



The Quest in Case Study Research

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Case study research (CSR) has been widely used and has found an increasing application in various disciplines. One main reason is that CSR provides an in-depth and holistic view of a phenomenon of interest and it is more appropriate used for practical oriented disciplines, such as nursing.¹⁻⁴ However, CSR is often misunderstood, criticized, and devalued by positivistic researchers as a weak research approach. A former editorial in this journal presented briefly the essential steps to design a case study.¹ In this editorial, we aim to highlight the distinction between a clinical case study and CSR, address the alternative forms of generalizations in CSR, and finally provide strategies to strengthen the quality of CSR.

Confusing terms and usages of case study

The term 'case study' is problematic. Case study is defined differently by researchers, depending on their philosophical orientation and methodological approaches.⁵ The term is used to refer to the 'case study' as a methodology, a method, an approach, a research design, a research strategy, and/or a form of inquiry.⁵⁻⁸ Case study is also considered as a bridge-across paradigms⁹ and as a trans-paradigmatic and transdisciplinary heuristic.¹⁰ This variation in definitions leads to ambiguity related to what is a case study.

In clinical practice, confusion stems from the use of the term 'case study' as a tool for research inquiry and a tool for teaching purposes. While often used

interchangeably, they are principally distinct from each other. An approach to a clinical case study is not equal to CSR. We have found that many case studies have been published about clinical case reports,^{4,6,8} and that clinicians do not use a case study in a systematic approach in complete harmony with the corresponding methodology for the investigation.^{4,6}

On one hand, a clinical case study is chosen when we would like to learn and understand more about an unusual patient case.¹¹ It is applied best when findings involve the conditions of atypical patients.^{12,13} Data related to the patients' signs and symptoms as well as adverse effects of medical treatments are gathered to illustrate the pathophysiology of the patient's disease, the medical and nursing care management, along with any issues or conditions surrounding such a case. Clinical case reports concentrate on the phenomenon, instead of the case, and tend not to investigate the entire case.⁶ However, such clinical case reports can produce a huge advantage in finding the case novelties, generating hypotheses, solving ethical issues, and serving as case-based fundamental learning resources in health science education.¹⁴

On the other hand, CSR is defined as a systematic investigation that is conducted in a natural setting where the contemporary case or phenomenon has embedded and interacted within its real-life social context, and

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where the boundary between the case and its context is unclear.¹⁵ The decision to apply the CSR and the selection of the case to be studied is based on the nature of research questions/problems^{8,16} as well as research purposes.¹⁷ CSR best suits the attempt to answer ‘how’ and ‘why’ research questions and can be used for various purposes, including describing, exploring, evaluating, or testing theory.¹⁵ However, the initial research question may be refined during data collection when the researchers find new issues to sharpen their focus on the case’s complexity and contextuality, aiming to uncover the particularity of the case, its embeddedness and its interaction with the context.¹⁸

When a case being studied is the focus of an inquiry, Stake¹⁸ suggests that the significant criterion to select the case is primarily an opportunity to learn and to maximize that learning. A case study is a specific, complex, functioning entity that the researchers are interested in not only for its uniqueness, but also its commonality. The case can be a person, family, community, program, or decision or an event that bounded in its system by time and place. The roles of a case study researcher are to discover and to examine that a bounded system (a case) where a complex phenomenon with multivariate conditions exists.

A hallmark of CSR is its utilization of various sources of evidence attained with a variety of data collection methods. Observations, interviews, focus group discussions, surveys, or text investigations and reviews can be used to gather data. Through multiple data collection methods, the case study researchers pay attention to interdependencies between thought and action, or action and action.¹⁷ Data gathered from various groups portrays not only similarities but also discrepancies and conflicts between viewpoints, addresses issues of complexity, and offers some support to alternative interpretations.¹⁹ Hence, CSR provides an insightful understanding of a complex phenomenon as an integrated whole.¹⁷

Alternative approaches of generalizability in case study research

Despite progressive recognition, CSR has been criticized on grounds of its generalizability. Due to the small ‘n,’ CSR is questioned by positivistic researchers as it is less likely to produce general conclusions based on the probability of statistical assumption.²⁰ That is to say, findings from CSR are limited in their ability to be statistically generalized to a larger population and to scientific knowledge development. However, this scientific concern involves some misunderstanding.²¹ Yin¹⁵ asserts that a case is not considered as a representative sample of a wider population. In addition, the aim of CSR is to uncover the complexity and particularity of the case, not to draw conclusions about a broader population.²² Likewise, Donmoyer²³ argues that statistically significant findings and randomly selected samples cannot be applied to particular individuals in particular situations in this complex social world. Hence, case study researchers maintain that a conventional generalization is less relevant to CSR and they recommend alternative forms of generalizations.^{15,22,24,25}

Three alternative approaches of generalizations have commonly been suggested and considered when discussing the applicability of findings in CSR. Each one has its own place of applicability and cannot replace the others, they exist side by side.²⁶

Analytical generalization. Yin¹⁵ proposes ‘analytic generalization’ as a way to generalize CSR findings; it comprises cautiously posed theoretical statements, a theory, or theoretical propositions. It is centered at a replication logic derived from a hypothesis or a theory and at a conceptual level higher than that of a specific case. Yin¹⁵ also stresses that such generalizability from CSR is to theory rather than to populations based on statistical analysis. The empirical results are compared to the theory, resulting in the modification or extension of that theory.²⁷ Therefore, the conclusions derived from CSR can be applied to other situations.¹⁵

Naturalistic generalization. This is another form for generalizing the case. It is intuitive, empirical and based on personal, direct, and vicarious experiences^{22,23,28} According to Stake,¹⁸ naturalistic generalizations are conclusions drawn based on personal engagement in one's life affairs or by vicarious experiences so well-formed that the reader feels as if he or she has experienced it himself/herself. A comprehensive and thorough knowledge of the particularity and uniqueness of the case creates links between the experiences of another person (the case) and one's own (the reader) and offers insights into the nature of phenomena.²⁸ It can be said that naturalistic generalization is a product of experience from personal tacit knowledge, which is accessible to people.^{22,23}

Transferability. Instead of using the term 'generalization,' Lincoln and Guba²⁹ use the term 'transferability.' The idea of transferability is centered at the closeness and consistency between sending and accepting contexts, known as fittingness. In the event that both contexts are satisfactorily harmonious, findings

from the sending context may apply to the accepting context. Hence, adequately detailed information about the two settings is required to help readers make the relevant transferability decision.²⁶

Quality enhancement in case study research

Beside the generalizability issues, CSR has been degraded as a weak research approach. Hyett, Kenny, and Dickson-Swift⁶ conducted a critical review of qualitative case study reports and developed a checklist for assessing the quality of such reports based on the work of Stake,¹⁸ Merriam,³⁰ and Creswell.³¹ They found that not many case study reports were of high quality due to inconsistencies between the reported methodology, research design, and theoretical foundations of the study. Table 1 shows the list of specific criteria for quality assessment in CSR developed by Hyett et al.⁶

Table 1 Checklist for assessing specifically the quality of CSR

Criteria
<ul style="list-style-type: none"> - The case is sufficiently defined. - There is a sense of story to the presentation. - A vicarious experience is provided. - Various contexts are considered attentively and adequately. - Various sources of evidence have been chosen appropriately. - Observations and interpretations have been triangulated. - The roles and perspectives of the researchers are explicit. - Empathy is presented from all angles. - Personal intentions are examined. - The case study reflects a particularity. - The case study is descriptive. - The case study is heuristic. - The study design is appropriate for the chosen methodology.

In order to enhance credibility and make significant contributions to knowledge development, it is essential for the researchers to demonstrate explicitly sufficient descriptions of the methodological foundation for the selection of CSR and the rationale for case

selection.^{6,8,32} In the light of this, cases selected on the basis of prior information/knowledge are most likely crucial to ensure a strong theoretical basis for the research to be established, which makes the theory testing procedure more rigorous.¹⁶ Furthermore, using

the theoretical support from well-known case study methodologists and adhering intensively to research methodology and analysis are recommended in order to enhance the study's authenticity.⁸

In addition, the researchers are recommended to build rigorous strategies to promote trustworthiness and present them adequately and transparently. In general, the nature of CSR itself is very conducive to enhancing trustworthiness (Table 2).³³ CSR requires the researchers to spend sufficient time to engage in and observe persistently the interested phenomena. Sufficient time spent in the field helps researchers test for misinformation created by distortions,²⁶ and uncover interdependencies and interactions among elements in the bounded system where the case is embedded.¹⁷ Persistent observations over time also help unfold emerging relationship patterns and gain insight into relationship dynamics within the context.¹⁷ However, these massive interactions between the researchers and the case may produce a research bias. For this, writing a reflexive journal on a daily basis is essential.²⁶ Hence, the researchers' roles and positions should be self-inspected and comprehended by readers, in order to see how they affect interactions with participants, and to figure out what triangulation is required.¹⁸

Using multiple data sources is a classic feature of CSR. Houghton, Casey, and Smyth³⁴ suggest that a rationale for the selection, collection and analysis of each source should be provided with a definite focus and the support of the study's objectives. The implementation of various data collection methods from multiple data sources in CSR facilitates data triangulation and leads to thick descriptions.^{35,36} Thick descriptions are archived through providing a detailed and contextualized description of the case. Contextual details offer readers insights into the nature of the phenomenon by engaging them in a meaningful way, extending their experiences, promoting a sense of "being there" and consequently transforming their understanding of the phenomenon.^{23,24} Adelman, Jenkins, and Kemmis¹⁹ explain further that various data sources

provide multiple realities about the case that broaden readers' views and ultimately allow them to draw meaningful conclusions about the case and determine its implications for them. In other words, this thick description offers vicarious experiences to the readers and leads consequently to the alternative forms of generalization in CSR.

Furthermore, multiple case studies provide more opportunities to the researcher to improve the CSR quality through comparison, confirmation and analysis either within or across investigated cases, leading to ensure replication logics¹⁵ and enhance trustworthiness.³⁷ Alternatively, using various sources of evidence and multiple case studies can overwhelm the researchers with the large volume of data. Therefore, the researchers need to develop a case study database and the chain of evidence.¹⁵

Additionally, there are other strategies to enhance the quality of CSR. The commonly recommended strategies are member checking and peer debriefing for the purpose of satisfying the credibility criteria. Asking participants to review the case study report, known as member checking, promotes the construct validity of the case study¹⁵ while peer researchers or experts are asked to review and examine both the data and their analysis throughout the study.³⁸ Peer debriefing is employed to verify the coding process and to ensure researchers' honesty.^{26,36} Likewise, creating an audit trail is another strategy to enhance the dependability of the study. It is recommended that the researchers provide accurate and comprehensive records by which the reader or auditor could be able to confirm the process (appropriate data collection) and arrive at a comparable but not contradictory product of inquiry (interpretation and conclusion are consistent with the available data).²⁶ All documents, including raw data, processed data, and process documents must be carefully recorded for answering the list of questions regarding the quality of case study as proposed by Stake.¹⁸ In addition, the researchers should provide sufficient information related to the decisions made throughout the research process.^{36, 38}

Table 2 Nature of case study research and strategies to enhance trustworthiness

Nature of case study research	Trustworthiness criteria	Strategies
	Credibility	
A longitudinal study	Prolonged engagement	– Spending sufficient time in the field
	Persistent observation	– Observing over time
Using various sources of evidence	Triangulation	– Gather data using a variety of data collection methods and from different types of participants – Comparing within and/or between data collection methods and data sources
	Member checking	– Asking participants to validate the findings
	Peer debriefing	– Asking peers/experts to verify the data and their analysis
	Transferability	
	Thick descriptions	– Providing contextual details of the case
	Dependability	
	Audit trails	– Providing accurate and comprehensive records of the process and product of inquiry
	Confirmability	
Interaction between researchers and the case	Reflexivity	– Writing reflective journals on a daily basis
	Triangulation	– Using a variety of data collection methods
	Peer debriefing	– Asking peers/experts to verify the data and their analysis
Multiple case studies	Replication logics	– Using multiple case studies – Comparing within and across cases

Conclusion

The increasing complexity of the plethora of issues surrounding health care in today's world addresses the need for research approaches that can unfold multiple realities and multi-factors. CSR is one of the best choices to that end, and arguably can be considered as a valuable research methodology for the nursing sciences. However, researchers need to develop rigorous research procedures with a sound methodological foundation to enhance the quality of case study reports.

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