T-Data (Tests)

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Synonyms
Objective data; Objective test; Personality behavioral assessment

Definition
T-data are the information provided by objective tests, defined as behavioral tasks in which there are no correct responses and the individuals do not know what is being assessed, so they cannot fake their behavior. Therefore, T-data cannot be based on self-reports such as questionnaires, behavioral reports, or interviews.

Introduction
Cattell’s Classification of Research Data in Personality Psychology
Research in Personality Psychology demands the observation of a range of complex human behaviors while attempting to include all relevant information. In this regard, Cattell (1965) proposed that personality assessments require three types of data:

L-data: based on observations, records, or notes about an individual’s behavior, including frequencies and intensities.

Q-data: assessed by an individual’s self-reports about thoughts, personal beliefs, or recent behaviors.

T-data: information provided by objective personality tests (OPT), in which the individual acts in simulated situations without knowing what is being assessed. Behavior samples, physical performance, and psychophysiological data can be recorded (Ortner and Proyer 2015). In the specialized literature, objective personality tests have also been called Performance Tests of Personality (Cronbach 1970) or Experiment-Based Assessment (Kubinger 2009). T-data have been suggested to be the gold standard in the future of research on personality psychology because of their double objectivity: both from the perspective of the person evaluated and from the perspective of the psychologist who provides the evaluation (Boyle and Barton 2008).

Objective Tests’ Characteristics that Provide T-Data
Objective test have been the main procedures used in assessing abilities and skills. The Weschler test or Raven’s Progressive Matrices are typical examples of objective tests that purportedly assess
intelligence. These types of tests have also been used in motivation assessment (for example, the TAT). Nevertheless, objective tests have not been used as often to assess personality. In personality research, Cattell’s team have been the most prolific group creating new tasks to assess personality (leading to such traditional standards as the Minnesota Multiphasic Personality Inventory, MMPI). The most important characteristic of these tests is their double objectivity. Regarding to the individual who is being evaluated, the subjectivity of his or her judgments is supposedly removed. Regarding to the psychologist who performs the assessments, he or she does not need subjective interpretations of the results (as happens with projective tests, for example). These are the main requirements that must be maintained when creating new tests to retain their objectivity.

In objective personality tests, the person must perform some task while following specific instructions. The situations are artificial, therefore controllable. The person’s behavior is recorded for every component item of the task, and the researcher attempts to detect performance regularities in order to find behaviorally consistent tendencies. In summary, objective personality tests assess the natural response of the person in controlled situations in which learning during the test is not an issue (Harzem 1984). If individuals learned something about the testing procedure on each trial, then responses on later items would be influenced by previous performance and the results could be biased. In addition, the person who is being evaluated must not know what trait is being assessed. Therefore, the measured variable must remain hidden so that the individuals do not know what is being evaluated and cannot adopt a strategy or make predictions that could guide their performance. Hiding the assessed variable is a procedure used to prevent or at least minimize behavioral biases due to dishonesty, deliberately manipulating social desirability, and acquiescence.

It should be noted that an individual’s performance in an objective personality test should not be influenced by competence or motivation. Performing the task has to be easy enough so that all participants are assessed on how the task is performed, not on whether or not they can actually perform it. Accordingly, the task should offer various response options, and all of them should be equally efficient in enabling the researcher to pay attention to the consistent ways that each person resolves the task. Likewise, it is necessary that participants have sufficient motivation to perform the task thoughtfully and honestly. The best way to confirm that motivation and ability do not influence personality assessments is to verify that the task has been correctly performed. This fact should indicate that the individual has sufficient ability and motivation to solve the task.

Objective tests are tasks composed of several items that must meet at least three characteristics (Santacreu et al. 2006).

The testing behavior can be observed and measured in terms of intensity or frequency of response options (what Cattell 1965, referred to as conspicuous tests).

The test instructions do not specify the purpose of the assessment or the level of achievement expected so that they do not influence the behavior of the evaluated people or determines their responses in the test. Any of the possible response options must be comparable in effectiveness.

The task does not provide feedback on any performance to prevent the use of that information from influencing future responses.

Objective Test’s Batteries: Cattell’s Pioneering Work

According to Cattell’s personality theory, T-data could be joined to L-data and Q-data in order to characterize major traits or features of personality. In this way, information based on T-data is complementary to the other types of data to construct the factorial configuration of personality that Cattell proposed. The first large objective test battery to assess personality was created by Cattell and Warburton (1967). This battery consists of about 500 OPT. This pioneering work was improved in following years at the Institute for Personality and Ability Testing that Cattell founded and provided as one result the O-A Test Kit (Cattell and Schuereger 1978; Schueger 2008). The O-A Test Kit comprises 72 objective tests that measure
10 personality dimensions, each assessed by 7 tests approximately. The total duration of the test is about 5 or 6 h, and the average time of assessment of each dimension is about 30 min. That means that the application of each test takes no longer than 5 min. Some authors, such as Ortner and Proyer (2015), refer to these as first generation OPT.

The Computerization Process of Objective Tests

As previously mentioned, there are two important difficulties when designing new objective tests: the control of the simulated situation and the objective record of the behaviors. Both problems have seen new solutions thanks to the use of computers to design and perform the tasks. These technical developments have led to the revanent of objective tests in personality assessment, being considered as the second generation OPTs (Proyer and Häusler 2007).

The computerization of tests involves several advantages that allow objective tests to be useful in personality assessment. Some of these advantages are that different kinds of situations can be designed, the variety of the tasks that can be increased, and accurate record of the responses can be made along with automatic conversion of the records into quantitative indicators that make the interpretation of the data more homogeneous (Ortner and Proyer 2015).

Some examples of objective tests are the BAcQ (Kubinger 2009), employed in the assessment of the stress resistance, or the Betting Dice Test, the Roulette Test, and Crossing the Street Test (Rubio et al. 2010; Santacreu et al. 2006) and the BART (Lejuez et al. 2002) used in the assessment of the risk-taking.

Conclusion

Despite the undeniable utility of the OPTs for personality assessment, these tests have not been developed as much as the traditional self-reports. That can be explained by two main reasons. The first was pointed out by Cattell himself (1946) and is about the complexity of the design and control of these kinds of tests that involve a large investment in creativity and evaluation. Some research has been abandoned because of these complications. The second is related to the tests’ validity. Despite Cattell’s aim to define personality traits from the different types of data that he proposed, a low convergence between T-data and Q-data has often been found (Ortner and Proyer 2015). It seems that T-data and Q-data measure different personality features of human beings. The lack of convergence between what people says about their behavior (Q-data) and the behavior that they show on a task (T-data) should not lead to the use of only one of the two means of assessment. The discrepancy between the two methods should be explained within a theory of personality that identifies reasons for the variability between both personality measurement methods. Consistency can be found in the individuals’ responses in a OPT and coherence can be found in the individuals’ verbal expressions (usual rules of behavior) from self-reports.

The future does not consist only in the progressive refinement in OPT’s design, as has been proposed. It is also necessary to develop a new personality theory that assumes the existence of at least two different personality measurement techniques: consolidated behavioral tendencies and coherent verbal expressions about themselves. Fortunately, there are two useful and reliable measurement tools available for assessing both: self-reports and OPTs.

Cross-References

▷ Behavioral Perspectives on Personality
▷ Behavioral Theory of Personality

References


