

Protocol for the Evaluation of Tests, Scales and Questionnaires (PETEYC)

English Version: PETEYC_E

Assessment Tool

Instructions

This document describes the Protocol for the Evaluation of Tests, Scales and Questionnaires (PETEYC_E). PETEYC_E is designed to gather information on the features of instruments developed for the evaluation of psychological variables, as well as on the processes developed for creating those instruments and for the analysis of their psychometric properties, all this to identify possible limitations of the instrument and propose tasks aimed at obtaining evidence to support the intended purpose of the instrument.

PETEYC_E is a tool that provides indications and criteria related to the quality of assessment instruments, which can be used at any time during the creation process (as a guide to design the necessary steps) or once this process is completed. If used initially, users will be able to identify those sources of information that can provide relevant data on the utility of their instrument. If administered at the end of the instrument creation process, users will be able to determine the quality of the evidence collected and identify possible needs and limitations of the instrument.

PETEYC_E can be applied to any assessment tool and its manual, where applicable. It may also be used to determine the elements necessary to generate the manual or the presentation report/document/article of the assessment instrument. If a battery composed of different instruments is used for the assessment, the assessment must be carried out individually for each of them.

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PETEYC_E offers scores between 0 and 100. Scores close to 100 indicate that the instrument has sufficient evidence to be used in the intended context. Scores close to 0 indicate the need to thoroughly review the instrument. PROC_PETEYC_E also allows the identification of the weakest areas, in order to facilitate the planning of additional validation studies.

Following below are the PETEYC_E blocks that will be used to analyze the properties of the evaluation instrument.

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Technical sheet of the evaluation instrument

Next, some data related to the technical sheet of the evaluation instrument is requested. The information collected in the technical sheet will help determine the sources of information that could provide evidence on the usefulness of the instrument to reach the intended purpose. Users who carry out their own PETEYC_E administration of their assessment instrument may use the data collected in this section as part of the description of the assessment instrument.

- Test name:

- Author/s of the test:

- Variable evaluated by the test:

- Intended purpose and scores' interpretations:
 - *Please describe the intended use of the test, that is, what you will use the scores for (for example, to select people for a job, to make a diagnosis...)*

 - How would you categorize the intended use of the test described in the previous section? (mark all that apply) [1]
 - Measurement (description): It uses tests to measure a construct and interprets the scores only in terms of “quantity”. The results obtained are usually used to compare groups of participants or to analyze possible relationships with other variables. For example, the use of the instrument would be “measurement” will be used to obtain information on the academic performance of one or several people, to know the percentage of the student body that shows an acceptable mastery of a

specific content, to obtain information on the functioning of some public policy or to know the opinion on some topic, among other situations.

- Selection: Selection of the best participants for a job or scholarship, a common process in the context of human resources and education. For example, to decide whether or not to accept a student in a program or activity.
- Classification: It uses assessment instruments to categorize people based on their scores. For example, a language school might use an English test to assign participants to different groups, depending on the level they show.
- Diagnosis: The diagnosis and screening of participants with specific characteristics are frequent needs in the clinical and healthcare context. For example, to detect behavioral deficits in individuals to initiate a program or intervention.
- Orientation/Advice: The purpose of the instrument is to guide the persons evaluated in the exploration of alternatives, whether of an educational, professional or personal nature.
- Program assessment: The instrument assess the effectiveness of a intervention program, identifying those aspects that did not change after participating in the program.
- Certification: Tests are used to achieve some form of professional or academic accreditation, so as to ensure the competence of persons acquiring a particular qualification.
- Other: *Please indicate which*

- *Please indicate how the scores obtained will be interpreted, that is, how the results obtained from the participants' responses will be used (for example, higher scores will reflect a higher level of the construct).*

- Target population:

- *Please describe the target population, that is, the characteristics of the people who will be assessed [2b]*

- Instrument features:

- Administration mode:

- Self-administered
- Interview

- Administration format:

- Paper and pencil
- Computerized

- Estimated administration time:

- Procedure to obtain scores on the instrument: *Please describe how the scores on the instrument are calculated from the responses given to the items.*

- Scores' interpretations: *Please describe if any procedure has been formulated to interpret the scores obtained in the assessment instrument (percentiles, typical scores, etc.)*

- Item format: *Please indicate the number of items that make up the instrument, the number of alternatives, the labels used (if*

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applicable), the items formulated in reverse and any other relevant data related to the format of the items.

- *Please describe any additional information about the instrument's characteristics that has not been included in this section.*

Theoretical model on which the assessment instrument is based

Below are some questions about the theoretical model on which the evaluation instrument is based and the possible assessments carried out with respect to the overlap between this theoretical model and the content of the assessment instrument. Users who carry out their own administration of PETEYC_E on their evaluation instrument will be able to use the data collected in this section to describe the construct that is intended to be evaluated with the target instrument.

- Is the definition of the construct based on any theoretical model?
 - Yes. *Please describe the theoretical model on which the instrument is based*
 - No. *Please describe how the instrument has been developed.*
- Instrument construction process. *Please describe the instrument construction process (if applicable).*
- Have you evaluated the overlap between the theoretical model and the content of the test? (validity evidence based on the content of the instrument)
 - It has not been assessed. *Validity Evidence based on the test content provides information about the congruence between the content of the instrument and the theoretical definition of the construct that is intended to be assessed (Sireci & Faulkner-Bond, 2014). To obtain validity evidence based on the test content allows supporting its use to evaluate the intended construct. Experts recommend implementing a procedure that provides information on the degree of overlap between the content of the instrument and the theoretical definition of the construct. Please continue PETEYC_E administration in the next section.*
 - Yes. *Please answer the following questions [5].*
 - What procedure have you used to obtain validity evidence based on test content?
 - What results have you obtained?

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- To what extent do the results support the use of the instrument to measure the intended construct? *Please describe how the results provide evidence based on the test content.*

Information about a possible pilot study

Below are some questions about the possible administration of the instrument during a pilot study, if occurred. The information collected in this section will provide details about the functioning of the instrument. Users who conduct their own PETEYC_E administration of their assessment instrument will be able to use the data collected in this section to formulate validity evidence to support the intended purpose of the instrument.

- Have you done any administration of the instrument?
 - No, the instrument has not been administered. *Administration of the instrument in a pilot study can provide useful information to analyze the psychometric properties of the test in addition to knowing to what extent people's responses reflect the expected structure or the expected relationships with other variables. Experts recommend conducting an administration to identify possible limitations of the assessment instruments. Please continue PETEYC_E administration in the next section*
 - Yes. *Please continue with the evaluation.*
- Please describe details about the selected sample (selection procedure, sample size, characteristics of participants, etc.). [2a]
- Please include the information you obtained when analyzing the data from the database
 - I have not done any analysis. *The analysis of the responses provided by the participants in the pilot study will allow detecting problematic elements in the instrument. The following blocks list the data that could be obtained from the analysis of these responses.*
 - Results related to the reliability of the instrument. *Please indicate the values obtained in all applicable cases.* [3]
 - Cronbach's alpha
 - McDonald's Omega

- Test-retest
- Two halves
- Results related to the psychometric properties of the items.
 - Indicate the range of values obtained when calculating the discrimination index (item-test correlation).
- Results related to the dimensionality of the instrument [6].
 - What procedure have you used to analyze the dimensionality of the instrument?
 - What results have you obtained?
 - To what extent do the obtained results align with the theoretical dimensionality? *Please describe how the results provide validity evidence based on the internal structure of the test.*
- Results on the relationships of scores on the instrument with scores on instruments that measure other theoretically related variables [7].
 - ¿What procedure have you used to analyze the relationships between the test scores and the scores obtained in instruments that evaluate other variables theoretically related to the intended construct?
 - What results have you obtained?
 - To what extent are the results consistent with the theoretical models that propose these relationships? *Please, describe how the results provide evidence based on the relationships with other variables.*
- *Please describe any additional analysis you conducted based on the responses provided by the pilot study participants.*

Additional sources of information

Other sources of information can provide evidence to support the intended purpose of the assessment instrument. Please indicate if you have used any additional procedure to obtain validity evidence based on response processes or based on the testing consequences (interviews, focus groups...) and describe all the relevant details [8 and 9].

- What procedure have you used?
- What was the objective pursued when applying the procedure?
- What results have you obtained?
- To what extent do the results support the intended purpose of the instrument? *Please describe how the results provide validity evidence based on response processes or on testing consequences.*