

Research methodology/ design information

Name
Experimental
Summary
This approach uses an hypothesis to examine the effects of causes, or the direct relationship between an intervention and a result.
Key info/ rules/ why it is used
Experiments are used to test hypotheses derived from theories and use controls, randomization and manipulating a variable. We randomise our sample group, have a control group which has no intervention, and then manipulate a variable. The manipulated variable is called an independent or treatment variable (the presumed 'cause') and the 'effect' is called the dependent or outcome variable. Since it seeks to get at root causes, it can lead to different approaches in various fields of study to produce the effect we desire.
Example questions?
Does dipping in ice after a workout improve recovery time? Does caffeine improve accuracy in dart throwing? Does hypnosis improve motivation to work?
Example (study from academic literature)
The effect of small-sided games using the FIT LIGHT training system of some harmonic abilities and some basic skills of basketball players Ahmed K. Hassan ^{1,2*} , Mohammed S. Alibrahim ¹ and Yasser Abdul Rashid Sayed Ahmed A training program was put into place for ten weeks, 4 times a week, using a specific training system for a randomised group of 12 players. The 12 players in the control group practised as usual. After the 10 weeks, all players were tested to measure certain skills, and the players in the group that had the variable manipulated (i.e. the FIT LIGHT training) had improvements that were deemed significant compared to the control group.
Video link
https://www.youtube.com/watch?v=xDWdJI_XT3k
Experimental design: Variables, Groups and random assignment