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Positivism and Paradigm Transformation in Nursing: A Narrative–Philosophical Review

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Abstract

Background and aim: Philosophical debates in nursing have examined the nature of valid knowledge and its adequacy for practice, education, and policy. Positivism, as the dominant paradigm, has provided scientific legitimacy through empiricism and measurability, yet its reductionism has limited nursing's ability to address relational and experiential dimensions of care, prompting critiques and the rise of alternative paradigms.

Materials and methods: A philosophical narrative review was conducted by searching through PubMed, Scopus, Web of Science, CINAHL, ProQuest, and supplementary sources (1985–2025). Of the 412 records identified, 12 were included in this review. Data were synthesized through interpretive analysis involving immersion, comparative critique, thematic coding, and integration into a conceptual framework.

Results: Positivism has shaped nursing's scientific identity, but it has also generated epistemological gaps. Post-positivism, interpretivism, critical theory, realism, and mixed methods have expanded the epistemological landscape, fostering methodological pluralism. Contrasting perspectives, such as critiques of "qualitative positivism," have also enriched the debate. Synthesizing these insights, the Evolutionary Nursing Paradigm Pathway (ENPP) was developed, depicting four stages of positivist dominance, recognition of gaps, emergence of alternatives, and consolidation of pluralism.

Conclusion: Nursing knowledge is increasingly defined by epistemological pluralism, where research questions—not paradigmatic allegiance—guide methodological choice. The ENPP framework clarifies the role of paradigms in nursing's ongoing development and strengthens the discipline's capacity to address care complexities, promote health equity, and deepen understanding of health and illness.

Keywords: Positivism, nursing epistemology, paradigm transformation, post-positivism, epistemological pluralism, critical realism.

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Introduction

Nursing professionalization has necessitated the construction of a robust and legitimate knowledge base to guide practice, education, and research. In the past 35 years, nursing knowledge has expanded exponentially, driven by mounting scholarly inquiry, clinical innovation, and healthcare system pressures. The evolution has been molded significantly by various philosophical paradigms that guide the strategies utilized by nursing educators and researchers. Paradigms—sets of common beliefs, values, and processes—regulate inquiry in fields by determining the construction, substantiation, and application of knowledge. The ontological (nature of reality), epistemological (nature of knowledge), and methodological (ways of knowing) dimensions of these paradigms are significant pointers to how nursing knowledge has evolved and been formed over time [1-2].

Among the several paradigms that have influenced nursing scholarship, positivism stands out through its foundational impact. Positivism is a philosophical paradigm that asserts true knowledge is exclusively derived from sensory experience and verified through empirical observation. Emerging in the 19th century with Auguste Comte, positivism emphasized on the progression of human thought from theological and metaphysical stages to the "positive" stage, where knowledge is grounded in observable facts and logical inference [3]. This stance was further reinforced in the early 20th century by the Vienna Circle, whose logical positivism highlighted the verification principle—that statements are meaningful only if empirically testable [4]. Despite subsequent philosophical critiques, positivism has remained influential in the health sciences [5].

Within nursing, the positivist paradigm has influenced knowledge generation and application to a significant extent. Nursing research has historically adhered to the hypothetico-deductive model, which includes hypothesis generation, operationalizing variables, controlled experimentation, and production of generalizable conclusions [6]. This research design prefers quantitative methods such as randomized controlled trials, cross-sectional surveys and experimental interventions, and also emphasizes on objectivity, measurability, and statistical validity. For decades, these approaches were considered gold

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standard for generating evidence relevant to nursing practice [7].

The appeal of positivism to nurses is clear. With the rise of professionalization and the pursuit of scientific legitimacy, positivist ideals provided a way of aligning nursing with biomedical evidence and models of care. By focusing on observable and reproducible events, positivism endowed nursing with objectivity and predictability—qualities associated with scientific progress [8-9]. This was especially important in health-care systems that are increasingly reliant on evidence-based practice (EBP). Empirical facts generated through positivist research enabled nurses to test and validate interventions, improve care provision, and campaign for professional autonomy.

Nevertheless, critics have highlighted the limits of an unremittingly positivist strategy. One major criticism concerns its reductionism, which by insisting on what can be observed and measured, positivism excludes relational and subjective aspects of human experience—dimensions central to holistic care [10-11]. Positivist approaches therefore marginalize emotional, spiritual, and interpersonal dimensions of care that are essential for interpreting patients' lived experiences. Moreover, the positivist ideal of objectivity has been questioned, particularly in nursing where researchers are often immersed in the phenomena under study. Interpretivist and critical paradigms argue that knowledge is socially constructed and contextual [12], emphasizing meaning, experience, and power relations to establish a more humane research agenda.

Another limitation is the medical hegemony that prevailed in early nursing science. The dominance of positivism in medicine set biomedical criteria for evidence, which nursing research often conformed to [13]. This led to the devaluation of qualitative methods and theoretical questioning, both crucial for capturing the richness of nursing phenomena. Clinical outcomes frequently overshadowed patients' voices, cultural contexts, or psychological needs—domains better addressed by qualitative inquiry.

In response, nursing developed post-positivism, a modified paradigm that recognizes the limits of empirical observation and the roles of theory, context, and researcher bias [14]. Post-positivism

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remains committed to systematic research but renounces absolute objectivity, emphasizing on the falsifiability, reflexivity and methodological pluralism. It supports integration of quantitative and qualitative approaches, promoting richer understandings of nursing problems [15]. This openness has encouraged mixed-methods studies, triangulation, and interdisciplinarity investigations [16], redefining nursing science as a multiplicity of paradigms and approaches [17].

Beyond post-positivism, paradigms such as interpretivism, critical theory, and constructivism have gained traction, foregrounding meaning, context, and social justice in health outcomes [9]. Critical realism and constructive realism have been proposed to reconcile positivist rigor with qualitative richness [18-19]. This diversity underscores the importance of epistemological pluralism—valuing multiple ways of knowing and accrediting both empirical and experiential knowledge [20].

The classic polemic between qualitative and quantitative methods is gradually being replaced by integrationist positions underpinned by post-positivism and critical realism. Paradigm decisions are increasingly guided by the complexity of research problems rather than allegiance to a single philosophy [21]. As nursing evolves in term of science and humanism, the ability to blend paradigms will be essential for theory development, practice, and policy formation.

In conclusion, positivism has played a pivotal role in the evolution of nursing knowledge, providing initial legitimacy through empirical rigor. Its limitations, however, spurred philosophical questioning and methodological innovation, leading to a richer epistemological terrain. Understanding the emergence and influence of positivism—and its interfaces with other paradigms—is essential for advancing nursing scholarship and practice. This narrative overview explores these issues, offering insight into the enduring legacy of positivism and the epistemological pluralism shaping nursing knowledge today.

Method

This study was conducted as a philosophical narrative review— a methodology particularly suited to examining phenomena with complex theoretical,

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historical, and epistemological foundations [22–27]. Narrative reviews are recognized for their flexibility, rigor and practical utility in synthesizing diverse discourses, allowing for conceptual depth and interpretive analysis beyond the scope of systematic reviews [22-24]. Unlike systematic approaches that emphasize on quantitative completeness, narrative reviews prioritize conceptual analysis, critical reasoning, and interpretive synthesis, making them especially appropriate for nursing philosophy and epistemology [25-27]. The guiding research questions were: (1) How positivism has shaped the epistemological foundations of nursing knowledge, (2) what philosophical critiques have emerged against positivism, and (3) how alternative paradigms such as post-positivism, interpretivism, critical theory, and realism have contributed to epistemological pluralism in nursing. Searches were conducted across PubMed, Scopus, Web of Science, CINAHL, and ProQuest Dissertations & Theses published between 1985 and December 2025, supplemented by Google Scholar and publisher catalogs including Sage, Routledge, Elsevier, and Lippincott. Keywords used for the searches included positivism, post-positivism, interpretivism, critical theory, realism, mixed methods, nursing epistemology, nursing knowledge, philosophy of nursing, and epistemological pluralism. Snowballing and reference list checks were also applied to trace classical works and significant papers not captured in initial searches.

Eligibility criteria were defined to ensure conceptual relevance. Inclusion criteria comprised of peer-reviewed journal articles, scholarly books, book chapters, and theses that elaborated on the tenets of positivism, critiqued them philosophically, assessed epistemological dimensions of nursing knowledge, or described the emergence of alternative paradigms. Exclusion criteria included purely empirical studies without theoretical discussion, non-peer-reviewed commentaries, duplicates, and works lacking relevance to nursing epistemology. In total, 412 records were identified. After deduplication, 318 records remained for further assessment. Titles and abstracts of the remaining papers were screened, which resulted in the reduction of full-text papers to 94. Of these, 82 were excluded due to duplication, lack of conceptual depth, or insufficient theoretical

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relevance. Finally, 12 peer-reviewed studies were included in the synthesis. The selection process was documented in a PRISMA flow diagram to ensure transparency.

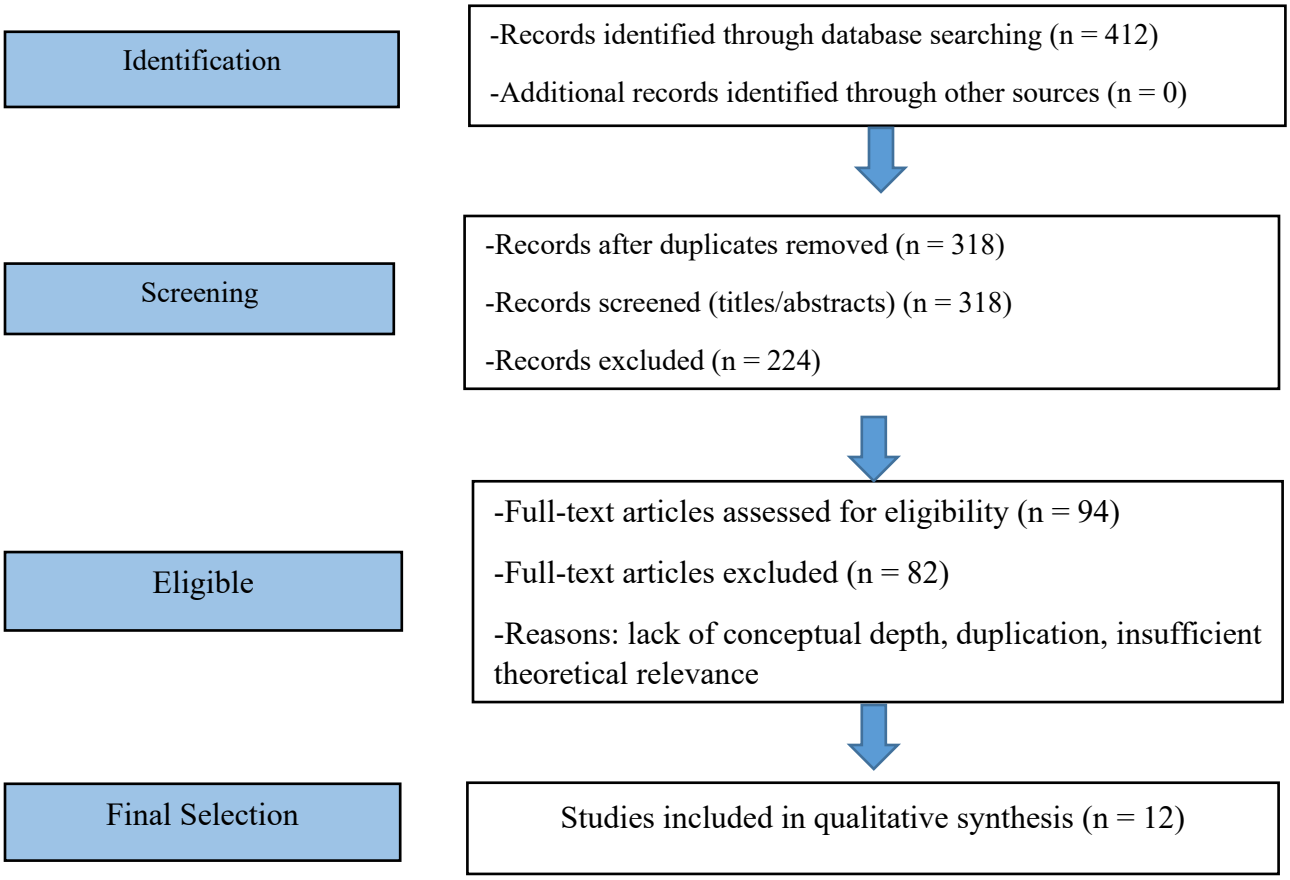

Figure 1. PRISMA Flowchart of Study Selection

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Quality appraisal was performed by evaluating clarity of philosophical argument, conceptual coherence, relevance to nursing paradigms, and citation impact. Peer-reviewed sources and seminal works were prioritized to balance methodological rigor with philosophical breadth. The interpretive synthesis was conducted through a stepwise process summarized in Table 1.

Table 1. Steps of Interpretive Synthesis in Developing the Evolutionary Nursing Paradigm Pathway (ENPP)

Step	Action	Outcome
1	Immersion in texts	Identification of core philosophical claims
2	Comparative analysis	Contrasting positivist foundations with critiques
3	Thematic coding	Grouping into domains: legitimacy, reductionism, critiques, pluralism
4	Integration	Development of the Evolutionary Nursing Paradigm Pathway (ENPP)

Adapted from methodological guidance on narrative reviews [22–27]

No specialized software was used in order to preserve interpretive flexibility, consistent with recommendations for narrative–philosophical [22–27]. Ethical considerations were observed throughout the review, including accurate representation of authors' arguments, balanced interpretation of diverse perspectives, respect for intellectual property, and adherence to academic integrity standards.

Results

The results of this philosophical narrative review showed that positivist paradigm has had a foundational and enduring role in shaping the structure of nursing knowledge, research patterns, and educational frameworks. In the early phases of nursing professionalization, the positivist concepts of empiricism, objectivity, and measurability were borrowed as the dominant scientific discourse to provide a framework within which nursing could define itself among the other empirical sciences and achieve scientific legitimacy [28–31]. This conceptual legacy became institutionalized within nursing education and research systems through its emphasis on measurement, direct observation, and the production of generalizable data, which in turn

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facilitated the development of quantitative methods and evidence-based research approaches [32].

Literature analysis further reveals that the close linkage between positivist philosophy and nursing research approaches gave rise to a particular conception of "valid knowledge," at the heart of which lay the notions of replicability, control of variables, and statistical inference. On this basis, quantitative and experimental studies were promoted as the dominant models of nursing knowledge production, and for many decades in the twentieth century this approach was regarded as the gold standard of nursing research [28–30]. The influence of Auguste Comte and other founders of positivism is clearly traceable in this period, with many educational and research structures in nursing shaped by this worldview [28,32].

However, this conceptual dominance has not gone unchallenged. With the expansion of humanistic perspectives and recognition of the multidimensionality of health experiences, the reductionism of positivism has become more apparent. By privileging observation, positivism neglects significant strata of meaning pertaining to care, including lived experience, therapeutic relationships, cultural context, and the interpretive nature of nursing practice [33,35]. This philosophical gap has often manifested in practice as a dichotomy between the "science" and the "art" of nursing—a division many theorists have seen as a major obstacle to person-centered care [30,32].

The studies reviewed further indicated that opposition to positivism has sometimes been associated with problematic extremes; for example, in the uncritical use of empirical methods in studies whose underlying philosophy is not clarified, or in the use of positivist rigor in qualitative designs. These approaches have contributed to the development of what has been called "qualitative positivism," described in the literature as an epistemological mismatch and a potential source of discredit to qualitative nursing research [33,35].

The collective weight of these critiques has contributed to a more general epistemological change in nursing and to the articulation of alternative paradigms. Of these developments, post-

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positivism is perhaps the most significant, represented in the literature as a more mature and constructive response to the limitations of positivism. Retaining the value of empirical investigation, post-positivism relinquishes the pretension of absolute objectivity, assumes the roles of theory, context, and subjectivity, and emphasizes on probabilistic and situated knowledge [36]. Research indicates that post-positivism has served as a mediating variable in large parts of nursing research, allowing for the simultaneous application of quantitative and qualitative approaches [37-38].

The review also established that interpretive paradigms, critical theory, realism, and critical realism have gained increasing acceptance within nursing discourse. By emphasizing on the social construction of reality, the role of power, the centrality of meaning-making, and the contextual nature of experience, these paradigms have opened new horizons for nursing research and helped to take the concept of "nursing knowledge" out of the exclusive domain of quantitative methodologies [34,39]. This has been particularly true for studies focused on social justice, patient empowerment, cultural diversity, and environmental dynamics.

The findings of this review suggest that contemporary nursing is moving away from reliance on a single paradigm toward epistemological pluralism. This pluralism, advocated in the literature as a mature, humane and complexity-sensitive approach, provides a context in which research questions guide paradigm choice rather than paradigmatic allegiance dictating research trajectories. Methodological pluralism, mixed-methods research, triangulation and interdisciplinary inquiry are concrete expressions of this transformation, signaling nursing's movement away from traditional "either-or" dichotomies—such as quantitative versus qualitative—toward integrative approaches [37-38].

Synthesizing these findings, it became clear that critique has not called for the wholesale rejection of positivism but rather for a re-articulation of its philosophical and practical boundaries within nursing. Critical realism, for example, emerges in the literature as an intermediary framework that posits

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the existence of a mind-independent reality while emphasizing on the role of social structures and interpretive processes. As a result, it provides a way of bridging the divide between positivism and interpretivism and offers a conceptual foundation for integrating quantitative and qualitative approaches [39].

These developments underline that nursing epistemology is not a static entity but a dynamic and continuously evolving process, shaped by ongoing critique, clinical needs, and philosophical advances. Ultimately, the synthesized findings of this review indicated that philosophical pluralism, acceptance of methodological diversity, and integration of multiple approaches will define the future trajectory of nursing knowledge development. This trend strengthens nursing's potential to address health and care complexities, while enabling the creation of knowledge that is scientifically robust, humanly meaningful, ethically framed, and contextually sensitive.

Apart from the narrative synthesis, the findings of this review resulted in a coherent conceptual framework, here called the Evolutionary Nursing Paradigm Pathway (ENPP). This model depicts paradigmatic change in nursing as an evolutionary and multistage process, which begins with the predominance of positivism, followed by the recognition of epistemological gaps, expanding through the rise of alternative paradigms, and culminating in the consolidation of epistemological pluralism. The ENPP provides the central outcome of this review and offers a conceptual framework to inform future research directions and clarify the role of paradigms in the ongoing development of nursing knowledge.

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Table 2. Conceptual Contributions of Included Studies to the (ENPP)

Author(s), Year	Focus	Contribution to Nursing Paradigms	Key Insight / Critique	ENPP Stage
Rutty, 1998 [28]	Philosophy of science and nursing professionalism	Clarified how positivist philosophy shaped nursing's scientific identity	Positivism legitimized nursing as an empirical science	Positivism
Kim, 2010 [29]	Theoretical thinking in nursing	Examined frameworks of theory development	Emphasized on positivist foundations and their limits	Positivism
Fealy, 1997 [30]	Theory–practice relationship	Explored tensions between nursing theory and practice	Identified dichotomy between "science" and "art"	Critique
Holmes, Perron,'Byrne, 2006 [31]	Critique of evidence-based dogma	Challenged dominance of evidence-based positivist models	Rigid empiricism risks erasing nursing's unique knowledge	Critique
Holmes et al., 2006 [32]	Deconstruction of evidence-based discourse	Linked positivism to power and control in health sciences	Critiqued positivism as reductionist and politically charged	Critique
Burns et al., 2020 [33]	Culture of science in nursing	Investigated conceptual frameworks in critical care	Showed how scientific culture reinforces positivist assumptions	Critique
Thorne, 2016 [34]	Interpretive description	Advanced interpretive qualitative methodology	Promoted paradigms beyond positivism, emphasizing meaning-making	Pluralism (Interpretivism)
Sandelowski, 1986 [35]	Rigor in qualitative research	Critiqued positivist standards applied to qualitative designs	Introduced "qualitative positivism" as epistemological mismatch	Critique
Phillips and Burbules, 2000 [36]	Post-positivism in educational research	Defined post-positivism as response to positivism	Advocated probabilistic, contextual knowledge	Post-positivism
Plano Clark, 2017 [37]	Mixed methods research	Promoted methodological pluralism	Demonstrated integration of quantitative and qualitative approaches	Pluralism (Mixed Methods)
Morgan, 2007[38[	Paradigms and pragmatism	Explored combining methods	Positioned pragmatism as bridge between paradigms	Pluralism (Pragmatism)
Rajab Dizavandi and Heydari, 2021 [39]	Critical realism in nursing	Introduced critical realism to nursing scholarship	Proposed intermediary framework bridging positivism and interpretivism	Critical Realism

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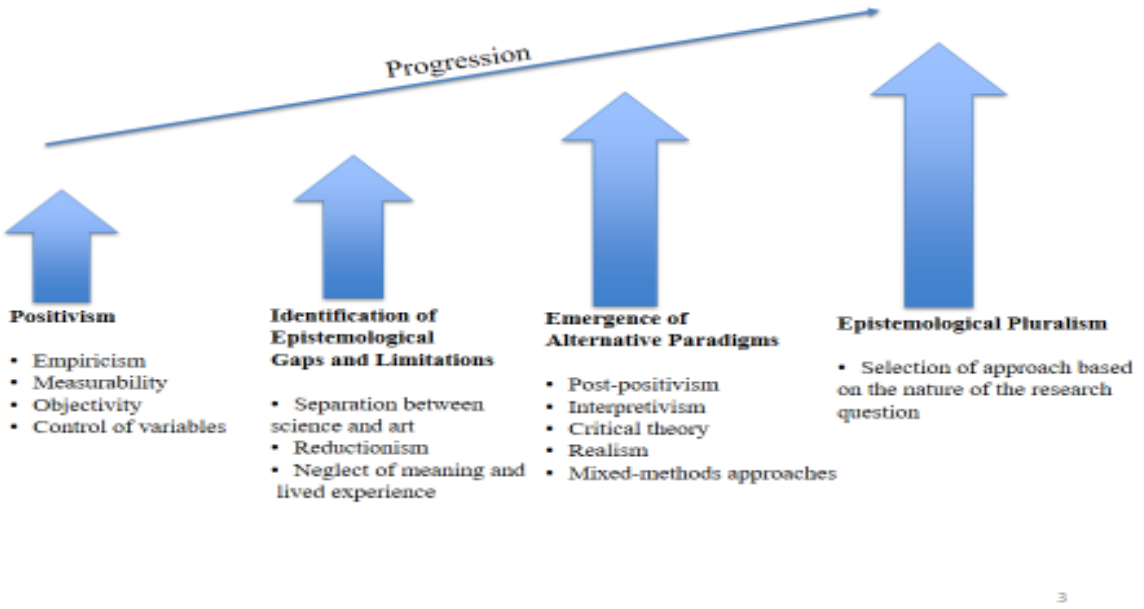

Figure 2. Evolutionary Nursing Paradigm Pathway (ENPP): A Conceptual Trajectory of Epistemological Shifts in Nursing.

Table 3. Paradigmatic Transformation Stages in Nursing Epistemology (ENPP Framework)

Stage	Title	Keywords	Description
1	Positivism	Observationism, Measurement, Objectivity, Variable Control	Preference for quantitative methods, hypothesis testing, and measurability
2	Epistemological Gaps and Limitations	Division between "science" and the "art" of care; methodological critiques; problem-centered approaches	Emergence of shortcomings in pure empiricism and the need for alternative approaches
3	Emergence of Alternative Paradigms	Post-positivism, Interpretivism, Critical Theory, Realism (especially Critical Realism), Mixed Methods	Expansion of qualitative and mixed methods; emphasis on context, meaning, and power
4	Epistemological Pluralism	Method selection based on the nature of the problem; methodological integration; coexistence of paradigms	Flexibility in design and evaluation of methodological appropriateness to research questions

This table 3 summarizes the evolutionary stages of nursing paradigms, from positivist dominance to epistemological pluralism, as synthesized in the Evolutionary Nursing Paradigm Pathway (ENPP). It integrates conceptual insights from the reviewed studies, highlighting how critiques of positivism and the emergence of alternative paradigms have shaped nursing knowledge development.

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Discussion

The findings of this narrative literature review demonstrate that the role of positivism in establishing nursing as a scientific discipline is both foundational and undeniable. By emphasizing on empiricism, objectivity and measurability, positivism has provided nursing with scientific legitimacy and shaped the methodological evolution of the field [28–29]. However, when confronted with the holistic, relational and contextual dimensions of caring, positivism has revealed some structural limitations that cannot be overlooked [30–32].

The philosophical transformation of nursing over recent decades reflects not a rejection of positivism, but a reconfiguration of its boundaries. Studies such as Rutty [28] and Kim [29] highlight the foundational contributions of positivism, whereas Fealy [30] and Holmes et al. [31–32] critique its reductionist tendencies and the problematic separation between the "science" and the "art" of nursing. Phillips and Burbules [36], Plano Clark [37], and Morgan [38] support the emergence of post-positivism and methodological pluralism, while Rajab Dizavandi and Heydari [39] introduce critical realism as a bridging paradigm. Collectively, these perspectives reinforce the broader epistemological movement toward pluralism.

At the same time, contrasting viewpoints enrich the philosophical debate. Sandelowski [35] warns against the epistemological mismatch inherent in "qualitative positivism," Burns et al. [33] demonstrate how scientific culture continues to reproduce positivist assumptions even within critical care environments, and Thorne [34] advances interpretive methodologies that diverge sharply from positivist traditions. These non-aligned perspectives illustrate that nursing's epistemological evolution is neither linear nor uncontested, but rather a dynamic negotiation among competing paradigms.

Synthetization of these findings suggests that the future of nursing lies not in privileging one paradigm over another, but in embracing epistemological pluralism. Within this orientation, research questions—rather than paradigmatic allegiance—determine methodological choice. This allows for the thoughtful integration of quantitative, qualitative,

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and mixed methods, alongside interpretive analyses of meanings, experiences, and social structures [37–38].

Based on this synthesis, the Evolutionary Nursing Paradigm Pathway (ENPP) emerged as the central conceptual framework of this review. ENPP conceptualizes nursing epistemology as an evolutionary, multi-stage process that begins with the positivist legacy, progresses through epistemological critiques, expands into alternative paradigms, and culminates in the consolidation of pluralism. As such, ENPP serves as a mediating tool for clarifying the role of paradigms in nursing's ongoing development and for guiding future research directions.

Conclusion

This review highlights that while positivism has played a crucial role in establishing nursing as a scientific discipline, its limitations in addressing the relational, contextual, and humanistic dimensions of care have prompted the emergence of alternative paradigms. The philosophical evolution of nursing has unfolded not through the replacement of one paradigm with another, but through a gradual expansion toward epistemological pluralism.

The Evolutionary Nursing Paradigm Pathway (ENPP), developed through this synthesis, illustrates how nursing knowledge has progressed from positivist foundations to a more inclusive and flexible epistemological landscape. This pluralistic stance enhances the discipline's capacity to address complex health phenomena, integrate diverse methodologies, and support more holistic approaches to care.

Ultimately, the findings underscore the need for continued philosophical dialogue, methodological openness, and critical reflection within nursing profession. Embracing pluralism strengthens the discipline's ability to respond to evolving health challenges, promote equity, and deepen understanding of the human experience of health and illness. This orientation positions nursing to advance both its scientific rigor and its humanistic commitments in a balanced and coherent manner.

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Conflict of Interest

The authors have no conflict of interest in relation to this research.

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