Navigating the landscape of research paradigms: An overview and critique

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ABSTRACT: *The aim of this study is to investigate the different research paradigms, including conventional and alternative paradigms, and to critically examine their underlying assumptions and implications for research design, data collection, and analysis. The methodology involves a critical examination of different research paradigms and their underlying belief structure. The main findings of this study indicate that different research paradigms have different assumptions about the nature of reality, the role of the researcher, and the goals of the research. These assumptions have implications at the fundamental level. This review article contributes to the existing literature by providing a comprehensive overview of research paradigms and their implications for research design, data collection, and analysis, practically. The study also emphasizes the importance of choosing the most appropriate research paradigm that aligns with the research questions and goals, leading to more accurate and relevant findings that contribute to the advancement of knowledge in the scholarly fields.*

Keywords: Alternative paradigm, Conventional paradigm, Critiques, Phenomenology, Positivism, Post-positivism, Research paradigm, Research philosophy.

1. Introduction

The research paradigm is a crucial concept in guiding researchers' approach to their research. It encompasses a set of beliefs, assumptions, and practices that guide the researcher's understanding of the research problem, methods of data collection and analysis, and interpretation of results. The paradigmatic perspective adopted by the researcher has a significant impact on the way in which they define their research problem, formulate hypotheses, choose research methods, and interpret their findings. According to Davies and Fisher (2018); Kamal (2019) and Zukauskas, Vveinhardt, and Andriukaitiene (2018) there are different research paradigms, including conventional and alternative paradigms. The conventional paradigm refers to the dominant or mainstream paradigm in a particular field. It typically emphasizes the use of quantitative methods to collect and analyze data, with an emphasis on objectivity and causality (Park, Konge, & Artino, 2020). Researchers who adopt the conventional paradigm aim to establish causal relationships between variables and seek to produce generalizable findings that apply to a broad population (Davies & Fisher, 2018; Khaldi, 2017; Rahi, 2017). On the other hand, alternative research paradigms are those that differ from the dominant or mainstream paradigm in a particular field. These paradigms challenge the assumptions of the conventional paradigm and offer alternative approaches to conducting research (Bisel & Adame, 2017; Jackson & Dolan, 2021; Pidgeon, 2019; Tamminen & Poucher, 2020). Alternative research paradigms include interpretivism, critical theory, feminist research, postmodernism, among others (Tamminen & Poucher, 2020). Researchers who adopt alternative research paradigms use qualitative methods to explore and understand the experiences and perspectives of research participants. They seek to understand the meanings and interpretations that participants attach to their experiences, rather than seeking to establish causal

relationships between variables (Bisel & Adame, 2017; Hürlimann, 2019; Khaldi, 2017; Sandu & Unguru, 2017; Shava & Nkengbeza, 2019). Altogether, understanding research paradigms is important for conducting high-quality research. It helps researchers make informed decisions about the most appropriate methods and techniques for their research. Researchers should critically evaluate the assumptions and limitations of different paradigms and choose the one that best aligns with their research questions and goals. This can result in more accurate and relevant findings that contribute to the advancement of knowledge in the field (Bonache & Festing, 2020; Tamminen & Poucher, 2020).

This review article on is expected to play an important role in clarifying the concept of research paradigm and making it more accessible to researchers. This examination of different research paradigms and their underlying assumptions in the article can promote critical reflection among researchers about their own research practices and the assumptions that underlie them. Furthermore, this critical reflection can lead to the improvement of the rigor and relevance of research in various fields, and ultimately lead to more informed decision-making and policy development. Moreover, this article serves as a valuable resource for researchers seeking to deepen their understanding of research paradigms and the role they play in shaping research methodologies, data collection techniques, and data analysis approaches. In other words, the review article on understanding research paradigms is important for promoting high-quality research and providing a useful reference for researchers in various fields.

2. Methodology

This review article aims to comprehensively explore and critically evaluate the conventional and alternative research paradigms. The review was conducted through a systematic search of relevant literature from scholarly databases such as Scopus, Web of Science, and Google Scholar. The search strategy included a combination of keywords and phrases such as "research paradigm", "positivism", "interpretivism", "phenomenology", "constructivism", and "post-positivism". The inclusion criteria for the articles were that they should be peer-reviewed, published in English, and relevant to the research paradigms. The exclusion criteria were articles that were not peer-reviewed or not relevant to the research paradigms. The search was conducted between 17th January to 31st March 2022, and a total of 87 articles were initially identified. After screening the articles based on the inclusion and exclusion criteria, 46 articles were included for the final analysis. The included articles were analyzed using a thematic synthesis approach, which involved the identification of key themes, sub-themes, and categories related to the research paradigms. The themes were analyzed using a narrative synthesis approach, which involved the interpretation and synthesis of the findings across the studies. The synthesis was conducted using a deductive approach, where the findings were categorized based on the research paradigms.

In addition, this review article includes a critical reflection on the strengths and limitations of the conventional and alternative research paradigms, based on the analysis of the literature. The critical reflection is based on the evaluation of the underlying assumptions, epistemological and ontological positions, and methodological approaches of the paradigms.

3. Key Terminologies

3.1. Research Paradigm

A research paradigm refers to the framework or perspective that researchers use to approach their research. It encompasses the researcher's worldview, beliefs, assumptions, and methodology. A research paradigm helps researchers to understand how to conduct research, what methods to use, and how to interpret the results. Understanding the research paradigm used in a study is important because it can affect the research design, the data collection and analysis methods used, and the interpretation of the results (Davies & Fisher, 2018; Kivunja & Kuyini, 2017; Park et al., 2020).

3.2. Ontology

Ontology is a philosophical field that deals with the study of what exists and how things are related to each other. It aims to answer questions about the nature of reality and what kinds of things exist in the world around us (Kamal, 2019; Rahi, 2017). Ontology explores questions such as: what is the nature of existence? Are there objective truths about reality? How do objects relate to each other and to humans?

Ontology is a critical area of study because it allows us to question and examine the assumptions that underlie our understanding of the world. By doing so, the researchers can gain a deeper understanding of what is real and what is not, and how they can interact with and make sense of the world around us (Pidgeon, 2019). In fields such as computer science and information science, ontology is also used to develop systems and frameworks for organizing and categorizing information, making it easier to access and use (Glazier & Mehdizadeh, 2019; Romani, Barmeyer, Primecz, & Pilhofer, 2018).

3.3. Epistemology

Epistemology is the branch of philosophy that deals with the study of knowledge and belief. It explores questions such as: What is knowledge? How is knowledge acquired? What are the limits of knowledge? How do we distinguish between true and false beliefs? Epistemology aims to understand how we can justify our beliefs and determine what we can know with certainty. It examines the nature of evidence and reasoning, as well as the role of perception, memory, and

language in the acquisition and validation of knowledge. Some important questions in epistemology include: What is the relationship between perception and knowledge? What is the role of skepticism in knowledge acquisition? How do we determine the reliability of sources of knowledge (Khaldi, 2017; Panhwar, Ansari, & Shah, 2017; Pidgeon, 2019)?

Epistemology is a critical area of study because it helps us understand how we can gain knowledge and determine what we can know with certainty. It also helps us to evaluate and question our own beliefs and assumptions and to be more critical and reflective in our thinking (Khaldi, 2017).

3.4. Methodology

Methodology refers to the systematic approach used to conduct research or investigate a particular topic or question. It is the set of methods, techniques, and procedures used to collect, analyze, and interpret data in a research study (Rahi, 2017; Rahi, Alnaser, & Abd Ghani, 2019).

3.5. Summary

Methodology, paradigm, ontology, and epistemology are all interconnected and interdependent aspects of research (Davies & Fisher, 2018). Paradigm refers to the broader framework or perspective that shapes the researcher's approach to their research. The researcher's choice of paradigm will determine their ontological and epistemological assumptions, as well as the research methodology they employ. Ontology refers to the researcher's understanding of the nature of reality and what exists. Ontological assumptions will shape the research questions that the researcher asks and the types of data that they collect. Epistemology refers to the researcher's understanding of how knowledge is acquired, and how they can justify their beliefs. Epistemological assumptions will shape the researcher's choice of data collection and analysis methods. Methodology refers to the specific techniques and procedures used to conduct the research study. The methodology is shaped by the researcher's paradigm, ontology, and epistemology, as well as the research question being investigated (Khaldi, 2017; Kivunja & Kuyini, 2017; Rahi, 2017).

In other words, the methodology is ruled by the researcher's broader understanding of the nature of reality (ontology), how knowledge is acquired (epistemology), and their overall approach to research (paradigm). By understanding the relationship between these different aspects of research, researchers can design studies that are rigorous, relevant, and meaningful (Rahi et al., 2019).

4. The Conventional Paradigm

The conventional paradigm, also known as the traditional or mainstream paradigm, or just hard-positivism, is a research approach that is based on a set of commonly accepted assumptions and beliefs about the nature of reality, knowledge, and the scientific method (Hammersley, 2019; Jackson & Dolan, 2021; Park et al., 2020). It assumes that there is an objective reality that can be studied and understood through systematic observation and measurement, and that knowledge can be generated through empirical evidence and logical reasoning. The conventional paradigm emphasizes the use of quantitative methods to collect and analyze data and seeks to identify cause-and-effect relationships between variables. It also assumes that the researcher can maintain a neutral and objective stance towards the research topic, and that the findings of research can be generalized to other contexts. The key aim of the conventional paradigm is to predict, and control. In the following section of this chapter, the conventional paradigm will be explored and critically evaluated to provide a comprehensive understanding of its underlying assumptions, limitations, and critiques (Tamminen & Poucher, 2020).

The conventional research paradigm is a broad approach to research that is characterized by a number of key features. Some of the major parts of the conventional paradigm include:

Objectivity: The conventional paradigm emphasizes the importance of objectivity in research. Objectivity refers to the ability to observe and measure phenomena without being influenced by personal biases or preconceived ideas.

Reductionism: This is the belief that complex phenomena can be understood by breaking them down into their constituent parts and studying those parts individually. Reductionism assumes that the whole is equal to the sum of its parts, and that complex phenomena can be explained by understanding their simpler components (Jackson & Dolan, 2021).

Empiricism: The conventional paradigm is based on the belief that knowledge should be based on empirical observation and measurement. Empiricism involves the use of systematic and objective methods to collect and analyze data (Jackson & Dolan, 2021; Panhwar et al., 2017).

Quantitative Methods: The conventional paradigm emphasizes the use of quantitative methods to collect and analyze data. Quantitative methods involve the use of statistical analysis and numerical data to identify patterns and relationships (Bisel & Adame, 2017; Hammersley, 2019).

Hypothesis Testing: The conventional paradigm emphasizes the use of hypothesis testing to evaluate theories and explanations of phenomena. Hypothesis testing involves the formulation of testable hypotheses and the use of empirical data to evaluate the accuracy of these hypotheses (Dong et al., 2018; Glazier & Mehdizadeh, 2019).

Determinism: This is the belief that events are caused by prior events and that those events can be predicted and controlled. Determinism assumes that human behavior is predictable and that it can be explained through cause-and-effect relationships (Cazeaux, 2017; Hammersley, 2019).

Generalization: The conventional paradigm emphasizes the importance of generalization in research. Generalization refers to the ability to make inferences about a larger population based on data collected from a smaller sample (Pidgeon, 2019).

4.1. Key Assumption

The conventional paradigm is based on a set of commonly accepted assumptions and beliefs about the nature of reality, knowledge, and the scientific method. Some of the key assumptions of the conventional paradigm, as argued by Bonache and Festing (2020); Davies and Fisher (2018) and Kivunja and Kuyini (2017) include:

1. There is an objective reality that can be studied and understood through systematic observation and measurement.
2. Knowledge can be generated through empirical evidence and logical reasoning.
3. The researcher can maintain a neutral and objective stance towards the research topic.
4. Findings of research can be generalized to other contexts.
5. Quantitative methods are the most appropriate for collecting and analyzing data.
6. Cause-and-effect relationships between variables can be identified through statistical analysis.

The conventional paradigm is a research approach that emphasizes the use of quantitative methods to measure and analyze data. It is based on the assumption that reality is objective and can be observed and measured through scientific methods. This paradigm is rooted in the positivist philosophy, which seeks to discover universal laws that govern the natural and social world. Researchers who adopt this paradigm seek to identify cause-and-effect relationships between variables through experiments, surveys, and other quantitative techniques. This paradigm has been widely used in fields such as natural sciences, economics, and psychology. It is seen as a rigorous and objective approach to research, which allows for precise measurement and statistical analysis of data (Hürlimann, 2019; Tamminen & Poucher, 2020). However, critics argue that this paradigm oversimplifies the complexity of human experience and ignores the subjective nature of reality. It has been accused of reducing individuals and their experiences to mere data points, and of neglecting the social, cultural, and historical contexts in which research takes place. Moreover, the conventional paradigm has been criticized for its limited scope and narrow focus. It often fails to address issues of power, inequality, and social justice, which are central to many research questions. This has led to the emergence of alternative research paradigms, such as the critical paradigm, which seek to challenge dominant power structures and promote social change. In the following section of this chapter, the conventional paradigm will be explored and critically evaluated, highlighting its strengths and limitations (Glazier & Mehdizadeh, 2019; Hammersley, 2019).

4.2. The Conventional Belief Structure

The conventional paradigm is rooted in a belief structure that values empirical evidence, objectivity, and the search for universal laws that explain the natural world. It assumes that reality is objective and can be studied using quantitative methods, and that knowledge is cumulative and can be improved over time through the accumulation of data and the refinement of theories (Hürlimann, 2019; Tamminen & Poucher, 2020). The conventional belief structure has been summarized in the following section.

4.2.1. Realist Ontology

This research paradigm typically follows in a realist ontology, which posits that there is an objective reality that exists independent of human perception. This ontology assumes that the world is composed of discrete, measurable entities that can be observed and studied in a systematic way (Phillips & Burbules, 2000).

4.2.2. Dualist Objectivist Perspective

In terms of epistemology, the conventional paradigm is often associated with a dualist objectivist perspective. This perspective assumes that there is a clear distinction between the knower and the known, and that knowledge can be obtained through objective observation and measurement. The objectivist perspective implies that knowledge can be obtained through a neutral, unbiased approach to data collection and analysis (Hammersley, 2019).

4.2.3. Researcher-Research Relationship

In dualist objectivist epistemology, the researcher-research relationship is seen as a detached and objective one. The researcher is considered an outsider who can observe and measure the reality that exists independently of the researcher. The researcher is seen as being able to objectively study the world without being influenced by their own biases or values. This means that the researcher aims to be neutral and objective in their data collection and analysis, aiming to minimize any influence of their own subjective experiences or beliefs on the research (Panhwar et al., 2017). The research participants are viewed as passive objects or subjects of study, whose experiences can be measured and analyzed

by the researcher. The role of the researcher is to gather information about the participants' experiences and behaviors and then analyze that data in an objective and unbiased way. This perspective assumes that there is an objective reality that can be studied independently of the researcher's own beliefs, values, and experiences (Jackson & Dolan, 2021; Park et al., 2020).

4.2.4. Value Freedom

Value-freedom refers to the idea that researchers should aim to eliminate their personal biases, values, and beliefs from the research process. In the context of dualist objectivist epistemology, value-freedom is often seen as a necessary component of scientific research, as it aims to eliminate subjectivity and ensure the objectivity of the research findings. This is because dualist objectivist epistemology views knowledge as independent of the knower, and as such, the researcher's personal beliefs and values should not influence the research process or the interpretation of the findings. Value-freedom is typically achieved through the use of rigorous research methods, standardized procedures, and the replication of results by independent researchers (Hammersley, 2019; Park et al., 2020).

4.2.5. Interventionist Methodology

Finally, the conventional paradigm often employs an interventionist methodology, which is characterized by the use of controlled experiments and other interventions to manipulate variables and test hypotheses. This methodology assumes that it is possible to isolate and control the factors that influence the phenomenon under study, and that by doing so, researchers can establish causal relationships between variables (Kamal, 2019; Tamminen & Poucher, 2020).

4.3. Suitability of Conventional Paradigm

The conventional paradigm, with its emphasis on objectivity, quantitative data, and experimental designs, is often seen as most appropriate when studying topics that can be easily quantified and measured (Glazier & Mehdizadeh, 2019). For example, in the natural sciences, where objective measurement and quantification of phenomena is key to understanding how they work, the conventional paradigm is widely used. Similarly, in areas such as economics and business, where quantitative methods are used to model and predict behavior, the conventional paradigm is often seen as the most appropriate (Khaldi, 2017; Rahi et al., 2019). Another area where the conventional paradigm is commonly used is in medical research, where rigorous experimental designs and randomized controlled trials are often used to test the efficacy and safety of new treatments (Hammersley, 2019). In these cases, the emphasis on objective measurement and rigorous experimental designs is seen as essential to ensure that the results are reliable and valid. However, it is important to note that the conventional paradigm is not always the most appropriate approach, even in areas where quantitative methods are used. For example, in sociology and psychology, where the focus is often on understanding human behavior and subjective experiences, the interpretive paradigm may be more appropriate (Jackson & Dolan, 2021).

4.4. The Critiques of Conventional Paradigm

The conventional paradigm has been a dominant approach in many areas of research for a long time (Kamal, 2019). However, it is not without its limitations and drawbacks. One of the major criticisms of the conventional paradigm is its reliance on a realist ontology and dualist objectivist epistemology. This perspective assumes that the world is objectively measurable and that knowledge is discovered through objective observations and experiments. This approach fails to recognize the subjective and interpretive nature of research and the role of the researcher's biases and preconceptions (Glazier & Mehdizadeh, 2019). Another critique of the conventional paradigm is its emphasis on value-freedom. This approach assumes that researchers can and should remain neutral and objective in their work, avoiding any biases or values that may influence their research. However, this assumption is unrealistic, as researchers are inevitably influenced by their personal experiences, beliefs, and values. It is essential to acknowledge and reflect on these influences, rather than attempting to suppress them. Moreover, the conventional paradigm has been criticized for its narrow focus on observable phenomena and its disregard for the broader social, cultural, and historical contexts in which research takes place. This approach often overlooks the complexity and diversity of human experience and fails to account for the subjective meaning and interpretation that individuals attach to their experiences. In addition, the conventional paradigm has been criticized for its overreliance on quantitative methods and its neglect of qualitative approaches. While quantitative methods are useful in providing numerical data, they do not capture the richness and complexity of human experiences and perspectives. Qualitative methods, such as interviews and observations, are better suited to exploring the subjective meanings and interpretations that individuals attach to their experiences (Bisel & Adame, 2017; Panhwar et al., 2017; Pidgeon, 2019). In the following section, the critiques have been summarized and presented.

4.4.1. Realist Ontology

- Critics argue that this assumption overlooks the role of human perception and interpretation in shaping our understanding of reality.

- Furthermore, the conventional paradigm assumes that there is a single objective reality that can be known and understood through empirical observation. Critics argue that this assumption ignores the complexity and diversity of human experience and the multiple subjective realities that exist (Glazier & Mehdizadeh, 2019).

4.4.2. Dualist Objectivist Epistemology

- Critics argue that this assumption leads to an oversimplified view of knowledge and ignores the role of social and cultural factors in shaping our understanding of reality.
- Moreover, the conventional paradigm assumes that knowledge can be obtained through empirical observation and that researchers can maintain a value-free stance. However, critics argue that all research is value-laden and that researchers' beliefs and biases can influence their interpretations of data (Panhwar et al., 2017; Pidgeon, 2019).

4.4.3. Interventionist Methodology

- Critics argue that this approach overlooks the complexity of social phenomena and the role of context and individual agency in shaping human behavior.
- Additionally, the conventional paradigm often relies on quantitative methods that prioritize numerical data and statistical analysis. Critics argue that this approach can overlook the richness and depth of human experience and the importance of qualitative data (Glazier & Mehdizadeh, 2019; Hammersley, 2019; Park et al., 2020).

Overall, the conventional paradigm has been criticized for its narrow and restrictive assumptions about reality, knowledge, and methodology. Critics argue that it overlooks the complexity and diversity of human experience and the role of social and cultural factors in shaping our understanding of reality. Moreover, it is argued that the conventional paradigm's emphasis on objectivity and value-freedom can lead to a oversimplified and reductionist view of research (Hürlimann, 2019; Jackson & Dolan, 2021; Park et al., 2020).

4.5. Conventional Paradigm's Approach of Overcoming the Critiques: The Post-Positivism

Post-positivism is a philosophical stance that emerged as a response to the limitations and critiques of positivism. Like positivism, post-positivism believes that empirical observation and measurement are important for gaining knowledge, but it rejects the idea of absolute certainty and the objective reality posited by positivism. It recognizes that human perception and interpretation play a role in shaping knowledge and that social and historical contexts influence scientific inquiry (Jackson & Dolan, 2021). Therefore, it emphasizes the importance of multiple methods and approaches, including qualitative and mixed-methods research, to achieve a more comprehensive understanding of complex phenomena. Post-positivism also acknowledges the influence of values and beliefs on scientific inquiry and encourages researchers to be aware of their own biases and assumptions. It recognizes that scientific knowledge is provisional and subject to revision based on new evidence and new interpretations of existing evidence (Bisel & Adame, 2017; Panhwar et al., 2017).

Post-positivism emerged in response to the limitations and critiques of positivism, which dominated conventional research paradigms for many years (Jackson & Dolan, 2021). It seeks to overcome the limitations of positivism by acknowledging the role of subjective interpretation in the research process. It also recognizes that scientific knowledge is not absolute, but rather tentative and fallible, and that the researcher's values and assumptions may influence their interpretations of data. One way in which post-positivism overcomes the critique of conventional paradigm is by acknowledging the importance of context and complexity in research. Post-positivists recognize that social phenomena cannot be reduced to simple cause-and-effect relationships, but rather are influenced by multiple factors and variables. They emphasize the need for rigorous and systematic methods of data collection and analysis, but also recognize that these methods cannot eliminate all sources of bias and error. Another way in which post-positivism addresses the critique of conventional paradigm is by embracing a more reflexive approach to research (Bisel & Adame, 2017). Post-positivists recognize that the researcher is an active participant in the research process, and that their values, biases, and assumptions may influence the interpretation of data. As such, post-positivist research seeks to be transparent about the researcher's positionality, and to acknowledge and address potential sources of bias in the research process. Finally, It seeks to expand the range of research methods used in social science research beyond the traditional quantitative methods favored by positivism. Post-positivists recognize the value of qualitative research methods, such as interviews, ethnography, and discourse analysis, in understanding complex social phenomena that cannot be easily measured or quantified (Cazeaux, 2017; Kamal, 2019). In short, post-positivism overcomes the critique of conventional paradigm in the following ways:

1. Acknowledging the role of subjectivity and values in research, and thus, emphasizing the importance of reflexivity and transparency.
2. Recognizing the limitations of objectivity and realism and acknowledging the role of interpretation in the research process (Hammersley, 2019).
3. Emphasizing the importance of theory and hypotheses in guiding research, while also recognizing the need for flexibility and openness to new ideas and perspectives.

4. Advocating for the use of multiple methods and sources of data, including both quantitative and qualitative approaches, to better understand complex phenomena.
5. Encouraging the use of critical thinking and questioning of assumptions in research, rather than relying solely on established theories or paradigms (Jackson & Dolan, 2021).

  The belief structure of post-positivism can be summarized as follows.

4.5.1. Ontology

- Realist Ontology: Post-positivists believe that there is an external reality that exists independent of human perception and that this reality can be understood through empirical observation and measurement (Jackson & Dolan, 2021).
- Critical Ontology: Post-positivists recognize that reality is complex and that social, political, and historical contexts shape the way in which we interpret and understand it Panhwar et al. (2017).

4.5.2. Epistemology

- Critical Realism Epistemology
  Post-positivists acknowledge the limitations of human perception and the fallibility of scientific inquiry, but they argue that scientific knowledge can be constructed through rigorous testing and evaluation of hypotheses (Jackson & Dolan, 2021).
- Dualist Objectivist Epistemology
  Post-positivists believe that scientific inquiry should be value-free and that researchers should adopt an objective stance towards their subject matter. But also acknowledges that achieving total value-freedom and objective stance is hard and, even some time, impossible (Jackson & Dolan, 2021; Panhwar et al., 2017).
- Fallibilist Epistemology
  Post-positivists recognize that scientific inquiry is inherently uncertain and that all knowledge claims are provisional, subject to revision in light of new evidence (Hammersley, 2019).

4.5.3. Methodology

- Interventionist Methodology
  Post-positivists believe that researchers should actively intervene in the research process to control for extraneous variables and to increase the reliability of their findings (Bisel & Adame, 2017).
- Quantitative Methodology
  Post-positivists recognize the value of quantitative methods in testing hypotheses and identifying causal relationships between variables (Panhwar et al., 2017).
- Mixed-Methods Methodology
  Post-positivists also recognize the value of qualitative methods in exploring complex social phenomena and understanding the perspectives of research participants (Panhwar et al., 2017).

4.6. Summary

The conventional paradigm is based on a realist ontology, dualist objectivist epistemology, and interventionist methodology. Positivism, a part of the conventional paradigm, holds that scientific knowledge can only be gained through empirical observation and measurement. It emphasizes the importance of objectivity, value-freedom, and causality in research (Cazeaux, 2017; Jackson & Dolan, 2021; Park et al., 2020). However, the conventional paradigm, including positivism, has been criticized for oversimplifying reality and ignoring the influence of social, cultural, and historical contexts on knowledge construction (Glazier & Mehdizadeh, 2019). Post-positivism emerged as a response to these criticisms, acknowledging the limitations of human perception and the fallibility of scientific inquiry, but arguing that scientific knowledge can still be constructed through rigorous testing and evaluation of hypotheses. Post-positivism also recognizes the importance of context in shaping knowledge construction and emphasizes the need for interventionist methodology, quantitative methods, and mixed-methods research to increase the reliability and validity of findings (Hammersley, 2019).

Burrell and Morgan (1979) argued that the conventional paradigm, with its positivist underpinnings, has been successful in producing a wealth of scientific knowledge and explaining phenomena through empirical observation and testing. However, Guba and Lincoln (1994) point out that the conventional paradigm has been criticized for its limited understanding of the complexities of social phenomena and its inability to account for the role of context and interpretation in shaping knowledge. Kuhn (1962) and Popper (1963) offer further critiques of the conventional paradigm, arguing that it often resists change and favors established theories over new and potentially ground-breaking ideas. Babbie (2016) notes that the conventional paradigm's emphasis on objectivity and value-free inquiry has been both a strength and a weakness, as it has allowed for rigorous testing of hypotheses but also ignores the social and cultural contexts in which research is conducted.

5. The Alternative Paradigm

Alternative research paradigms, such as Constructivism and phenomenology, have gained popularity in recent years as a response to the limitations and critiques of conventional paradigms (Kamal, 2019). These paradigms offer different perspectives on ontology, epistemology, and methodology that can provide researchers with unique insights and approaches to studying social phenomena. The key aim of the alternative paradigm is to manage and understand the functional relationship rather than dependability and isomorphic relation (Davies & Fisher, 2018; Kivunja & Kuyini, 2017). One such alternative paradigm is critical theory, which focuses on the power dynamics and social structures that underpin social phenomena. Critical theorists argue that social reality is shaped by underlying power structures and ideologies, and that research should focus on uncovering and challenging these structures. Research conducted within a critical theory paradigm often focuses on marginalized groups and seeks to uncover and challenge systems of oppression (Hürlimann, 2019). Feminist research paradigms are another alternative approach that challenges the conventional paradigm. Feminist researchers argue that traditional research methods and assumptions are often biased against women and other marginalized groups, and that research should be conducted from a feminist perspective that is attentive to issues of power and gender inequality. Feminist research often focuses on issues related to gender and sexuality and seeks to highlight the experiences and perspectives of women and other marginalized groups (Glazier & Mehdizadeh, 2019; Kamal, 2019; Zukauskas et al., 2018). Constructivism is an ontological and epistemological perspective that posits that reality is constructed through human interpretation and perception. From this perspective, knowledge is subjective and socially constructed, and the researcher's role is to actively engage with and co-construct meaning with participants. This is in contrast to the conventional paradigm's realist ontology and dualist objectivist epistemology, which prioritize objective truth and value-free research (Kratochwil & Peltonen, 2017; Theys, 2017). Phenomenology is also a widely accepted paradigm that is grounded in the philosophical tradition of phenomenology. This paradigm is based on the belief that the world is perceived through human consciousness and that the meaning of phenomena is subjective and based on lived experiences. Researchers in this paradigm focus on understanding the lived experiences of research participants and the meaning they attach to those experiences, rather than testing hypotheses or identifying causal relationships (Van Manen, 2017a).

The methodology of Constructivism and phenomenology is typically qualitative and involves methods such as interviews, observation, and interpretive analysis (Neubauer, Witkop, & Varpio, 2019; Theys, 2017; Van Manen, 2017a). Researchers in these paradigms often aim to gain a deep understanding of the subjective experiences and perspectives of research participants, rather than generalizing findings to a larger population. One strength of Constructivism and phenomenology is that they allow for a more nuanced and contextualized understanding of social phenomena. By prioritizing the subjective experiences of participants and the role of interpretation and meaning-making in research, these paradigms can provide rich and detailed insights into the complexities of social reality. Additionally, these paradigms can be particularly useful for studying topics that are difficult to quantify or measure, such as emotions, culture, and social relationships. However, a potential limitation of Constructivism and phenomenology is that they may be criticized for being too subjective and lacking in objectivity. Critics argue that the reliance on interpretation and the rejection of objective truth can lead to bias and subjectivity in research findings. Additionally, the qualitative nature of these methods can make it difficult to generalize findings to larger populations or to make causal claims (Barnett, 2018; Brau, 2020; Van Manen, 2017b). Constructivism and phenomenology have been discussed in the following section as well as their critics. These alternative research paradigms offer distinct approaches to understanding and interpreting social phenomena. Constructivism emphasizes the role of subjective meaning-making in shaping social reality, while phenomenology focuses on the lived experiences and perspectives of individuals. By exploring these alternative paradigms, the researchers or inquirer can gain a deeper understanding of the limitations of conventional research paradigms and the potential for alternative ways of knowing.

5.1. Constructivism

Constructivism is an alternative research paradigm that challenges the conventional assumptions of objectivity and neutrality in research. At its core, Constructivism asserts that knowledge is not an objective representation of a pre-existing reality, but rather a subjective interpretation of reality constructed by individuals through their own experiences, interactions, and interpretations. In other words, Constructivism contends that reality is not discovered, but rather actively constructed by individuals. In a constructivist approach, researchers aim to understand how individuals construct meaning and knowledge within their social, cultural, and historical contexts (Theys, 2017). This involves examining the individual's subjective experiences and interpretations, as well as the social and cultural factors that shape their understanding of the world. Researchers in a constructivist paradigm often use qualitative research methods such as interviews, focus groups, and observations to gather rich data on participants' subjective experiences and interpretations (Dong et al., 2018).

Critics of Constructivism argue that it can lead to relativism and subjectivity, which can undermine the validity and reliability of research findings. They contend that Constructivism neglects the role of objective reality and the possibility of discovering objective truths through empirical observation and measurement (Brau, 2020; Kratochwil & Peltonen,

2017). Additionally, some critics argue that Constructivism can be overly focused on individual experiences and fail to account for the broader social and cultural factors that shape those experiences. Despite these criticisms, Constructivism has gained significant traction in fields such as education, psychology, and sociology, where understanding the subjective experiences and interpretations of individuals is essential for developing effective interventions and policies. The constructivist approach has also been influential in feminist and critical race theory, which aim to challenge dominant power structures and systems of oppression by centering the experiences of marginalized groups (Bonache & Festing, 2020; Cazeaux, 2017; Kamal, 2019).

5.1.1. The Key Assumptions

Similar to the conventional paradigm, the conventional paradigm also sits upon some assumptions and ideological basis. In the following section, the key assumptions have been listed based on the works of Barnett (2018); Brau (2020); Kratochwil and Peltonen (2017) and Theys (2017).

1. Reality is Socially Constructed: Reality is not an objective, pre-existing entity but rather a product of human construction through social and cultural processes.
2. Subjectivity Shapes Perception: The way individuals interpret and understand the world is shaped by their subjective experiences, perspectives, and cultural backgrounds.
3. Knowledge is Contextual: Knowledge is situated in social, historical, and cultural contexts, and cannot be separated from these contexts.
4. Multiple Realities Exist: There is no single objective reality, but rather multiple subjective realities that are constructed through different social and cultural perspectives.
5. Inquiry is Interpretive: Research inquiry involves interpreting and understanding the meanings and perspectives of research participants, rather than simply gathering data.
6. Researchers are Part of the Research Process: Researchers are not objective observers, but rather active participants in the research process who shape and are shaped by the research context.
7. Collaboration is Valued: Collaborative relationships between researchers and participants are valued, as both parties bring unique perspectives and knowledge to the research process.
8. Knowledge is Constantly Evolving Knowledge is not static but rather constantly evolving and changing, as individuals construct and reconceptualize their understandings of reality through social and cultural processes.

5.1.2. The Belief Structure of Constructivism

Constructivism is a research paradigm that is based on a relativist ontology, a monistic subjectivist epistemology, and a hermeneutic methodology. In the following section, the belief structure of Constructivism has been summarized from the writings of Barnett (2018) and Kratochwil and Peltonen (2017).

5.1.2.1. Relativist Ontology

Relativist ontology is the belief that reality is not fixed and objective, but rather it is constructed through individual and social interpretation. In other words, reality is a product of the interaction between the subject and the environment, which is continuously constructed and reconstructed based on their experiences and perspectives. This means that knowledge is subjective and context-dependent and cannot be detached from the observer's positionality and the socio-cultural environment in which they are situated.

5.1.2.2. Monistic Subjectivist Epistemology

The monistic subjectivist epistemology of Constructivism emphasizes the role of the subject in the construction of knowledge. It argues that knowledge is a product of the individual's cognitive and perceptual processes, which are influenced by their experiences, values, and beliefs. In this view, knowledge is not discovered, but rather actively constructed by the subject, who is an active participant in the research process. Thus, the subject's perspective is central to the understanding of reality and the production of knowledge.

5.1.2.3. Hermeneutic Methodology

Hermeneutic methodology is a method of interpretation that is used in constructivist research. It involves the interpretation of textual or other forms of data to understand the meaning that is conveyed by the author or the participants. Hermeneutics involves a dialectical process of interpretation, where the researcher engages in a conversation with the text or the participants to understand their perspectives and meanings. In this approach, there is a mutual influence between the researcher and the participants, and the researcher's interpretation is informed by their own background, experiences, and values.

5.1.3. Constructivism VS Positivism

Positivism and Constructivism represent two distinct paradigms with differing ontological, epistemological, and methodological assumptions. While positivism seeks to discover objective truths through empirical observation and measurement, Constructivism highlights the subjective and context-dependent nature of knowledge and emphasizes the importance of understanding individual experiences and perspectives (Brau, 2020; Cazeaux, 2017; Hammersley, 2019).

5.1.3.1. Ontology

Positivism adopts a realist ontology, assuming that there is an objective, external reality that can be studied through empirical observation and measurement. In contrast, Constructivism adopts a relativist ontology, assuming that reality is constructed through social and cultural interactions and is therefore subjective and context-dependent (Jackson & Dolan, 2021; Kratochwil & Peltonen, 2017; Panhwar et al., 2017; Pidgeon, 2019).

5.1.3.2. Epistemology

Positivism adopts a dualist objectivist epistemology, arguing that scientific inquiry should be value-free and that researchers should adopt an objective stance towards their subject matter (Jackson & Dolan, 2021). In contrast, Constructivism adopts a monistic subjectivist epistemology, suggesting that knowledge is constructed through the perceptions and experiences of the individual, and that researchers cannot be entirely objective (Theys, 2017).

5.1.3.3. Methodology

Positivism relies heavily on quantitative methodology to test hypotheses and identify causal relationships between variables. It also advocates for a value-free approach to research (Neubauer et al., 2019; Rahi et al., 2019). In contrast, Constructivism often uses qualitative methodology, such as interviews and observations, to explore and understand subjective experiences and perspectives. Constructivism also recognizes the value of researcher reflexivity and encourages active engagement in the research process (Barnett, 2018).

In Table 1 and 2, the differences have been summarized based on the preceding arguments.

Table 1. Brief comparison table for positivism and constructivism.

Paradigm	Ontology	Epistemology	Methodology
Positivism	Realist ontology: Objective reality exists independent of human perception.	Objectivist epistemology: Researchers should adopt a value-free and objective stance towards their subject matter.	Quantitative methodology, experimental design: Relies on empirical observation and measurement to test hypotheses and identify causal relationships between variables.
Constructivism	Relativist ontology: Reality is constructed through human perception and interpretation.	Subjectivist epistemology: Knowledge is subjective and constructed through social interaction and interpretation.	Qualitative methodology, hermeneutic approach: Involves interpretation and understanding of meaning through social interaction, language, and discourse.

Table 2. In-depth comparison table between positivism and constructivism.

Key point	Positivism	Constructivism
Ontology	Realist: External reality exists independently of human perception.	Relativist: Reality is constructed by individuals and their experiences.
Epistemology	Dualist objectivist: Value-free, objective stance towards subject matter.	Monistic subjectivist: Knowledge is subjective and constructed by individuals.
Methodology	Interventionist: Researchers actively intervene to control variables.	Interpretive: Researchers seek to understand the meanings behind actions and experiences.
Generalizability	Emphasizes generalization to broader populations.	Emphasizes context-specific findings.
Objectivity	Emphasizes objectivity and distance from the research subject.	Emphasizes the researcher's active role in constructing knowledge.
Subjectivity	Views subjectivity as a limitation to be controlled.	Embraces subjectivity as a source of knowledge.
Qualitative vs. quantitative	Emphasizes quantitative methods to measure and test hypotheses.	Emphasizes qualitative methods to understand experiences and perspectives.
Research design	Emphasizes experimental design and control over variables.	Emphasizes flexibility in research design to accommodate emergent findings.

5.1.4. The Critiques of Constructivism

While Constructivism has gained popularity in various fields, it has also faced criticism from some scholars. One of the main criticisms of Constructivism is that it can be difficult to generalize findings to broader populations or contexts. As Lather (1991) argues, "the notion of generalization assumes that the properties of the sample are the same as those of the population" (p. 94). However, since Constructivism emphasizes the subjective nature of individual experiences, it can be challenging to draw universal conclusions. Another critique of Constructivism is that it can lead to a relativistic approach to knowledge, where all perspectives are considered equally valid and there is no objective truth. This can be problematic when trying to address social issues or make policy decisions, as there may be competing viewpoints that are not equally valid or supported by evidence (Phillips & Burbules, 2000). Furthermore, Constructivism can be criticized for being too focused on individual experiences and neglecting the broader social, economic, and political contexts that shape those experiences. As Guba and Lincoln (1994) argue, Constructivism can "reduce the range of possible sources of knowledge to personal experience, ignoring or minimizing the contribution of the social, economic, and political context in which that experience occurs" (p. 111).

The critism has been summarized and listed in the following section based on the previously presented arguments.

1. Lack of Objectivity: Constructivism is often criticized for its lack of objectivity in research. Critics argue that because constructivists believe that reality is subjective and constructed through individual experiences and interpretations, it can be difficult to establish a shared understanding of reality or validate research findings.
2. Limited Generalizability: Another criticism of Constructivism is that its emphasis on the uniqueness of individual experiences and contexts can make it difficult to generalize findings to larger populations or contexts. This can make it challenging to apply constructivist research findings to inform broader policies or practices.
3. Overemphasis on Interpretation: Some critics argue that Constructivism places too much emphasis on interpretation and subjective experience, which can lead to a disregard for objective reality or empirical evidence.
4. Lack of Transparency: Because constructivist research often relies on subjective interpretation and meaning-making, critics argue that it can be difficult to assess the validity or reliability of findings.
5. Lack of Rigor: Critics also argue that constructivist research may lack rigor compared to more positivist or quantitative approaches, as it can be more difficult to establish clear research methods and measurement criteria.

5.1.5. The Applicability of Constructivism

Constructivism has been applied in various fields of research, including education, social sciences, and international relations. Its focus on the social construction of knowledge and the importance of subjective interpretations has been useful in analyzing complex social phenomena and understanding the perspectives of individuals and groups. In the field of education, Constructivism has been used to explore how students learn and how teachers can facilitate their learning by creating environments that support the construction of knowledge. For example, Schunk and Zimmerman (1997) applied constructivist principles to the design of instructional materials, emphasizing the importance of active engagement and the development of metacognitive strategies. Furthermore, In the social sciences, Constructivism has been applied to analyze the construction of social identities, the role of power and discourse in shaping social reality, and the process of social change. For example, Wimmer and Schiller (2003) used a constructivist approach to analyze the construction of ethnic identities and the role of social context in shaping them. In international relations, Constructivism has been used to analyze the role of norms, ideas, and discourse in shaping state behavior and international relations. For example, Wendt (1992) used a constructivist approach to argue that the international system is shaped by the shared beliefs and identities of states, rather than solely by material power.

5.2. Phenomenology

Phenomenology is a research paradigm that emphasizes the subjective experience of individuals and the meanings they ascribe to their experiences. It emerged as a response to the limitations of positivism, which emphasized objectivity and empirical observation, but failed to capture the rich and varied experiences of individuals (Neubauer et al., 2019). Phenomenology seeks to explore the subjective experience of individuals by examining the ways in which they perceive, interpret, and make sense of the world around them. It is based on the premise that the subjective experience of individuals is the foundation of all knowledge and that understanding this experience is essential for developing a comprehensive understanding of human behavior and the social world (Van Manen, 2017b). In the following section, we will discuss the key tenets of phenomenology and how it differs from other research paradigms.

5.2.1. Key Assumptions

Phenomenology is a research paradigm that emphasizes the subjective experience of individuals and the meanings they attach to their experiences. Key assumptions of phenomenology include, as suggested by Qutoshi (2018); Rodriguez and Smith (2018) and Max Van Manen (2017b):

1. Consciousness is Intentional: Phenomenologists believe that consciousness is always directed towards an object, which means that there is a relationship between the subject and the object of experience.

2. Subjective Experience is Essential: Phenomenology emphasizes the importance of the subjective experience of individuals and the meanings they attach to their experiences.
3. Personal Experience is Unique: Phenomenologists believe that each individual's experience is unique and cannot be reduced to objective categories or generalizations.
4. Analysis of Experience is Necessary: Phenomenology involves a systematic analysis of subjective experience in order to uncover the essential structures and meanings of that experience.
5. Bracketing of Preconceptions: Phenomenologists advocate for bracketing, or the suspension of preconceptions and biases, in order to approach experience with an open and unbiased perspective.

Phenomenology is concerned with understanding the subjective experience of individuals and the meanings they attach to their experiences, and it emphasizes the importance of approaching experience with an open and unbiased perspective (Rodriguez & Smith, 2018).

5.2.2. The Key Concepts of Phenomenology

Phenomenology, as described by philosophers like Husserl et al. (1950) and Merleau-Ponty (1996), is a philosophical approach that emphasizes the study of conscious experience, focusing on the subjective interpretation of experience rather than objective reality. Phenomenologists believe that subjective experience is the foundation of all knowledge, and that understanding the structure and content of experience is the key to understanding the world (Neubauer et al., 2019).

According to Husserl et al. (1950), the main concept of phenomenology is the "intentionality" of consciousness. Intentionality refers to the directedness of consciousness towards objects, and the way in which consciousness gives meaning to those objects. This means that every conscious experience is directed towards something, and that the meaning of that experience is determined by the intentional relationship between the subject and the object. Another key concept of phenomenology is "epoché", or "bracketing". This involves suspending one's preconceptions and assumptions about the world in order to focus on the pure experience itself. This process allows the phenomenologist to study the subjective experience of the world without being influenced by external factors or biases (Qutoshi, 2018).

Schutz, a student of Husserl, expanded on the concept of "lifeworld" in phenomenology. He argued that the lifeworld is the subjective world of everyday experience, and that it is the starting point for all knowledge. The lifeworld includes our cultural, social, and historical context, as well as our personal experiences and interpretations of the world (Zahavi & Martiny, 2019).

5.2.3. Intersubjectivity

Intersubjectivity is a key concept in phenomenology that refers to the shared understanding and communication between individuals. It involves the recognition of the other as a subject with their own unique perspective and experiences, and the acknowledgement that our own understanding of the world is influenced by our interactions with others. According to Husserl, intersubjectivity is necessary for the constitution of the transcendental ego, which is the pure subjectivity that underlies all experience. He argues that the intersubjective world is not just a collection of individual subjective experiences, but a shared world that is constituted through mutual recognition and communication (Rodriguez & Smith, 2018; Van Manen, 2017b).

Schutz further developed the concept of intersubjectivity by emphasizing the importance of the social world and the role of language in creating shared meanings. He argued that our understanding of the world is shaped by our participation in social practices and our interactions with others, and that these shared meanings and practices are essential for our ability to communicate and coordinate our actions (Qutoshi, 2018).

5.2.4. Experience

Phenomenology views experience as the basis for all knowledge. According to this perspective, all human understanding and perception arise from the lived experience of the world. In other words, knowledge is not something that exists independently of human experience, but rather it emerges from the way we engage with and perceive the world around us. This means that for phenomenology, understanding the nature of experience is essential for understanding the nature of knowledge. Experience is seen as a rich and complex phenomenon that involves both conscious and unconscious processes, as well as the interaction between the individual and the world. It is through this process of experiencing the world that individuals come to understand and interpret their experiences, and ultimately develop their own unique perspectives and understanding of the world (Cazeaux, 2017; Kamal, 2019; Tamminen & Poucher, 2020).

Therefore, in phenomenology, knowledge is seen as being intimately tied to experience, and it is through the examination and analysis of experience that we can come to a deeper understanding of the world and our place in it Max Van Manen (2017b).

5.2.5. Real-World

In phenomenology, the life-world or real world refers to the world as it is experienced by individuals in their everyday lives. It is the world that we encounter through our senses, perceptions, and experiences, and it is the world that we take for granted as being real and meaningful. According to phenomenologists, our experience of the life-world is the basis for all knowledge and understanding. Phenomenology emphasizes the subjective nature of experience and the importance of exploring the meanings and interpretations that individuals give to their experiences. It rejects the idea of an objective reality that exists independently of human experience and argues that reality is always mediated through our perceptions and interpretations (Neubauer et al., 2019).

In this sense, phenomenology challenges traditional views of knowledge and truth, which are based on the assumption that there is an objective reality that can be observed and measured. Instead, phenomenology suggests that knowledge and understanding are derived from our subjective experiences of the world, and that the meanings and interpretations we give to these experiences are central to our understanding of the world around us (Rodriguez & Smith, 2018).

5.2.6. Transcendental World

In phenomenology, the concept of the "transcendental world" refers to the world that is beyond our immediate experience but is nonetheless implied in our experience. It is a world that is necessary for our experience to be possible, but that we cannot directly experience through our senses. Husserl, the founder of phenomenology, believed that the world we experience is not just a collection of discrete objects, but rather a coherent and structured whole. This structure is not imposed on our experience from outside, but rather arises from the way we experience the world. The transcendental world is the world that is necessary for this structure to exist. It is a world that is not directly given in our experience, but that is implied in the very structure of our experience. For example, the concept of "objectivity" is a necessary condition for our experience of the world, but we cannot directly perceive objectivity in the world itself. It is a transcendental concept that is implied in the very structure of our experience (Rodriguez & Smith, 2018; Van Manen, 2017b).

Thus, for phenomenology, knowledge derives from experience, but this experience is not limited to the immediate sensory experience of individual objects. Rather, our experience is structured and coherent, and this structure implies a transcendental world that is necessary for our experience to be possible (Neubauer et al., 2019; Rodriguez & Smith, 2018).

5.2.7. Noema and Noesis

Noema and Noesis are two key concepts in phenomenology introduced by the philosopher Edmund Husserl. Noesis refers to the act of consciousness or the subjective experience of being aware of something. It is the subjective experience of the observer, the way they perceive and interpret the object of their attention. On the other hand, noema refers to the object of consciousness or the objective aspect of the experience. It is what the observer is conscious of, the perceived object or phenomenon. According to Schutz (1972) the noema is the aspect of the object that is intended by the observer's consciousness, while the Noesis is the subjective experience or act of consciousness that is directed towards the noema. Husserl argued that noema and Noesis are interdependent, and that one cannot be understood without the other.

The concept of noema and Noesis is important in phenomenology as it allows researchers to explore how people perceive and interpret the world around them. By understanding how people experience and interpret the objects and phenomena in their environment, researchers can gain insight into how people make sense of their experiences and construct their reality (Neubauer et al., 2019; Van Manen, 2017b).

5.2.8. The Belief Structure of Phenomenology

Phenomenology emphasizes the importance of subjective experience and interpretation in shaping our understanding of the world, and its methodology seeks to describe and interpret these experiences in a rigorous and systematic manner. In the following section, the belief structure of phenomenology, as presented by Rodriguez and Smith (2018); Max Van Manen (2017b) and Zahavi and Martiny (2019) has been summarized.

5.2.8.1. An Experientialist Ontology

Phenomenology is based on an experientialist ontology, which emphasizes the importance of experience and how it shapes our understanding of the world. This ontology posits that knowledge is constructed through experience and is therefore subjective and context-dependent.

5.2.8.2. Subjectivist Epistemology

In terms of epistemology, phenomenology adopts a subjective perspective that acknowledges the role of the subject in shaping knowledge. The emphasis is on how the individual perceives and interprets the world rather than on an objective reality that exists independently of the subject.

5.2.8.3. A Descriptive Interpretive Methodology

The methodology of phenomenology is descriptive and interpretive. It involves careful observation and description of phenomena as they are experienced subjectively by individuals, rather than attempting to generalize or test hypotheses. Phenomenology seeks to understand the meaning and essence of lived experiences and how they shape our understanding of the world.

5.2.9. The Full Process

According to Rodriguez and Smith (2018) the process of conducting a phenomenological study typically involves the following steps:

- Research Question: Identify a research question that can be explored through phenomenological inquiry. The question should be broad enough to allow for exploration of the participants' experiences, but focused enough to provide a clear direction for the study.
- Sampling: Identify and recruit participants who have experienced the phenomenon under investigation. The sample size should be small (usually 5-15 participants) to allow for in-depth exploration of each participant's experience.
- Data Collection: Collect data through interviews, observation, or other methods that allow participants to describe their experiences in detail. The data collection process should be open-ended and flexible to allow for unexpected insights to emerge.
- Data Analysis: Analyze the data using a method such as Colaizzi's seven-step process, which involves reading and re-reading the data to identify themes and patterns that emerge from the participants' descriptions of their experiences.
- Interpretation: Interpret the findings of the study in the context of the research question and the relevant literature. This involves making sense of the themes and patterns that emerged from the data, and considering their implications for the phenomenon under investigation.
- Validation: Validate the findings of the study through member checking, in which the researcher shares the findings with the participants and asks for their feedback, and/or peer debriefing, in which the researcher shares the findings with other researchers to ensure that they are consistent with the data and the research question.
- Reporting: Report the findings of the study in a clear and concise manner, using a format that is appropriate for the research question and the intended audience. This may include a written report, a presentation, or other forms of communication.

It is important to note that the process of conducting a phenomenological study is not linear and may involve iteration and revisiting of earlier steps as new insights emerge. The ultimate goal is to provide a rich and nuanced understanding of the lived experiences of the participants, and to generate insights that can inform theory, practice, and further research. In addition to the steps mentioned in the previous response, conducting a phenomenological study involves two key techniques: Epoche and eidetic reduction (Neubauer et al., 2019).

Epoche, also known as bracketing, involves setting aside preconceptions and biases to approach the phenomenon being studied with fresh eyes. This involves recognizing and suspending assumptions and preconceptions about the phenomenon and focusing on the experience itself, as opposed to external factors that may influence it Qutoshi (2018) and Zahavi and Martiny (2019).

Eidetic reduction involves identifying the essential characteristics or "essences" of the phenomenon being studied through a process of imaginative variation. This involves a reduction of the phenomenon to its most basic components, and an exploration of the ways in which it can be varied while still retaining its essential characteristics. By engaging in this process, researchers can gain a deeper understanding of the fundamental features of the phenomenon and the subjective experience of those who have encountered it Qutoshi (2018).

Together, epoche and eidetic reduction enable the researcher to engage in a process of "bracketing out" external factors that may influence perception and interpretation, and focus on the essential characteristics of the phenomenon being studied as they are experienced by the individuals involved. This approach allows for a more nuanced and comprehensive understanding of the phenomenon and can reveal insights that might be overlooked using other research methodologies (Van Manen, 2017a, 2017b).

5.2.10. Critique of Phenomenology

Phenomenology, like any other research methodology, has its own strengths and weaknesses. Qutoshi (2018); Rodriguez and Smith (2018) and Zahavi and Martiny (2019) have identified some crucial critiques of phenomenology which have been presented in the following section.

1. Lack of Objectivity: Phenomenology emphasizes the subjective experience of the individual, which can lead to a lack of objectivity in the research findings. The interpretation of the researcher may influence the analysis and findings.

2. Limited Generalizability: Phenomenology emphasizes the uniqueness of individual experiences, which can make it difficult to generalize findings beyond the particular case being studied. This limits the applicability of the research findings to other contexts.
3. Inadequate Attention to the Social Context: Phenomenology tends to focus on the individual experience and may not adequately address the role of social context in shaping that experience.
4. Reliance on Self-Report: Phenomenology relies heavily on self-report data, which may be subject to bias and may not accurately reflect the individual's experience.
5. Time-Consuming and Resource-Intensive: Phenomenological research involves a lengthy process of data collection and analysis, which can be time-consuming and resource-intensive.

It is important to acknowledge these critiques when considering the use of phenomenology in research. However, it is also important to recognize the strengths of phenomenology, such as its emphasis on subjective experience and its ability to provide a rich, in-depth understanding of individual experiences (Van Manen, 2017b).

5.2.11. Phenomenology VS Positivism

Phenomenology and positivism are two different research paradigms that have distinct assumptions and methodologies. The differences, identified from the proceeding arguments presented in this paper, have been presented in the Table 3.

Table 3. Comparison between phenomenology and positivism.

Phenomenology	Positivism
Ontology: Emphasizes the subjective, lived experience of individuals and how it shapes their perception of reality. Reality is viewed as multi-dimensional and socially constructed.	Ontology: Emphasizes the objective, tangible aspects of reality. Reality is viewed as singular and independent of human interpretation.
Epistemology: Emphasizes the importance of subjective interpretation and understanding. Knowledge is derived from experience and personal reflection.	Epistemology: Emphasizes the importance of objective observation and measurement. Knowledge is derived from empirical evidence and experimentation.
Methodology: Emphasizes a descriptive, interpretive approach to research that seeks to understand the meaning behind individuals' experiences. Uses techniques such as interviews, observations, and analysis of language and text.	Methodology: Emphasizes a quantitative, scientific approach to research that seeks to establish causal relationships. Uses techniques such as experiments, surveys, and statistical analysis.
Data analysis: Emphasizes the identification of themes and patterns in the data, often through a process of coding and categorization.	Data analysis: Emphasizes statistical analysis to establish causal relationships and draw generalizable conclusions.
Sampling: Emphasizes purposive sampling of individuals who have experienced the phenomenon of interest. Sample size is often small, but the focus is on the depth of understanding rather than generalizability.	Sampling: Emphasizes random sampling of individuals from a population to ensure representativeness. Sample size is often large to ensure statistical significance and generalizability.
Role of researcher: The researcher is an active participant in the research process, seeking to understand the participant's experience and interpretation of reality.	Role of researcher: The researcher is an objective observer, seeking to collect and analyze data without bias or personal interpretation.
Criticism: Some critics argue that phenomenological research lacks objectivity and generalizability, making it difficult to apply findings to larger populations or make causal claims.	Criticism: Some critics argue that positivist research is too focused on the tangible aspects of reality, overlooking the subjective interpretation and meaning behind individuals' experiences.

5.2.12. Applicability of Phenomenology

Phenomenology has been widely applied in various fields of research, including psychology, sociology, anthropology, education, nursing, and healthcare. Its focus on subjective experiences and meanings has been particularly useful in exploring complex human phenomena and understanding the perspectives of individuals and groups (Van Manen, 2017a).

In psychology, phenomenology has been used to study the lived experiences of individuals with mental health conditions and the impact of those experiences on their well-being. For example, Larkin, Watts, and Clifton (2006) used phenomenological methods to explore the experiences of individuals with anorexia nervosa and found that the illness was characterized by a loss of control and a sense of alienation from their bodies. In sociology and anthropology, phenomenology has been applied to study social interactions and the construction of social reality. For example, Lewis (1992) used phenomenological methods to study the common-sense knowledge that people use to make sense of social

situations and interactions. Furthermore, in education, phenomenology has been used to explore the lived experiences of students and teachers in various educational contexts. For example, Van Manen (1990) used phenomenological methods to study the experiences of teachers in the classroom and found that their experiences were shaped by their interactions with students and the broader social and cultural context of the classroom. Additionally, in nursing and healthcare, phenomenology has been used to study the experiences of patients and healthcare providers and to inform patient-centered care. For example, Benner and Wrubel (1989) used phenomenological methods to explore the lived experiences of patients with chronic illness and found that the illness was experienced as a loss of self and a sense of isolation.

Phenomenology has been found to be applicable in a wide range of research contexts where the exploration of subjective experiences and meanings is important. However, its applicability depends on the research question and the context of the study (Van Manen, 2017b).

6. Paradigms in Comparison

Positivism, post-positivism, Constructivism, and phenomenology are four different research paradigms that have unique beliefs about ontology, epistemology, and methodology. Positivism believes in objective reality and the scientific method, post-positivism critiques the limitations of positivism and incorporates subjectivity into research, Constructivism views knowledge as a social construction and emphasizes subjective interpretation, and phenomenology explores the subjective experience of individuals. These paradigms have different assumptions about the nature of reality, how knowledge is obtained, and how research should be conducted. Therefore, they offer different perspectives on how to approach research questions and analyze data. In the following section, a comparison Table 4 has been attached.

Table 4. Comparison between the paradigms.

Dimension	Positivism	Post-Positivism	Constructivism	Phenomenology
Ontology	Objective reality exists independently of human perception.	Objective reality exists, but can only be understood through human perception.	Reality is socially constructed and subjective.	Reality is subjective and can only be understood through individual experience
Epistemology	Objective knowledge is discovered through empirical observation and measurement.	Objective knowledge is limited by human perception and interpretation.	Knowledge is constructed through social interaction and interpretation.	Knowledge is constructed through individual experience and interpretation.
Methodology	Quantitative research methods, emphasis on controlled experiments.	Emphasis on mixed methods and triangulation to improve the validity.	Qualitative research methods, emphasis on interpretation of the meaning.	Qualitative research methods, emphasis on detailed description of individual experience.
Role of researcher	Objective observer and data collector.	Reflexive researcher acknowledges their biases and subjectivity.	Active participant in the construction of knowledge.	Active participant in the interpretation of individual experience.
Generalizability	Emphasis on generalization to larger populations.	Limited generalizability due to subjective interpretation.	Generalizability limited to specific social contexts.	Limited generalizability due to focus on individual experience.
Critiques	Criticized for ignoring subjective human experience and context.	Criticized for over-reliance on empirical observation and neglect of human subjectivity.	Criticized for ignoring the role of power and social context in knowledge construction.	Criticized for limited generalizability and potential for subjective bias in interpretation.

The selection of a research paradigm depends on several factors, such as the research question, the research design, and the researcher's epistemological and ontological assumptions. It is essential to consider the strengths and weaknesses of each paradigm and how they align with the research question and design (Davies & Fisher, 2018). For example, a research question that seeks to establish cause-and-effect relationships may be best suited for a positivist or post-positivist paradigm, while a research question that explores the meaning and interpretation of human experiences may be better addressed using a phenomenological or constructivist paradigm. Additionally, it is important to consider the ethical implications of the research and how the paradigm aligns with the researcher's ethical principles. Ultimately, the selection

of a research paradigm should be a deliberate and well-justified decision, based on careful consideration of the research question, design, and ethical considerations.

7. Implications and Conclusion

The review of research paradigms highlights the importance of understanding the underlying assumptions and principles of each paradigm to guide the research process. The choice of a research paradigm should be based on the research question, context, and theoretical framework. Researchers need to be aware of the strengths and limitations of each paradigm and select the one that is most appropriate for their study. In addition, the review highlights the need for interdisciplinary collaboration and the integration of multiple paradigms to address complex research questions.

Research paradigms provide a framework for conducting research and guide the researcher's approach to knowledge generation. Each paradigm has its own set of assumptions, principles, and methods that reflect different ways of knowing and understanding the world. Positivism emphasizes objectivity, quantification, and generalization, while post-positivism recognizes the limitations of objectivity and emphasizes the role of subjectivity, values, and context in shaping knowledge. Constructivism emphasizes the social construction of knowledge and the importance of subjective interpretations, while phenomenology focuses on understanding the meaning of lived experiences. The selection of a research paradigm should be based on the research question, context, and theoretical framework, and researchers should be aware of the strengths and limitations of each paradigm to ensure the validity and rigor of their research.

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