

Case Study in Psychology

Case studies in psychology reconstruct a major episode in persons' lives by identifying a particular set of problematic or otherwise interesting events and relationships that naturally occurred in the real world. They can only be studied or understood in their context as they merge with their environment so that it is difficult to draw precise boundaries. The analysis and interpretation of case studies is most often intended to lead to a better understanding of the area of inquiry, i.e. deriving or testing theories. Depending on the branch of psychology that uses case study, not only individual processes and possible solutions to their problems may be focussed on but also processes within groups, institutions or communities may be illuminated. Psychological case studies can have many forms such as narrative accounts, detailed technical or judicial reports, documentary films or sets of observations.

Conceptual Overview and Discussion

Psychological case studies focus on individuals though different interpretations are possible that include context or time dimensions. Frequently they share characteristics with case studies in other disciplines within social sciences whose focal points are description and analysis of contextual factors, social structures and processes in order to reach a more global understanding of events.

Most psychological case studies are retrospective in style and follow an idiographic approach wherein both qualitative and quantitative proceedings are feasible.

Apart from a description of the events that are to be examined psychological case studies most often comprise of a causal analysis of central problems and sometimes also recommendations for courses of action based on the analysis.

Wilensky's 1983 study proposes a general theory of psychological case studies that helps to assess whether a case study is a psychological one and judge its quality as well. According to him a psychological case study consists of a person which is specified by the formula "identity + description", a situation characterized by "constraints + opportunities + contingencies" and a related outcome being "changes in person + changes in situation".

In differentiation to life histories that consist of a series of case studies about one person, psychological case studies address only a particular pattern of behaviour in a particular set of circumstances over a limited period of time.

History

Psychological case studies are of relatively recent origin and have their sources in psychiatry and social work; only from the early part of the 20th century onwards they are used as research method. The psychological case study then was modelled on medical methods, that is, it often contained short clinical case vignettes or brief reports on personality description and social relationships.

After World War II experimental and psychometric approaches became dominant and displaced case study research to clinical psychology and personality studies. Due to this development, the scientific character of case studies has never been explored thoroughly and case studies are often neglected in textbooks except for some contributions on the specialized single-case experimental method. Therefore, there is no general agreement on the organization, content or employment of case studies in psychology. Often they are conducted for practical purposes and their theoretical aspects are neglected. Not until during the past fifteen years a major growth of non-experimental case study research can be observed within ecological psychology, a branch that is studying humans' interactions with their environment.

Methodology

In psychology several differing methodological approaches can be found.

The positivist style is interested in developing a generalizable theory or laws from evidence by deductive procedures i.e. studying literature, working out which theories might be adequate and setting up experiments to gather new data to test the theory.

Researchers who follow a naturalistic approach cannot be sure that existing theories are relevant for the case under investigation as human behaviour is unique and specific, thus generalizations are difficult to make. Therefore they prefer an emergent design, i.e. creating theories inductively and intending to make sense of the data they found only after they have

found them. They are on the lookout for qualitative elements that lie behind more objective evidence such as how people understand themselves or their setting. They do not ignore objective data e.g. staff turnover, but search for underlying reasons in the process, thus examining people's emotions, perceptions and experiences of what is going on.

Researchers of both traditions have to be aware of the fact that research investigation is never neutral as there will be effects on individuals or organisations just because there is someone who is asking questions or observing people.

Closely linked to the differentiation between positivist and naturalistic approaches are ideographic and nomothetic traditions within psychology.

Researchers who work with case studies often come from an ideographic tradition, that is their target is to understand how this very person or event developed the way it did. The target is not to confirm or expand experiences to form any law about people in general but to focus on the particular and individual to understand meanings.

According to idiographic tradition nomothetic appendages deal with group averages and not with particular cases whereby no information about individuals can be drawn from group data. Statistical data tend to suggest there would be a "modal individual" but in fact these data are indeterministic and construct people that in reality do not exist.

Case studies are not only explorative in their nature, they are rather much more realistic than other designs as they are closer to data. They allow to refer back to similarities between different persons though these persons are dissimilar at first sight and vice versa. They may as well point to factors that would have been neglected in a larger group study or reveal flaws in theoretical conceptions and give hints to how theories may be revised. Their aim is to demonstrate existence and not incidence of a particular feature.

Nevertheless, quantitative data, that is, descriptive or summarizing numerical data and inferential statistics such as correlations may play a role in case study research. Records on seasonal effects, trends, sex and age differences for instance may be useful supplements as they allow to cross-check other data and increase the internal validity of a case study.

It is furthermore important to differentiate between extensive and intensive research designs. The former means specifying all members of a class to define that class, the latter implies

indicating the properties something needs to be a member of that class. Intensive designs therefore take one single case, presume certain properties of their class on a trial basis and try to construct an extension. Psychology most often tends to prefer extensive designs though they are not suitable for many psychological questions.

Some psychologists work with case studies aiming at establishing case laws by analytic induction, a procedure which is well known in sociology. This procedure shows that ideographic procedure and search for nomothetic laws do not necessarily need to be contradictory and combinations between them do exist.

First of all one has to generate a tentative hypothetical explanation about an interesting phenomenon, then take a single case and test by qualitative or numerical methods (e.g. cluster analysis) in how far the explanation fits. If necessary the hypothesis has to be modified to make it fit the case. The modified explanation is then tested with the next single case and the hypothesis is revised. This process is continued through a number of cases. Cases are thereby not selected based on usual demographic sampling considerations as the interest is to describe and analyse categories of human behaviour or types of persons.

By employing this iterative procedure, the final resulting hypothesis has much stronger explanatory power. It is also possible to search for negative cases to disconfirm one's hypothesis and thus make the proposed hypothesis as critical as possible. A successful hypothesis then is true for most of the cases tested as a final hypothesis that is true of all cases is impossible in practice. The produced explanation is as provisional as every other scientific explanation independent from the procedure that had been followed.

It is to mention that the result of a single case study is insufficient to confirm a universal hypothesis but only to reject a hypothesis. However it does not necessarily falsify the entire universal hypothesis, it rather debilitates the hypothesis that was formulated and examined in the context of specific constraints. A rejection of a hypothesis is not the death of the theory, it indicates in fact that additional assumptions are to be made, i.e. the failure of the theory may be due to factors other than the theory itself such as wrong implicit assumptions.

Application

Case studies are found in many different areas of psychology, ranging from clinical psychology, to neuropsychology and from complex problem solving to cross cultural psychology.

Their use is likewise variegated. It may range from case studies being used in clinical context as analysis of a person's case in form of single case analysis or comparative case studies or as basis for the development of simulation games in the domain of complex problem solving. People may work themselves on specific case information or the investigators may analyse the case. The number of cases under analysis may range from intensive study of few cases to less intensive study of many cases.

Most often case studies are used in combination with other methods such as participant observation or questionnaires, sometimes together with sources that provide quantifiable data (triangulation). Case studies may be exerted for exploratory reasons but they also allow for gradual development of a case law as several single cases are written up and considered in relation to each other. They then may provide valid and reliable results which are grounded in data and can be replicated or confirmed by employing further methods. Apart from use in research contexts, they may also be used for teaching and training purposes such as situational analysis, decision-making, construction of theories or simply as illustrations for theoretical explanations.

When developing a case study multiple forms of evidence should be collected and studied in sufficient detail. Analogous to what the social anthropologist Clifford Geertz said about research into culture, research into any person or organisation has to begin with describing what one has found in detail ("thick description") thereby paying attention to the fine grains and pondering on them. After getting to know the case in its setting and reading literature that may be of relevance one can decide about broad aims and formulate ones research questions. In doing so evidence may come along in form of documents, records, interviews, detached observation, participant observation or physical artefacts. It is considered useful to maintain a research log containing notes on evidence as well as personal notes such as insights or questions to cope with complexity and to document the process of one's own reasoning.

Critical Summary

Advantages

Psychological case studies contribute several benefits. First of all, they provide a rich data basis and procure process information. Thereby the researcher can gain a detailed picture of individual processes and reveal important individual differences between several cases. Using case law methodology and following a bottom up principle conclusions from particular cases can be drawn to types of cases. Adding further cases may lead to a deeper understanding of events and refine the conceptual framework until further cases do not add any longer new information. Furthermore, case studies prevent simplifying matters too much. They do not just take into account broad structural or demographic variables but allow for reconstructing the complex causal structure that lies behind an event and which can be examined from an insider's view, that is, involved persons, as well as from the external point of view of the researcher.

Problems

Some reservations against case studies are to be mentioned as well. Scientists plead that investigators may distort results insofar that their descriptions and analyses are not exhaustive but selective and subjective or, as the researcher defines the issue, arbitrary. Furthermore, premature generalizations may occur and circularity may be caused when testing and developing a theory within the same set of data. Apart from that, it is argued that case studies only help in defining a problem but often lack an explication of boundary conditions when hypotheses are examined.

Standards

A well-defined case study should reduce subjective factors to a minimum, for instance by incorporating several independent sources. Besides, evidence and inference are to be separated and reasons for conclusions should be given. Furthermore investigators should make sure that original data can be re-examined and take boundary conditions into account when analysing the case.

Statement: case study vs. group design

Whether working with case studies or not should not be a matter of ideology but depend on the purpose one pursues. Therefore the question is, when case studies should be used in psychological research and when not.

Case studies are rather valuable when being interested in process information. They are also appropriate when hypotheses are investigated that make direct statements about individuals but not when the hypotheses refer to classes of subjects or fictitious statistical modal individuals. Single case studies may as well be beneficial for guiding decisions about which experimental factors could be substantial for group studies, thus taking a filter function.

For instance when studying complex problem solving by working with computer simulations group designs are more or less useless as it is difficult to control experimental factors precisely. Different individuals will develop rather different representations of the task, thus investigators have to deal with heterogeneous internal representations which may change over the course of acting. In group studies such process information would be ignored. In this case it would make sense to follow a case law approach, thus studying various single cases and deriving hypotheses about dependencies and determinants of problem solving processes which then can be implemented in a computer program that generates synthetic behaviour. This then can subsequently be compared with empirical performance and finally lead to an adaptation of the underlying model in case of deviations.

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See also: triangulation, Configurative-Ideographic Case Study, Theory building from cases

Further reading and references

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