Case Study Research

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AHA RESEARCH GUIDES

Step Up to the Plate

Case studies report observations of an individual or group over time. They can be a rich source of information about the process and outcome of an intervention such as hippotherapy. However, because there is no experimental control, conclusions about the effectiveness of an intervention unfortunately may be viewed as mere presumptions. The idiosyncratic response to an intervention by one subject may very well be a different response from another individual at another time with another therapist, another horse, etc. Multiple treatment interactions are likely in case studies. Researchers must determine which components of intervention, if any, had the most effect on the client. If reliable outcome measures are not deployed in case studies, the dependent variable or outcome is typically measured by the reporter's clinical judgement. Preferred therapeutic approaches of any clinician can be biased and should be reported as a limitation in the study. Lastly, in case studies there may be a tendency to concentrate on positive results, to ignore or refute negative results and to conclude that the intervention was responsible for change. [1, 2, 3]

In spite of what may seem to be a negative slant toward case study research, case studies are extremely valuable to us in the realm of hippotherapy practice and should be analytical, well-written, insightful, systematic, pertinent to the field of practice and focused on depth of information. Many scientific fields such as astronomy, geology and human biology do not always lend themselves to investigation through traditional controlled experimentation. Hippotherapy included.

Case studies can have a single subject design.

POINTS TO CONSIDER FOR CASE STUDY RESEARCH

- Generalization of results, from either single subject or multiple subject case studies, are applicable to theory and not to populations. Cases are selected for study if they represent a theoretical principle. [2, 3]

  For which hippotherapy theoretic principle can you lend evidence through a case study?

- Case studies do not need a minimum number of cases or to randomly select subjects.[2]

- Since case study research is not sampling research, selecting cases should be done to maximize what will be learned in the end.[2]

- Due to potential investigator subjectivity, construct validity is a source of criticism for case study research. One way to satisfy this criticism is to include multiple sources of evidence for change.[2]

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POINTS TO CONSIDER... *continued from front.*

- Reliability can be achieved in case study research through the methodical development of sound, logical treatment and measurement protocols.[3] Please report what was done and how you measured change.

- Since research typically begins with a question or proposal, the first task of the investigator who is planning to conduct a case study project should be to state and define the research question.[2] In our case the research question most likely will be "if," "how" or "why" hpot is effective.

- To establish a conclusion that the independent variable (hpot) and dependent variable (measured outcome) are related in a cause/effect way, even counter-cases to the theory being investigated should not necessarily be eliminated.[3]

- Pattern-matching is one means of analysis to find qualitative or quantitative evidence in the case(s) to demonstrate a cause and effect relationship. This type of analysis compares the actual measured change in the subject(s) with the predicted change. Internal validity is partially satisfied when the patterns fluctuate similarly. The predicted pattern of change should be stated prior to the collection of data.[2, 3]

- If the primary case study investigator recruits other people to assist in the collection of data, measuring progress or even doing hippotherapy, then there should be a period of training to cover details such as: the reason for the study, the type of evidence being sought, what extraneous variables may be incurred, the guidelines for conducting treatment, how to measure the outcome, and what to record.[2]

- A very real threat to internal validity in case study research is the degree of involvement of the primary investigator in the actual research process.[3] Ideally, the raters or persons measuring/scoring the outcomes should not be the primary investigator or researcher. Data collection can be separated from data interpretation.

- If multiple raters are used, inter-rater reliability should be established.[3]

- Case studies can have a longitudinal, cross-sectional or other comparative perspective.[3]

- Case study research can be replicated if the research is theory-driven.[3] For example, when one bold, pioneer case researcher develops and tests a hypothesized relationship between hippotherapy treatment and an outcome, a second case study researcher can hence step up to the plate and replicate the original study by choosing cases based on the same theories.

  Case studies should be reported in writing or through presentation at conferences!

- External validity is concerned with whether or not the results are generalizable beyond the case(s) being reported.[2]

- Randomization of subjects in experimental research is often viewed as the only way to have external validity or means of generalizing research conclusions to a certain population of persons. However, proper case selection that will illustrate a theoretical principle of hippotherapy can create generalizable research. "Generalizability of findings is a function of the range and diversity of settings in which a theory is tested..." (G.D.Garson)[3] This throws us back to whether the study is replicable, repeatable or reproducible by a second, third or fourth researcher. You know, different horse, another therapist, somewhere else ... but still hippotherapy!

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