Theoretical Basis FOR NURSING

5TH EDITION

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DEDICATION

To Kaitlin and Grant—You have helped me broaden my thoughts and consider all kinds of possibilities; I hope I've done the same for you.

Also for Helen and Keith—Our children chose well. Besides, you have given us Madelyn, Logan, Brenna, Liam, Lucy, Andrew, Michael, and Jacob; they are gifts beyond words.

Melanie McEwen

To Tom, Paul, and Vicki, who light up my life, and to Marian, who left us for a better place. You were always my best listener. To Teddy, Gwen, Merlyn, and Madelyn, who have been so patient and loving during this process.

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PREFACE

Rare is the student who enrolls in a nursing program and is excited about the requirement of taking a course on theory. Indeed, many fail to see theory's relevance to the real world of nursing practice and often have difficulty applying the information in later courses and in their research. This book is the result of the frustration felt by a group of nursing instructors who met a number of years ago to adopt a textbook for a theory course. Indeed, because of student complaints and faculty dissatisfaction, we were changing textbooks yet again. A fairly lengthy discussion arose in which we concluded that the available books did not meet the needs of our students or course faculty. We were determined to write a book that was a general overview of theory per se, stressing how it is—and should be—used by nurses to improve practice, research, education, and management/leadership.

As in past editions, an ongoing review of trends in nursing theory and nursing science has shown an increasing emphasis on middle range theory, evidence-based practice (EBP), and situation-specific theories. To remain current and timely, in this fifth edition, we have added a new chapter entitled "Ethical Theories and Principles," presenting information on these topics and describing how they relate to theory in nursing. We have also included new middle range and situation-specific nursing theories as well as new "shared" theories from non-nursing disciplines. One notable addition is a significant section discussing Complexity Science and Complex Adaptive Systems in Chapter 13 (Theories From the Sociologic Sciences) helping to explain their importance to nursing. Updates and application examples have been added throughout the discussions on the various theories.

Organization of the Text

Theoretical Basis for Nursing is designed to be a basic nursing theory textbook that includes the essential information students need to understand and apply theory in practice, research, education, and administration/management.

The book is divided into four units. **Unit I, Introduction to Theory**, provides the background needed to understand what theory is and how it is used in nursing. It outlines tools and techniques used to develop, analyze, and evaluate theory so that it can be used in nursing practice, research, administration and management, and education. In this unit, we have provided a balanced view of "hot" topics (e.g., philosophical world views and utilization of shared or borrowed theory). Also, rather than espousing one strategy for activities such as concept development and theory evaluation, we have included a variety of strategies.

Unit II, Nursing Theories, focuses largely on the grand nursing theories and begins with a chapter describing their historical development. This unit divides the grand nursing theories into three groups based on their focus (human needs, interactive process, and unitary process). The works of many of the grand

theorists are briefly summarized in Chapters 7, 8, and 9. Because this volume is intended to serve as a broad foundation, these analyses provide the reader with enough information to understand the basis of the work and to whet the reader's appetite to select one or more for further study rather than delving into significant detail.

Chapters 10 and 11 cover the significant topic of middle range nursing theory. Chapter 10 presents a detailed overview of the origins and growth of middle range theory in nursing and gives numerous examples of how middle range theories have been developed by nurses. Chapter 11 provides an overview of some of the growing number of middle range nursing theories. The theories presented include some of the most commonly used middle range nursing theories (e.g., Pender's Health Promotion Model and Leininger's Culture Care Diversity and Universality Theory) as well as some that are less well known but have a growing body of research support (e.g., Meleis's Transitions Theory, the Theory of Unpleasant Symptoms, and the Uncertainty in Illness Theory). The intent is to provide a broad range of middle range theories to familiarize the reader with examples and to encourage them to search for others appropriate to their practice or research. Ultimately, it is hoped that readers will be challenged to develop new theories that can be used by nurses.

Chapter 12, which discusses EBP, explains and defines the idea/process of EBP and describes how it relates to nursing theory and application of theory in nursing practice and research. The chapter concludes with a short presentation and review of five different EBP models that have been widely used by nurses and are well supported in the literature.

Unit III, Shared Theories Used by Nurses, is rather unique in nursing literature. Our book acknowledges that "shared" or "borrowed" theories are essential to nursing and negates the idea that the use of shared theory in practice or research is detrimental. In this unit, we have identified some of the most significant theories that have been developed outside of the discipline of nursing but are continually used in nursing. We have organized these theories based on broad disciplines: theories from the sociologic sciences, behavioral sciences, biomedical sciences, and philosophy as well as from administration, management, and learning. Each of these chapters was written by a nurse with both educational and practical experience in his or her respective area. These theories are presented with sufficient information to allow the reader to understand the theories and to recognize those that might be appropriate for his or her own work. These chapters also provide original references and give examples of how the concepts, theories, and models described have been used by other nurses.

Chapter 16, new to the fifth edition, describes ethical theories and principles that apply to nursing practice. This addition was suggested by nursing faculty who recognized the importance of maintaining an ethical perspective within the very complex health care system. This information is vital to professional nursing practice and absolutely essential for nurses in advanced practice, management, or educational roles.

Finally, **Unit IV, Application of Theory in Nursing**, explains how theories are applied in nursing. Separate chapters cover nursing practice, nursing research, nursing administration and management, and nursing education. These chapters include many specific examples for the application of theory and are intended to be a practical guide for theory use. The heightened development of practice theories and EBP guidelines are critical to theory application in nursing today, so these areas have been expanded. The unit concludes with a chapter that discusses some of the future issues in theory within the discipline.

Key Features

In addition to numerous tables and boxes that highlight and summarize important information, *Theoretical Basis for Nursing* contains case studies, learning activities, exemplars, and illustrations that help students visualize various concepts. New to this edition is a special boxed feature in most chapters that highlights how a topic is outlined in the American Association of Colleges of Nursing (AACN's) *The Essentials of Master's Education in Nursing* or *The Essentials of Doctoral Education for Advanced Nursing Practice*. Other key features include:

- **Link to Practice**: All chapters include at least one "Link to Practice" box, which presents useful information or clinically related examples related to the subject being discussed. The intent is to give additional tools or resources that can be used by nurses to apply the content in their own practice or research.
- **Case Studies**: At the end of Chapter 1 and the beginning of Chapters 2 to 23, case studies help the reader understand how the content in the chapter relates to the everyday experience of the nurse, whether in practice, research, or other aspects of nursing.
- **Learning Activities**: At the end of each chapter, learning activities pose critical thinking questions, propose individual and group projects related to topics covered in the chapter, and stimulate classroom discussion.
- **Exemplars**: In five chapters, an exemplar discusses a scholarly study from the perspectives of concept analysis (Chapter 3); theory development (Chapter 4); theory analysis and evaluation (Chapter 5); middle range theory development (Chapter 10); and theory generation via research, theory testing via research, and use of a theory as the conceptual framework for a research study (Chapter 20).
- **Illustrations**: Diagrams and models are included throughout the book to help the reader better understand the many different theories presented.

New to This Edition

- New Chapter 16, *Ethical Theories and Principles*
- Detailed section on Complexity Science and Complex Adaptive Systems in Chapter 13.
- More detailed explanation of EBP, situation-specific theories, and their relationship to theory in nursing
- Numerous recent examples of application of theories in nursing practice, nursing research, leadership/administration, and education
- Enhanced instructional support, focusing on activities and information directed toward online learning

Student Resources Available on thePoint

- **Literature Assessment Activity** provides an interactive tool featuring journal articles along with critical thinking questions that will encourage students to engage with the literature. Students can print or e-mail their responses to their instructor.
- **Case Studies** with applicable questions guide students in understanding how the various theories link to nursing practice.

- **Learning Objectives** for each chapter help focus the student on outcomes.
- **Internet Resources** provide live web links to pertinent sites so that students can further their study and understanding of the various theories.
- **Journal Articles** for each chapter offer opportunities to gain more knowledge and understanding of the chapter content.

Instructor Resources Available on thePoint

- **Instructor's Guide** includes application-level discussion questions and classroom/online activities that Melanie McEwen uses in her own teaching!
- **Strategies for Effective Teaching of Nursing Theory** provide ideas for instructors to help make the nursing theory class come alive.
- **Test Generator Questions** provide multiple-choice questions that can be used for testing general content knowledge.
- **PowerPoints with audience response (Iclicker) questions**, based on the ones used by Melanie McEwen in her own classroom, help highlight important points to enhance the classroom experience.
- **Case Studies** with questions, answers, and related activities offer opportunities for instructors to make the student case studies an exciting, fun, and rewarding classroom/online experience.
- **Image Bank** provides images from the text that instructors can use to enhance their own presentations.

In summary, the focus of this learning package is on the application of theory rather than on the study, analysis, and critique of grand theorists or a presentation of a specific aspect of theory (e.g., construction or evaluation). It is hoped that practicing nurses, nurse researchers, and nursing scholars, as well as graduate students and theory instructors, will use this book and its accompanying resources to gain a better understanding and appreciation of theory.

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UNIT I

Introduction to Theory

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Philosophy, Science, and Nursing

Melanie McEwen

Largely due to the work of nursing scientists, nursing theorists, and nursing scholars over the past five decades, nursing has been recognized as both an emerging profession and an academic discipline. Crucial to the attainment of this distinction have been numerous discussions regarding the phenomena of concern to nurses and countless efforts to enhance involvement in theory utilization, theory generation, and theory testing to direct research and improve practice.

A review of the nursing literature from the late 1970s until the present shows sporadic discussion of whether nursing is a profession, a science, or an academic discipline. These discussions are sometimes pleading, frequently esoteric, and occasionally confusing. Questions that have been raised include: What defines a profession? What constitutes an academic discipline? What is nursing science? Why is it important for nursing to be seen as a profession or an academic discipline?

Nursing as a Profession

In the past, there has been considerable discussion about whether nursing is a profession or an occupation. This is important for nurses to consider for several reasons. An occupation is a job or a career, whereas a profession is a learned vocation or occupation that has a status of superiority and precedence within a division of work. In general terms, occupations require widely varying levels of training or education, varying levels of skill, and widely variable defined knowledge bases. In short, all professions are occupations, but not all occupations are professions (Finkelman & Kenner, 2016).

Professions are valued by society because the services professionals provide are beneficial for members of the society. Characteristics of a profession include (1) defined and specialized knowledge base, (2) control and authority over training and education, (3) credentialing system or registration to ensure competence, (4) altruistic service to society, (5) a code of ethics, (6) formal training within institutions of higher education, (7) lengthy socialization to the profession, and (8) autonomy (control of professional activities) (Ellis & Hartley, 2012; Finkelman & Kenner, 2016;

Rutty, 1998). Professions must have a group of scholars, investigators, or researchers who work to continually advance the knowledge of the profession with the goal of improving practice. Finally, professionals are responsible and accountable to the public for their work (Hood, 2014). Traditionally, professions have included the clergy, law, and medicine.

Until near the end of the 20th century, nursing was viewed as an occupation rather than a profession. Nursing has had difficulty being deemed a profession because many of the services provided by nurses have been perceived as an extension of those offered by wives and mothers. Additionally, historically, nursing has been seen as subservient to medicine, and nurses have delayed in identifying and organizing professional knowledge. Furthermore, education for nurses is not yet standardized, and the three-tier entry-level system (diploma, associate degree, and bachelor's degree) into practice that persists has hindered professionalization because a college education is not yet a requirement. Finally, autonomy in practice is incomplete because nursing is still dependent on medicine to direct much of its practice.

On the other hand, many of the characteristics of a profession can be observed in nursing. Indeed, nursing has a social mandate to provide health care for clients at different points in the health–illness continuum. There is a growing knowledge base, authority over education, altruistic service, a code of ethics, and registration requirements for practice. Although the debate is not closed, it can be successfully argued that nursing is an aspiring, evolving profession (Finkelman & Kenner, 2016; Hood, 2014; Judd & Sitzman, 2014). See Link to Practice 1-1 for more information on the future of nursing as a profession.

Nursing as an Academic Discipline

Disciplines are distinctions between bodies of knowledge found in academic settings. A *discipline* is "a branch of knowledge ordered through the theories and methods evolving from more than one worldview of the phenomenon of concern" (Parse, 1997, p. 74). It has also been termed a field of inquiry characterized by a unique perspective and a distinct way of viewing phenomena (Fawcett, 2012; Rodgers, 2015).

Viewed another way, a discipline is a branch of educational instruction or a department of learning or knowledge. Institutions of higher education are organized around disciplines into colleges, schools, and departments (e.g., business administration, chemistry, history, and engineering).

Disciplines are organized by structure and tradition. The structure of the discipline provides organization and determines the amount, relationship, and ratio of each type of knowledge that comprises the discipline. The tradition of the discipline provides the content, which includes ethical, personal, esthetic, and scientific knowledge (Northrup et al., 2004; Risjord, 2010). Characteristics of disciplines include (1) a distinct perspective and syntax, (2) determination of what phenomena are of interest, (3) determination of the context in which the phenomena are viewed, (4) determination of what questions to ask, (5) determination of what methods of study are used, and (6) determination of what evidence is proof (Donaldson & Crowley, 1978).

Knowledge development within a discipline proceeds from several philosophical and scientific perspectives or worldviews (Litchfield & Jónsdóttir, 2008; Newman, Sime, & Corcoran-Perry, 1991; Risjord, 2010; Rodgers, 2015). In some cases, these worldviews may serve to divide or segregate members of a discipline. For example, in psychology, practitioners might consider themselves behaviorists, Freudians, or any one of a number of other divisions.

o Practic

The Future of Nursing

The Institute of Medicine (IOM, 2011) issued a series of sweeping recommendations directed to the nursing profession. The IOM explained their "vision" is to make quality, patient-centered care accessible for all Americans. Recommendations included a three-pronged approach to meeting the goal.

The first "message" was directed toward transformation of practice and precipitated the notion that nurses should be able to practice to the full extent of their education. Indeed, the IOM advocated for removal of regulatory, policy, and financial barriers to practice to ensure that "current and future generations of nurses can deliver safe, quality, patient-centered care across all settings, especially in such areas as primary care and community and public health" (p. 30).

A second key message related to the transformation of nursing education. In this regard, the IOM promotes "seamless academic progression" (p. 30), which includes a goal to increase the number and percentage of nurses who enter the workforce with a baccalaureate degree or who progress to the degree early in their career. Specifically, they recommend that 80% of registered nurses (RNs) be bachelor of science in nursing (BSN) prepared by 2020. Last, the IOM advocated that nurses be full partners with physicians and other health professionals in the attempt to redesign health care in the United States.

These "messages" are critical to the future of nursing as a profession. Indeed, standardization of entry level into practice at the BSN level, coupled with promotion of advanced education and independent practice, and inclusion as "leaders" in the health care transformation process, will help solidify nursing as a true profession.

An update (IOM, 2016) indicated that there has been "significant progress" (p. 50) toward reducing APRN scope of practices issues from a national perspective, as more states now allow nurse practitioners (NPs) full practice authority. Furthermore, although there has been some progress with expansion of the percentage of RNs with a BSN (from 49% to 51%), there is still much to do to meet the goal of 80%. Finally, the IOM concluded that data are lacking on efforts to develop the skills and competencies nurses need for leadership. The report reinforced the goal for nurses to seek "leadership positions in order to contribute their unique perspective and expertise on such issues as health care delivery, quality, and safety" (p. 149).

Several ways of classifying academic disciplines have been proposed. For instance, they may be divided into the basic sciences (physics, biology, chemistry, sociology, anthropology) and the humanities (philosophy, ethics, history, fine arts). In this classification scheme, it is arguable that nursing has characteristics of both.

Distinctions may also be made between academic disciplines (e.g., physics, physiology, sociology, mathematics, history, philosophy) and professional disciplines (e.g., medicine, law, nursing, social work). In this classification scheme, the academic disciplines aim to "know," and their theories are descriptive in nature. Research in academic disciplines is both basic and applied. Conversely, the professional disciplines are practical in nature, and their research tends to be more prescriptive and descriptive (Donaldson & Crowley, 1978).

Box 1-1 Theory and the American Association of Colleges of Nursing Essentials

"The scientific foundation of nursing practice has expanded and includes a focus on both the natural and social sciences. These sciences that provide a foundation for nursing practice include human biology, genomics, the psychosocial sciences as well as the science of complex organizational structures" (American Association of Colleges of Nursing, 2006, p. 9).

Nursing's knowledge base draws from many disciplines. In the past, nursing depended heavily on physiology, sociology, psychology, and medicine to provide academic standing and to inform practice (Box 1-1). In recent decades, however, nursing has been seeking what is unique to nursing and developing those aspects into an academic discipline (Parse, 2015). Areas that identify nursing as a distinct discipline are as follows:

- An identifiable philosophy
- At least one conceptual framework (perspective) for delineation of what can be defined as nursing
- Acceptable methodologic approaches for the pursuit and development of knowledge (Oldnall, 1995)

To begin the quest to validate nursing as both a profession and an academic discipline, this chapter provides an overview of the concepts of science and philosophy. It examines the schools of philosophical thought that have influenced nursing and explores the epistemology of nursing to explain why recognizing the multiple "ways of knowing" is critical in the quest for development and application of theory in nursing. Finally, this chapter presents issues related to how philosophical worldviews affect knowledge development through research. This chapter concludes with a case study that depicts how "the ways of knowing" in nursing are used on a day-to-day, even moment-by-moment, basis by all practicing nurses.

Introduction to Science and Philosophy

Science is concerned with causality (cause and effect). The scientific approach to understanding reality is characterized by observation, verifiability, and experience; hypothesis testing and experimentation are considered scientific methods. In contrast, *philosophy* is concerned with the purpose of human life, the nature of being and reality, and the theory and limits of knowledge. Intuition, introspection, and reasoning are examples of philosophical methodologies. Science and philosophy share the common goal of increasing knowledge (Fawcett, 2012; Polifroni, 2015; Silva, 1977). The science of any discipline is tied to its philosophy, which provides the basis for understanding and developing theories for science (Gustafsson, 2002; Morse, 2017; Silva & Rothbart, 1984).

Overview of Science

Science is both a process and a product. Parse (1997) defines science as the "theoretical explanation of the subject of inquiry and the methodological process of sustaining knowledge in a discipline" (p. 74). Science has also been described as a way of explaining

Box 1-2 Characteristics of Science

1. Science must show a certain coherence.
2. Science is concerned with definite fields of knowledge.
3. Science is preferably expressed in universal statements.
4. The statements of science must be true or probably true.
5. The statements of science must be logically ordered.
6. Science must explain its investigations and arguments.

Source: Silva (1977).

observed phenomena as well as a system of gathering, verifying, and systematizing information about reality (Streubert & Carpenter, 2011). As a process, science is characterized by systematic inquiry that relies heavily on empirical observations of the natural world. As a product, it has been defined as empirical knowledge that is grounded and tested in experience and is the result of investigative efforts. Furthermore, science is conceived as being the consensual, informed opinion about the natural world, including human behavior and social action (Gortner & Schultz, 1988).

Science has come to represent knowledge, and it is generated by activities that combine advancement of knowledge (research) and explanation for knowledge (theory) (Powers & Knapp, 2011). Citing Van Laer, Silva (1977) lists six characteristics of science (Box 1-2).

Science has been classified in several ways. These include pure or basic science, natural science, human or social science, and applied or practice science. The classifications are not mutually exclusive and are open to interpretation based on philosophical orientation. Table 1-1 lists examples of a number of sciences by this manner of classification.

Some sciences defy classification. For example, computer science is arguably applied or perhaps pure. Law is certainly a practice science, but it is also a social science. Psychology might be a basic science, a human science, or an applied science, depending on what aspect of psychology one is referring to.

There are significant differences between the human and natural sciences. Human sciences refer to the fields of psychology, anthropology, and sociology and may even extend to economics and political science. These disciplines deal with various aspects of humans and human interactions. Natural sciences, on the other hand, are concentrated on elements found in nature that do not relate to the totality of the individual.

Table 1-1 Classifications of Science

Classification	Examples
Natural sciences	Chemistry, physics, biology, physiology, geology, meteorology
Basic or pure sciences	Mathematics, logic, chemistry, physics, English (language)
Human or social sciences	Psychology, anthropology, sociology, economics, political science, history, religion
Practice or applied sciences	Architecture, engineering, medicine, pharmacology, law

There are inherent differences between the human and natural sciences that make the research techniques of the natural sciences (e.g., laboratory experimentation) improper or potentially problematic for human sciences (Gortner & Schultz, 1988).

It has been posited that although nursing draws on the basic and pure sciences (e.g., physiology and chemistry) and has many characteristics of social sciences, it is without question an applied or practice science. However, it is important to note that it is also synthesized, in that it draws on the knowledge of other established disciplines—including other practice disciplines (Dahnke & Dreher, 2016; Holzemer, 2007; Risjord, 2010).

Overview of Philosophy

Within any discipline, both scholars and students should be aware of the philosophical orientations that are the basis for developing theory and advancing knowledge (Dahnke & Dreher, 2016; DiBartolo, 1998; Northrup et al., 2004; Risjord, 2010). Rather than a focus on solving problems or answering questions related to that discipline (which are tasks of the discipline's science), the philosophy of a discipline studies the concepts that structure the thought processes of that discipline with the intent of recognizing and revealing foundations and presuppositions (Blackburn, 2016).

Philosophy has been defined as "a study of problems that are ultimate, abstract, and general. These problems are concerned with the nature of existence, knowledge, morality, reason, and human purpose" (Teichman & Evans, 1999, p. 1). Philosophy tries to discover knowledge and truth and attempts to identify what is valuable and important.

Modern philosophy is usually traced to Rene Descartes, Francis Bacon, Baruch Spinoza, and Immanuel Kant (ca. 1600–1800). Descartes (1596–1650) and Spinoza (1632–1677) were early rationalists. Rationalists believe that reason is superior to experience as a source of knowledge. Rationalists attempt to determine the nature of the world and reality by deduction and stress the importance of mathematical procedures.

Bacon (1561–1626) was an early empiricist. Like rationalists, he supported experimentation and scientific methods for solving problems.

The work of Kant (1724–1804) set the foundation for many later developments in philosophy. Kant believed that knowledge is relative and that the mind plays an active role in knowing. Other philosophers have also influenced nursing and the advance of nursing science. Several are discussed later in the chapter.

Although there is some variation, traditionally, the branches of philosophy include metaphysics (ontology and cosmology), epistemology, logic, esthetics, and ethics or axiology. Political philosophy and philosophy of science are added by some authors (Rutty, 1998; Teichman & Evans, 1999). Table 1-2 summarizes the major branches of philosophy.

Science and Philosophical Schools of Thought

The concept of science as understood in the 21st century is relatively new. In the period of modern science, three philosophies of science (paradigms or worldviews) dominate: rationalism, empiricism, and human science/phenomenology. Rationalism and empiricism are often termed *received view* and human science/phenomenology and related worldviews (i.e., historicism) are considered *perceived view* (Hickman, 2011; Meleis, 2012). These two worldviews dominated theoretical discussion in nursing through the 1990s. More recently, attention has focused on another dominant worldview: "postmodernism" (Meleis, 2012; Reed, 1995).

Table 1-2 Branches of Philosophy

Branch	Pursuit
Metaphysics	Study of the fundamental nature of reality and existence—general theory of reality
Ontology	Study of theory of being (what is or what exists)
Cosmology	Study of the physical universe
Epistemology	Study of knowledge (ways of knowing, nature of truth, and relationship between knowledge and belief)
Logic	Study of principles and methods of reasoning (inference and argument)
Ethics (axiology)	Study of nature of values; right and wrong (moral philosophy)
Esthetics	Study of appreciation of the arts or things beautiful
Philosophy of science	Study of science and scientific practice
Political philosophy	Study of citizen and state

Sources: Blackburn (2016); Teichman and Evans (1999).

Received View (Empiricism, Positivism, Logical Positivism)

Empiricism has its roots in the writings of Francis Bacon, John Locke, and David Hume, who valued observation, perception by senses, and experience as sources of knowledge (Gortner & Schultz, 1988; Powers & Knapp, 2011). Empiricism is founded on the belief that what is experienced is what exists, and its knowledge base requires that these experiences be verified through scientific methodology (Dahnke & Dreher, 2016; Gustafsson, 2002). This knowledge is then passed on to others in the discipline and subsequently built on. The term *received view* or *received knowledge* denotes that individuals learn by being told or receiving knowledge.

Empiricism holds that truth corresponds to observable, reduction, verification, control, and bias-free science. It emphasizes mathematic formulas to explain phenomena and prefers simple dichotomies and classification of concepts. Additionally, everything can be reduced to a scientific formula with little room for interpretation (DiBartolo, 1998; Gortner & Schultz, 1988; Risjord, 2010).

Empiricism focuses on understanding the parts of the whole in an attempt to understand the whole. It strives to explain nature through testing of hypotheses and development of theories. Theories are made to describe, explain, and predict phenomena in nature and to provide understanding of relationships between phenomena. Concepts must be operationalized in the form of propositional statements, thereby making measurement possible. Instrumentation, reliability, and validity are stressed in empirical research methodologies. Once measurement is determined, it is possible to test theories through experimentation or observation, which results in verification or falsification (Cull-Wilby & Pepin, 1987; Suppe & Jacox, 1985).

Positivism is often equated with empiricism. Like empiricism, positivism supports mechanistic, reductionist principles, where the complex can be best understood in terms of its basic components. *Logical positivism* was the dominant empirical philosophy of science between the 1880s and 1950s. Logical positivists recognized only the logical and empirical bases of science and stressed that there is no room for metaphysics, understanding, or meaning within the realm of science (Polifroni, 2015; Risjord, 2010).

Logical positivism maintained that science is value free, independent of the scientist, and obtained using objective methods. The goal of science is to explain, predict, and control. Theories are either true or false, subject to empirical observation, and capable of being reduced to existing scientific theories (Rutty, 1998).

Contemporary Empiricism/Postpositivism

Positivism came under criticism in the 1960s when positivistic logic was deemed faulty (Rutty, 1998). An overreliance on strictly controlled experimentation in artificial settings produced results that indicated that much significant knowledge or information was missed. In recent years, scholars have determined that the positivist view of science is outdated and misleading in that it contributes to overfragmentation in knowledge and theory development (DiBartolo, 1998). It has been observed that positivistic analysis of theories is fundamentally defective due to insistence on analyzing the logically ideal, which results in findings that have little to do with reality. It was maintained that the context of discovery was artificial and that theories and explanations can be understood only within their discovery contexts (Suppe & Jacox, 1985). Also, scientific inquiry is inherently value laden, as even choosing what to investigate and/or what techniques to employ will reflect the values of the researcher.

The current generation of postpositivists accepts the subjective nature of inquiry but still supports rigor and objective study through quantitative research methods. Indeed, it has been observed that modern empiricists or postpositivists are concerned with explanation and prediction of complex phenomena, recognizing contextual variables (Powers & Knapp, 2011; Reed, 2008).

Nursing and Empiricism

As an emerging discipline, nursing has followed established disciplines (e.g., physiology) and the medical model in stressing logical positivism. Early nurse scientists embraced the importance of objectivity, control, fact, and measurement of smaller and smaller parts. Based on this influence, acceptable methods for knowledge generation in nursing have stressed traditional, orthodox, and preferably experimental methods.

Although positivism continues to heavily influence nursing science, that viewpoint has been challenged in recent years (Risjord, 2010). Consequently, postpositivism has become one of the most accepted contemporary worldviews in nursing.

Perceived View (Human Science, Phenomenology, Constructivism, Historicism)

In the late 1960s and early 1970s, several philosophers, including Kuhn, Feyerbend, and Toulmin, challenged the positivist view by arguing that the influence of history on science should be emphasized (Dahnke & Dreher, 2016). The perceived view of science, which may also be referred to as the interpretive view, includes phenomenology, constructivism, and historicism. The interpretive view recognizes that the perceptions of both the subject being studied and the researcher tend to de-emphasize reliance on strict control and experimentation in laboratory settings (Monti & Tingen, 1999).

The perceived view of science centers on descriptions that are derived from collectively lived experiences, interrelatedness, human interpretation, and learned reality, as opposed to artificially invented (i.e., laboratory-based) reality (Rutty, 1998). It is argued that the pursuit of knowledge and truth is naturally historical, contextual, and value laden. Thus, there is no single truth. Rather, knowledge is deemed true if it withstands practical tests of utility and reason (DiBartolo, 1998).

Phenomenology is the study of phenomena and emphasizes the appearance of things as opposed to the things themselves. In phenomenology, *understanding* is the goal of

science, with the objective of recognizing the connection between one's experience, values, and perspective. It maintains that each individual's experience is unique, and there are many interpretations of reality. Inquiry begins with individuals and their experiences with phenomena. Perceptions, feelings, values, and the meanings that have come to be attached to things and events are the focus.

For social scientists, the *constructivist* approaches of the perceived view focus on understanding the actions of, and meaning to, individuals. What exists depends on what individuals perceive to exist. Knowledge is subjective and created by individuals. Thus, research methodology entails the investigation of the individual's world. There is an emphasis on subjectivity, multiple truths, trends and patterns, discovery, description, and understanding.

Feminism and critical social theory may also be considered to be perceived view. These philosophical schools of thought recognize the influence of gender, culture, society, and shared history as being essential components of science (Riegel et al., 1992). Critical social theorists contend that reality is dynamic and shaped by social, political, cultural, economic, ethnic, and gender values (Streubert & Carpenter, 2011). Critical social theory and feminist theories will be described in more detail in Chapter 13.

Nursing and Phenomenology/Constructivism/Historicism

Because they examine phenomena within context, phenomenology, as well as other perceived views of philosophy, are conducive to discovery and knowledge development inherent to nursing. Phenomenology is open, variable, and relativistic and based on human experience and personal interpretations. As such, it is an important, guiding paradigm for nursing practice theory and education (DiBartolo, 1998).

In nursing science, the dichotomy of philosophic thought between the received, empirical view of science and the perceived, interpretative view of science has persisted. This may have resulted, in part, because nursing draws heavily both from natural sciences (physiology, biology) and social sciences (psychology, sociology).

Postmodernism (Poststructuralism, Postcolonialism)

Postmodernism began in Europe in the 1960s as a social movement centered on a philosophy that rejects the notion of a single "truth." Although it recognizes the value of science and scientific methods, postmodernism allows for multiple meanings of reality and multiple ways of knowing and interpreting reality (Hood, 2014; Reed, 1995). In postmodernism, knowledge is viewed as uncertain, contextual, and relative. Knowledge development moves from emphasis on identifying a truth or fact in research to discovering practical significance and relevance of research findings (Reed, 1995).

Similar or related constructs and worldviews found in the nursing literature include "deconstruction," "postcolonialism," and, at times, feminist philosophies. In nursing, the postcolonial worldview can be connected to both feminism and critical theory, particularly when considering nursing's historical reliance on medicine (Holmes, Roy, & Perron, 2008; McGibbon, Mulaudzi, Didham, Barton, & Sochan, 2014; Racine, 2009).

Postmodernism has loosened the notions of what counts as knowledge development that have persisted among supporters of qualitative and quantitative research methods. Rather than focusing on a single research methodology, postmodernism promotes use of multiple methods for development of scientific understanding and incorporation of different ways to improve understanding of human nature (Hood, 2014;

Meleis, 2012; Rodgers, 2015). Increasingly, in postmodernism, there is a consensus that synthesis of both research methods can be used at different times to serve different purposes (Hood, 2014; Meleis, 2012; Risjord, Dunbar, & Moloney, 2002).

Criticisms of postmodernism have been made and frequently relate to the perceived reluctance to address error in research. Taken to the extreme as Paley (2005) pointed out, when there is absence of strict control over methodology and interpretation of research, "Nobody can ever be wrong about anything" (p. 107). Chinn and Kramer (2015) echoed the concerns by acknowledging that knowledge development should never be "sloppy." Indeed, although application of various methods in research is legitimate and may be advantageous, research must still be carried out carefully and rigorously.

Nursing and Postmodernism

Postmodernism has been described as a dominant scientific theoretical paradigm in nursing in the late 20th century (Meleis, 2012). As the discipline matures, there has been recognition of the pluralistic nature of nursing and an enhanced understanding that the goal of research is to provide an integrative basis for nursing care (Walker & Avant, 2011).

In terms of scientific methodology, the attention is increasingly on combining multiple methods within a single research project (Chinn & Kramer, 2015). Postmodernism has helped dislodged the authority of a single research paradigm in nursing science by emphasizing the blending or integration of qualitative and quantitative research into a holistic, dynamic model to improve nursing practice. Table 1-3 compares the dominant philosophical views of science in nursing.

Table 1-3 Comparison of the Received, Perceived, and Postmodern Views of Science

Received View of Science—Hard Sciences	Perceived View of Science—Soft Sciences	Postmodernism, Poststructuralism, and Postcolonialism
Empiricism/positivism/ logical positivism	Historicism/phenomenology	Macroanalysis
Reality/truth/facts considered acontextual (objective)	Reality/truth/facts considered in context (subjective)	Contextual meaning; narration
Deductive	Inductive	Contextual, political, and structural analysis
Reality/truth/facts considered ahistorical	Reality/truth/facts considered with regard to history	Reality/truth/facts considered with regard to history
Prediction and control	Description and understanding	Metanarrative analysis
One truth	Multiple truths	Different views
Validation and replication	Trends and patterns	Uncovering opposing views
Reductionism	Constructivism/holism	Macrorelationship; microstructures
Quantitative research	Qualitative research methods	Methodologic pluralism methods

Sources: Meleis (2012); Moody (1990).

Nursing Philosophy, Nursing Science, and Philosophy of Science in Nursing

The terms *nursing philosophy*, *nursing science*, and *philosophy of science in nursing* are sometimes used interchangeably. The differences, however, in the general meaning of these concepts are important to recognize.

Nursing Philosophy

Nursing philosophy has been described as "a statement of foundational and universal assumptions, beliefs and principles about the nature of knowledge and thought (epistemology) and about the nature of the entities represented in the metaparadigm (i.e., nursing practice and human health processes [ontology])" (Reed, 1995, p. 76). Nursing philosophy, then, refers to the belief system or worldview of the profession and provides perspectives for practice, scholarship, and research.

No single dominant philosophy has prevailed in the discipline of nursing. Many nursing scholars and nursing theorists have written extensively in an attempt to identify the overriding belief system, but to date, none has been universally successful. Most would agree then that nursing is increasingly recognized as a "multiparadigm discipline" (Powers & Knapp, 2011, p. 129), in which using multiple perspectives or worldviews in a "unified" way is valuable and even necessary for knowledge development (Giuliano, Tyer-Viola, & Lopez, 2005).

Nursing Science

Parse (2016) defined nursing science as "the substantive, discipline-specific knowledge that focuses on the human-universe-health process articulated in the nursing frameworks and theories" (p. 101). To develop and apply the discipline-specific knowledge, nursing science recognizes the relationships of human responses in health and illness and addresses biologic, behavioral, social, and cultural domains. The goal of nursing science is to represent the nature of nursing—to understand it, to explain it, and to use it for the benefit of humankind. It is nursing science that gives direction to the future generation of substantive nursing knowledge, and it is nursing science that provides the knowledge for all aspects of nursing (Holzemer, 2007; Parse, 2016).

Philosophy of Science in Nursing

Philosophy of science in nursing helps to establish the meaning of science through an understanding and examination of nursing concepts, theories, laws, and aims as they relate to nursing practice. It seeks to understand truth; to describe nursing; to examine prediction and causality; to critically relate theories, models, and scientific systems; and to explore determinism and free will (Nyatanga, 2005; Polifroni, 2015).

Knowledge Development and Nursing Science

Development of nursing knowledge reflects the interface between nursing science and research. The ultimate purpose of knowledge development is to improve nursing practice. Approaches to knowledge development have three facets: ontology, epistemology, and methodology. Ontology refers to the study of being: what is or what exists.

Epistemology refers to the study of knowledge or ways of knowing. Methodology is the means of acquiring knowledge (Powers & Knapp, 2011). The following sections discuss nursing epistemology and issues related to methods of acquiring knowledge.

Epistemology

Epistemology is the study of the theory of knowledge. Epistemologic questions include: What do we know? What is the extent of our knowledge? How do we decide whether we know? and What are the criteria of knowledge? (Schultz & Meleis, 1988).

According to Streubert and Carpenter (2011), it is important to understand the way in which nursing knowledge develops to provide a context in which to judge the appropriateness of nursing knowledge and methods that nurses use to develop that knowledge. This in turn will refocus methods for gaining knowledge as well as establishing the legitimacy or quality of the knowledge gained.

Ways of Knowing

In epistemology, there are several basic types of knowledge. These include the following:

- Empirics—the scientific form of knowing. Empirical knowledge comes from observation, testing, and replication.
- Personal knowledge—a priori knowledge. Personal knowledge pertains to knowledge gained from thought alone.
- Intuitive knowledge—includes feelings and hunches. Intuitive knowledge is not guessing but relies on nonconscious pattern recognition and experience.
- Somatic knowledge—knowledge of the body in relation to physical movement. Somatic knowledge includes experiential use of muscles and balance to perform a physical task.
- Metaphysical (spiritual) knowledge—seeking the presence of a higher power. Aspects of spiritual knowing include magic, miracles, psychokinesis, extrasensory perception, and near-death experiences.
- Esthetics—knowledge related to beauty, harmony, and expression. Esthetic knowledge incorporates art, creativity, and values.
- Moral or ethical knowledge—knowledge of what is right and wrong. Values and social and cultural norms of behavior are components of ethical knowledge.

Nursing Epistemology

Nursing epistemology has been defined as "the study of the origins of nursing knowledge, its structure and methods, the patterns of knowing of its members, and the criteria for validating its knowledge claims" (Schultz & Meleis, 1988, p. 217). Like most disciplines, nursing has both scientific knowledge and knowledge that can be termed conventional wisdom (knowledge that has not been empirically tested).

Traditionally, only what stands the test of repeated measures constitutes truth or knowledge. Classical scientific processes (i.e., experimentation), however, are not suitable for creating and describing all types of knowledge. Social sciences, behavioral sciences, and the arts rely on other methods to establish knowledge. Because it has characteristics of social and behavioral sciences, as well as biologic sciences, nursing must rely on multiple ways of knowing.

In a classic work, Carper (1978) identified four fundamental patterns for nursing knowledge: (1) empirics—the science of nursing, (2) esthetics—the art of nursing, (3) personal knowledge in nursing, and (4) ethics—moral knowledge in nursing.

Empirical knowledge is objective, abstract, generally quantifiable, exemplary, discursively formulated, and verifiable. When verified through repeated testing over time, it is formulated into scientific generalizations, laws, theories, and principles that explain and predict (Carper, 1978, 1992). It draws on traditional ideas that can be verified through observation and proved by hypothesis testing.

Empirical knowledge tends to be the most emphasized way of knowing in nursing because there is a need to know how knowledge can be organized into laws and theories for the purpose of describing, explaining, and predicting phenomena of concern to nurses. Most theory development and research efforts are engaged in seeking and generating explanations that are systematic and controllable by factual evidence (Carper, 1978, 1992).

Esthetic knowledge is expressive, subjective, unique, and experiential rather than formal or descriptive. Esthetics includes sensing the meaning of a moment. It is evident through actions, conduct, attitudes, and interactions of the nurse in response to another. It is not expressed in language (Carper, 1978).

Esthetic knowledge relies on perception. It is creative and incorporates empathy and understanding. It is interpretive, contextual, intuitive, and subjective and requires synthesis rather than analysis. Furthermore, esthetics goes beyond what is explained by principles and creates values and meaning to account for variables that cannot be quantitatively formulated (Carper, 1978, 1992).

Personal knowledge refers to the way in which nurses view themselves and the client. Personal knowledge is subjective and promotes wholeness and integrity in personal encounters. Engagement, rather than detachment, is a component of personal knowledge.

Personal knowledge incorporates experience, knowing, encountering, and actualizing the self within the practice. Personal maturity and freedom are components of personal knowledge, which may include spiritual and metaphysical forms of knowing. Because personal knowledge is difficult to express linguistically, it is largely expressed in personality (Carper, 1978, 1992).

Ethics refers to the moral code for nursing and is based on obligation to service and respect for human life. Ethical knowledge occurs as moral dilemmas arise in situations of ambiguity and uncertainty and when consequences are difficult to predict. Ethical knowledge requires rational and deliberate examination and evaluation of what is good, valuable, and desirable as goals, motives, or characteristics (Carper, 1978, 1992). Ethics must address conflicting norms, interests, and principles and provide insight into areas that cannot be tested.

Fawcett, Watson, Neuman, Walkers, and Fitzpatrick (2001) stress that integration of all patterns of knowing is essential for professional nursing practice and that no one pattern should be used in isolation from others. Indeed, they are interrelated and interdependent because there are multiple points of contact between and among them (Carper, 1992). Thus, nurses should view nursing practice from a broadened perspective that places value on ways of knowing beyond the empirical (Silva, Sorrell, & Sorrell, 1995). Table 1-4 summarizes selected characteristics of Carper's patterns of knowing in nursing.

Other Views of Patterns of Knowledge in Nursing

Although Carper's work is considered classic, it is not without critics. Schultz and Meleis (1988) observed that Carper's work did not incorporate practical knowledge into the ways of knowing in nursing. Because of this and other concerns, they described three patterns of knowledge in nursing: clinical, conceptual, and empirical.

Table 1-4 Characteristics of Carper's Patterns of Knowing in Nursing

Pattern of Knowing	Relationship to Nursing	Source or Creation	Source of Validation	Method of Expression	Purpose or Outcome
Empirics	Science of nursing	Direct or indirect observation and measurement	Replication	Facts, models, scientific principles, laws statements, theories, descriptions	Description, explanation, prediction
Esthetics	Art of nursing	Creation of value and meaning, synthesis of abstract and concrete	Appreciation; experience; inspiration; perception of balance, rhythm, proportion, and unity	Appreciation; empathy; esthetic criticism; engaging, intuiting, and envisioning	Move beyond what can be explained, quantitatively formulated, understanding, balance
Personal knowledge	Therapeutic use of self	Engagement, opening, centering, actualizing self	Response, reflection, experience	Empathy, active participation	Promote wholeness and integrity in personal encounters
Ethics	Moral component of nursing	Values clarification, rational and deliberate reasoning, obligation, advocating	Dialogue, justification, universal generalizability	Principles, codes, ethical theories	Evaluation of what is good, valuable, and desirable

Sources: Carper (1978, 1992); Chinn and Kramer (2015).

Clinical knowledge refers to the individual nurse's personal knowledge. It results from using multiple ways of knowing while solving problems during client care provision. Clinical knowledge is manifested in the acts of practicing nurses and results from combining personal knowledge and empirical knowledge. It may also involve intuitive and subjective knowing. Clinical knowledge is communicated retrospectively through publication in journals (Schultz & Meleis, 1988).

Conceptual knowledge is abstracted and generalized beyond personal experience. It explicates patterns revealed in multiple client experiences, which occur in multiple situations, and articulates them as models or theories. In conceptual knowledge, concepts are drafted and relational statements are formulated. Propositional statements are supported by empirical or anecdotal evidence or defended by logical reasoning.

Conceptual knowledge uses knowledge from nursing and other disciplines. It incorporates curiosity, imagination, persistence, and commitment in the accumulation of facts and reliable generalizations that pertain to the discipline of nursing. Conceptual knowledge is communicated in propositional statements (Schultz & Meleis, 1988).

Empirical knowledge results from experimental, historical, or phenomenologic research and is used to justify actions and procedures in practice. The credibility of empirical knowledge rests on the degree to which the researcher has followed procedures accepted by the community of researchers and on the logical, unbiased derivation of conclusions from the evidence. Empirical knowledge is evaluated through systematic review and critique of published research and conference presentations (Schultz & Meleis, 1988).

Chinn and Kramer (2015) also expanded on Carper's patterns of knowing to include "emancipatory knowing"—what they designate as the "praxis of nursing." In their

view, emancipatory knowing refers to human's ability to critically examine the current status quo and to determine why it currently exists. This, in turn, supports identification of inequities in social and political institutions and clarification of cultural values and beliefs to improve conditions for all. In this view, emancipatory knowledge is expressed in actions that are directed toward changing existing social structures and establishing practices that are more equitable and favorable to human health and well-being.

Summary of Ways of Knowing in Nursing

For decades, the importance of the multiple ways of knowing has been recognized in the discipline of nursing. If nursing is to achieve a true integration between theory, research, and practice, theory development and research must integrate different sources of knowledge. Kidd and Morrison (1988) state that in nursing, synthesis of theories derived from different sources of knowledge will:

1. Encourage the use of different types of knowledge in practice, education, theory development, and research.
2. Encourage the use of different methodologies in practice and research.
3. Make nursing education more relevant for nurses with different educational backgrounds.
4. Accommodate nurses at different levels of clinical competence.
5. Ultimately promote high-quality client care and client satisfaction.

Research Methodology and Nursing Science

Being heavily influenced by logical empiricism, as nursing began developing as a scientific discipline in the mid-1900s, quantitative methods were used almost exclusively in research. In the 1960s and 1970s, schools of nursing aligned nursing inquiry with scientific inquiry in a desire to bring respect to the academic environment, and nurse researchers and nurse educators valued quantitative research methods over other forms.

A debate over methodology began in the 1980s, however, when some nurse scholars asserted that nursing's ontology (what nursing is) was not being adequately and sufficiently explored using quantitative methods in isolation. Subsequently, qualitative research methods began to be put into use. The assumptions were that qualitative methods showed the phenomena of nursing in ways that were naturalistic and unstructured and not misrepresented (Holzemer, 2007; Rutty, 1998).

The manner in which nursing science is conceptualized determines the priorities for nursing research and provides measures for determining the relevance of various scientific research questions. Therefore, the way in which nursing science is conceptualized also has implications for nursing practice. The philosophical issues regarding methods of research relate back to the debate over the worldviews of received versus perceived views of science versus postmodernism and whether nursing is a practice or applied science, a human science, or some combination. The notion of evidence-based practice has emerged over the last few years, largely in response to these and related concerns. Evidence-based practice as it relates to the theoretical basis of nursing will be examined in Chapter 13.

Nursing as a Practice Science

In early years, the debate focused on whether nursing was a basic science or an applied science. The goal of basic science is the attainment of knowledge. In basic research,

the investigator is interested in understanding the problem and produces knowledge for knowledge's sake. It is analytical and the ultimate function is to analyze a conclusion backward to its proper principles.

Conversely, an applied science is one that uses the knowledge of basic sciences for some practical end. Engineering, architecture, and pharmacology are examples. In applied research, the investigator works toward solving problems and producing solutions for the problem. In practice sciences, research is largely clinical and action oriented (Moody, 1990). Thus, as an applied or practical science, nursing requires research that is applied and clinical and that generates and tests theories related to health of human beings within their environments as well as the actions and processes used by nurses in practice.

Nursing as a Human Science

The term *human science* is traced to philosopher Wilhelm Dilthey (1833–1911). Dilthey proposed that the human sciences require concepts, methods, and theories that are fundamentally different from those of the natural sciences. Human sciences study human life by valuing the lived experience of persons and seek to understand life in its matrix of patterns of meaning and values. Some scholars believe that there is a need to approach human sciences differently from conventional empiricism and contend that human experience must be understood in context (Cody & Mitchell, 2002; Polifroni, 2015).

In human sciences, scientists hope to create new knowledge to provide understanding and interpretation of phenomena. In human sciences, knowledge takes the form of descriptive theories regarding the structures, processes, relationships, and traditions that underlie psychological, social, and cultural aspects of reality. Data are interpreted within context to derive meaning and understanding. Humanistic scientists value the subjective component of knowledge. They recognize that humans are not capable of total objectivity and embrace the idea of subjectivity (Streubert & Carpenter, 2011). The purpose of research in human science is to produce descriptions and interpretations to help understand the nature of human experience.

Nursing is sometimes referred to as a human science (Cody & Mitchell, 2002; Polifroni, 2015). Indeed, the discipline has examined issues related to behavior and culture, as well as biology and physiology, and sought to recognize associations among factors that suggest explanatory variables for human health and illness. Thus, it fits the pattern of other humanistic sciences (i.e., anthropology, sociology).

Quantitative Versus Qualitative Methodology Debate

Nursing scholars accept the premise that scientific knowledge is generated from systematic study. The research methodologies and criteria used to justify the acceptance of statements or conclusions as true within the discipline result in conclusions and statements that are appropriate, valid, and reliable for the purpose of the discipline.

The two dominant forms of scientific inquiry have been identified in nursing: (1) empiricism, which objectifies and attempts to quantify experience and may test propositions or hypotheses in controlled experimentation, and (2) phenomenology and other forms of qualitative research (i.e., grounded theory, hermeneutics, historical research, ethnography), which study lived experiences and meanings of events (Gortner & Schultz, 1988; Morse, 2017; Risjord, 2010). Reviews of the scientific

status of nursing knowledge usually contrast the positivist–deductive–quantitative approach with the interpretive–inductive–qualitative alternative.

Although nursing theorists and nursing scientists emphasize the importance of sociohistorical contexts and person–environment interactions, they tend to focus on "hard science" and the research process. It has been argued that there is an overvaluation of the empirical/quantitative view because it is seen as "true science" (Tinkle & Beaton, 1983). Indeed, the experimental method is held in the highest regard. A viewpoint has persisted into the 21st century in which scholars assume that descriptive or qualitative research should be performed only where there is little information available or when the science is young. Correlational research may follow and then experimental methods can be used when the two lower ("less rigid" or "less scientific") levels have been explored.

Quantitative Methods

Traditionally, within the "received" or positivistic worldview, science has been uniquely quantitative. The quantitative approach has been justified by its success in measuring, analyzing, replicating, and applying the knowledge gained (Streubert & Carpenter, 2011). According to Wolfer (1993), science should incorporate methodologic principles of objective observation/description, accurate measurement, quantification of variables, mathematical and statistical analysis, experimental methods, and verification through replication whenever possible.

Kidd and Morrison (1988) state that in their haste to prove the credibility of nursing as a profession, nursing scholars have emphasized reductionism and empirical validation through quantitative methodologies, emphasizing hypothesis testing. In this framework, the scientist develops a hypothesis about a phenomenon and seeks to prove or disprove it.

Qualitative Methods

The tradition of using qualitative methods to study human phenomena is grounded in the social sciences. Phenomenology and other methods of qualitative research arose because aspects of human values, culture, and relationships were unable to be described fully using quantitative research methods. It is generally accepted that qualitative research findings answer questions centered on social experience and give meaning to human life. Beginning in the 1970s, nursing scientists were challenged to explain phenomena that defy quantitative measurement, and qualitative approaches, which emphasize the importance of the client's perspective, began to be used in nursing research (Kidd & Morrison, 1988).

Repeatedly, scholars state that nursing research should incorporate means for determining interpretation of the phenomena of concern from the perspective of the client or care recipient. Contrary to the assertions of early scientists, many later nurse scientists believe that qualitative inquiry contains features of good science including theory and observation, logic, precision, clarity, and reproducibility (Monti & Tingen, 1999).

Methodologic Pluralism

In many respects, nursing is still undecided about which methodologic approach (qualitative or quantitative) best demonstrates the essence and uniqueness of nursing because both methods have strengths and limitations. Beck and Harrison (2016), Risjord (2010), and Wood and Haber (2018), among others, believe that the two approaches may be considered complementary and appropriate for nursing as a research-based discipline. Indeed, it is repeatedly argued that both approaches are equally important and even essential for nursing science development.

Although basic philosophical viewpoints have guided and directed research strategies in the past, recently, scholars have called for theoretical and methodologic pluralism in nursing philosophy and nursing science as presented in the discussion on postmodernism. Pluralism of research designs is essential for reflecting the uniqueness of nursing, and multiple approaches to theory development and testing should be encouraged. Because there is no one best method of developing knowledge, it is important to recognize that valuing one standard as exclusive or superior restricts the ability to progress.

Summary

Nursing is an evolving profession, an academic discipline, and a science. As nursing progresses and grows as a profession, some controversy remains on whether to emphasize a humanistic, holistic focus or an objective, scientifically derived means of comprehending reality. What is needed, and is increasingly more evident as nursing matures as a profession, is an open philosophy that ties empirical concepts that are capable of being validated through the senses with theoretical concepts of meaning and value.

It is important that future nursing leaders and novice nurse scientists possess an understanding of nursing's philosophical foundations. The legacy of philosophical positivism continues to drive beliefs in the scientific method and research strategies, but it is time to move forward to face the challenges of the increasingly complex and volatile health care environment.

Key Points

- Nursing can be considered an aspiring or evolving profession.
- Nursing is a professional discipline that draws much of its knowledge base from other disciplines, including psychology, sociology, physiology, and medicine.
- Nursing is an applied or practice science that has been influenced by several philosophical schools of thought or worldviews, including the received view (empiricism, positivism, logical positivism), the perceived view (humanism, phenomenology, constructivism), and postmodernism.
- *Nursing philosophy* refers to the worldview(s) of the profession and provides perspective for practice, scholarship, and research. *Nursing science* is the discipline-specific knowledge that focuses on the human–environment–health process and is articulated in nursing theories and generated through nursing research. *Philosophy of science in nursing* establishes the meaning of science through examination of nursing concepts, theories, and laws as they relate to nursing practice.
- Nursing epistemology (ways of knowing in nursing) has focused on four predominant or "fundamental" ways of knowledge: empirical knowledge, esthetic knowledge, personal knowledge, and ethical knowledge.
- As nursing science has developed, there has been a debate over what research methods to use (i.e., quantitative methods vs. qualitative methods). Increasingly, there has been a call for "methodologic pluralism" to better ensure that research findings are applicable in nursing practice.

Case Study

The following is adapted from a paper written by a graduate student describing an encounter in nursing practice that highlights Carper's (1978) ways of knowing in nursing.

In her work, Carper (1978) identified four patterns of knowing in nursing: empirical knowledge (science of nursing), esthetic knowledge (art of nursing), personal knowledge, and ethical knowledge. Each is essential and depends on the others to make the whole of nursing practice, and it is impossible to state which of the patterns of knowing is most important. If nurses focus exclusively on empirical knowledge, for example, nursing care would become more like medical care. But without an empirical base, the art of nursing is just tradition. Personal knowledge is gained from experience and requires a scientific basis, understanding, and empathy. Finally, the moral component is necessary to determine what is valuable, ethical, and compulsory. Each of these ways of knowing is illustrated in the following scenario.

Mrs. Smith was a 24-year-old primigravida who presented to our unit in early labor. Her husband, and father of her unborn child, had abandoned her 2 months prior to delivery, and she lacked close family support.

I cared for Mrs. Smith throughout her labor and assisted during her delivery. During this process, I taught breathing techniques to ease pain and improve coping. Position changes were encouraged periodically, and assistance was provided as needed. Mrs. Smith's care included continuous fetal monitoring, intravenous hydration, analgesic administration, back rubs, coaching and encouragement, assistance while getting an epidural, straight catheterization as needed, vital sign monitoring per policy, oxytocin administration after delivery, newborn care, and breastfeeding assistance, among many others. All care was explained in detail prior to rendering.

Empirical knowledge *was clearly utilized in Mrs. Smith's care. Examples would be those practices based on the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) evidence-based standards. These include guidelines for fetal heart rate monitoring and interpretation, assessment and management of Mrs. Smith while receiving her epidural analgesia, the assessment and management of side effects secondary to her regional analgesia, and even frequency for monitoring vital signs. Other examples would be assisting Mrs. Smith to an upright position during her second stage of labor to facilitate delivery and delaying nondirected pushing once she was completely dilated.*

Esthetic knowledge*, or the art of nursing, is displayed in obstetrical nursing daily. Rather than just responding to biologic developments or spoken requests, the whole person was valued and cues were perceived and responded to for the good of the patient. The care I gave Mrs. Smith was holistic; her social, spiritual, psychological, and physical needs were all addressed in a comprehensive and seamless fashion. The empathy conveyed to the patient took into account her unique self and situation, and the care provided was reflexively tailored to her needs. I recognized the profound experience of which I was a part and adapted my actions and attitude to honor the patient and value the larger experience.*

Many aspects of ***personal knowledge*** *seem intertwined with esthetics, though more emphasis seems to be on the meaningful interaction between the patient and nurse. As above, the patient was cared for as a unique individual. Though secondary to the awesome nature of birth, much of the experience revolved around the powerful interpersonal relationship established. Mrs. Smith was accepted as herself. Though efforts were made by me to manage certain aspects of the experience, Mrs. Smith was allowed control and freedom of expression and reaction. She and I were both committed to the mutual though brief relationship. This knowledge stems from my own personality and ability to accept others, willingness to connect to others, and desire to collaborate with the patient regarding her care and ultimate experience.*

*The **ethical knowledge** of nursing is continuously utilized in nursing care to promote the health and well-being of the patient; and in this circumstance, the unborn child as well. Every decision made must be weighed against desired goals and values, and nurses must strive to act as advocates for each patient. When caring for a patient and an unborn child, there is a constant attempt to do no harm to either, while balancing the care of both. A very common example is the administration of medications for the mother's comfort that can cause sedation and respiratory depression in the neonate. This case involved fewer ethical considerations than many others in obstetrics. These include instances in which physicians do not respond when the nurse feels there is imminent danger and the chain of command must be utilized, or when assistance is required for the care of abortion patients or in other situations that may be in conflict with the nurses moral or religious convictions.*

A close bond was formed while I cared for Mrs. Smith and her baby. Soon after admission, she was holding my hand during contractions and had shared very intimate details of her life, separation, and fears. Though she had shared her financial concerns and had a new baby to provide for, a few weeks after her delivery I received a beautiful gift basket and card. In her note she shared that I had touched her in a way she had never expected and she vowed never to forget me; I've not forgotten her either.

Contributed by Shelli Carter, RN, MSN

Learning Activities

1. Reflect on the previous case study. Think of a situation from personal practice in which multiple ways of knowing were used. Write down the anecdote and share it with classmates.
2. With classmates, discuss whether nursing is a profession or an occupation. What can current and future nurses do to enhance nursing's standing as a profession?
3. Debate with classmates the dominant philosophical schools of thought in nursing (received view, perceived view, postmodernism). Which worldview best encompasses the profession of nursing? Why?

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2

Overview of Theory in Nursing

Melanie McEwen

Matt Ng has been an emergency room nurse for almost 6 years and recently decided to enroll in a master's degree program to become an acute care nurse practitioner. As he read over the degree requirements, Matt was somewhat bewildered. One of the first courses in his program was entitled Application of Theory in Nursing. He was interested in the courses in advanced pharmacology, advanced physical assessment, and pathophysiology and was excited about the advanced practice clinical courses, but a course that focused on nursing theory did not appear congruent with his goals.

Looking over the syllabus for the theory application course did little to reassure Matt, but he was determined to make the best of the situation and went to the first class with an open mind. The first few class periods were increasingly interesting as the students and instructor discussed the historical evolution of the discipline of nursing and the stages of nursing theory development. As the course progressed, the topics became more relevant to Matt. He learned ways to analyze and evaluate theories, examined a number of different types of theories used by nurses, and completed several assignments, including a concept analysis, an analysis of a middle range nursing theory, and a synthesis paper that examined the use of non-nursing theories in nursing research.

By the end of the semester, Matt was able to recognize the importance of the study of theory. He understood how theoretical principles and concepts affected his current practice and how they would be essential to consider as he continued his studies to become an advanced practice nurse.

When asked about theory, many nurses and nursing students, and often even nursing faculty, will respond with a furrowed brow, a pained expression, and a resounding "ugh." When questioned about their negative response, most will admit that the idea of studying theory is confusing, that they see no practical value, and that theory is, in essence, too theoretical.

Likewise, some nursing scholars believe that nursing theory is practically nonexistent, whereas others recognize that many practitioners have not heard of nursing theory.

Some nurses lament that nurse researchers use theories and frameworks from other disciplines, whereas others believe the notion of nursing theory is outdated and ask why they should bother with theory. Questions and debates about "theory" in nursing abound in the nursing literature.

Myra Levine, one of the pioneer nursing theorists, wrote that "the introduction of the idea of theory in nursing was sadly inept" (Levine, 1995, p. 11). She stated,

> *In traditional nursing fashion, early efforts were directed at creating a procedure—a recipe book for prospective theorists—which then could be used to decide what was and was not a theory. And there was always the thread of expectation that the great, grand, global theory would appear and end all speculation. Most of the early theorists really believed they were achieving that.*

Levine (1995) went on to explain that every new theory posited new central concepts, definitions, relational statements, and goals for nursing and then attracted a chorus of critics. This resulted in nurses finding themselves confused about the substance and intention of the theories. Indeed, "In early days, theory was expected to be obscure. If it was clearly understandable, it wasn't considered a very good theory" (Levine, 1995, p. 11).

The drive to develop nursing theory has been marked by nursing theory conferences, the proliferation of theoretical and conceptual frameworks for nursing, and the formal teaching of theory development in graduate nursing education. It has resulted in the development of many systems, techniques or processes for theory analysis and evaluation, a fascination with the philosophy of science, and confusion about theory development strategies and division of choice of research methodologies.

There is debate over the types of theories that should be used by nurses. Should they be only nursing theories or can nurses use theories "borrowed" from other disciplines? There is debate over terminology such as *conceptual framework*, *conceptual model*, and *theory*. There have been heated discussions concerning the appropriate level of theory for nurses to develop as well as how, why, where, and when to test, measure, analyze, and evaluate these theories/models/conceptual frameworks. The question has been repeatedly asked: Should nurses adopt a single theory, or do multiple theories serve them best? It is no wonder, then, that nursing students display consternation, bewilderment, and even anxiety when presented with the prospect of studying theory. One premise, however, can be agreed upon: To be useful, a theory must be meaningful and relevant, but above all, it must be understandable. This chapter discusses many of the issues described previously. It presents the rationale for studying and using theory in nursing practice, research, management/administration, and education; gives definitions of key terms; provides an overview of the history of development of theory utilization in nursing; describes the scope of theory and levels of theory; and, finally, introduces the widely accepted nursing metaparadigm.

Overview of Theory

Most scholars agree that it is the unique theories and perspectives used by a discipline that distinguish it from other disciplines. The theories used by members of a profession clarify basic assumptions and values shared by its members and define the nature, outcome, and purpose of practice (Alligood, 2014a; Fawcett, 2012; Rutty, 1998).

Definitions of the term *theory* abound in the nursing literature. At a basic level, theory has been described as a systematic explanation of an event in which constructs

and concepts are identified and relationships are proposed and predictions made (Streubert & Carpenter, 2011). Theory has also been defined as a "creative and rigorous structuring of ideas that project a tentative, purposeful and systematic view of phenomena" (Chinn & Kramer, 2015, p. 255). Finally, theory has been called a set of interpretative assumptions, principles, or propositions that help explain or guide action (Young, Taylor, & Renpenning, 2001).

In their classic work, Dickoff and James (1968) state that theory is invented rather than found in or discovered from reality. Furthermore, theories vary according to the number of elements, the characteristics and complexity of the elements, and the kind of relationships between or among the elements.

The Importance of Theory in Nursing

Before the advent of development of nursing theories, nursing was largely subsumed under medicine. Nursing practice was generally prescribed by others and highlighted by traditional, ritualistic tasks with little regard to rationale. The initial work of nursing theorists was aimed at clarifying the complex intellectual and interactional domains that distinguish expert nursing practice from the mere doing of tasks (Omrey, Kasper, & Page, 1995). It was believed that conceptual models and theories could create mechanisms by which nurses would communicate their professional convictions, provide a moral/ethical structure to guide actions, and foster a means of systematic thinking about nursing and its practice (Chinn & Kramer, 2015; Peterson, 2017; Sitzman & Eichelberger, 2011; Ziegler, 2005). The idea that a single, unified model of nursing—a worldview of the discipline—might emerge was encouraged by some (Levine, 1995; Tierney, 1998).

It is widely believed that use of theory offers structure and organization to nursing knowledge and provides a systematic means of collecting data to describe, explain, and predict nursing practice. Use of theory also promotes rational and systematic practice by challenging and validating intuition. Theories make nursing practice more overtly purposeful by stating not only the focus of practice but also specific goals and outcomes. Theories define and clarify nursing and the purpose of nursing practice to distinguish it from other caring professions by setting professional boundaries. Finally, use of a theory in nursing leads to coordinated and less fragmented care (Alligood, 2014a; Chinn & Kramer, 2015; Ziegler, 2005).

Ways in which theories and conceptual models developed by nurses have influenced nursing practice are described by Fawcett (1992), who stated that in nursing they:

- Identify certain standards for nursing practice.
- Identify settings in which nursing practice should occur and the characteristics of what the model's author considers recipients of nursing care.
- Identify distinctive nursing processes and technologies to be used, including parameters for client assessment, labels for client problems, a strategy for planning, a typology of intervention, and criteria for evaluation of intervention outcomes.
- Direct the delivery of nursing services.
- Serve as the basis for clinical information systems, including the admission database, nursing orders, care plan, progress notes, and discharge summary.
- Guide the development of client classification systems.
- Direct quality assurance programs.

Terminology of Theory

In nursing, conceptual models or frameworks detail a network of concepts and describe their relationships, thereby explaining broad nursing phenomena. Theories, according to Young and colleagues (2001), are the narrative that accompanies the conceptual model. These theories typically provide a detailed description of all of the components of the model and outline relationships in the form of propositions. Critical components of the theory or narrative include definitions of the central concepts or constructs; propositions or relational statements; the assumptions on which the framework is based; and the purpose, indications for use, or application. Many conceptual frameworks and theories will also include a schematic drawing or model depicting the overall structure of or interactivity of the components (Chinn & Kramer, 2015).

Some terms may be new to students of theory and others need clarification. Table 2-1 lists definitions for a number of terms that are frequently encountered in writings on theory. Many of these terms will be described in more detail later in the chapter and in subsequent chapters.

Historical Overview: Theory Development in Nursing

Most nursing scholars credit Florence Nightingale with being the first modern nursing theorist. Nightingale was the first to delineate what she considered nursing's goal and practice domain, and she postulated that "to nurse" meant having charge of the personal health of someone. She believed the role of the nurse was seen as placing the client "in the best condition for nature to act upon him" (Hilton, 1997, p. 1211).

Florence Nightingale

Nightingale received her formal training in nursing in Kaiserswerth, Germany, in 1851. Following her renowned service for the British army during the Crimean War, she returned to London and established a school for nurses. According to Nightingale, formal training for nurses was necessary to "teach not only what is to be done, but how to do it." She was the first to advocate the teaching of symptoms and what they indicate. Furthermore, she taught the importance of rationale for actions and stressed the significance of "trained powers of observation and reflection" (Kalisch & Kalisch, 2004, p. 36).

In *Notes on Nursing*, published in 1859, Nightingale proposed basic premises for nursing practice. In her view, nurses were to make astute observations of the sick and their environment, record observations, and develop knowledge about factors that promoted healing. Her framework for nursing emphasized the utility of empirical knowledge, and she believed that knowledge developed and used by nurses should be distinct from medical knowledge. She insisted that trained nurses control and staff nursing schools and manage nursing practice in homes and hospitals (Chinn & Kramer, 2015; Kalisch & Kalisch, 2004).

Stages of Theory Development in Nursing

Subsequent to Nightingale, almost a century passed before other nursing scholars attempted the development of philosophical and theoretical works to describe and define nursing and to guide nursing practice. Kidd and Morrison (1988) described five stages in the development of nursing theory and philosophy: (1) silent knowledge,

Table 2-1 Definitions and Characteristics of Theory Terms and Concepts

Term	Definition and Characteristics
Assumptions	Assumptions are beliefs about phenomena one must accept as true to accept a theory about the phenomena as true. Assumptions may be based on accepted knowledge or personal beliefs and values. Although assumptions may not be susceptible to testing, they can be argued philosophically.
Borrowed or shared theory	A borrowed theory is a theory developed in another discipline that is not adapted to the worldview and practice of nursing.
Concept	Concepts are the elements or components of a phenomenon necessary to understand the phenomenon. They are abstract and derived from impressions the human mind receives about phenomena through sensing the environment.
Conceptual model/ conceptual framework	A conceptual model is a set of interrelated concepts that symbolically represents and conveys a mental image of a phenomenon. Conceptual models of nursing identify concepts and describe their relationships to the phenomena of central concern to the discipline.
Construct	Constructs are the most complex type of concept. They comprise more than one concept and are typically built or constructed by the theorist or philosopher to fit a purpose. The terms *concept* and *construct* are often used interchangeably, but some authors use concept as the more general term—all constructs are concepts, but not all concepts are constructs.
Empirical indicator	Empirical indicators are very specific and concrete identifiers of concepts. They are actual instructions, experimental conditions, and procedures used to observe or measure the concept(s) of a theory.
Epistemology	Epistemology refers to theories of knowledge or how people come to have knowledge; in nursing, it is the study of the origins of nursing knowledge.
Hypotheses	Hypotheses are tentative suggestions that a specific relationship exists between two concepts or propositions. As the hypothesis is repeatedly confirmed, it progresses to an empirical generalization and ultimately to a law.
Knowledge	Knowledge refers to the awareness or perception of reality acquired through insight, learning, or investigation. In a discipline, knowledge is what is collectively seen to be a reasonably accurate understanding of the world as seen by members of the discipline.
Laws	A law is a proposition about the relationship between concepts in a theory that has been repeatedly validated. Laws are highly generalizable. Laws are found primarily in disciplines that deal with observable and measurable phenomena, such as chemistry and physics. Conversely, social and human sciences have few laws.
Metaparadigm	A metaparadigm represents the worldview of a discipline—the global perspective that subsumes more specific views and approaches to the central concepts with which the discipline is concerned. The metaparadigm is the ideology within which the theories, knowledge, and processes for knowing find meaning and coherence. Nursing's metaparadigm is generally thought to consist of the concepts of person, environment, health, and nursing.
Middle range theory	Middle range theory refers to a part of a discipline's concerns related to particular topics. The scope is narrower than that of broad-range or grand theories.
Model	Models are graphic or symbolic representations of phenomena that objectify and present certain perspectives or points of view about nature or function or both. Models may be theoretical (something not directly observable—expressed in language or mathematics symbols) or empirical (replicas of observable reality—e.g., model of an eye).
Ontology	Ontology is concerned with the study of existence and the nature of reality.

(continued)

Table 2-1 Definitions and Characteristics of Theory Terms and Concepts (Continued)

Term	Definition and Characteristics
Paradigm	A paradigm is an organizing framework that contains concepts, theories, assumptions, beliefs, values, and principles that form the way a discipline interprets the subject matter with which it is concerned. It describes work to be done and frames an orientation within which the work will be accomplished. A discipline may have a number of paradigms. The term *paradigm* is associated with Kuhn's *Structure of Scientific Revolutions*.
Phenomena	Phenomena are the designation of an aspect of reality; the phenomena of interest become the subject matter particular to the primary concerns of a discipline.
Philosophy	A philosophy is a statement of beliefs and values about human beings and their world.
Practice or situation-specific theory	A practice or situation-specific theory deals with a limited range of discrete phenomena that are specifically defined and are not expanded to include their link with the broad concerns of a discipline.
Praxis	Praxis is the application of a theory to cases encountered in experience.
Relationship statements	Relationship statements indicate specific relationships between two or more concepts. They may be classified as propositions, hypotheses, laws, axioms, or theorems.
Taxonomy	A taxonomy is a classification scheme for defining or gathering together various phenomena. Taxonomies range in complexity from simple dichotomies to complicated hierarchical structures.
Theory	Theory refers to a set of logically interrelated concepts, statements, propositions, and definitions, which have been derived from philosophical beliefs of scientific data and from which questions or hypotheses can be deduced, tested, and verified. A theory purports to account for or characterize some phenomenon.
Worldview	Worldview is the philosophical frame of reference used by a social or cultural group to describe that group's outlook on and beliefs about reality.

Sources: Alligood (2014b); Blackburn (2016); Chinn and Kramer (2015); Powers and Knapp (2011).

(2) received knowledge, (3) subjective knowledge, (4) procedural knowledge, and (5) constructed knowledge. Table 2-2 gives an overview of characteristics of each of these stages in the development of nursing theory, and each stage is described in the following sections. To contemporize Kidd and Morrison's work, attention will be given to the current decade and a new stage—that of "integrated knowledge."

Silent Knowledge Stage

Recognizing the impact of the poorly trained nurses on the health of soldiers during the Civil War, in 1868, the American Medical Association advocated the formal training of nurses and suggested that schools of nursing be attached to hospitals with instruction being provided by medical staff and resident physicians. The first training school for nurses in the United States was opened in 1872 at the New England Hospital. Three more schools, located in New York, New Haven, and Boston, opened shortly thereafter (Kalisch & Kalisch, 2004). Most schools were under the control of hospitals and superintended by hospital administrators and physicians. Education and practice were based on rules, principles, and traditions that were passed along through an apprenticeship form of education.

There followed rapid growth in the number of hospital-based training programs for nurses, and by 1909, there were more than 1,000 such programs (Kalisch &

Table 2-2 Stages in the Development of Nursing Theory

Stage	Source of Knowledge	Impact on Theory and Research
Silent knowledge	Blind obedience to medical authority	Little attempt to develop theory. Research was limited to collection of epidemiologic data.
Received knowledge	Learning through listening to others	Theories were borrowed from other disciplines. As nurses acquired non-nursing doctoral degrees, they relied on the authority of educators, sociologists, psychologists, physiologists, and anthropologists to provide answers to nursing problems. Research was primarily educational research or sociologic research.
Subjective knowledge	Authority was internalized to foster a new sense of self.	A negative attitude toward borrowed theories and science emerged. Nurse scholars focused on defining nursing and on developing theories about and for nursing. Nursing research focused on the nurse rather than on clients and clinical situations.
Procedural knowledge	Includes both separate and connected knowledge	Proliferation of approaches to theory development. Application of theory in practice was frequently underemphasized. Emphasis was placed on the procedures used to acquire knowledge, with focused attention to the appropriateness of methodology, the criteria for evolution, and statistical procedures for data analysis.
Constructed knowledge	Combination of different types of knowledge (intuition, reason, and self-knowledge)	Recognition that nursing theory should be based on prior empirical studies, theoretical literature, client reports of clinical experiences and feelings, and the nurse scholar's intuition or related knowledge about the phenomenon of concern
Integrated knowledge	Assimilation and application of "evidence" from nursing and other health care disciplines	Nursing theory will increasingly incorporate information from published literature with enhanced emphasis on clinical application as situation-specific/practice theories and middle range theories.

Source: Kidd and Morrison (1988).

Kalisch, 2004). In these early schools, a meager amount of theory was taught by physicians, and practice was taught by experienced nurses. The curricula contained some anatomy and physiology and occasional lectures on special diseases. Few nursing books were available, and the emphasis was on carrying out physicians' orders. Nursing education and practice focused on the performance of technical skills and application of a few basic principles, such as aseptic technique and principles of mobility. Nurses depended on physicians' diagnosis and orders and as a result largely adhered to the medical model, which views body and mind separately and focuses on cure and treatment of pathologic problems (Donahue, 2011). Hospital administrators saw nurses as inexpensive labor. Nurses were exploited both as students and as experienced workers. They were taught to be submissive and obedient, and they learned to fulfill their responsibilities to physicians without question (Chinn & Kramer, 2015).

Unfortunately, with a few exceptions, this model of nursing education persisted for more than 80 years. One exception was Yale University, which started the first autonomous school of nursing in 1924. At Yale, and in other later collegiate programs,

professional training was strengthened by in-depth exposure to the underlying theory of disease as well as the social, psychological, and physical aspects of client welfare. The growth of collegiate programs lagged, however, due to opposition from many physicians who argued that university-educated nurses were overtrained. Hospital schools continued to insist that nursing education meant acquisition of technical skills and that knowledge of theory was unnecessary and might actually handicap the nurse (Donahue, 2011; Judd & Sitzman, 2014; Kalisch & Kalisch, 2004).

Received Knowledge Stage

It was not until after World War II that substantive changes were made in nursing education. During the late 1940s and into the 1950s, serious nursing shortages were fueled by a decline in nursing school enrollments. A 1948 report, *Nursing for the Future*, by Esther Brown, PhD, compared nursing with teaching. Brown noted that the current model of nursing education was central to the problems of the profession and recommended that efforts be made to provide nursing education in universities as opposed to the apprenticeship system that existed in most hospital programs (Donahue, 2011; Kalisch & Kalisch, 2004).

Other factors during this time challenged the tradition of hospital-based training for nurses. One of these factors was a dramatic increase in the number of hospitals resulting from the Hill-Burton Act, which worsened the ongoing and sometimes critical nursing shortage. In addition, professional organizations for nurses were restructured and began to grow. It was also during this time that state licensure testing for registration took effect, and by 1949, 41 states required testing. The registration requirement necessitated that education programs review the content matter they were teaching to determine minimum criteria and some degree of uniformity. In addition, the techniques and processes used in instruction were also reviewed and evaluated (Kalisch & Kalisch, 2004).

Over the next decade, a number of other events occurred that altered nursing education and nursing practice. In 1950, the journal *Nursing Research* was first published. The American Nurses Association (ANA) began a program to encourage nurses to pursue graduate education to study nursing functions and practice. Books on research methods and explicit theories of nursing began to appear. In 1956, the Health Amendments Act authorized funds for financial aid to promote graduate education for full-time study to prepare nurses for administration, supervision, and teaching. These events resulted in a slow but steady increase in graduate nursing education programs.

The first doctoral programs in nursing originated within schools of education at Teachers College of Columbia University (1933) and New York University (1934). But it would be 20 more years before the first doctoral program in nursing began at the University of Pittsburgh (1954) (Kalisch & Kalisch, 2004).

Subjective Knowledge Stage

Until the 1950s, nursing practice was principally derived from social, biologic, and medical theories. With the exceptions of Nightingale's work in the 1850s, nursing theory had its beginnings with the publication of Hildegard Peplau's book in 1952. Peplau described the interpersonal process between the nurse and the client. This started a revolution in nursing, and in the late 1950s and 1960s, a number of nurse theorists emerged seeking to provide an independent conceptual framework for nursing education and practice (Donahue, 2011). The nurse's role came under scrutiny during this decade as nurse leaders debated the nature of nursing practice and theory development.

During the 1960s, the development of nursing theory was heavily influenced by three philosophers, James Dickoff, Patricia James, and Ernestine Wiedenbach, who, in

a series of articles, described theory development and the nature of theory for a practice discipline. Other approaches to theory development combined direct observations of practice, insights derived from existing theories and other literature sources, and insights derived from explicit philosophical perspectives about nursing and the nature of health and human experience. Early theories were characterized by a functional view of nursing and health. They attempted to define what nursing is, describe the social purposes nursing serves, explain how nurses function to realize these purposes, and identify parameters and variables that influence illness and health (Chinn & Kramer, 2015).

In the 1960s, a number of nurse leaders (Abdellah, Orlando, Wiedenbach, Hall, Henderson, Levine, and Rogers) developed and published their views of nursing. Their descriptions of nursing and nursing models evolved from their personal, professional, and educational experiences and reflected their perception of ideal nursing practice.

Procedural Knowledge Stage

By the 1970s, the nursing profession viewed itself as a scientific discipline evolving toward a theoretically based practice focusing on the client. In the late 1960s and early 1970s, several nursing theory conferences were held. Also, significantly, in 1972, the National League for Nursing implemented a requirement that the curricula for nursing educational programs be based on conceptual frameworks. During these years, many nursing theorists published their beliefs and ideas about nursing and some developed conceptual models.

During the 1970s, a consensus developed among nursing leaders regarding common elements of nursing. These were the nature of nursing (roles/actions/interventions), the individual recipient of care (client), the context of nurse–client interactions (environment), and health. Nurses debated whether there should be one conceptual model for nursing or several models to describe the relationships among the nurse, client, environment, and health. Books were written for nurses on how to critique, develop, and apply nursing theories. Graduate schools developed courses on analysis and application of theory, and researchers identified nursing theories as conceptual frameworks for their studies. Through the late 1970s and early 1980s, theories moved to characterizing nursing's role from "what nurses do" to "what nursing is." This changed nursing from a context-dependent, reactive position to a context-independent, proactive arena (Chinn & Kramer, 2015).

Although master's programs were growing steadily, doctoral programs grew more slowly, but by 1970, there were 20 such programs. This growth in graduate nursing education allowed nurse scholars to debate ideas, viewpoints, and research methods in the nursing literature. As a result, nurses began to question the ideas that were taken for granted in nursing and the traditional basis in which nursing was practiced.

Constructed Knowledge Stage

During the late 1980s, scholars began to concentrate on theories that provide meaningful foundation for nursing practice. There was a call to develop substance in theory and to focus on nursing concepts grounded in practice and linked to research. The 1990s into the early 21st century saw an increasing emphasis on philosophy and philosophy of science in nursing. Attention shifted from grand theories to middle range theories as well as application of theory in research and practice.

In the 1990s, the idea of evidence-based practice (EBP) was introduced into nursing to address the widespread recognition of the need to move beyond attention given to research per se in order to address the gap in research and practice. The "evidence" is research that has been completed and published (LoBiondo-Wood & Haber, 2014). Ostensibly, EBP promotes employment of theory-based, research-derived evidence to guide nursing practice.

During this period, graduate education in nursing continued to grow rapidly, particularly among programs that produced advanced practice nurses (APNs). A seminal event during this time was the introduction of the doctor of nursing practice (DNP). The DNP was initially proposed by the American Association of Colleges of Nursing (AACN) in 2004 to be the terminal degree for APNs. The impetus for the DNP was based on recognition of the need for expanded competencies due to the increasing complexity of clinical practice, enhanced knowledge to improve nursing practice and outcomes, and promotion of leadership skills (AACN, 2004).

Integrated Knowledge Stage

More recently, development of nursing knowledge shifted to a trend that blends and uses a variety of processes to achieve a given research aim as opposed to adherence to strict, accepted methodologies (Chinn & Kramer, 2015). In the second decade of the 21st century, there has been significant attention to the need to direct nursing knowledge development toward clinical relevance, to address what Risjord (2010) terms the "relevance gap." Indeed, as Risjord states, and virtually all nursing scholars would agree, "The primary goal . . . of nursing research is to produce knowledge that supports practice" (p. 4). But he continues to note that in reality, a significant portion of research supports practice imperfectly, infrequently, and often insignificantly.

In the current stage of knowledge development, considerable focus in nursing science has been on integration of knowledge into practice, largely with increased attention on EBP and translational research (Chinn & Kramer, 2015). Indeed, it is widely accepted that systematic review of research from a variety of health disciplines, often in the form of meta-analyses, should be undertaken to inform practice and policy making in nursing (Melnyk & Fineout-Overholt, 2015; Schmidt & Brown, 2015). Furthermore, this involves or includes application of evidence from across all health-related sciences (i.e., translational research).

Translational research was designated a priority initiative by the National Institutes of Health in 2005 (Powers & Knapp, 2011). The idea of translational research is to close the gap between scientific discovery and translation of research into practice; the intent is to validate evidence in the practice setting (Chinn & Kramer, 2015). Translational research shifts focus to interdisciplinary efforts and integration of the perspectives of different disciplines to "a contemporary movement aimed at producing a concerted multidisciplinary effort to address recognized health disparities and care delivery inadequacies" (Powers & Knapp, 2011, p. 191).

Into the second decade of the 21st century, the number of doctoral programs in the United States continued to grow steadily, and by 2016, there were 128 doctoral programs granting a doctor of philosophy (PhD) in nursing (AACN, 2017a). Furthermore, after a sometimes contentious debate, the DNP gained widespread acceptance, and by 2017, there were 303 programs granting the DNP, with many more being planned (AACN, 2017b).

In this current stage of theory development in nursing, it is anticipated that there will be ongoing interest in EBP and growth of translational research. In this regard, development and application of middle range and practice theories will continue to be stressed, with attention increasing on practical/clinical application and relevance of both research and theory.

Summary of Stages of Nursing Theory Development

A number of events and individuals have had an impact on the development and utilization of theory in nursing practice, research, and education. Table 2-3 provides a summary of significant events.

Table 2-3 Significant Events in Theory Development in Nursing

Event	Year
Nightingale publishes *Notes on Nursing*	1859
American Medical Association advocates formal training for nurses	1868
Teacher's College—Columbia University—Doctorate in Education degree for nursing	1920
Yale University begins the first collegiate school of nursing	1924
Report by Dr. Esther Brown—"Nursing for the Future"	1948
State licensure for registration becomes standard	1949
Nursing Research first published	1950
H. Peplau publishes *Interpersonal Relations in Nursing*	1952
University of Pittsburgh begins the first doctor of philosophy (PhD) program in nursing	1954
Health Amendments Act passes—funds graduate nursing education	1956
Process of theory development discussed among nursing scholars (works published by Abdellah, Henderson, Orlando, Wiedenbach, and others)	1960–1966
First symposium on Theory Development in Nursing (published in *Nursing Research* in 1968)	1967
Symposium Theory Development in Nursing	1968
Dickoff, James, and Wiedenbach—"Theory in a Practice Discipline"	
First Nursing Theory Conference	1969
Second Nursing Theory Conference	1970
Third Nursing Theory Conference	1971
National League for Nursing adopts Requirement for Conceptual Framework for Nursing Curricula	1972
Key articles publish in *Nursing Research* (Hardy—Theories: Components, Development, and Evaluation; Jacox—Theory Construction in Nursing; and Johnson—Development of Theory)	1974
Nurse educator conferences on nursing theory	1975, 1978
Advances in Nursing Science first published	1979
Books written for nurses on how to critique theory, develop theory, and apply nursing theory	1980s
Graduate schools of nursing develop courses on how to analyze and apply theory in nursing	1980s
Research studies in nursing identify nursing theories as frameworks for study	1980s
Publication of numerous books on analysis, application, evaluation, and development of nursing theories	1980s
Philosophy and philosophy of science courses offered in doctoral programs	1990s
Increasing emphasis on middle range and practice theories for nursing	1990s
Nursing literature describes the need to establish interconnections among central nursing concepts	1990s
Introduction of evidence-based practice into nursing	1990s
Philosophy of Nursing first published	1999
Books published describing, analyzing, and discussing application of middle range theory and evidence-based practice	2000s
Introduction of the doctor of nursing practice (DNP)	2004
Growing emphasis on development of situation-specific and middle range theories in nursing	2010+
Attention to theory utilization and development of theories to guide nursing research, practice, education, and administration	2010+
Focus on clinical application of evidence-based practice, practice-based evidence, and translational research	2010+

Sources: Alligood (2014a); Chinn and Kramer (2015); Donahue (2011); Kalisch and Kalisch (2004); Meleis (2012); Moody (1990).

Beginning in the early 1950s, efforts to represent nursing theoretically produced broad conceptualizations of nursing practice. These conceptual models or frameworks proliferated during the 1960s and 1970s. Although the conceptual models were not developed using traditional scientific research processes, they did provide direction for nursing by focusing on a general ideal of practice that served as a guide for research and education. Table 2-4 lists the works of many of the nursing theorists and the titles and year of key theoretical publications. The works of a number of the major theorists are discussed in Chapters 7 through 9. Reference lists and bibliographies outlining application of their work to research, education, and practice are described in those chapters.

Classification of Theories in Nursing

Over the last 40 years, a number of methods for classifying theory in nursing have been described. These include classification based on range/scope or abstractness (grand or macrotheory to practice or situation-specific theory) and type or purpose of the theory (descriptive, predictive, or prescriptive theory). Both of these classification schemes are discussed in the following sections.

Scope of Theory

One method for classification of theories in nursing that has become common is to differentiate theories based on scope, which refers to complexity and degree of abstraction. The scope of a theory includes its level of specificity and the concreteness of its concepts and propositions. This classification scheme typically uses the terms *metatheory*, *philosophy*, or *worldview* to describe the philosophical basis of the discipline; *grand theory* or *macrotheory* to describe the comprehensive conceptual frameworks; *middle range* or *midrange* theory to describe frameworks that are relatively more focused than the grand theories; and *situation-specific theory*, *practice theory*, or *microtheory* to describe those smallest in scope (Higgins & Moore, 2000; Peterson, 2017; Whall, 2016). Theories differ in complexity and scope along a continuum from practice or situation-specific theories to grand theories. Figure 2-1 compares the scope of nursing theory by level of abstractness.

Metatheory

Metatheory refers to a theory about theory. In nursing, metatheory focuses on broad issues such as the processes of generating knowledge and theory development, and it is a forum for debate within the discipline (Chinn & Kramer, 2015; Powers & Knapp, 2011). Philosophical and methodologic issues at the metatheory or worldview level include identifying the purposes and kinds of theory needed for nursing, developing and analyzing methods for creating nursing theory, and proposing criteria for evaluating theory (Hickman, 2011; Walker & Avant, 2011).

Walker and Avant (2011) presented an overview of historical trends in nursing metatheory. Beginning in the 1960s, metatheory discussions involved nursing as an academic discipline and the relationship of nursing to basic sciences. Later discussions addressed the predominant philosophical worldviews (received view versus perceived view) and methodologic issues related to research (see Chapter 1). Recent metatheoretical issues relate to the philosophy of nursing and address what levels of theory development are needed for nursing practice, research, and education (i.e., grand theory versus middle range and practice theory) and the increasing focus on the philosophical perspectives of critical theory, postmodernism, and feminism.

Table 2-4 Chronology of Publications of Selected Nursing Theorists

Theorist	Year	Title of Theoretical Writings
Florence Nightingale	1859	*Notes on Nursing*
Hildegard Peplau	1952	*Interpersonal Relations in Nursing*
Virginia Henderson	1955	*Principles and Practice of Nursing*, 5th edition
	1966	*The Nature of Nursing: A Definition and Its Implications for Practice, Research, and Education*
	1991	*The Nature of Nursing: Reflections After 25 Years*
Dorothy Johnson	1959	"A Philosophy of Nursing"
	1980	"The Behavioral System Model for Nursing"
Faye Abdellah	1960	*Patient-Centered Approaches to Nursing*
	1968	2nd edition
Ida Jean Orlando	1961	*The Dynamic Nurse–Patient Relationship*
Ernestine Wiedenbach	1964	*Clinical Nursing: A Helping Art*
Lydia E. Hall	1964	*Nursing: What Is It?*
Joyce Travelbee	1966	*Interpersonal Aspects of Nursing*
	1971	2nd edition
Myra E. Levine	1967	*The Four Conservation Principles of Nursing*
	1973	*Introduction to Clinical Nursing*
	1996	"The Conservation Principles of Nursing: A Retrospective"
Martha Rogers	1970	*An Introduction to the Theoretical Basis of Nursing*
	1980	"Nursing: A Science of Unitary Man"
	1983	*Science of Unitary Human Being: A Paradigm for Nursing*
	1989	"Nursing: A Science of Unitary Human Beings"
Dorothea E. Orem	1971	*Nursing: Concepts of Practice*
	1980	2nd edition
	1985	3rd edition
	1991	4th edition
	1995	5th edition
	2001	6th edition
	2011	*Self-Care Science, Nursing Theory and Evidence-Based Practice* (Taylor and Renpenning)
Imogene M. King	1971	*Toward a Theory for Nursing: General Concepts of Human Behavior*
	1981	*A Theory for Nursing: Systems, Concepts, Process*
	1989	"King's General Systems Framework and Theory"
Betty Neuman	1974	"The Betty Neuman Health-Care Systems Model: A Total Person Approach to Patient Problems"
	1982	*The Neuman Systems Model*
	1989	2nd edition

(continued)

Table 2-4 Chronology of Publications of Selected Nursing Theorists (Continued)

Theorist	Year	Title of Theoretical Writings
	1995	3rd edition
	2002	4th edition
	2011	5th edition
Evelyn Adam	1975	*A Conceptual Model for Nursing*
	1980	*To Be a Nurse*
	1991	2nd edition
Callista Roy	1976	*Introduction to Nursing: An Adaptation Model*
	1980	"The Roy Adaptation Model"
	1984	*Introduction to Nursing: An Adaptation Model*, 2nd edition
	1991	*The Roy Adaptation Model*
	1999	2nd edition
	2009	3rd edition
Josephine Paterson and Loretta Zderad	1976	*Humanistic Nursing*
Jean Watson	1979	*Nursing: The Philosophy and Science of Caring*
	1985	*Nursing: Human Science and Human Care*
	1989	*Watson's Philosophy and Theory of Human Caring in Nursing*
	1999	*Human Science and Human Care*
	2006	*Caring Science as Sacred Science*
	2012	*Human Caring Science: A Theory of Nursing*, 2nd edition
Margaret A. Newman	1979	*Theory Development in Nursing*
	1983	*Newman's Health Theory*
	1986	*Health as Expanding Consciousness*
	2000	2nd edition
Madeleine Leininger	1980	*Caring: A Central Focus of Nursing and Health Care Services*
	1988	"Leininger's Theory of Nursing: Cultural Care Diversity and Universality"
	2001	*Culture Care Diversity and Universality*
	2006	2nd edition
	2015	3rd edition (Edited by M. R. McFarland and H. B. Wehbe-Alamah)
Joan Riehl Sisca	1980	*The Riehl Interaction Model*
	1989	2nd edition
Rosemary Parse	1981	*Man-Living-Health: A Theory for Nursing*
	1985	*Man-Living-Health: A Man-Environment Simultaneity Paradigm*
	1987	*Nursing Science: Major Paradigms, Theories, Critiques*
	1989	"Man-Living-Health: A Theory of Nursing"
	1999	*Illuminations: The Human Becoming Theory in Practice and Research*

Table 2-4 Chronology of Publications of Selected Nursing Theorists (Continued)

Theorist	Year	Title of Theoretical Writings
Joyce Fitzpatrick	1983	*A Life Perspective Rhythm Model*
	1989	2nd edition
Helen Erickson et al.	1983	*Modeling and Role Modeling*
Nancy Roper, Winifred Logan, and Alison Tierney	1980	*The Elements of Nursing*
	1985	2nd edition
	1996	*The Elements of Nursing: A Model for Nursing Based on a Model of Living*
	2000	*Roper-Logan-Tierney Model of Nursing*
Patricia Benner and Judith Wrubel	1984	*From Novice to Expert: Excellence and Power in Clinical Nursing Practice*
	1989	*The Primacy of Caring: Stress and Coping in Health and Illness*
Anne Boykin and Savina Schoenhofer	1993	*Nursing as Caring*
	2001	2nd edition
Barbara Artinian	1997	*The Intersystem Model: Integrating Theory and Practice*
	2011	2nd edition
Brendan McCormack and Tanya McCance	2010	*Person-Centred Nursing: Theory and Practice*

Sources: Chinn and Kramer (2015); Hickman (2011); Hilton (1997).

Grand Theories

Grand theories are the most complex and broadest in scope. They attempt to explain broad areas within a discipline and may incorporate numerous other theories. The term *macrotheory* is used by some authors to describe a theory that is broadly conceptualized and is usually applied to a general area of a specific discipline (Higgins & Moore, 2000; Peterson, 2017).

Grand theories are nonspecific and are composed of relatively abstract concepts that lack operational definitions. Their propositions are also abstract and are not generally amenable to testing. Grand theories are developed through thoughtful and insightful appraisal of existing ideas as opposed to empirical research (Fawcett & DeSanto-Madeya, 2013). The majority of the nursing conceptual frameworks (e.g., Orem, Roy, and Rogers) are considered to be grand theories. Chapters 6 through 9 discuss many of the grand nursing theories.

Middle Range Theories

Middle range theory lies between the grand nursing models and more circumscribed, concrete ideas (practice or situation-specific theories). Middle range theories are

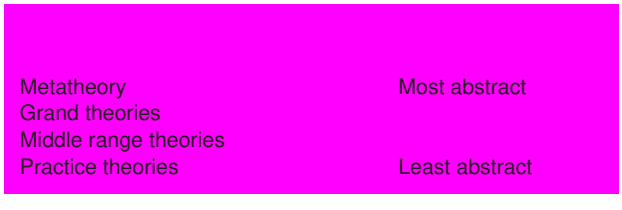

Figure 2-1 Comparison of the scope of nursing theories.

substantively specific and encompass a limited number of concepts and a limited aspect of the real world. They are composed of relatively concrete concepts that can be operationally defined and relatively concrete propositions that may be empirically tested (Higgins & Moore, 2000; Peterson, 2017; Whall, 2016).

A middle range theory may be (1) a description of a particular phenomenon, (2) an explanation of the relationship between phenomena, or (3) a prediction of the effects of one phenomenon or another (Fawcett & DeSanto-Madeya, 2013). Many investigators favor working with propositions and theories characterized as middle range rather than with conceptual frameworks because they provide the basis for generating testable hypotheses related to particular nursing phenomena and to particular client populations (Chinn & Kramer, 2015; Roy, 2014). The number of middle range theories developed and used by nurses has grown significantly over the past two decades. Examples include social support, quality of life, and health promotion. Chapters 10 and 11 describe middle range theory in more detail.

Practice Theories

Practice theories are also called *situation-specific theories*, *prescriptive theories*, or *microtheories* and are the least complex. Practice theories are more specific than middle range theories and produce specific directions for practice (Higgins & Moore, 2000; Peterson, 2017; Whall, 2016). They contain the fewest concepts and refer to specific, easily defined phenomena. They are narrow in scope, explain a small aspect of reality, and are intended to be prescriptive. They are usually limited to specific populations or fields of practice and often use knowledge from other disciplines. Examples of practice theories developed and used by nurses are theories of postpartum depression, infant bonding, and oncology pain management. Chapters 12 and 18 present additional information on practice theories.

Type or Purpose of Theory

In their seminal work, Dickoff and James (1968) defined theories as intellectual inventions designed to describe, explain, predict, or prescribe phenomena. They described four kinds of theory, each of which builds on the other. These are:

- Factor-isolating theories (descriptive theories)
- Factor-relating theories (explanatory theories)
- Situation-relating theories (predictive theories or promoting or inhibiting theories)
- Situation-producing theories (prescriptive theories)

Dickoff and James (1968) stated that nursing as a profession should go beyond the level of descriptive or explanatory theories and attempt to attain the highest levels—that of situation-relating/predictive and situation-producing/prescriptive theories.

Descriptive (Factor-Isolating) Theories

Descriptive theories are those that describe, observe, and name concepts, properties, and dimensions. Descriptive theory identifies and describes the major concepts of phenomena but does not explain how or why the concepts are related. The purpose of descriptive theory is to provide observation and meaning regarding the phenomena. It is generated and tested by descriptive research techniques including concept analysis, case studies, literature review phenomenology, ethnography, and grounded theory (Young et al., 2001).

Examples of descriptive theories are readily found in the nursing literature. Barkimer (2016), for example, used the process of concept analysis to develop a model of clinical growth for nursing educators. In other works, using grounded theory methodology, Sacks and Volker (2015) developed a theoretical model describing hospice nurses' responses to patient suffering, and El Hussein and Hirst (2016) constructed a theory describing the clinical reasoning processes nurses use to recognize delirium.

Explanatory (Factor-Relating) Theories

Factor-relating theories, or explanatory theories, are those that relate concepts to one another, describe the interrelationships among concepts or propositions, and specify the associations or relationships among some concepts. They attempt to tell *how* or *why* the concepts are related and may deal with cause and effect and correlations or rules that regulate interactions. They are developed by correlational research and increasingly through comprehensive literature review and synthesis. An example of an explanatory theory is the theory of health-related outcomes of resilience in middle adolescents (Scoloveno, 2015). This theory was developed from a correlational research study that surveyed the effects of resilience on hope, well-being, and health-promoting lifestyle in middle adolescents. In other works, comprehensive literature review and synthesis were used by Noviana, Miyazaki, and Ishimaru (2016) to develop a conceptual model for meaning in life and by Lor, Crooks, and Tluczek (2016) to propose a model of person, family, and culture-centered nursing care.

Predictive (Situation-Relating) Theories

Situation-relating theories are achieved when the conditions under which concepts are related are stated and the relational statements are able to describe future outcomes consistently. Situation-relating theories move to prediction of precise relationships between concepts. Experimental research is used to generate and test them in most cases.

Predictive theories are relatively difficult to find in the nursing literature. In one example, Cobb (2012) used a quasi-experimental, model-building approach to predict the relationship between spirituality and health status among adults living with HIV. In another example, Fearon-Lynch and Stover (2015) merged two research-based, extant theories to develop a middle range theory explaining mastery of diabetes self-management.

Another example of a predictive theory in nursing can be found in the caregiving effectiveness model. The process outlining development of this theory was described by Smith and colleagues (2002) and combined numerous steps in theory construction and empirical testing and validation. In the model, caregiving effectiveness is dependent on the interface of a number of factors including the characteristics of the caregiver, interpersonal interactions between the patient and caregiver, and the educational preparedness of the caregiver, combined with adaptive factors, such as economic stability, and the caregiver's own health status and family adaptation and coping mechanisms. The model itself graphically details the interaction of these factors and depicts how they collectively work to impact caregiving effectiveness.

Prescriptive (Situation-Producing) Theories

Situation-producing theories are those that prescribe activities necessary to reach defined goals. Prescriptive theories address nursing therapeutics and consequences of interventions. They include propositions that call for change and predict consequences of nursing interventions. They should describe the prescription, the consequence(s), the type of client, and the conditions (Meleis, 2012).