Centre For Research

CHRIST (Deemed to be University), Delhi-NCR Campus

ACTIVITY REPORT

Workshop Report: Psychometric Test Construction

Date: 10 August, 2024

Time: 12:00 PM

Location: B116

Resource Person: Dr. Ridhima Shukla, Associate Professor and Head, Department of Psychology, Christ (Deemed to be University), NCR

Introduction:

On August 10th, 2024, Dr. Ridhima Shukla, Head and Associate Professor of the Department of Psychology, led an engaging workshop on Psychometric Test Construction at B116. The workshop began with a warm introduction of Dr. Shukla and a moment of silent reflection. Dr. Shukla then seamlessly transitioned into a foundational overview of the process of creating reliable and valid measurement tools.

Fundamentals of Test Construction:

Dr. Shukla emphasized the importance of a strong research foundation, emphasizing the need for a clearly defined problem statement, well-articulated objectives, and a comprehensive review of existing literature. She stressed the significance of understanding the purpose of a test and identifying its intended audience before moving on to the development process.

Psychometric Tools:

The workshop further discussed the three key aspects that define the utility of psychometric tools:

Where to use: Dr. Shukla provided insightful examples of various contexts and situations where

different types of tests find their application.

How to use: She carefully explained the proper administration and scoring techniques for diverse test formats, ensuring participants understood the nuances of each method.

When to use: Dr. Shukla highlighted the importance of aligning the test choice with the specific purpose and audience, advocating for a judicious selection that ensures the test is suitable for the intended use.

Developing a New Test:

Dr. Shukla addressed the rationale behind developing a new test and outlined the four crucial steps involved:

- Defining the Test Universe, Audience, and Purpose: This step involves a thorough exploration of the domain the test will measure, pinpointing the intended audience, and establishing the specific objectives the test aims to achieve.

- Developing a Test Plan: A detailed test plan outlining the structure, item types, scoring methods, and administration procedures is crucial for the success of any test development endeavor.

- Composing the Test Items: This stage involves the meticulous process of generating and writing effective test items that accurately measure the desired constructs. Dr. Shukla emphasized the need for originality and creativity in item creation, encouraging participants to think outside the box.

- Writing Administration Instructions: Clear and concise instructions are essential for ensuring consistent test administration and accurate interpretation of results. She highlighted the importance of meticulous attention to detail when crafting these instructions.

Test Formats and Item Writing:

The workshop explored various test formats, with particular emphasis on Likert scales and Likert-like scales. Dr. Shukla provided practical guidance on writing effective test items, stressing the importance of:

- Clarity: Items should be unambiguous and readily understood by the intended audience.
- Relevance: Items should directly relate to the construct being measured, ensuring a clear and focused assessment.
- Avoidance of Bias: Items should be free from any cultural, gender, or other biases that might compromise the fairness and validity of the test.

Reliability and Validity:

The final segment of the workshop focused on the critical concepts of reliability and validity. Dr. Shukla discussed various methods for assessing test reliability, including:

Reliability testing: Assessing the consistency of test scores over time and across different administrations to ensure a reliable and stable measure.

Cronbach's alpha: A statistical measure of internal consistency reliability, indicating the extent to which different items within a test measure the same underlying construct.
Dr. Shukla also explained different approaches to validating tests:

Exploratory factor analysis: Identifying underlying factors that contribute to the observed test scores, providing a deeper understanding of the construct being measured.

Confirmatory factor analysis: Testing the fit of a pre-specified model to the observed data, ensuring that the test accurately measures the intended construct.

The importance of establishing norms for interpreting test scores was also discussed, enabling researchers to effectively compare individual scores with a larger population.

The workshop concluded with a lively Q&A session, where participants actively engaged with Dr. Shukla to clarify doubts and seek further guidance. Overall, the workshop provided a comprehensive and enlightening introduction to the principles and practices of psychometric test construction.