Hawthorne Effect

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The Hawthorne Effect is a well-documented phenomenon that affects many research experiments in social sciences.

It is the process where human subjects of an experiment change their behavior, simply because they are being studied. This is one of the hardest inbuilt biases to eliminate or factor into the design.

The History of the Hawthorne Effect

The name is not the surname of a researcher, but the name of a place where the effect was first encountered.

In 1955, the researcher, Henry A. Landsberger, performed a study and analysis of data from experiments performed between 1924 and 1932, by Elton Mayo, at the Hawthorne Works near Chicago. The company had commissioned studies to determine if the level of light within their building affected the productivity of the workers.

Mayo found that the level of light made no difference in the productivity, as the workers increased output whenever the amount of light was switched from a low level to a high level, or vice versa.

He noticed that this effect occurred when any variable was manipulated [1], and postulated that it happened because the workers automatically changed their behavior. They increased output, simply because they were aware that they were under observation [2].

The logical conclusion was that the workers felt important because they were pleased to be singled out, and increased productivity as a result. Being singled out was the factor dictating increased productivity, not the changing lighting levels, or any of the other factors that they experimented upon.

The Hawthorne Effect and Modern Day Research

Many types of research use human research subjects [3], and the Hawthorne effect [4] is an unavoidable bias [5] that the researcher must try to take into account when they analyze the results.

Subjects are always liable to modify behavior when they are aware that they are part of an experiment, and this is extremely difficult to quantify. All that a researcher can do is attempt to factor the effect into the research design, a tough proposition, and one that makes social research a matter of experience and judgment.

A 1978 study, to establish whether cerebellar neurostimulators could mitigate the motor dysfunction of young adults with cerebral palsy found that the Hawthorne Effect adversely affected the findings. Objective testing showed that all of patients reported that their motor functions improved and that they were happy with the treatment.

Quantitative methods [6], however, showed that there was little improvement, and researchers invoked the Hawthorne Effect as the main factor skewing the results. They believed that the extra attention given to the patients, by the doctors, nurses and therapists, was behind the reported improvements in the initial study.

The Hawthorne Effect and Industrial Psychology

Mayo's and Landsberger's work became one of the foundations of a field of social science known as Industrial Psychology. Academics in this field understand that interpersonal factors and the dynamic social relationships between groups must be assessed when performing any type of social analysis.

If a group is isolated from their work colleagues, for the purpose of research, the individual attention and the normal human instinct to feel 'chosen,' will skew the results.

Some researchers argue that the Hawthorne effect does not exist or is, at best, the placebo effect [7] under another name. Others postulate that it is the demand effect, where subjects subconsciously change their behavior to fit the expected results of an experiment.

Whatever the truth, there is little doubt that many fields, from psychology through to business management, must appreciate that social science subjects can, and do, change behavior.

Links

[1] https://explorable.com/independent-variable
[2] https://explorable.com/observational-study
[3] https://explorable.com/social-science-subjects
[4] http://en.wikipedia.org/wiki/Hawthorne_effect
[5] https://explorable.com/research-bias
[6] https://explorable.com/quantitative-research-design
[7] https://explorable.com/placebo-effect