

## The MRG Approach to Questionnaire Design: The Science behind the Assessment

*Many participants have shared that they have never encountered a questionnaire like MRG's. MRG uses a unique semi-ipsative assessment design. While this unusual format inspires curiosity, it also offers a number of significant advantages for data collection, participant experience and reliable results.*

*MRG's semi-ipsative assessment format combines features of two traditional approaches to questionnaire design: Anchored Rating and Ipsative. Understanding these two formats – along with their advantages and disadvantages – helps us see what makes the semi-ipsative design so powerful.*

### Traditional Questionnaire Formats

#### The Anchored Rating Format

Most of us are familiar with anchored rating items. These items consist of a statement or a group of statements followed by a list of options. For each statement, participants are instructed to identify the option that best applies to the statement. They may be asked to indicate level of agreement with the statement, how well a statement describes them, frequency with which engage in a particular behavior or level of endorsement.

Anchored Rating Questionnaire Format

|                                   | Not at all like me | Not much like me | Neutral | Fairly like me | Very much like me |
|-----------------------------------|--------------------|------------------|---------|----------------|-------------------|
| I would want to be thought of as: |                    |                  |         |                |                   |
| A. Hard working                   | 1                  | 2                | 3       | 4              | 5                 |
| B. Smart                          | 1                  | 2                | 3       | 4              | 5                 |
| C. A team player                  | 1                  | 2                | 3       | 4              | 5                 |

### *Advantages of the Anchored Rating Format*

- ✓ Can be completed quickly
- ✓ Familiar to participants
- ✓ Provides us with magnitude of agreement with each statement, allowing us to compare individuals by their responses

### *Disadvantages of the Anchored Rating Format*

- ✗ Response sets: Participants may provide similar responses to statements regardless of their content. One example of this involves the tendency to assign high scores when describing oneself or others. From a research and practical perspective, it can be difficult to differentiate between statements if all of them receive high (or low) scores
- ✗ Social desirability bias: Participants may choose the options that make them look good, rather than the honest answer

## The Ipsative Format

One way to reduce some of the biases associated with the anchored rating format is to force participants to choose between options. This is known as the ipsative or forced choice format. In this format, participants are asked to order a set of statements by some criterion, for example, level of agreement. With an ipsative item, participants have to make a choice between the different statements. No two statements in an item receive the same score.

### *Ipsative Questionnaire Format*

| Rank order the following statements by indicating which is most like you, next like you, and least like you |              |
|---|--------------|
| I would want to be thought of as:   | Rank Order   |
| A. Hard working   | <b>most</b>  |
| B. Smart  | <b>least</b> |
| C. A team player  | <b>next</b>  |

### Advantages of the Ipsative Format

- ✓ Reduces response sets because, by design, each option gets a different score
- ✓ Forces participants to differentiate between statements, making it more difficult to manipulate the results
- ✓ Forces participants to think about each option in relation to the other options, which makes it more difficult to respond mindlessly
- ✓ Provides information about the relationship between statements
- ✓ Reduces social desirability bias because participants understand that some options will have to receive lower scores and it will not make them look bad to pick something they view as positive as a third option

### Disadvantages of the Ipsative Format

- ✗ Lack of magnitude: While it gives us information about rank or order, it doesn't allow participants to tell us how strongly they feel about each statement. In the example, we know that the participant would prefer to be seen as hard working in comparison to the other two options, but we cannot tell from their response how much they would like to be seen as hard working.
- ✗ Hard to compare individuals: Since this format does not provide information about degree of agreement with each statement, it is difficult to compare individuals based on their responses. We could have two participants who selected hard working as the thing they would most like to be seen as, but we would not be able to tell if one would like this more than the other.

## A More Reliable Way to Gather Data: MRG's Semi-Ipsative Format

When developing assessments, MRG decided to follow a different path. Instead of choosing one of the traditional formats, we decided to combine the two in a way that allows us to take advantage of each format's strengths while reducing their disadvantages.

To complete an MRG semi-ipsative item, participants need to do the following:

- Identify which statement out of three is most like them or the person they are describing
- Determine whether the statement is a really good choice (5) or just the best choice out of the three available options (4)

*The Semi-Ipsative Format*

| I would want to be thought of as: | MOST | NEXT |   |   |
|-----------------------------------|------|------|---|---|
| A. Hard working                   | 5    | 4    | 3 | 2 |
| B. Smart                          | 5    | 4    | 3 | 2 |
| C. A team player                  | 5    | 4    | 3 | 2 |

- Identify which statement out of the remaining two is next most like them or the person they are describing
- Determine whether the statement is a really good choice (3) or just the best choice out of the two available options (2)
- One statement will be left blank. It is, by default, recognized as the participant's third choice

#### *The Best of Both Worlds: Advantages Obtained from Each Format*

- ✓ It allows for comparisons within the individual by measuring differences in preference for each statement (a benefit of the ipsative format)
- ✓ It measures magnitude (5, 4, 3 or 2) which allows comparisons between individuals (a benefit of the anchored rating format)
- ✓ It limits response sets (a benefit of the ipsative format)
- ✓ It is more complex and less transparent, which reduces rater bias and makes it difficult to manipulate results (a benefit of the ipsative format)

#### *Unique Benefits of the Semi-Ipsative Design:*

- ✓ **Increased reliability:** Its dimensions are quite independent, with low scale inter-correlations. This increases the questionnaire's ability to validly measure its underlying dimensions. Anchored rating scales may have higher scale inter-correlations due to response sets. Scale inter-correlations in ipsative measurement are not meaningful, because they are artificially produced by the questionnaire design.
- ✓ **Distinguishing differences:** Scores tend to discriminate well among individuals. In contrast to many anchored rating scales, the semi-ipsative approach typically yields distributions of scores that are widely dispersed over the range of possible values. This makes the questionnaire more accurate and effective in measuring and displaying real differences within an individual and also among individuals. Anchored rating scales often demonstrate significant skewing. For example, on a 7 point rating scale, most people may choose 5, 6 or 7, while relatively few people choose 1, 2, 3 or 4. This limits the degree to which individuals can be differentiated.
- ✓ **Supported by research:** The semi-ipsative format is a well-established method for deriving valid, reliable data.

## Challenges of the Semi-Ipsative Format:

- ✘ It uses a complex design with a novel approach that participants are usually not familiar with, increasing the cognitive load on participants. Rather than jumping in and immediately answering questions, participants need to invest some time becoming acquainted with the instructions and the format. However, the format is the same throughout the questionnaire and participants tend to understand the instructions after responding to the first few items.
- ✘ As a consequence of its complexity, some participants may feel that responding requires more time per item than other questionnaire formats. However, one should also consider that each item is really 3 questions in one. For example, the LEA Self Questionnaire gathers the answer to 252 questions in just 84 items.

On balance, the benefits of this design outweigh the drawbacks and make a strong case for its use. While no assessment is 100% fool proof, this design is more likely than others to get accurate results and reveal the truth of the individual, an essential first step in the journey toward personal and professional growth.

## Reliability and Validity of the Semi-Ipsative format

MRG assessment development is a rigorous process through which MRG psychologists, and outside senior consultants and coaches work together to ensure content validity. However, assessment evaluation is continuous and assessments are updated to both keep up with trends and to address any concerns that may emerge after their release.

Part of the assessment maintenance process involves regular testing of each assessment. Reliability (test-retest and interrater) and validity (face, construct, concurrent and predictive) are measured regularly. MRG publishes a technical considerations document for each assessment with detailed information about the testing process and results. These documents are available in the MRG Knowledge Base.

Regular testing of all MRG assessments has found that the semi-ipsative questionnaire format provides excellent reliability and validity, and is comparable in these measures to other popular multi-scale psychological instruments.

### Understanding Assessments

**Reliability:** The stability or consistency of measurement over a variety of conditions

**Validity:** The degree to which an instrument measures what it purports to measure

## Semi-Ipsative Questionnaire Development

Semi-ipsative questionnaires are more difficult to build than those employing traditional designs, and MRG takes many elements into consideration when creating assessment items.

MRG assessments measure different constructs or dimensions. For example, the LEA measures 22 dimensions of behaviors emphasized by leaders, while the IDI measures 17 dimensions of what energizes and motivates individuals.

In all MRG assessments, each dimension is assessed over many different items:

- Each dimension is broken down into 9 to 11 representative statements that are dispersed throughout the assessment. The statements for all dimensions are tested to ensure they have the same level of social desirability and cannot be transparently linked to the underlying construct being measured.
- Each item in an MRG assessment requires that the participant compare statements from 3 different dimensions against one another and endorse the two that they consider to be the best options. Each dimension is compared to every other dimension in the assessment.
- Once the questionnaire is complete, the assessment algorithm determines the level of endorsement for each dimension by tracking how often and with what level of agreement each of its statements was endorsed across all items.

### Scientifically Sound Design. Reliable Results.

Ultimately, the test of any questionnaire is the practical utility it possesses. The blended questionnaire design developed by MRG incorporates a number of strengths from the standpoint of questionnaire development.

From the standpoint of empirical testing, MRG's semi-ipsative assessment instruments have been used extensively with hundreds of thousands of individuals in thousands of organizations. The results show that this questionnaire design has exceptional construct and predictive validity, and has produced feedback that is extremely useful to both organizations and individuals in improving their role-related performance.

For additional support or resources regarding the scientific validity of these assessments, including complete Technical Considerations documents, please contact [clientservices@mrg.com](mailto:clientservices@mrg.com).