



Replication Study ^[1]

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A replication study involves repeating a study using the same methods but with different subjects and experimenters.

The researchers will apply the existing theory to new situations in order to determine generalizability ^[3] to different subjects ^[4], age groups, races, locations, cultures or any such variables ^[5].

The main determinants of this study include:

- To assure that results are reliable and valid
- To determine the role of extraneous variables
- To apply the previous results to new situations
- To inspire new research combing previous findings from related studies

Suppose you are part of a healthcare team facing a problem, for instance, regarding use and efficacy of certain "pain killer medicine" in patients before surgery. You search the literature ^[6] for same problem and identify an article exactly addressing "this" problem.

Now question arise that how can you be sure that the results of this study in hand are applicable and transferable into "your" clinical setting? Therefore you decide to focus on preparation and implementation of a replication study. You will perform the deliberate repetition of previous research procedures in your clinical setting and thus will be able to strengthen the evidence of previous research finding, and correct limitations, and thus overall results may be in favor of the results of previous study or you may find completely different results.

A question may arise that how to decide if a replication study ^[7] can be carried out or not? Following are the guidelines or criteria proposed to replicate an original study:

A replication study is possible and should be carried out, when

- The original research question is important and can contribute to the body of information supporting the discipline
- The existing literature and policies relating to the topic are supporting the topic for its relevance
- The replication study if carried out carries the potential to empirically support the results of the original study, either by clarifying issues raised by the original study or extending its generalizability [3].
- The team of researchers has all expertise in the subject area and also has the access to adequate information related to original study to be able to design [8] and execute a replication.
- Any extension or modifications of the original study can be based on current knowledge in the same field.
- Lastly, the replication of the same rigor [9] as was in original study is possible.

In field conditions, more opportunities are available to researchers that are not open to investigations in laboratory settings.

Also, laboratory investigators commonly have only small number of potential participants in their research trials. However in applied settings such as schools, classrooms, patients at hospitals or other settings with large proportion of participants are often generously available in field settings.

It is therefore possible in field settings to repeat or replicate a research on large scale and more than once too.

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