

Convergent and Discriminant Validity

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Convergent validity and discriminant validity are commonly regarded as subsets of construct validity.

Convergent validity tests that constructs that are expected to be related are, in fact, related.

Discriminant validity (or divergent validity) tests that constructs that should have no relationship do, in fact, not have any relationship.

If a research program is shown to possess both of these types of validity, it can also be regarded as having excellent construct validity.

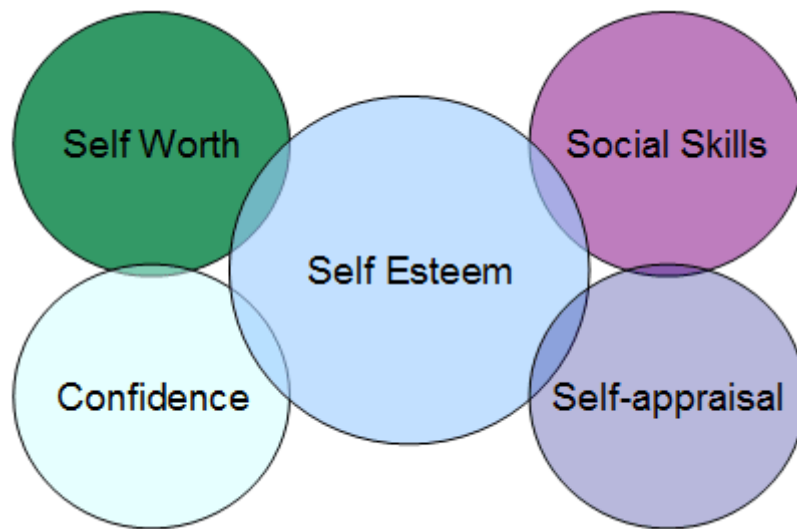
In many areas of research, mainly the social sciences, psychology, education and medicine, researchers need to analyze non-quantitative and abstract concepts, such as level of pain, anxiety or educational achievement.

A researcher needs to define exactly what trait they are measuring if they are to maintain good construct validity.

Constructs very rarely exist independently, because the human brain is not a simple machine and is made up of an interlinked web of emotions, reasoning and senses. Any research program must untangle these complex interactions and establish that you are only testing the desired construct.

This is practically impossible to prove beyond doubt, so researchers gather enough evidence to defend their findings from criticism.

The basic difference between convergent and discriminant validity is that convergent validity tests whether constructs that should be related, are related. Discriminant validity tests whether believed unrelated constructs are, in fact, unrelated.



Imagine that a researcher wants to measure self-esteem, but she also knows that the other four constructs are related to self-esteem and have some overlap. The ultimate goal is to make an attempt to isolate self-esteem.

In this example, convergent validity would test that the four other constructs are, in fact, related to self-esteem in the study. The researcher would also check that self-worth and confidence, and social skills and self-appraisal, are also related.

Discriminant validity would ensure that, in the study, the non-overlapping factors do not overlap. For example, self esteem and intelligence should not relate (too much) in most research projects.

As you can see, separating and isolating constructs is difficult, and it is one of the factors that makes social science extremely difficult.

Social science rarely produces research that gives a yes or no answer, and the process of gathering knowledge is slow and steady, building on top of what is already known.

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