

## Ex Post Facto Research

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Ex post facto research is ideal for conducting social research when is not possible or acceptable to manipulate the characteristics of human participants. It is a substitute for true experimental research and can be used to test hypotheses about cause-and-effect or correlational relationships, where it is not practical or ethical to apply a true experimental, or even a quasi-experimental, design.

Despite studying facts that have already occurred, ex post facto research shares with experimental research design some of its basic logic of inquiry. For example, attempts are made to: explain a consequence based on antecedent conditions; determine the influence of a variable on another variable, and test a claim using statistical hypothesis testing techniques. Kerlinger and Rint (1986) explained that in the context of social science research an ex post facto investigation seeks to reveal possible relationships by observing an existing condition or state of affairs and searching back in time for plausible contributing factors.

Ex post facto research uses data already collected, but not necessarily amassed for research purposes. Ex post facto literally means *from what is done afterwards*. Ex post facto research can be viewed as an experimental research in reverse. Cohen, Manion, and Morison (2000) noted that instead of taking groups that are equivalent and subjecting them to different treatments to determine differences in the dependent variables, an ex post facto experiment begins with groups that are already different in some respect and searches in retrospect for factors that brought about those differences. In this way, ex post facto research can transform a non-experimental research design into a pseudo-*experimental* study. Ex post facto research,

then, is a method of teasing out possible antecedents of events that have happened but cannot, be manipulated by the investigator.

As an example, an ex post facto study could be conducted to determine, why one town in the mid-west has a higher incident of cancer than its neighboring towns. If an investigation reveals that the majority of homes in this town have wood-burning stoves and fireplaces, the investigator could hypothesize that exposure to wood smoke is a factor in the increase incidence of cancer. By identifying possible causes retrospectively, the expert adopts an ex post facto approach to test this hypothesis. The researcher is thus examining, retrospectively, the effects of a naturally occurring event on a subsequent outcome with a view of establishing a causal or correlational link between them.

For those considering an ex post facto design, keep in mind some of the limitations associated with ex post facto research:

1. There is no random assignment to treatment so there could be inherent confounds in the variables studied.
2. The sample cannot be considered random, so generalization is limited.
3. There is often little information about any dropouts from the treatment.

Some major advantages of conducting an ex post facto study are that the data are already collected, obtaining permission to conduct the study is less involved than enrolling participants, and less time is involved in conducting the study than by creating new data.

### **References**

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