Note 8.2 – On the definition of an experiment

A quasi-experiment is a research design that resembles an experiment but is not a 'true' experimental design. The boundary line between 'quasi' and 'true' experiments is commonly drawn according to the ability to control for differences between groups and conditions (so as to rule out 'internal threats to validity') (Campbell & Stanley, 2015). Social experiments typically involve people and there is a need to create two equivalent groups. Randomisation is widely held to be the ideal way to achieve this. Then, if the experimenter also has control over what each group receives (e.g., creating a treatment and a control group), they can isolate the effect of the experimental treatment (Morrison, 2012). As explained in Chapter 5, an RCT which (by definition) randomly sorts participants into groups in an RCT is seen in this conception as a true experiment. An otherwise-identical trial which uses naturally occurring groups (such as two classes in a school) tends to be described as a 'quasi-experiment' (Campbell & Stanley, 2015). It resembles the trial and provides tentative causal evidence, but the potential differences between the two groups lower the validity of the results.

The problem with using randomisation as the defining feature of the 'true' (vs. quasi) experiment is that vast swathes of current and historical experimentation across the natural and social sciences would no longer count within the definition (see Thomas, 2020, who explains this point and argues that the 'Fisher–Campbell–Stanley' tradition of experiments represents a narrow and contestable conception of experimentation). To name just one example, Galileo's famous experiment demonstrating that objects fall with the same acceleration, independent of their mass, would not meet this criterion. A better definition for an experiment in our view would refer to systematic manipulation, observation and comparison of conditions (but not necessarily groups) to test theory – rather than randomisation *per se* as the way to achieve this. The RCT is the archetypical design for social experiments because of its ability to create comparable groups of people and 'average out' unobserved factors and contextual conditions. At the level of definition, however, it is the ability to systematically control and compare conditions to reveal what is causing what that matters. Under this broader definition we don't need to throw Galileo's experiment out of the collection, or indeed countless other examples across the history of science (Thomas, 2020).

References

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