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Beyond the classics: A comprehensive look at concept analysis methods in nursing education and research



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Abstract

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This editorial presents eight concept analysis methods for use in nursing research and education. In addition to the two classical methods of Walker and Avant's and Rodgers' concept analysis approaches that are typically utilized in nursing education and briefly discussed within this editorial, six additional methods are also presented including Schwartz-Barcott and Kim's Hybrid model, Chinn and Kramer's approach, Simultaneous Concept Analysis, Pragmatic Utility, Principle-Based Concept Analysis, and Semantic Concept Analysis. By familiarizing nursing educators, researchers, and students with these methods, educators can enhance their critical thinking and understanding of complex nursing concepts, preparing them for enhanced, multi-faceted contributions to nursing science.

Keywords

concept analysis; concept formation; nursing education; nursing research; nursing discipline

Introduction

Concepts serve as abstract mental constructs, mental images of phenomena, units of meaning, or building blocks of theory, intended to summarize specific aspects or elements of the human experience (Chinn & Kramer, 1995; Penrod & Hupcey, 2005; Smith & Mörelius, 2021). However, for theory to be grounded in, and arise from real-world nursing practice, it is essential to bring clarity to the concepts under examination, known as concept analysis (Smith & Mörelius, 2021).

The primary aim of a concept analysis is to carefully study, clarify, develop, and critically assess a particular concept (Smith & Mörelius, 2021), all to attain a more profound and detailed understanding of the concept. While various methodologies for concept analysis are discussed in the nursing scientific literature, the most prominent approaches used among nursing students include the classical methods of Walker and Avant's technique (Walker & Avant, 2014) and Rodger's evolutionary approach (Rodgers, 1989).

This heavy reliance on these two methodologies raises an important question: are nursing students aware of the spectrum of available concept analysis methodologies rather than just the two common approaches? To our knowledge, teaching focuses mainly on Walker and Avant's concept analysis and Rodgers' evolutionary method in doctoral education influencing the analytical patterns of educators, researchers, and students. As a result, many students might not be familiar with other strategies for concept analysis. With this context in mind, this editorial article aims to provide a concise overview of various approaches that can be employed to conduct a thorough concept analysis.

Types of Concept Analysis Methods

1. Walker and Avant's Concept Analysis

Walker and Avant's model presents a step-by-step method for analyzing a concept and creating a clear definition of the concept in question (Walker & Avant, 2014). It has eight stages based on Wilson's techniques (Wilson, 1973). It starts by choosing a concept related to research goals and outlining the purpose of the analysis. Various uses of the concept in nursing are studied to understand its significance. Identifying defining attributes is crucial, serving as the concept's core and distinguishing it from related ideas (Walker & Avant, 2014). While some researchers spot attributes through repeated terms, others use content analysis, thematic analysis, keyword clustering, or summative content analysis.

To make the concept more transparent, a model case is constructed as a "real-life" example, illustrating all main attributes. Additional cases, including borderline, related, and contrary examples, further explain the concept's variations, refining its boundaries, and addressing differences from the model case (Walker & Avant, 2014). Antecedents and consequences are pinpointed. Empirical referents, or measurable indicators, ensure the concept's practical applicability and verifiability (Walker & Avant, 2014).

It is noted that the method's strengths lie in its systematic and organized approach, facilitating replication by other researchers. It is also tailored for nursing concepts, ensuring its relevance and practicality. However, the method may potentially oversimplify complex concepts, limit philosophical foundation, overlook contextual considerations and qualitative insights, and overclaim the operational definition of the concept (Weaver & Mitcham, 2008). Thus, researchers should consider complementing the method with other approaches to understand the concept under study better.

2. Schwartz-Barcott and Kim's Hybrid Model

This model aims to refine concepts for theory development, builds upon Wilson's method, and provides a learning platform for graduate students. As the term "hybrid" suggests, this model connects theoretical analysis and practical observation. It is built upon insights from three knowledge domains: the philosophy of science, the sociology of theory development, and participant observation, or field research. The method comprises three phases: Theoretical, Field Work, and Analytical (Schwartz-Barcott, 2000).

The Theoretical Phase establishes a foundation by selecting a loose concept definition, starting a literature review, and outlining essential elements. The Field Work Phase validates and refines through empirical observations and using standard qualitative research steps focusing on definition and measurement. The minimum data collection time is 2.5 to 3 months. The Analytical Phase involves comparing findings, and it also includes addressing the concept's nursing relevance, justification, support in literature, theory, and data (Schwartz-Barcott, 2000).

The Schwartz-Barcott and Kim's hybrid model provides a comprehensive and structured approach to concept analysis, combining theoretical and empirical aspects. Like any qualitative research approach, this hybrid model has limitations, such as potential bias and limited generalizability to broader groups or settings.

3. Chinn and Kramer's Method

Chinn and Kramer [Jacobs] introduced their concept analysis methodology in 1983, crediting its origins to Wilson. The steps outlined by Chinn and Kramer in 1991 contrast with the method proposed by Walker and Avant by excluding "identifying antecedents and consequences" and "formulating criteria." Instead, they formulate criteria after collecting and analyzing data, considering values and social context (Hupcey et al., 1996). They also include cases as "data sources" and incorporate various potential data sources for analysis, such as visual images, contemporary and traditional literature, musical expressions, poems, and insights from individuals interacting with the concept.

Chinn and Kramer's method offers a less linear process that involves more interaction between steps. Their purpose of this technique is to better understand the concept by looking at the term used, what it represents, the linked emotions, principles, and perspectives. Chinn and Jacobs (1987) also describe the outcomes of a concept analysis as tentative, acknowledging that the concept's definition and criteria for presence in a specific context may change as new evidence emerges. Chinn and Kramer's method aligns more closely with Wilson's approach than Walker and Avant's interpretation. The method creates cases to find characteristics linked with the concept and distinguish criteria that genuinely belong to it from those that don't. They also explore the social situation and values related to the concept, similar to Wilson. Chinn and Kramer anticipate that criteria should be developed only after examining all these aspects. While Chinn and Kramer consider various factors in concept analysis, they may not stress the

same level of intellectual rigor as Wilson (Hupcey et al., 1996). Chinn and Kramer's method of concept analysis consists of choosing, establishing a purpose, investigating data, and developing validation criteria for the concept (Weaver & Mitcham, 2008).

4. Rodgers' Evolutionary Concept Analysis

Rodgers' evolutionary concept analysis is an inductive approach that highlights how concepts evolve over time and are impacted by their context (Rodgers, 1989). This approach consistently examines a concept's context, surrogate and related terms, antecedents, attributes, examples, and consequences. This approach does not offer definitive conclusions but serves as a guide for further research (Rodgers, 1989). In essence, Rodgers presents a cyclical model that accommodates the ever-changing nature of concepts.

Rodgers suggests six preliminary activities (Table 1), which can occur simultaneously during the study. Unlike Walker and Avant, the research process is non-linear, rotational, and flexible (Ghadirian et al., 2014; Rodgers, 1989). The activities involve recognizing the concept of focus and its linked terms, choosing a suitable context, gathering data to determine the traits of the concept and its context, analyzing the collected information, pinpointing a prime example of the concept if applicable, and creating hypotheses and potential outcomes for advancing the concept's understanding. These stages represent the activities that should occur during the study rather than a continuous process. Rogers' approach emphasizes detailed analysis and focuses on gathering and analyzing raw data, particularly within a profession's specific social and cultural context (Ghadirian et al., 2014; Rodgers, 1989).

Despite its strengths, such as the inductive approach, flexibility and adaptability, and the utilization of comprehensive data sources, the findings derived from Rodger's concept analysis might not always be readily generalizable to other contexts or populations, as the focus on specific social and cultural contexts restricts the broader applicability of the results. Furthermore, the iterative and flexible nature of the analysis may hinder the study's reproducibility, making it challenging for other researchers to replicate the exact process and achieve identical results.

5. Simultaneous Concept Analysis

The Simultaneous Concept Analysis method consists of nine executive steps proposed by Haase et al. (2000), firmly rooted in Rodgers' evolutionary perspective. The foundational principle of the Simultaneous Concept Analysis model lies in the recognition that numerous concepts have intricate interconnections, rendering isolated analysis impractical. However, these concepts can be effectively comprehended through comparative assessment, as their shared characteristics often warrant examination of closely related counterparts (Tavares et al., 2022).

The main goal of the Simultaneous Concept Analysis is not to establish a definitive and ultimate concept definition but to lay the groundwork for future exploration in the field of nursing. The analysis involves carefully examining each article to discover the attributes, antecedents, and outcomes associated with individual concepts (Haase et al., 2000; Tavares et al., 2022). This first analysis helps make a validity matrix. Thorough analysis ensures the method is systematic, verifiable, and replicable. Attributes, antecedents, and outcomes are gathered from relevant literature and subjected to comprehensive comparison within and across disciplines, thereby setting the stage for constructing a comparative validity matrix. Subsequently, the next step involves independently deriving the concept's critical attributes, theoretical definitions, antecedents, and consequences (Tavares et al., 2022). The Simultaneous Concept Analysis comprises a series of nine stages (see Table 1).

6. Pragmatic Utility

Janice M. Morse initially developed the pragmatic utility concept analysis method as an alternative to Wilsonian and Rodgers' methods. The pragmatic utility method examines the concept maturation level by scrutinizing its internal composition, utility, representational attributes, and interconnections with other concepts (Morse, 2000). Contrary to a linear progression, the pragmatic utility embodies a nonlinear and iterative approach (Weaver & Mitcham, 2008). This method serves various purposes, including refining or elucidating concepts and examining the alignment between a concept's definition and its operationalization (Zumstein & Riese, 2020).

The pragmatic utility aims to develop "partially mature" concepts using literature as data. Instead of synthesis, this meta-analytic approach examines how other researchers use the lay concept in their work. It uncovers definitions, attributes, and uses through systematic analysis, asking analytical questions about their conceptualizations and synthesizing data (Morse, 2016). This reveals implied/explicit assumptions, inferred meaning, and components. It identifies the lay concept's commonalities, differences, perspectives, and operationalization degrees (Morse, 2016).

The pragmatic utility is not a literature summary or critique, nor a research synthesis or meta-analysis. It compares more than perspectives; it goes beyond creating new models and insights (Morse, 2016). Pragmatic utility stands apart from common literature summaries. It is also noted that this method emphasizes the 'critical appraisal' technique (Weaver & Mitcham, 2008), comparing attributes from different authors and revealing underlying assumptions and practical applications. Also, Morse et al. (1996) set a guideline, including the database's extensiveness, analysis depth, argument logic, abstractness level, validity, and knowledge contribution, to assess rigor. Procedures of pragmatic utility include 1) clarifying the inquiry purpose, 2) pinpointing a partially mature lay concept, 3) determining concept maturity, 4) formulating key analytic questions, and 5) Synthesizing outcomes (Morse, 2016).

7. Principle-Based Concept Analysis

Penrod and Hupcey (2005) developed the Principle-Based Concept Analysis approach based on Morse et al. (1996) to define concepts based on principles exclusively within scientific use, disregarding creative interpretations found in art or fiction. The intentional and strategic extraction of data forms the foundation of this method. The approach acknowledges the dynamic and evolving nature of concept advancement over time, offering a robust framework for theoretically defining and understanding a concept's state within the scientific community.

The analysis revolves around four broad principles: epistemological, pragmatic, linguistic, and logical (Penrod & Hupcey, 2005). The concept's alignment with these principles determines its level of maturity and advancement. The epistemological principle is the study of how knowledge plays a role in revealing the scientific knowledge underpinning the concept (Waldon, 2018). The epistemological analysis focuses on the concept's distinctiveness within the discipline's knowledge base, indicating maturity through differentiation and clear positioning (Penrod & Hupcey, 2005). The pragmatic principle assesses a concept's utility within the discipline and its operationalization, particularly in nursing (Penrod & Hupcey, 2005). The principle evaluates whether the concept's applicability is supported by the literature and recognized by the discipline, profession, and society. Mature concepts are manifested in clinical practice (Penrod & Hupcey, 2005). The linguistic principle examines language and human speech, assessing a concept's contextual flexibility and consistent meaning (Penrod & Hupcey, 2005; Waldon, 2018). The analysis includes various contexts, ensuring the concept's relevance across different settings (Penrod & Hupcey, 2005). The logical principle involves a concept's compatibility with related concepts and the clarity of its boundaries. Clearly defined conceptual boundaries prevent ambiguity when the concept is positioned alongside others in a theoretical framework (Penrod & Hupcey, 2005).

The outcome of Principle-Based Concept Analysis involves a comprehensive synthesis of the concept using scientific literature, along with identifying gaps and inconsistencies to drive concept development. Subsequently, the results are integrated into a theoretical definition, enhancing the concept's understanding. In addition, Smith and Mörelius (2021) also combine Principle-Based Concept Analysis with a phased approach to enhance method clarity.

8. Semantic Concept Analysis

The semantic concept analysis, initially formulated by Koort (1975) and subsequently refined by Eriksson (2010), constitutes a prevalent approach in Nordic nursing science research aimed at enhancing comprehension of concepts or phenomena requiring clarification (Almerud Österberg et al., 2023). This method transcends a mere combination of words or letters, and it instead intimately intertwines with human existence and lived encounters (Almerud Österberg et al., 2023; Eriksson, 2010). This method includes an analysis of etymological, semantic, and discrimination (Honkavuo et al., 2018). Etymological analysis involves exploring a concept's origin, transformation, and evolution using etymological dictionaries (Koort, 1975). Historical meanings may not persist in current language usage (Honkavuo et al., 2018; Koort, 1975). The semantic analysis uses dictionaries and synonyms to find linguistic consensus. It is about interpreting linguistic expressions, symbols, words, and terms, and if researchers agree on synonyms, the analysis concludes. If not, a discrimination analysis comes next, exploring closely related concepts to distinguish the concept in question. These related concepts form clusters based on qualitative differences in meanings and degrees of synonymy (Honkavuo et al., 2018; Koort, 1975).

Table 1 Summary of the steps/phases/principles of each concept analysis method

Methods	Steps/Phases/Principles
Walker and Avant's Concept Analysis	 Choosing a concept Determining the aims of the analysis Identifying the uses of the concept Determining the defining attributes Identifying a model case and additional cases (borderline, related, and contrary cases) Identifying antecedents Identifying consequences Defining empirical referents
Schwartz-Barcott & Kim's Hybrid Model	 Theoretical phase Fieldwork phase Analytical phase
Chinn & Kramer's Method	 Choosing the concept Establishing a purpose for creating conceptual meaning Investigating data sources Developing criteria to validate the robustness of the tentative conceptualization
Rodger's Evolutionary Method	 Identifying the name and concept of interest and associated expressions Identifying and selecting the appropriate setting Collecting the data to identify (The attributes of the concept & The contextual basis of the concept Analyzing the data If appropriate, identifying an exemplar of the concept Identifying hypotheses and implications for the further development of the concept
Simultaneous Concept Analysis	 Developing a consensus group Selecting the concepts to be analyzed Refining the concept clarification approach Clarifying the individual concepts Developing validation matrices Reviewing the individual concepts Re-examining the validation matrices Developing a procedural model Submitting the results to the experts for criticism
Pragmatic Utility	 Be clear about the purpose of the inquiry Identifying a partially mature lay concept Identifying concept maturity Identifying significant analytic/critical questions Synthesizing results
Principle-Based Concept Analysis	Principles: • Epistemological • Pragmatic • Linguistic • Logical
Semantic Concept Analysis	 Etymological analysis Semantic analysis Discrimination analysis

Conclusion

The eight concept analysis methods discussed above provide various ways to systematically examine and understand complex concepts across different fields, especially in nursing. The first three methods—Walker and Avant's concept analysis, Schwartz-Barcott and Kim's hybrid model, and the Chinn and Kramer's method—have evolved and expanded from Wilson's foundational approach. Each brings unique contributions, adaptations, and modifications to the concept analysis process.

Rodgers' cyclical model considers the dynamic nature of concepts, encouraging an iterative analysis and emphasizing the importance of considering the context and cultural factors. The Simultaneous Concept Analysis method incorporates principles from Rodgers' approach and focuses on how concepts are interconnected. It also highlights the comparison of related concepts, offering a more complete perspective. Like Rodger's approach, the pragmatic utility concept analysis method uses a non-linear and iterative approach. It emphasizes the practical usefulness of concepts and how they align with guiding principles. It also strongly emphasizes critical appraisal, resulting in a rigorous evaluation. In addition, the Principle-Based Concept Analysis approach extends Morse's approach aiming to align concepts with epistemological, pragmatic, linguistic, and logical principles. Lastly, the Semantic Concept Analysis method deeply explores a concept's linguistic origins, synonyms, and distinctive features. It provides a comprehensive understanding of concepts within their linguistic context.

It is noteworthy that these methods are not mutually exclusive. This editorial aims to spur educators, researchers and students to adopt, adapt, and combine elements from different ways to create a customized approach that suits their research needs as well as to further discuss the concept analysis development. Ultimately, the chosen concept analysis method should align with the research objectives and be accountable conceptually, critically, and philosophically. Additionally, it should contribute to a comprehensive understanding of the concept under study.

Declaration of Conflicting Interest

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Data Availability

Not applicable.

Declaration of Use of AI in Scientific Writing

Nothing to declare.

References

- Almerud Österberg, S., Hörberg, U., Ozolins, L.-L., Werkander Harstäde, C., & Elmqvist, C. (2023). Exposed–a semantic concept analysis of its origin, meaning change over time and its relevance for caring science. *International Journal of Qualitative Studies on Health and Well-being*, 18(1), 2163701. https://doi.org/10.1080/17482631.2022.2163701
- Chinn, P. L., & Jacobs, M. K. (1987). *Theory and nursing: A systematic approach* (2nd ed.). St. Louis, MO: Mosby.
- Chinn, P. L., & Kramer, M. K. (1995). *Theory and nursing: A systematic approach* (4th ed.). St. Louis, Missouri: Mosby.
- Eriksson, K. (2010). Concept determination as part of the development of knowledge in caring science. Scandinavian Journal of Caring Sciences, 24(s1), 2-11. https://doi.org/10.1111/j.1471-6712.2010.00 809.x
- Ghadirian, F., Salsali, M., & Cheraghi, M. A. (2014). Nursing professionalism: An evolutionary concept analysis. *Iranian Journal of Nursing and Midwifery Research*, 19(1), 1-10.
- Haase, J. E., Leidy, N. K., Coward, D. D., Britt, T., & Penn, P. E. (2000). Simultaneous concept analysis: A strategy for developing multiple

interrelated concepts. In B. L. Rodgers (Ed.), *Concept development in nursing: Foundations, techniques, and applications* (2nd ed., pp. 209-229). Saunders.

- Honkavuo, L., Sivonen, K., Eriksson, K., & Nåden, D. (2018). A hermeneutic concept analysis of serving-a challenging concept for nursing administration. *International Journal of Caring Sciences*, 11(3), 1377-1385.
- Hupcey, J. E., Morse, J. M., Lenz, E. R., & Tasón, M. C. (1996). Wilsonian methods of concept analysis: A critique. *Scholarly Inquiry for Nursing Practice*, 10(3), 185-210.
- Koort, P. (1975). Semantisk analys: konfigurationsanalys: två hermeneutiska metoder [metoder [Semantic Analysis and Configuration Analysis. Two Hermeneutical Methods]. Lund: ILU/Studentlitteratur.
- Morse, J. M. (2000). Exploring pragmatic utility: Concept analysis by critically appraising the literature. In B. L. Rodgers & K. A. Knafl (Eds.), *Concept development in nursing: Foundations, techniques, and applications* (Vol. 2, pp. 333-352). W.B. Saunders
- Morse, J. M. (2016). Concept clarification: The use of pragmatic utility. In J. M. Morse (Ed.), Analyzing and conceptualizing the theoretical foundations of nursing (pp. 267-280). Springer Publishing Company.
- Morse, J. M., Hupcey, J. E., & Cerdas, M. (1996). Criteria for concept evaluation. *Journal of Advanced Nursing*, 24(2), 385-390. https://doi.org/10.1046/j.1365-2648.1996.18022.x
- Penrod, J., & Hupcey, J. E. (2005). Enhancing methodological clarity: Principle-based concept analysis. *Journal of Advanced Nursing*, 50(4), 403-409. https://doi.org/10.1111/j.1365-2648.2005.03405.x
- Rodgers, B. L. (1989). Concepts, analysis and the development of nursing knowledge: The evolutionary cycle. *Journal of Advanced Nursing*, 14(4), 330-335. https://doi.org/10.1111/j.1365-2648.1989.tb03420.x
- Schwartz-Barcott, D. (2000). An expansion and elaboration of the hybrid model of concept development. In B. L. Rodgers & K. A. Knafl (Eds.), Concept development in nursing foundations, techniques, and applications (pp. 129-159). WB Saunders.
- Smith, S., & Mörelius, E. (2021). Principle-based concept analysis methodology using a phased approach with quality criteria. *International Journal of Qualitative Methods*, 20, 160940692110579 95. https://doi.org/10.1177/16094069211057995
- Tavares, A. P., Martins, H., Pinto, S., Caldeira, S., Pontifice Sousa, P., & Rodgers, B. (2022). Spiritual comfort, spiritual support, and spiritual care: A simultaneous concept analysis. *Nursing Forum*, 57(6), 1559-1566. https://doi.org/10.1111/nuf.12845
- Waldon, M. (2018). Frailty in older people: A principle-based concept analysis. British Journal of Community Nursing, 23(10), 482-494. https://doi.org/10.12968/bjcn.2018.23.10.482
- Walker, L. O., & Avant, K. C. (2014). Strategies for theory construction in nursing (5th ed.). Upper Saddle River, NJ: Pearson/Prentice Hall.
- Weaver, K., & Mitcham, C. (2008). Nursing concept analysis in North America: State of the art. *Nursing Philosophy*, 9(3), 180-194. https://doi.org/10.1111/j.1466-769X.2008.00359.x
- Wilson, J. (1973). *Thinking with concepts*. Cambridge, UK: Cambridge University Press.
- Zumstein, N., & Riese, F. (2020). Defining severe and persistent mental illness—a pragmatic utility concept analysis. *Frontiers in Psychiatry*, 11, 648. https://doi.org/10.3389/fpsyt.2020.00648

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