

Steps in the *Scientific Method* in Psychological Research

Steps

Elaboration

FORMULATION OF A QUESTION

Following some behavioral *OBSERVATION*, a researcher *DEFINES A QUESTION* to be investigated. The *question* must be answerable with the research tools available to the psychologist.

REVIEW OF THE LITERATURE

In order to determine whether the question has been posed before and also to ascertain, if it has, what others have found regarding the question, a thorough review of the scientific literature going back many years, often decades, must be conducted. This will introduce the question in the published results.



PROPOSING A HYPOTHESIS

The hypothesis is a prediction about research outcomes based on either a researcher's intuition, beliefs, or the tenets of a theory which are to be tested.



COLLECTING DATA &
TESTING THE HYPOTHESIS

Methods of gathering evidence in the *collection of data* vary. Only experimentation can establish cause and effect connections; however, other methods are also used. To *test the hypothesis*, the data is organized and statistical procedures are used to ascertain whether the hypothesis is to be supported(accepted as valid) or rejected(determined to be wrong).

PUBLISH THE RESULTS

Only published results can be examined thoroughly by one's peers in the scientific community. Refereed journals screen all research and publish only that which they judge to be important and well done.

THEORY BUILDING

The final step involves theory building. A theory interrelates concepts and facts in a way that summarizes a large number of observations. Good theories explain existing data, predict new observations, and guide further research.

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