



## Predictive Validity

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Predictive validity involves testing a group of subjects for a certain construct, and then comparing them with results obtained at some point in the future.

It is an important sub-type of criterion validity, and is regarded as a stalwart of behavioral science, education and psychology.

Most educational and employment tests are used to predict future performance, so predictive validity is regarded as essential in these fields.

The banner features the Explorable logo at the top center, with the text "EXPLORABLE" in a large, bold, white font and "Quiz Time!" in a smaller, white, cursive font below it. Below the logo are three quiz cards, each with a white border and a white background. The first card shows a pair of red roller skates on a wooden deck, with the text "Quiz: Psychology 101 Part 2" below it. The second card shows a fan of colorful pencils, with the text "Quiz: Psychology 101 Part 2" below it. The third card shows a Ferris wheel at sunset, with the text "Quiz: Flags in Europe" below it. To the right of the cards is a white link that says "See all quizzes =>".

## Predictive Validity and University Selection

The most common use for predictive validity is inherent in the process of selecting students for university. Most universities use high-school grade point averages to decide which students to accept, in an attempt to find the brightest and most dedicated students.

In this process, the basic assumption is that a high-school pupil with a high grade point average will achieve high grades at university.

Quite literally, there have been hundreds of studies testing the predictive validity of this approach. To achieve this, a researcher takes the grades achieved after the first year of studies, and compares them with the high school grade point averages.

A high correlation [1] indicates that the selection procedure worked perfectly, a low correlation signifies that there is something wrong with the approach.

Most studies show that there is a strong correlation between the two, and the predictive validity [2] of the method is high, although not perfect.

Intuitively, this seems logical; previously excellent students may well struggle with homesickness or decide to spend the first year drinking beer.

By contrast, underachieving college students often become dedicated, hard-working students in the relative freedom of the university environment.

## Weaknesses of Predictive Validity

Predictive validity is regarded as a very strong measure of statistical validity [3], but it does contain a few weaknesses that statisticians and researchers need to take into consideration.

Predictive validity does not test all of the available data, and individuals who are not selected cannot, by definition, go on to produce a score on that particular criterion.

In the university selection example, this approach does not test the students who failed to attend university, due to low grades, personal preference or financial concerns. This leaves a hole in the data, and the predictive validity relies upon this incomplete data set, so the researchers must always make some assumptions.

If the students with the highest grade point averages score higher after their first year at university, and the students who just scraped in get the lowest, researchers assume that non-attendees would score lower still. This downwards extrapolation might be incorrect, but predictive validity has to incorporate such assumptions.

Despite this weakness, predictive validity is still regarded as an extremely powerful measure of statistical accuracy.

In many fields of research [4], it is regarded as the most important measure of quality, and researchers constantly seek ways to maintain high predictive validity.

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### Links

[1] <https://explorable.com/statistical-correlation>

[2] [http://en.wikipedia.org/wiki/Predictive\\_validity](http://en.wikipedia.org/wiki/Predictive_validity)

[3] <https://explorable.com/statistical-validity>

[4] <https://explorable.com/what-is-research>