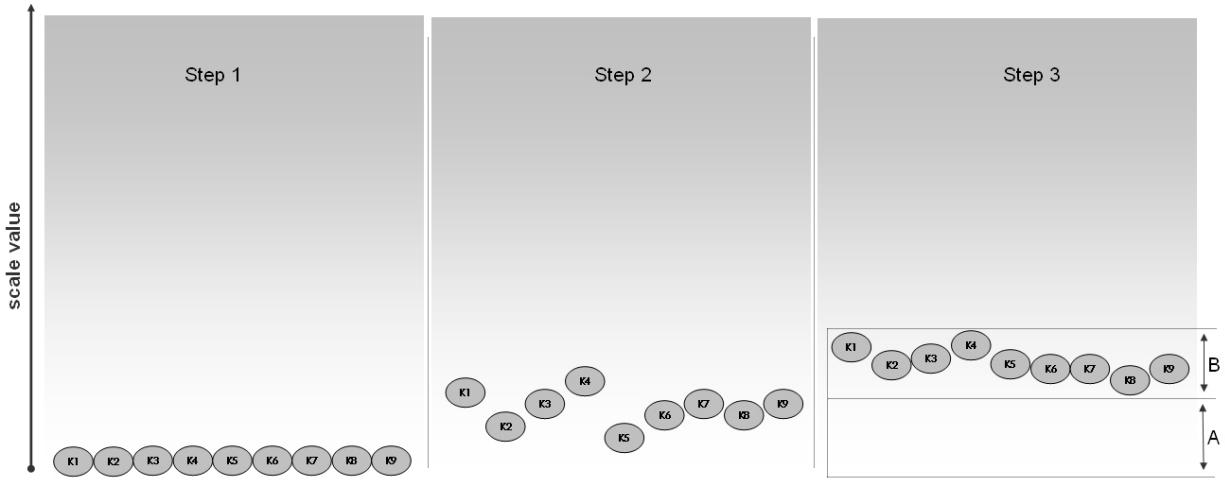
The specific advantages of the adalloc method are evident if compared to the classical normative and ipsative procedures. The graphic shows an example of the initial measurement process for normative and ipsative methods, as well as for the adalloc procedure for the measurement of 9 concepts. Each step corresponds to the application of exactly one item per concept to measure sector (according the adalloc technology).

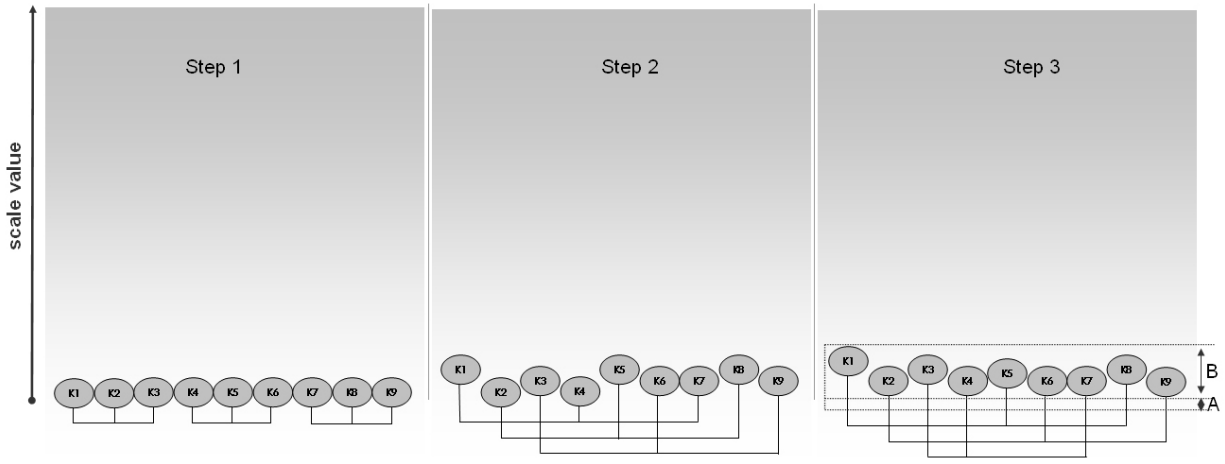
In a normative process the items are rated independently on a point-5 or -7 point scale. In step 1 all concepts are given a value of 0. The scale values per concept are the result of the summing up of individual item ratings. After 3 steps it becomes evident – especially under conditions that bias responses according social desirability – that the lowest value of the concept scales is relatively high (distance A) and the variance is relatively small (distance B). As the number of items grows the mean (distance A) is getting higher and the variance (distance B) is getting lower).

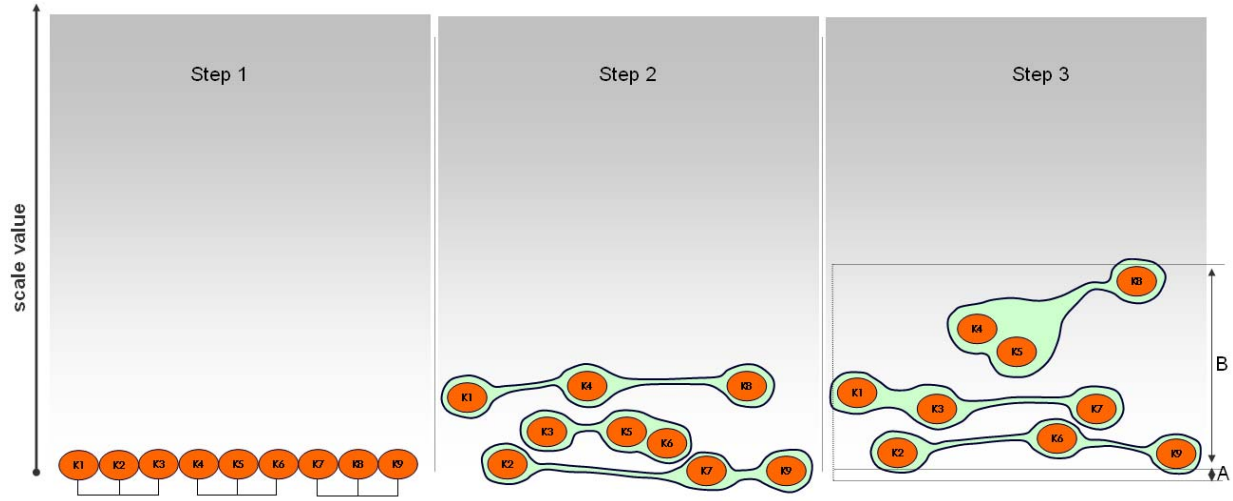
In an ipsative process the items are presented in blocks. The example shows blocks of 3 items. Within a block a decision has to be made about which item is most accurate and which item is least true. The decision "most" typically adds 2 points, the decision "least" adds 0 points and the decision in between the two adds 1 point to the corresponding scale. The grouping of items in blocks is predefined for the entire instrument. After 3 items per concept one can typically observe the smallest value of the concept scales to be low (distance A) but a comparably small variance (distance B) as well. As the number of items grows the variance (distance B) rises very slowly. This requires a lot of items, and therefore a long administration time, in order to get a sufficient amount of variance through an ipsative procedure.

The adalloc method provides a faster and more precise intra-individual differentiation between the concepts due to its adaptability based on subject responding. Since similar concepts are individually grouped, a high differentiation (distance B) can be obtained with a relatively small number of sectors, and therefore within very short administration times.

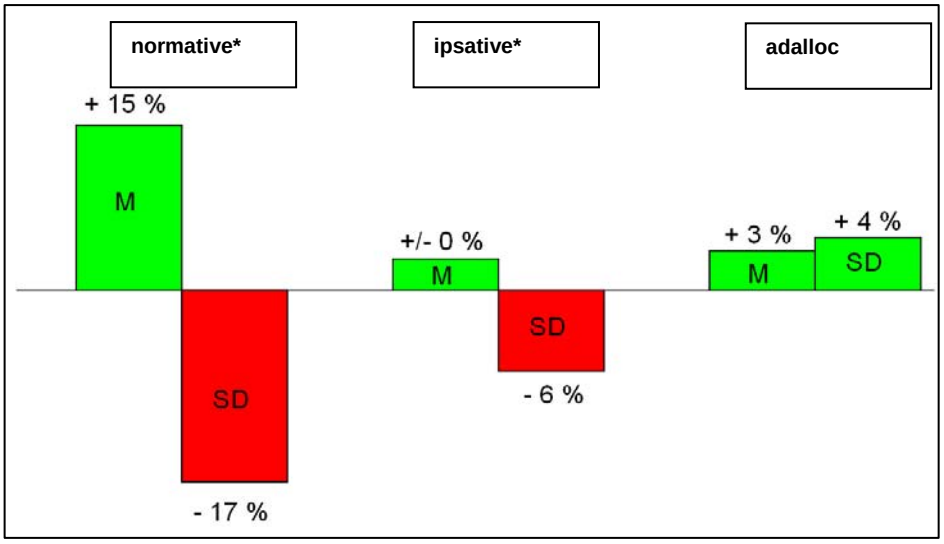
The adalloc technology allows using concepts directly as items. Based on this an instrument which differentiates the concepts by multiple sectors (repeated the direct concepts) follows. This is a very useful procedure if the adalloc technology should be used for identification of ideal profiles.







The differences in quality of measurement of normative, ipsative and adalloc are even more evident when intentional faking of results by candidates can be assumed. The more likely it is that candidates fake their results intentionally the better the quality of adalloc measurement. The likelihood of intentional faking is especially high if an instrument is deployed for selection purposes. The chart shows the impact of intentional faking on the mean (M) and the standard derivation (SD) for the different methods of measurement. In various studies candidates were asked to describe themselves truly first, and afterwards in a way based towards the requirement of a specific job description. The meta-analysis reveals that for normative procedures the means of the faked descriptions are significantly higher than for the true self-descriptions. This higher mean could be compensated by comparing the results to a suitable norm group. However, the extreme loss of variance at the same time (ceiling effect) spoils the practical relevance of the normative method dramatically.



Impact of intentional faked self-description (* Bank & Ramsey 2001)

For the ipsative method, the mean is not different for true and intentionally faked self-description since the sum of the raw scale scores for an ipsative administration is always constant. The slight decline of variance has no significant effect on practical relevance. However, these results require extensively long administration times, which has a significant negative effect on the acceptance of the measure, and therefore on the practical relevance of the ipsative method.

For adalloc instruments the mean rises slightly for intentionally faked compared to true self-descriptions. Under biased conditions typically all available points are allocated which is not necessarily the case for true self-descriptions (depending on the concepts). However, this slight rise of the mean causes a concurrent slight rise of the variance which even improves the practical relevance of the results.

Within short administration times, an instrument according to the adalloc method always provides a highly intra-individual differentiated profile of concepts which is robust to intentional faking under selection conditions. The results of an adalloc instrument do not just allow precise level assessments on the basis of comparing profiles to a norm group. Moreover, the results are ideal for person-requirement-matches on the basis of pattern-matching and critical gap analysis.