

Quantitative and Qualitative Instrument Validation Requirements

Purpose: This document's purpose is to specify requirements for qualitative and quantitative instrument validation.

Quantitative Instrument Validation

Quantitative data collection tests hypotheses and answers questions on correlation and regression between two or more variables. The accuracy of the data solely depends on the validity and reliability of each measurement instrument or subscale derived from an authoritative source. Quantitative instrument reliability depends on the strength of consistency in assessing those measurement items. To conduct a reliable and acceptable research study, researchers must locate valid quantitative instruments that have been published in peer-reviewed scholarly articles. If the researcher is a student, the instruments must be submitted to their chair for approval.

The researcher must indicate the reliability (e.g., Cronbach's alpha, inter-item reliability) and validity (e.g., content validity from experts, factor analysis) of each instrument or subscale in the IRB application.

If the researcher is developing their own instrument, a pilot study must be conducted to assess reliability. The pilot study must have at least 30 participants. The participants in the pilot study cannot be part of the research study's sample.

When using Cronbach's alpha to assess a scale, testing items' reliability, or internal consistency, the quantitative instrument must have an acceptable Cronbach alpha coefficient of $\geq .70$. Any Cronbach alpha coefficient that is less than $.70$ is not acceptable. Items that have $\geq .70$ are reliable measurement instruments for the specified scale or subscale.

For validity, the IRB accepts construct, content, or criterion validity. Face validity is not accepted. If adaptations are made in the context of pre-existing instruments, then permission of the copyright owner to make those adaptations is required. If there are significant adaptations (e.g., omitting a question, changing the scale from 7 to 5, order of the questions, using just part of the portion that has established reliability and validity), the process of obtaining reliability and validity of the instrument or subscale must be conducted again.

Evidence of achieving reliability and validity for researcher-designed instruments is required.

If the researcher is using a pre-existing instrument, then information on how reliability and validity was established is required. Do not refer to a published article without providing those cited details in the Instrumentation section of the IRB application.

Researchers should not develop new instruments when previously validated data collection instruments exist for the construction being investigated. Additionally, per United States copyright laws, researchers must receive written permission from the author(s) or organization(s) with the rights and privileges to the instrument they would like to adopt or adapt before using or revising any preexisting instrument.

If there is no preexisting valid published instrument for the construction to be measured, researchers should provide a strong justification for developing a new tool. Then they must follow the necessary

procedures to test reliability and validity of their own instrument. Researchers must be cognizant that this process will most likely significantly increase the duration of completing their research study. Furthermore, if the researcher is creating their own instrument, the faculty supervisor/chair must be qualified in the development and validation of the new instrument, demonstrate sufficient expertise in instrument validation, have previously guided dissertation candidates in doing so, and present evidence of such to the Westcliff University's Dissertation Department.

Qualitative Instruments

If researchers use interviews (one-on-one or focus groups) or survey questions that they develop for data collection and if they are students, the chair, and committee must agree that the questions are clear, understandable, appropriately designed qualitative questions, and will obtain answers that can be used to answer the research question(s). If the researcher is not a student, then the researcher must guarantee the same qualities of the questions. The IRB will evaluate the questions submitted by all researchers for these qualities.

Researchers conducting qualitative interviews, focus groups, or data collection via surveys, are required to complete a pilot study prior to submitting their IRB application. The pilot study must include a minimum of three participants who meet the study's inclusion criteria. The participants in the pilot study cannot be part of the research study's sample.

The following documentation must be submitted with the IRB application as evidence of the pilot study:

1. Participant feedback on qualitative questions. Each pilot participant must provide feedback to the researcher on the following:
 - The quality and ease of understanding of the questions.
 - Suggestions for improving or modifying the questions.
2. This feedback must be documented and submitted in full.
3. Evidence of participant responses to the questions. Researchers must provide the following:
 - If a pilot study is conducted for one-on-one interviews or focus groups, there is a transcript of at least one complete pilot interview.
 - A summary or transcript of each participant's comments regarding the quality and ease of understanding of the questions.
 - A list of any suggested changes to the questions provided by participants. ○ An explanation of how the suggested changes were incorporated or reasons they were not incorporated into the final questions.
4. Preliminary Data Analysis

The researcher must conduct a preliminary analysis of the pilot data to assess whether the responses are sufficient to address the study's research questions(s), which were included in the IRB application.

Documentation of this analysis must include the following:

- A brief summary of how the data were analyzed and an explanation of how the results of the analysis will help to address the study's research questions(s).
- An explanation of how the pilot data supports or informs the research question(s).

If observations are used to collect data, the researcher is responsible for providing proof of their training qualifications to show they have the skills required for conducting observations.

Translating Instruments

Researchers can use a translator to translate pre-existing instruments into another language after receiving permission to do so from the owner(s) and/or author(s). Researchers must select at least three two credentialed qualified language translators. If the researcher is a student, they are to submit to their dissertation chair the professional qualifications of the two credentialed qualified language translators before translating a pre-existing survey. One qualified translator is responsible for translating the survey into the appropriate language of the population of the research study. The second qualified translator is responsible for translating the survey into the language of the original survey. The researcher must then submit the original survey and the back translation to a third credentialed qualified translator to assess the accuracy of the translation of the instrument.