

What is Concurrent Validity? (Definition & Examples)???

Authored by
stats writer

December 8, 2025

RECOMMENDED CITATION

stats writer (2025). *What is Concurrent Validity? (Definition & Examples)???*.
PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=106690>

Concurrent validity is a critical concept within psychometrics and statistics, serving as a specific measure of criterion-related validity. Fundamentally, it determines the degree to which the scores of a newly developed test or assessment correlate with the scores of an already established, widely accepted measure that assesses the exact same underlying construct. This process of simultaneous measurement allows researchers and practitioners to immediately confirm the viability and relevance of their new tool.

The core purpose of establishing concurrent validity is efficiency and verification. If a new, shorter, or less expensive instrument can reliably produce results similar to those of a lengthy or costly established measure (the criterion), then the new instrument is deemed valid for immediate practical use. For instance, comparing the scores from a new, brief screening test for anxiety against the established results of a comprehensive clinical interview conducted at the same time provides a strong indication of the new test's efficacy.

This method is invaluable in fields such as educational testing, clinical assessment, and organizational psychology, where practitioners often seek streamlined ways to evaluate complex human attributes like intelligence, personality, or skill level. A strong concurrent validity coefficient suggests that the new measure is capturing the intended attribute effectively and immediately, without the need to wait for future outcomes.

Defining Concurrent Validity and Its Purpose

In the realm of quantitative research, particularly statistics and psychometrics, the concept of concurrent validity stands as a cornerstone for evaluating measurement instruments. This form of validity requires that both the experimental measure (the new test) and the established measure (the criterion) be administered simultaneously, or nearly simultaneously, to the same group of participants. The relationship between the two resulting datasets is then analyzed using correlation statistics.

The immediate comparison ensures that any observed correlation reflects the present relationship between the two measurements of the construct. If the new measure is designed to assess the same trait--be it spatial reasoning, job satisfaction, or physical fitness--its scores should align closely with those obtained from the recognized standard. A high correlation provides empirical evidence that the new instrument is a faithful reflection of the underlying attribute currently being measured.

Consider a situation where a company develops a brief 10-minute assessment to gauge management potential. To validate this new test, the company administers it alongside a proven, full-day assessment center simulation, which serves as the criterion. If the scores on the 10-minute test strongly mirror the ranking results from the full-day simulation for all current employees, then the 10-minute test possesses high concurrent validity. This validation allows the company to

transition immediately to the quicker, more resource-efficient tool for future hiring and promotion decisions.

The Broader Context: Understanding Criterion Validity

Concurrent validity is best understood as a subcategory of a larger umbrella concept known as criterion-related validity. Criterion validity, in its entirety, addresses the extent to which a test score is related to a particular outcome or criterion. This framework is essential whenever researchers are interested in predicting or estimating a specific behavioral or performance metric based on the test results.

Whenever we utilize a measurement tool--such as a standardized entrance exam, a diagnostic survey, or an aptitude test--we are implicitly assuming that the results obtained are meaningful indicators of performance in some other context. Criterion validity provides the statistical justification for making such predictions or inferences. If a test lacks criterion validity, its utility as a predictive or diagnostic tool is severely limited, regardless of how internally consistent or reliable it may be.

The measurement of criterion validity usually involves obtaining a criterion variable, which is the gold standard or outcome we are trying to predict, and correlating it with the scores from the new explanatory variable (the predictor test). The strength of this correlation determines the overall validity. Criterion validity is therefore split into two temporal dimensions: one focused on the present (concurrent validity) and one focused on the future (predictive validity).

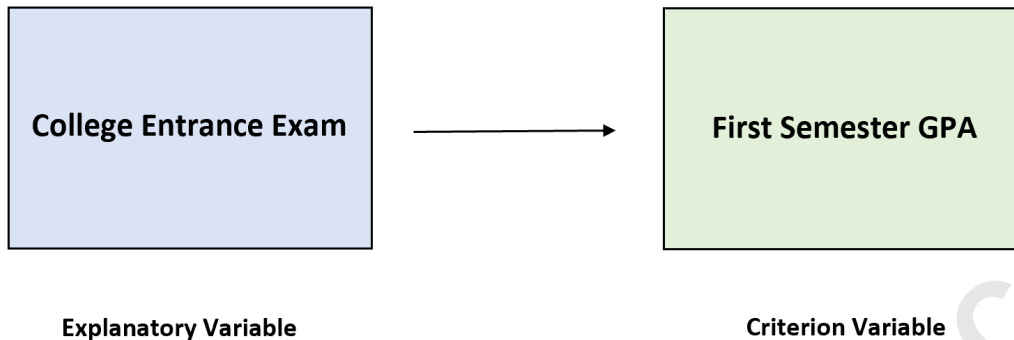
Explanatory Variables and the Criterion Variable

In statistical modeling, we are fundamentally interested in understanding relationships between variables. Specifically, we examine how an independent variable, often referred to as the **explanatory variable**, can account for or predict changes in a dependent variable, which we call the response or criterion variable. In the context of validity studies, the explanatory variable is typically the score from the newly developed test, while the criterion variable is the established, trusted measure.

For example, consider the classic scenario of college admissions. We might want to know how well a college entrance exam (the explanatory variable) is able to predict the academic success of students. The universally accepted measure of success in the first year of college is often the first semester Grade Point Average (GPA). In this case, the entrance exam is the predictor, and the first semester GPA acts as the criterion variable.

We must assess if it is statistically sound and conceptually valid to use the scores of the explanatory variable to make statements or decisions about the criterion variable. If the statistical

relationship is robust, then we affirm that criterion validity exists. The primary challenge lies in ensuring that the chosen criterion variable is truly reflective of the construct we intend to measure and is not contaminated by other confounding factors.



Distinguishing Concurrent vs. Predictive Validity

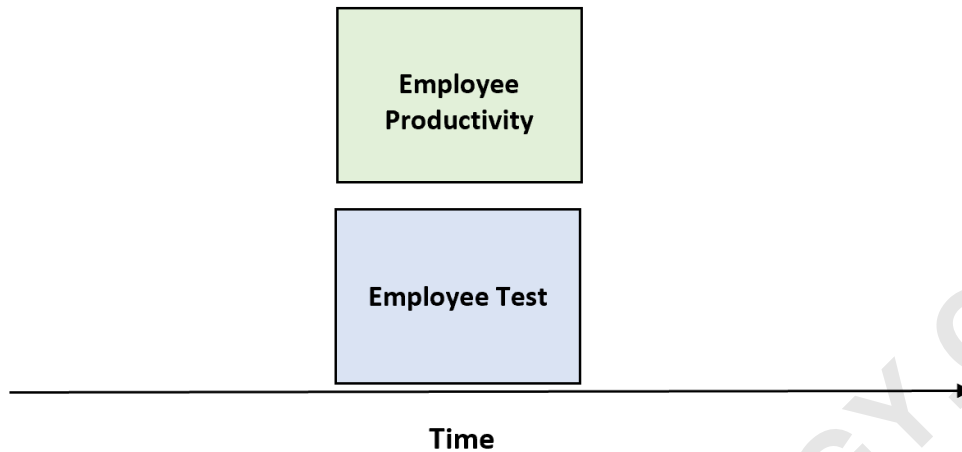
While both concurrent and predictive validity fall under the umbrella of criterion validity, their differentiation lies entirely in the timing of the measurement of the criterion. Understanding this temporal distinction is crucial for researchers determining the appropriate validation strategy for their instrument.

Predictive Validity: This concerns the ability of the explanatory variable (the test) to forecast future performance on the criterion variable. Predictive validity relies on a substantial time interval between the administration of the new test and the measurement of the outcome. For instance, if a job aptitude test is given to applicants today, and their performance is correlated with their supervisor ratings six months later, this assesses predictive validity. It tells us if the test is valid for predicting future success.



Concurrent Validity: In contrast, concurrent validity assesses the correlation between the test score and the criterion measure taken simultaneously. The key word here is "concurrently"--at the same time. If a company administers a new test for current employee productivity and immediately

compares the scores to their existing, calculated productivity metrics, this demonstrates concurrent validity. It tells us if the test is valid for estimating current status or existing levels of a construct.



The chief benefit of concurrent validation is expediency. Researchers do not have to wait weeks, months, or years for the criterion measurement to materialize in the future. This speed makes concurrent validity particularly useful for diagnostic tools or screening instruments that need immediate validation against existing clinical or performance standards.

Quantifying the Relationship: The Correlation Coefficient

The statistical tool universally employed to quantify both concurrent and predictive validity is the correlation coefficient, often specifically the Pearson product-moment correlation coefficient (r). This metric provides a numerical value that summarizes the strength and direction of the linear relationship between the scores of the new measure and the scores of the criterion measure.

The value of the correlation coefficient always ranges between -1 and $+1$. Understanding these boundary values is essential for interpreting the results of a concurrent validity study:

-1.0: This indicates a perfectly negative linear correlation, meaning that as scores on the new test increase, scores on the criterion measure decrease perfectly and predictably.

0.0: This indicates absolutely no linear correlation between the two variables. In a concurrent validity study, a coefficient close to zero suggests the new test is entirely unrelated to the established criterion and therefore lacks validity.

+1.0: This indicates a perfectly positive linear correlation, meaning that as scores on the new test increase, scores on the criterion measure increase perfectly and predictably. This is the ideal outcome for concurrent validity, implying the new test is a perfect substitute for the criterion.

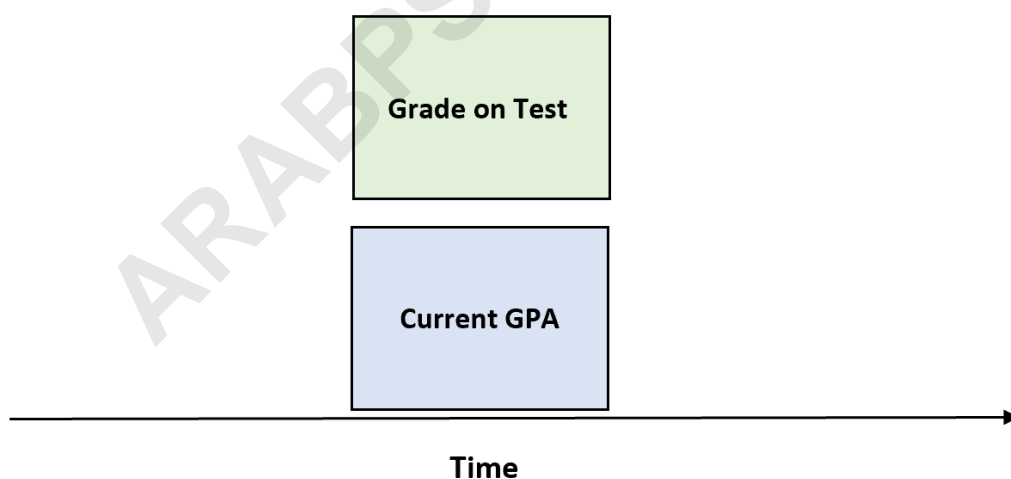
In practice, correlations are rarely perfect. A researcher typically aims for a strong, positive correlation (e.g., $r > 0.60$) to confirm robust concurrent validity. The further the correlation coefficient deviates from zero toward either +1 or -1, the stronger the association between the two variables, signifying that the new explanatory variable is a reliable proxy for the criterion variable.

Case Study 1: Assessing Academic Constructs

To illustrate the mechanics of concurrent validity, consider a scenario involving educational assessment. A psychometrician develops a novel, digital assessment designed to quickly gauge a student's existing knowledge in university-level biology. This new test, intended to be used for placement or early intervention, needs immediate validation.

To establish concurrent validity, the researcher administers this new digital biology test to a cohort of current biology majors at a specific university. Crucially, at the same time, the researcher collects the students' current academic performance data, using their cumulative biology GPA as the established criterion variable. The hypothesis is that students who score highly on the new digital test should already have high GPAs in their biology coursework.

If statistical analysis reveals a strong, positive correlation coefficient between the scores on the new test and the students' current GPAs, the researcher can confidently claim that concurrent validity exists. This outcome validates the utility of the new, potentially more efficient test as a substitute measure for existing biology knowledge, confirming that the explanatory variable accurately reflects the current status of the criterion variable.



Case Studies 2 & 3: Endurance and Leadership Assessments

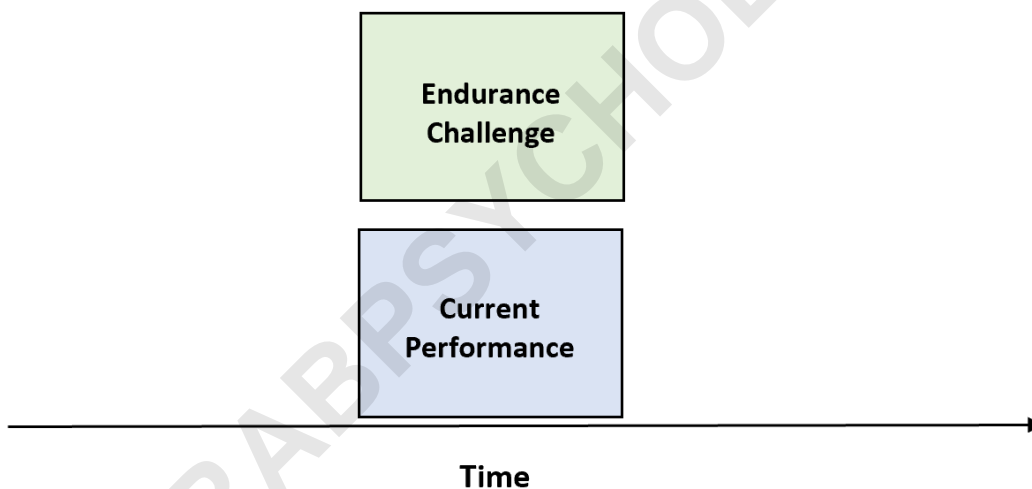
Concurrent validity is not limited to academic settings; it is widely applied in physical and organizational sciences as well. These examples further demonstrate the flexibility of comparing a

new measure against an existing, recognized standard immediately.

Example 2: A Test of Endurance

Imagine a track coach who develops a unique, short-duration physical challenge designed to assess the aerobic endurance levels of their athletes without requiring a full competitive run. The coach intends to use this challenge as a quick screening tool during daily practice. To validate this new explanatory variable, the coach requires an established criterion measure.

The coach has each athlete perform the new endurance challenge and immediately compares their scores to their current, objectively measured performance levels, such as recent competitive race times or VO2 max assessments (the criterion). If a high, statistically significant correlation is found between the challenge scores and the current performance levels, the coach can assert that concurrent validity is established. This confirmation means the coach can now reliably use the new, efficient challenge to assess the athletes' current endurance status.

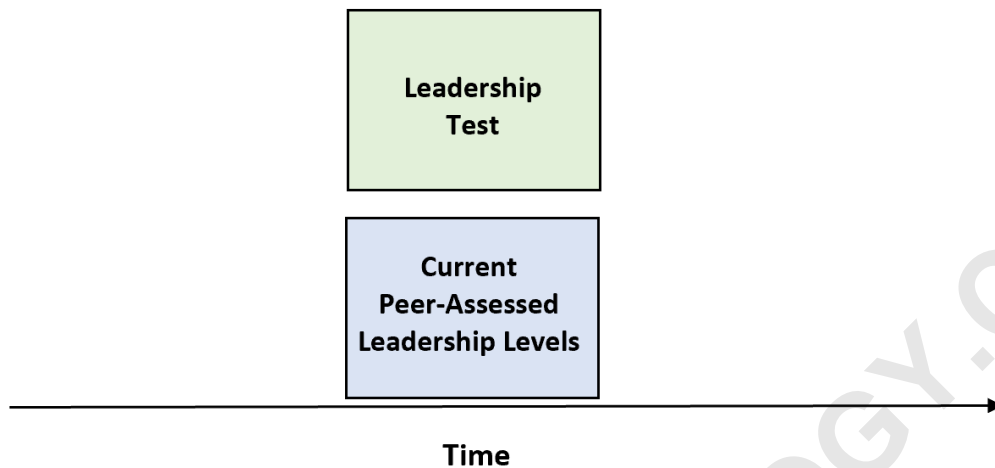


Example 3: A Test of Leadership

In a corporate environment, a human resources executive develops a new standardized test aiming to assess the inherent leadership ability of employees rapidly and consistently. Since this test is new, its validity must be proven before it can be integrated into promotion pipelines.

The executive administers the new test to all existing employees and, at the same time, collects data from established peer-assessment systems that rate current leadership performance. These

established, peer-assessed leadership ratings serve as the criterion measure. A high correlation between the scores on the new test and the current peer ratings indicates that concurrent validity exists. This validates the use of the new test as an accurate and immediate assessment of current leadership levels within the company.



The Importance of a Robust Criterion

The effectiveness of establishing concurrent validity hinges entirely upon the quality of the criterion measure chosen. If the existing, established measure is flawed, unreliable, or does not truly measure the intended construct, then the correlation, even if high, will not validate the new measure properly. Researchers must rigorously vet the criterion to ensure it meets high standards of reliability and validity itself.

Furthermore, concurrent validity is sometimes used as a stepping stone. A researcher might first establish concurrent validity against an existing, cumbersome measure to prove the new tool's immediate relevance. Later, the researcher might conduct a longitudinal study to establish predictive validity, demonstrating the new tool's ability to forecast future outcomes, thereby strengthening its overall utility and theoretical grounding.