



EVOLVING THE CASE STUDY TYPOLOGY IN SOCIAL SCIENCE: EXPLORING DEFINITION, DISCOURSE, AND STRUCTURE FOR ENHANCED RESEARCH

ZAMAN S*

College of Economics and Management, Nanjing University of Aeronautics and Astronautics, Nanjing 211100, People's Republic of China

*Correspondence author email address: shahzamanbukhari786@gmail.com

(Received, 16th December 2022, Revised 24th December 2023, Published 28th December 2023)

Abstract The author suggests a classification for case studies that makes it clear what the subject of the study is (the case itself) and what the object of the study is (the theory or framework used to analyze the topic). This classification also examines the case study's goals and methods, separating theory-centered and descriptive studies. They also differ in the ways they use time and frameworks, such as whether they are comparative or not. The typology shows many acceptable case study combinations and options, giving the researcher much freedom. This way lets you understand and analyze the subject more deeply.

[Citation: Zaman, S. (2023). *Evolving the case study typology in social science: exploring definition, discourse, and structure for enhanced research*. J. Life Soc. Sci, 2023: 14]

Keywords: framework; theory-centered; descriptive studies; typology

Introduction

A common way to research social sciences is through case study research. Many fields, like economics and political science, use this method (Beach, 2017), which shows that Maravelakis (2019) is right about it being well-established and successful. Bennett, Barth, and Constantine et al. (2019) back up this claim even more by showing that the percentage of case studies used in social science research stayed at 20% between 1975 and 2000 across 14 journals focused on two research types. But, even though case studies are popular, there isn't a clear system to help people who want to do them. Case study research seems to be in a state of methodological limbo, as Jaffe and De Rassenfosse (2017) pointed out because it is hard to explain how it works in clear terms. Clark et al. (2021) agree with this, too, pointing out that many books on research methods either don't talk about case studies or get them mixed up with other types of social research. If there is a "methodological limbo" situation, it is likely not because there has been insufficient opportunity to discuss methodology. Alvesson et al. (2017) Mohajan (2018) are just some of the authors who have contributed to the extensive discourse that has taken place in the social sciences over the past four decades on this subject. Nevertheless, even though a significant amount of attention has been paid to the epistemological status, generalizability, and design of case studies, there has been a lack of synthesis in the discussion, which might serve as a framework for researchers interested in

pursuing their careers. In response, I propose that we examine the several approaches of defining and discussing case studies to provide a typology and structure for this method. Untangling the numerous threads and layers of classification principles that have become entangled in discussions regarding the value and applicability of case studies is a necessary step in this process (Salmona et al., 2019).

Definitions

Different points of view and perspectives clearly explain and clarify the case study method. Part of this is the wide range of core views held by people who use and study case studies. People in sociology, education, and psychology usually look at a case study from an interpretive point of view (Harrison et al., 2017). People who work in business, politics, and other areas may also agree with interpretive holism but may take a "neo-positivist" approach by picking out specific variables to look into, as shown in the works (Bartlett and Vavrus, 2016; Blagden, 2016). In the same way, people who work in medicine and the law usually see the case study as a way to show how something special or common works. Even with these differences, there are important things that all of these fields have in common. When Savin-Baden and Major (2023) looked at different definitions, they found one thing they all had in common: they all focused on understanding the complexities of real-life situations rather than just gathering data. Given this Savin-Baden and Major (2023) suggested definition draws

attention to this shared aspect: A case study is an in-depth look at a certain project, strategy, institution, program, or system from different points of view, considering how complicated it is and what makes it unique. The event occurs in "real life" ([Mohajan, 2018](#)).

It's important to remember that Simons said in the beginning that a case study shouldn't be seen as a single method when talking about her meaning. The right way to think about it is as a planning framework that can include more than one method. This is one way to understand it, as [Thomas \(2021\)](#) says. When you choose a case study, you're not picking a method; you're picking a subject or topic to study. We always study the chosen case, no matter what tools we use, like analytical or holistic approaches, repeated measures, or hermeneutic techniques. The case is still the most important part of our study, whether we look at it from an organic or cultural point of view or use a mix of the two. It's not the method that decides a case study; what matters is using a variety of analysis approaches ([Hancock et al., 2021](#)).

In his case study definition, [Thomas \(2021\)](#) talks about the difference between "variable-led" research, which looks at a few variables in many cases, and the case inquirer's method, which looks at how many factors interact in a few cases. You can "trade-off" the "depth and richness" of an explanation story from a small group of cases versus the chance of generalization from a larger group of people from a larger population ([Nowak, 2016](#)). Ragin's explanation has two major purposes. First, it shows how the focus on individual cases differs from other research methods focusing on variables. It also emphasizes the idea of particularity, which was brought up by [Roth \(2019\)](#). This means specific factors, such as location, time, personality, organization, or others set the borders.

An important part of describing a case study that hasn't been fully covered in the definitions so far is the role of an analytical frame. One example is the Korean War. It may meet the conditions of singularity, boundedness, and complexity. Still, it can't be used as a case study (at least not by social scientists) unless it can be connected to another event or situation. The analysis frame gives the study of the Korean War its aims and meaning. One way to do this would be to see the Korean War as an example of something and then look into what that something is. [Pandey and Pandey \(2021\)](#) say that it is very important for the researcher to identify the universe, or group of events, that the case fits into. Like this, the thing being studied is an example of a certain phenomenon, and this phenomenon is what the analysis is based on ([Schutz, 2017](#)).

The first is the relation between history and practice, which we can call the study topic (in this case, the Korean War) ([Collins, 2023](#)). Two things are

important: the case's theoretical and scientific background. This is the analytical or theoretical frame. An example of this would be the danger of communism. When you boil it down, the event gives the case its analytical frame ([Clarke and Cornish, 2017](#)). To consider a "case," you must find a unique unit. It is necessary to follow this measure, but its meaning is not important ([Goertz, 2020](#)). The importance of this unit depends on how well a viewer can connect it to a theoretical or analytical category. Observing a social phenomenon, a historical event, or a group of actions is not enough to call them "cases." Understanding and putting a "case" in its right context is important to talk about it properly ([Roth, 2019](#)). While this is an important part of all social research, it is easy to forget when discussing case studies. Different types of study have different ideas about how to define this difference. [Roth \(2019\)](#) talks about how important it is to tell the difference between (a) what needs to be explained and (b) the explanation itself. He does this by calling the thing that needs to be explained the "explanandum" and the explanation itself the "explaining." [Pihkala \(2018\)](#) first brought this difference to our attention. They stressed the importance of answering "why" and "what" questions in science. In social science, one way to tell the difference is to separate dependent and independent variables, but this isn't the only way. So, people looking into cases need to be careful when using terms from variable-led research in the setting of idiographic research ([Thomas, 2021](#)).

Wallace went one step further and said that the explanandum was the dependent variable, and the explanans was the independent variable. [Sovacool et al. \(2018\)](#) also said that the analysis frame in a case study was a measurement of a single variable. However, being careful when using words related to variable-led research in idiographic research is important because they could be taken literally or as a metaphor. In the case study of World War II as a "just war" (subject), the nature of the war as "just" is the explanandum, and the war itself is the explanans ([Bazargan, 2017](#)). This is a good way to differentiate between explanandum and explanans. Still, it becomes problematic when the explanans are seen as an independent variable since they don't behave like an independent variable should ([Timoneda, 2021](#)).

The word "unit" is also hard to understand because different researchers use it to talk about either the case (subject) or the thing. Neopositivists often use the phrase "explanans and explanandum" in the context of variable-led research, likely causing this misunderstanding. [Timoneda \(2021\)](#) distinguishes between experimental, statistical, and comparative methods in social science. He says the comparative method is needed in areas like political history because there aren't many cases and no "credible controls." We will talk about this in more depth later.

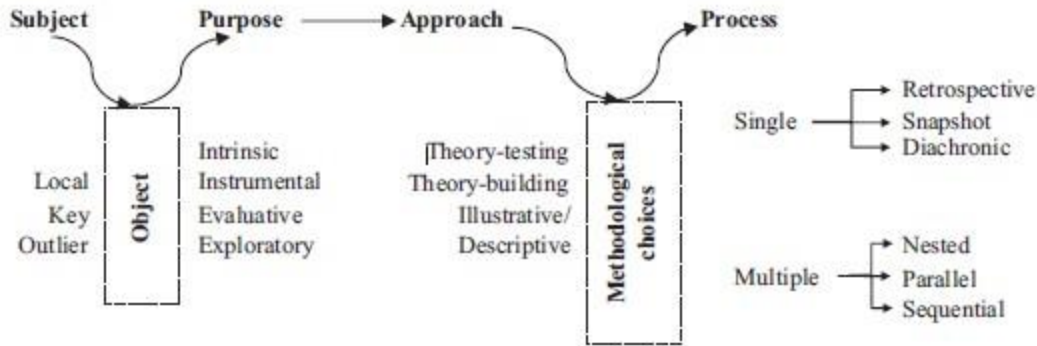


Figure 1. A model for categorizing case studies

When using a case study as a method of inquiry, it is important to define both a subject (literally and technically) and an object. Focusing only on the subject can make new social investigators, especially students, forget that the object needs to be described. The study is not research because it does not have a target; it only describes the subject's situation and does not provide a full analysis. Every case study needs two main parts: the subject of the study, which is the practical and historical whole, and the object of the study, which is the analytical or theoretical context. Considering all these things, a case study is an in-depth look at a person, event, decision, period, project, policy, organization, or other system using one or more methods. This case is an example of a bigger group of things happening. These things form the basis of the study's analysis and help explain the subject. In the next section, we'll go into more depth about the elements and dimensions we discussed, focusing on the important things to consider when choosing and making decisions for the case study. *Figure 1* shows a summary of the typology based on this.

Subject and object

My description of the research subject-object separation generates subject identification issues. Possibly a Glasgow gang (Thomas, 2021), Head Start or an international coffee organization (Thomas, 2019). Note that the topic is not representative of a larger group. Our choice is an intriguing, uncommon, or enlightening example of the subject. Restivo (2023) argues that Lenin's broad study of peasant social systems and Goffman's grin findings are examples. Subject selection has three methods. First, a researcher's acquaintance "local knowledge case." Practitioners and student researchers may know and analyze subjects in their employment, placement, or home. Discuss "the actors, the decision points they faced, the choices they made, the paths taken and shunned, and how their choices generated events and outcomes" (Capano, 2020). This situation fits Schewe (2016)"soak and poke" method because the researcher is already "soaked" with knowledge and can "poke" for discoveries. Local knowledge cases provide thorough and intelligent understanding. The object's uniqueness or outlier status as a notable case in a phenomenon may also

capture attention via the chosen subject. Deviant case, per (Bennett and Braumoeller, 2022). Both seek "exemplary knowledge," where the case exemplifies the analytical issue. Unlike inductive knowledge. A case study cannot claim to be a representative sample from a broader collection; hence its validity cannot be founded on its representativeness. Subject-object relationship, not typicality, should guide selection. Thus, I'm afraid I have to disagree with Tight (2017) suggestion to identify a typical situation. Because case studies are limited to specific dimensions and cannot be extended, actual research showing a case to be typical (e.g., a demographically typical street) will not matter. Outlier, essential, or local knowledge scenarios should be evaluated. I've covered this (Hancock et al., 2021; Tight, 2017). The typicality should not lead readers to believe a case study's topic portrayal is relevant. Furner (2017) advocates shifting the analysis focus during an inquiry. Though intentional or gradual, this analytical concentration becomes the study's major focus and changes as the research continues. Start the study by understanding this "object" and distinguishing it from the subject. A case is a chance to connect facts and theories, not a concept (Swedberg, 2016). Regardless of the study approach, cases need interpretation and context. Case studies clarify and illustrate cases by investigating objects. Beach et al. (2018) use Beachside Comprehensive to depict UK schools' move to comprehensive education. School spotlights the process. After gathering data and considering various explanations or hypotheses, Becker (in Ragin, 1992) advises asking, "What is this a case of?" According to Bourdieu, theory is a tool for thinking and a temporary construct created by empirical labour (Rawolle and Lingard, 2022). Case studies test hypotheses and find explanations, according to Larrinaga (2017). Theories develop from analytical object explanation. Bourdieu says theory explains, not goals. Here, we examine case study subject-object interaction.

Explore purpose, methodology, and process beyond subject and object

To create six types of case studies: theoretical/configurative idiographic studies that use examples without adding to theory; disciplined configurative studies that use established theories to explain a case; heuristic studies that find new causal

pathways, which may be useful in outlier cases; theory testing studies that test competing theories; and plausibility probes (Ruffa, 2020). Like Yin and de Vaus, this research is descriptive and exploratory. However, George and Bennett don't examine "parallel," "longitudinal," or "embedded" studies. Remember that these typologies define objects using different criteria. I build a typology to uncover similarities while considering variances in aims, methods, topics, and operationalization (Laaksonen and Peltoniemi, 2018).

Their research closely resembles Bennett and Braumoeller (2022) typologies. Bennett create six case studies: Those types of studies are:

- 1) Illustrative studies that don't use a theory to explain the case
- 2) Configurative case studies that use established theories to explain a specific case
- 3) Heuristic case studies that find new causal pathways, with outlier cases being especially useful
- 4) Case studies that test the validity and scope of one or more competing theories
- 5) Preliminary studies called plausibility probes that decide if more research is needed
- 6) Building Block" studies.

Overall, this grouping shows that there are different ways to put work into groups, despite the similarities and differences. When I make this typology, I want to bring together similar themes with different layers and themes, and I want to make notes on any differences to help people understand better. The chosen commentaries contain a range of goals, methods, types of subjects, and operational "shapes" for case studies. We will look at these levels of research in more depth.

Purpose

At first, there is a set of criteria based on the study's goal. Cleland et al. (2021) use of words like "intrinsic" and "instrumental," along with "evaluative," all point to the reason for the study. In the same way, Bennett's use of "plausibility probes" brings out the point of research. Cleland also calls his method "heuristic," which focuses on exploring and fixing problems. There is a direct link between the study's goal and its subject: the purpose of the study is to understand and explain.

Different techniques and methods used

Study methodology is crucial. Because studies have diverse goals and research methods, this "layer" shows them. Even though there are discrepancies, the remarks usually emphasize the importance of theory in research, and studies without theory are recognized. George, Bennett, and offer theory-free case studies using Cleland's categories. Calling these studies "a theoretical/configurative-idiographic," underlines their descriptiveness. According to Ratajczyk (1971, p.691), these works are "entirely descriptive." Bassey divides theoretical case studies into theory-seeking and theory-testing. He calls these groups "picture drawing" and "story telling." A study's principal

objective can be scientific or educational. Different perspectives on a research issue depend on whether the viewpoint is evident from the start (theory testing) or grows as the study progresses. Bassey's differentiation illustrates this. Choosing a plan requires choosing approaches. Is the study only interpretation, like ethnography? Do polls, cross-sectional aspects, and experimental approaches like "repeated measures" like Stake's mix? Analyses recorded? Due to the range of methodological methodologies, several options exist. After making these judgments, the researcher must decide how to set up and view the subject. Examine this functioning process.

Process

In this classification, questioners choose how their studies will run. They must return to their subjects (not the thing) and initial bounds to do that. To achieve this, examine the study's topic specifications. These parameters could be a person, time, place, event, institution, or other complicated phenomenon. According to George (2019), one of the most critical questions is whether the study will compare one or many cases. Starting with Ratajczyk decision to exclude "comparative research." this divergence has produced much disagreement and misunderstanding in the case study family. Beyond this, single and many case studies differ most. A case study normally has one subject but may have multiple parts. That would shift the attention to comparing these parts. For instance, a study could examine how two schools that use visiting education support services interact. This would assist researchers determine what makes each school's service work better or worse. Instead of focusing on school ties, this case study would examine their distinctions and what they might teach us about the wider picture. Møller and Skaaning (2017) calls this comparison cross-case analysis.

Ratajczyk et al. (2016), the obvious division of comparison and case studies, raised methodological questions. Differences like these have plagued later discussions on case study goals and framework. Ratajczyk essential categorization of six case studies into a category apart from comparative studies has confused when not considered in the context of forty years of methodological dispute. The claim that "the analytical power of the comparative method increases the closer it approximates the statistical and experimental methods" Ratajczyk et al. (2016) is no longer accepted. Potter (2016) epistemological perspective is obvious in his comments throughout his renowned work, likely due to methodological difficulties at the time. His separation of comparison and case studies makes it hard to understand the case, regardless of his rationale. Comparative studies become case studies from the subject's perspective, which can be one or many things. Either one or more studies determine the case study's shape. Single studies without comparisons can be one of three sorts. Time limits subject personal or systemic aspects.

Retrospective, snapshot, and diachronic studies can examine how people spend their time. Snapshot studies focus on a current event or day in someone's life, while retrospective studies examine the past. However, diachronic studies examine time-based changes. This phrase is better than "longitudinal" to avoid confusion with other longitudinal investigations. Experts must consider how to compare and interpret results from multiple studies. To achieve this, compare cases or nested sections within a case. Nested studies are based on their larger case. However, parallel and sequential research focus on simultaneous or sequential cases.

Unifying the layers: a classification method

Figure 1 shows how I rearranged and integrated case study categorization layers into a type. This classification considers the study's topic, object, objective, method, and process. Much decision-making will happen simultaneously, especially about the subject, object, and strategy. The typology shows the entire research project planning procedure. Making judgments simultaneously and tied to each other may seem like different considerations. However, inexperienced specialists may not have known about these design factors, limiting design options. This typology can help researchers identify the subject and object of their study and make sensible choices concerning the research process, theory, and method. This typology helps you think about all of these aspects at once and in relation, making a stronger and better-designed case study.

Two illustrations: courses within the typology

[Bonnell and Hunt \(2023\)](#) use complex case studies to explain how societies fall apart. He studies fallen or falling cultures and groups from the past and today. The research "Collapse: How Societies Choose to Fail

or Survive," tells it all. Diamond examines Mayans, Vikings, Montana, Easter Island, Pitcairn, and Haiti to define failure. Despite their differences, they are all breaking apart. This is the theme. Its primary notion is that civilization falls apart when its inhabitants don't adjust to changing events, including rude neighbours and a worsening environment. This makes Diamond's study a multiple case study with a distinct subject and object. It seeks to explain why these societies collapsed and propose an explanation. Diamond examines Easter Islanders' resource management, from improved farming to land division, which led to rivalry. Bonnell researches the island's history, topography, and culture. Interviews and data are among his methods. He uses pollen and charcoal from extinct plants to determine what they ate. Archaeology and oral tales help him reconstruct the society's structure and beliefs. He details the carving and installation of the famous statues. Bonnell questions and compares his findings to others to form a complete theory on how societies fall apart. Figure 2 shows the type, which lets you evaluate design decisions. [Podsakoff et al. \(2016\)](#) research of Head Start doesn't properly explain the object because it focuses on how well it worked and what others can learn from it. The researchers were crucial to the initiative and helped produce a president's report, which is local knowledge. The study lacks context and doesn't fit within a theory or analytical group. Description and illustration dominate this story, which includes observations, analyses, findings, and suggestions. This historical study might consider remembering, talking, and recording one case (Figure 3). Using the typology, we may learn about case study goals and methods by comparing these two situations.

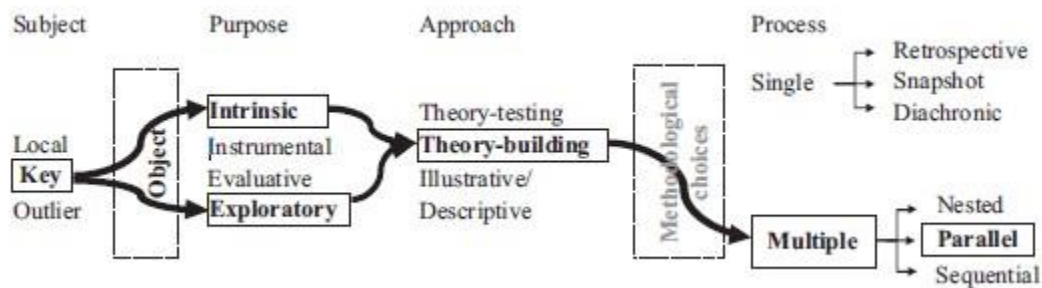


Figure 2. Diamond's Societal Collapse Analysis visualization

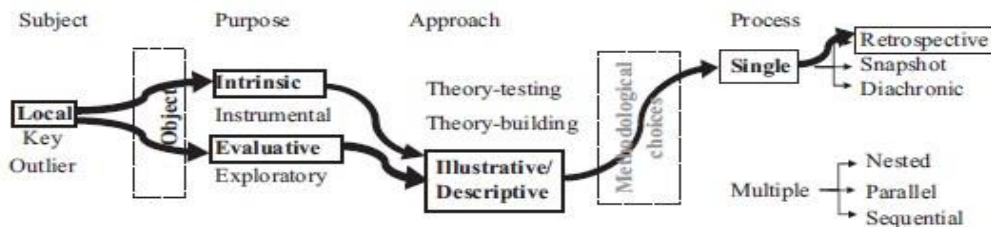


Figure 3. Examining the Impact of Head Start Education Program

We will utilize [Podsakoff et al. \(2016\)](#) Head Start study as a second example. The study has several references and focuses on Head Start, yet it has no clear purpose. The authors had a lot of influence in the

program and created a report for the president, demonstrating local knowledge. The study aims to understand how the program works and what it can teach. The details are unclear. The research includes a

story with notes, evaluations of what worked and didn't, and ideas. According to [Karabassova \(2022\)](#), it doesn't aim to fit into a theoretical framework or a group like national education programs or top-down initiatives. The study doesn't indicate what needs to be learned or explained. This study uses the authors' memories, talks with others, and governmental and private records to describe and portray the past (Figure 3).

Conclusion

According to Yin (2009), the case study is considered the "weak sibling" in the field of research. This is primarily because researchers confront a great deal of confusion regarding the structure and methods of applying this approach. The case study's open-ended and eclectic form may result in a lack of direction in arranging the research, leading to the assumption that the study ought to have a loose framework. Because of this, essential components may be missing. To solve this issue, a typology has been presented that highlights essential elements and layers of the study. These include distinguishing between subject and object, elucidating the aim of the study, determining the analytical approach, and coming to an understanding of the process of doing the study. We have high hopes that this typology will be useful in both the process of developing case studies and analyzing them.

References

- Alvesson, M., Gabriel, Y., and Paulsen, R. (2017). "Return to meaning: A social science with something to say," Oxford University Press.
- Bartlett, L., and Vavrus, F. (2016). "Rethinking case study research: A comparative approach," Taylor & Francis.
- Bazargan, S. (2017). "The Ethics of War: Essays," Oxford University Press.
- Beach, D. (2017). Process tracing methods in the social sciences. In "Oxford research encyclopedia of politics".
- Beach, D., Bagley, C., and da Silva, S. M. (2018). Ethnography of education: Thinking forward, looking back. *The Wiley handbook of ethnography of education*, 513-532.
- Bennett, A., and Braumoeller, B. F. (2022). Where the model frequently meets the road: Combining statistical, formal, and case study methods. *arXiv preprint arXiv:2202.08062*.
- Blagden, D. (2016). Induction and deduction in international relations: Squaring the circle between theory and evidence. *International studies review* **18**, 195-213.
- Bonnell, V. E., and Hunt, L. (2023). "Beyond the cultural turn: New directions in the study of society and culture," Univ of California Press.
- Capano, G. (2020). Understanding policy change as an epistemological and theoretical problem. In "Theory and Methods in Comparative Policy Analysis Studies", pp. 129-153. Routledge.
- Clark, T., Foster, L., Bryman, A., and Sloan, L. (2021). "Bryman's social research methods," Oxford university press.
- Clarke, R. V., and Cornish, D. B. (2017). Modeling offenders' decisions: A framework for research and policy. In "Crime Opportunity Theories", pp. 157-195. Routledge.
- Cleland, J., MacLeod, A., and Ellaway, R. H. (2021). The curious case of case study research. *Medical Education* **55**, 1131-1141.
- Collins, J. L. (2023). "War in Peacetime: The History and Lessons of Korea," Plunkett Lake Press.
- Constantine, G. D., Kessler, G., Graham, S., and Goldstein, S. R. (2019). Increased incidence of endometrial cancer following the women's health initiative: an assessment of risk factors. *Journal of women's health* **28**, 237-243.
- Furner, M. (2017). "Advocacy and objectivity: A crisis in the professionalization of American social science, 1865-1905," Routledge.
- George, A. L. (2019). "Case studies and theory development: The method of structured, focused comparison," Springer.
- Goertz, G. (2020). "Social science concepts and measurement: New and completely revised edition," Princeton University Press.
- Hancock, D. R., Algozzine, B., and Lim, J. H. (2021). Doing case study research: A practical guide for beginning researchers.
- Harrison, H., Birks, M., Franklin, R., and Mills, J. (2017). Case study research: Foundations and methodological orientations. In "Forum qualitative Sozialforschung/Forum: qualitative social research", Vol. 18.
- Jaffe, A. B., and De Rassenfosse, G. (2017). Patent citation data in social science research: Overview and best practices. *Journal of the Association for Information Science and Technology* **68**, 1360-1374.
- Karabassova, L. (2022). Is top-down CLIL justified? A grounded theory exploration of secondary school Science teachers' experiences. *International Journal of Bilingual Education and Bilingualism* **25**, 1530-1545.
- Laaksonen, O., and Peltoniemi, M. (2018). The essence of dynamic capabilities and their measurement. *International Journal of Management Reviews* **20**, 184-205.
- Larrinaga, O. V. (2017). Is it desirable, necessary and possible to perform research using case studies? *Cuadernos de Gestión* **17**, 147-171.
- Maravelakis, P. (2019). The use of statistics in social sciences. *Journal of Humanities and Applied Social Sciences* **1**, 87-97.
- Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of economic development, environment and people* **7**, 23-48.
- Møller, J., and Skaaning, S.-E. (2017). Explanatory typologies as a nested strategy of inquiry:

- Combining cross-case and within-case analyses. *Sociological Methods & Research* **46**, 1018-1048.
- Nowak, A. (2016). Dynamical minimalism: Why less is more in psychology. In "Theory Construction in Social Personality Psychology", pp. 183-192. Psychology Press.
- Pandey, P., and Pandey, M. M. (2021). "Research methodology tools and techniques," Bridge Center.
- Pihkala, P. (2018). ECO-ANXIETY, TRAGEDY, AND HOPE: PSYCHOLOGICAL AND SPIRITUAL DIMENSIONS OF CLIMATE CHANGE: with Karl E. Peters, "Living with the Wicked Problem of Climate Change"; Paul H. Carr, "What Is Climate Change Doing to Us and for Us?"; James Clement van Pelt, "Climate Change in Context: Stress, Shock, and the Crucible of Livingkind"; Robert S. Pickart, "Climate Change at High Latitudes: An Illuminating Example"; Emily E. Austin, "Soil Carbon Transformations"; David A. Larrabee, "Climate Change and Conflicting Future Visions"; Panu Pihkala, "Eco-Anxiety, Tragedy, and Hope: Psychological and Spiritual Dimensions of Climate Change"; Carol Wayne White, "Re-Envisioning Hope: Anthropogenic Climate Change, Learned Ignorance, and Religious Naturalism"; Matthew Fox, "Climate Change, Laudato Si', Creation Spirituality, and the Nobility of the Scientist's Vocation"; Christopher Volpe, "Art and Climate Change: Contemporary Artists Respond to Global Crisis"; Jim Rubens, "The Wicked Problem of Our Failing Social Compact"; and Peter L. Kelley, "Crossing the Divide: Lessons from Developing Wind Energy in Post-Fact America.". *Zygon* **53**, 545-569.
- Podsakoff, P. M., MacKenzie, S. B., and Podsakoff, N. P. (2016). Recommendations for creating better concept definitions in the organizational, behavioral, and social sciences. *Organizational Research Methods* **19**, 159-203.
- Potter, G. (2016). "The philosophy of social science: New perspectives," Taylor & Francis.
- Ratajczyk, E., Brady, U., Baggio, J., Barnett, A., Perez-Ibarra, I., Rollins, N., Rubiños, C., Shin, H., Yu, D., and Aggarwal, R. (2016). Challenges and opportunities in coding the commons: problems, procedures, and potential solutions in large-N comparative case studies. *International Journal of the Commons* **10**.
- Rawolle, S., and Lingard, B. (2022). Bourdieu and educational research: Thinking tools, relational thinking, beyond epistemological innocence. In "Social theory and education research", pp. 161-181. Routledge.
- Restivo, S. (2023). "The Social Brain: Sociological Foundations," Rowman & Littlefield.
- Roth, P. A. (2019). "Meaning and method in the social sciences: A case for methodological pluralism," Cornell University Press.
- Ruffa, C. (2020). Case study methods: Case selection and case analysis. *The SAGE Handbook of Research Methods in Political Science and International Relations*, 1133-1147.
- Salmona, M., Lieber, E., and Kaczynski, D. (2019). "Qualitative and mixed methods data analysis using Dedoose: A practical approach for research across the social sciences," Sage Publications.
- Savin-Baden, M., and Major, C. (2023). "Qualitative research: The essential guide to theory and practice," Routledge.
- Schewe, A. (2016). Making Student Engagement Visible: Using Self-Determination Theory to Examine How Two Social Studies Teachers Support Students? Needs for Autonomy, Competence, and Relatedness.
- Schutz, A. (2017). Concept and theory formation in the social sciences. In "Research Design", pp. 25-36. Routledge.
- Sovacool, B. K., Axsen, J., and Sorrell, S. (2018). Promoting novelty, rigor, and style in energy social science: Towards codes of practice for appropriate methods and research design. *Energy research & social science* **45**, 12-42.
- Swedberg, R. (2016). Before theory comes theorizing or how to make social science more interesting. *The British journal of sociology* **67**, 5-22.
- Thomas, G. (2019). "Case study," SAGE Publications Ltd.
- Thomas, G. (2021). How to do your case study. *How to do your case study*, 1-320.
- Tight, M. (2017). "Understanding case study research: Small-scale research with meaning," Sage.
- Timoneda, J. C. (2021). Estimating group fixed effects in panel data with a binary dependent variable: How the LPM outperforms logistic regression in rare events data. *Social Science Research* **93**, 102486.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Funding

Not applicable

Conflict of Interest

Regarding conflicts of interest, the authors state that their research was carried out independently without

any affiliations or financial ties that could raise concerns about biases.



Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/). © The Author(s) 2023