

RESEARCH ARTICLE

Nursing research: A marriage of theoretical influences

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Abstract

Aim: The aim is to examine PhD theses in nursing science, their purpose or aim and the theoretical approaches and methods employed. The study seeks to examine how such theses may be categorized, what they study, what theoretical approaches they employ and, in particular, to what degree nursing theory is employed as a current theoretical approach.

Design: This study has a descriptive qualitative design.

Method: This study complied with the Standard for Reporting Qualitative Research (SRQR). Data were collected from 61 PhD theses in nursing science published from 1994–2015, at University of Edinburgh.

Results: Twenty of the PhD theses used theoretical approaches with a sociological perspective and 12 used a psychological perspective. Eighteen of the PhD theses were based on theoretical approaches from philosophy, ethics, pedagogy, medicine or biology as a primary perspective. Nursing theories, in their conventional definition, have a limited presence in the theses examined.

KEYWORDS

doctoral students, nurses, nursing, PhD, research, The University of Edinburgh

1 | INTRODUCTION

Nursing as a profession is changing as other health professions work with and alongside nurses in practice, and patients' knowledge levels have improved. The number of nursing scientists has increased, and research knowledge and skills have improved. Nursing research happens in an increasingly diverse research community with colleagues from other disciplines, often in an international context. In an interdisciplinary environment, the theoretical basis of nursing, as opposed to other disciplines, may be obscured. Nursing research plays a role in developing the theoretical basis of nursing, but this may not be explicit in the way nursing research is conducted.

2 | BACKGROUND

As described by Alligood (2013), a result of the recognition of nursing as an academic field of study is that nursing theories have become more important in nursing science. However, what is the prevalence of nursing theories in nursing science? A literature study by Bond et al. (2011), looking at articles from seven leading nursing journals, found that 21% of the articles used nursing theory. In her review of US doctoral dissertation abstracts in nursing (2000–2004), Spear (2007) found that less than one-third referred to nursing theories or theory development in their abstracts. About 45% referred to non-nursing theory, with psychosocial theories the most prevalent. Lundgren, Valmari, and Skott (2009) found that dissertations in

Nordic countries completed in 2003 were more likely to have nursing practice as their core, while “nursing concepts and theories” (p. 413) received less attention.

However, beyond the studies mentioned, few have been preoccupied with the theoretical approaches in nursing science. Heyman (1995) has conducted a study of Swedish nursing and caring research across 65 doctoral theses written by nurses from 1974–1991. She found that the researchers had been inspired by different sciences, belonging to at least one of the two divergent traditions, either biomedical research or the social sciences. The study indicates heterogeneity in theoretical conditions, methodologies, rationales and structures across the PhD theses studied. Yarcheski, Mahon, and Yarcheski (2012) concluded, in a study of research published in scientific nursing journals, that there was a trend towards less theoretically oriented research and that “the study of psychological variables has dominated the last 20 years (1990–2010) of nursing research” (p. 1,120). In addition, Yarcheski and Mahon (2013) concluded, in a study of characteristics of quantitative nursing research between 1990–2010, that while quantitative nursing research in general could be defined as multidisciplinary, the discipline of psychology dominated throughout the research literature. Larsen and Adamsen (2009) studied the emergence of Nordic nursing research. They found three distinct positions operating in nursing research: a clinical and applied position closely connected to clinical contexts or practices, a profession and knowledge position focused on frameworks of knowledge and its dissemination and a theoretical and concept position. The theoretical and conceptual positions were used to describe, explain and interpret practice.

After the 1980s, the number of PhD graduates in nursing has increased worldwide. Doctoral theses are an important source in the interpretation of the development in most sciences. Accordingly, the production of PhD dissertations is crucial for nursing science, as well as the building of a body of knowledge important for education, clinical practice and patient outcomes. In this study of nursing science, I have selected data from doctoral theses in nursing from the University of Edinburgh because this university is of special interest for European nursing as it was one of Europe's first universities to introduce nursing science as an academic discipline in their academic body. The university has a long history and decades of influence on nursing research both in the UK and in Europe. It has been educating doctoral candidates in nursing science since 1959 and established, in 1972, the first professorship in nursing studies in Europe (Anderson, Lynch, & Phillipson, 2003). Nursing studies at the University of Edinburgh are, as of 2002, located in the School of Health in Social Science; until 2002, the studies were located in the Faculty of Social Sciences (*ibid*), which may account for the close relationship with the social sciences. An interesting distinction in theoretical approaches is the one between the social sciences and the biomedical sciences (Heyman, 1995) and how the different PhD theses shape the field of nursing, through nursing research and theoretical approaches.

In order to understand the implementation of a scientific approach to nursing, PhD theses have in small-scale been studied and we lack this type of empirical study also from the UK. The aim of

this paper is to examine PhD theses in nursing science, their purpose or aim and the theoretical approaches and methods employed. The study seeks to examine how such theses may be categorized, what they study, what theoretical approaches they employ and, in particular, to what degree nursing theory is employed as a current theoretical approach. Nursing theory has been a contested concept. Meleis (2012) emphasizes that the “multiple use of concepts to describe the same set of relationships has resulted in more confusion” (p. 29). To meet this challenge, the present study will examine the use of the concept “nursing theory” as what the PhD researchers define as content.

3 | DESIGN

This study has a descriptive qualitative design, with PhD theses in nursing science as data sources. The data underwent analysis, inspired by Braun and Clarke (2006), Hsieh and Shannon (2005) and Heyman (1995).

3.1 | Method

Data were collected from 61 PhD theses in nursing science published from 1994–2015. The number of PhD theses represents the total number completed during the period in nursing studies at University of Edinburgh. A total of 101 doctoral theses have been submitted from 1959–2015. The decision to include PhD theses from 1994–2015 resulted in a convenience sample reflecting the field of nursing research following the British “Project 2000: a new preparation for practice” (Fawcett, Waugh, & Smith, 2016). This study complied with the Standard for Reporting Qualitative Research (SRQR; O'Brien, Harris, Beckman, Reed, & Cook, 2014; File S1).

3.2 | Data analysis

The coding of texts is inspired by Braun and Clarke's (2006) thematic analysis involving identifying, analysing and reporting patterns in data. While such an analysis may be inductive or deductive, in this study the analysis is deductive in nature. In the first phase, the PhD theses' abstracts were read, followed by a reading of sections of the thesis, such as summary, background and the theory chapter. In the second phase, the PhD theses were systematically analysed by applying three categories to the collected data: the field of study, the aim/purpose of the study and the research methodology. The summative content analysis, inspired by Hsieh and Shannon (2005), was used to identify and quantify the concept “nursing theory(ies)”.

The third phase involved the coding, inspired by Heyman's (1995) characteristics of the affiliation to different disciplines' perspectives, in the theoretical approaches or the field of study of the theses. Heyman identified how nursing researchers have studied the human being from many perspectives, including biological and medical, psychological, sociological, organizational and ethical (as a cultural perspective), in addition to pedagogical perspectives. To identify

TABLE 1 PhD theses: aim, theoretical approach, method and use of nursing theory

Field of study	Author (year)	Aim or purpose	Theoretical approach	Method	Use of NT
Culture Linguistic (N = 2)	Quicfall (2009)	To investigate the principles and factors underlying the culturally competent nursing care of asylum applicants	Model of cultural competence	Qualitative; participant observation, narrative and group interview	0
	Stenhouse (2009)	Examines people's experiences of being a patient on an acute psychiatric inpatient ward in Scotland	Socio-linguistic theories	Qualitative; unstructured interviews	0
Philosophy Ethic (N = 9)	Adamson (2015)	The aesthetic experience of dying—explores the shared experience of one woman's ovarian cancer, from diagnosis to death. The study also explores her partner's experience	German Idealism	Qualitative; personal diary entries, blog posts and other ephemera	0
	Everingham (2012)	To explore the world of the intensive care nurse and elicit narratives of—the nurses' views of sedation and technology within an intensive care unit setting	Heideggerian philosophy. <i>Carper's pattern of nursing knowledge</i>	Qualitative; bedside interviews	0
	Lau (2011)	To explore the way in which Chinese couples experience and make sense of Assisted Reproductive Technology treatment	Husserlian philosophy approach	Qualitative; interviews	—
	Kasidi (2009)	To uncover the meaning of participation in nursing care for old persons living in community	Husserlian phenomenological approach	Qualitative; unstructured interviews	0
	Haraldsdottir (2007)	To examine how the phenomenon "being with" is constructed in day-to-day nursing practice in relation to caring for patients who are close to death	Heideggerian philosophy	Qualitative; observation, informal conversations	—
	Immenschuh (2003)	To capture the experience of having had a stroke in people under 55 during the first year after their stroke	Gadamer's philosophy	Qualitative; semi-structured interviews	0
	Horsburg (2001)	To explore the perceptions of student undertaking a Diploma of Higher Education in Nursing, in relation to patient care that they encountered during their practice placement allocations	Kohlberg's theory of moral development	Qualitative; interviews	5
	Traynor (2001)	To compare how some women, adjust positively, sometimes despite difficult circumstances, in later life when others become overwhelmed, by life and do not enjoy their old age	The theoretical perspective of existentialism	Qualitative; in-depth interviews and participant observation	0
	Braun (1996)	To explore concepts involved in a system of meaning called moral agency in nursing practice and to identify the meaning of, and means for, the committive and creative actuation of moral ethical agency	The nature of the person	Qualitative; historical review of literature	1
Organization (N = 7)	Miller (2004)	To investigate the process through which Trust managers handle incidents involving qualified nurses, and how the outcome of these process is used to inform risk management procedures within organizations	The theory of error	Qualitative; national policy documents and semi-structured interviews	—
	Rodgers (2000)	To identify the extent of nursing research utilization, and to identify factors influencing research utilization by nurses in general medical and surgical wards	Organizational culture. Theory of the adoption of innovations	Mixed method; survey and interviews	1

(Continues)

TABLE 1 (Continued)

Field of study	Author (year)	Aim or purpose	Theoretical approach	Method	Use of NT
	Beil-Hildegard (2001)	To explore and describe the nature of the contemporary forms of cultural initiatives within the wider organizational context and to consider the extent to which management intends and is effective in changing the people	Context of sociology and labour process theory	Qualitative; observation, semi-structured conversational interviews and documentary analysis	0
	Bauld (1998)	To determine what role older patients, play in discharge planning, to what extent they are permitted to be involved and to what extent they wish to be involved	Theories related to teamwork and multidisciplinary decision-making	Qualitative; interviews, observation and documentary analysis	0
	Paxton (1998)	To examine the issues surrounding the evolution and development of practice nursing, and to explore the nature of the role and how it is changing	Theories from different disciplines as well as nursing itself	Quantitative; questionnaire	16
	Mueller (1995)	To provide detailed descriptions of hospital practice to exemplify patient participation and to extend descriptions of day-to-day practice sufficiently to help explain how patient participation occurs	Organizational and management literature	Qualitative; observation, interviews, and documentary analysis	1
	Turner (1995)	To explore the quality of nursing care received by schizophrenic patients living in the community, and the relationships between the standards of care and features of the organizational environments experienced by nurses	Organizational climate	Mixed method; survey, observation and measurement	0
Sociology (N = 20)	Muangman (2014)	To explore the nature of emotion work within the context of care occurring in adult stroke survivors and their carers situated at home in a province in Thailand	Sociology of the family	Qualitative; semi-structured interviews and observation	0
	Tao (2014)	To explore nursing students' perspectives of rural nursing practice and their intentions to work rurally after graduation, and to identify factors contributing to those intentions	Theoretical models related to recruitment	Mixed method; interviews and survey	0
	Merrweather (2014)	To provide a comprehensive understanding of the factors influencing nutritional recovery, and the relationship between them, in post-intensive care patients	Symbolic interactionism	Mixed method; Interview and observations. nutritional status and intake	0
	Zhang (2014)	To explore how hospital-based Chinese midwives construct their professional identity in the contemporary maternity care system and the factors that significantly influence the process	Professional identity construction	Qualitative; in-depth individual interviews	0
	MacLaren, (2013)	To create a partial and situated understanding of the numerous factors which contribute to practitioners' experiences of supervision	Social constructionism	Qualitative; semi-structured interview	0
	Watchman, (2013)	To explore the experiences of individuals with Down syndrome and dementia—an understanding of factors that impacted on experiences based on observations	Positivism. The social model of disability	Mixed method; questionnaire, observation, documentation, informal conversations and field notes	0
	Zhu (2012)	To add to the understanding of nurses leaving nursing practice in China by exploring the process from recruitment to final exit	Symbolic interactionism	Qualitative; in-depth interviews	0
	Adhikari (2011)	To explore and understand the experience of Nepali nurses who migrated to the UK	Integrated theory of international migration	Qualitative; fieldwork	0

(Continues)

TABLE 1 (Continued)

Field of study	Author (year)	Aim or purpose	Theoretical approach	Method	Use of NT
	Rhynas (2010)	To understand how nurses, conceptualize dementia and how this might relate to their practice	Reflexive sociological approach	Qualitative; interviews and observation	0
	Allbutt (2008)	To explore how do young adults with chronic illness obtain work and maintain working livings—factors facilitate and impede employment opportunities and structural implications	Grounded theory	Qualitative; interviews	—
	Kean (2007)	To advance understanding and gain new knowledge in the care of families in ICU settings and contribute to a family-derived theoretical framework for the nursing of families	Sociology of childhood	Qualitative; focus group interviews	8
	Robertson (2007)	To explore the process of becoming comfortable with self and the development of relationships and intimacy	Sociology of stories by incorporating a symbolic interactionism and psychoanalysis	Qualitative; interviews	0
	Howell (2006)	To understand how nurses, narrate and justify their involvement of community nurses in clinical governance	Social constructionist tradition	Qualitative; unstructured interviews	—
	McGrath (2006)	To develop a deeper understanding than is available at present of the phenomenon of leaving nursing, within the context of NHS nursing	Sociological theories of identity (and psychology)	Qualitative; in-depth interviews	1
	Hockley (2006)	To develop knowledge and practice in relation to end-of-life care in two independent nursing homes through a critical action research strategy	Critical social theory	Qualitative; focus group interviews and participant observation	—
	Calman (2004)	To generate a grounded theory of patients' construction of competence of nurses. To develop a theoretical understanding of patients' views of nursing competence	Symbolic interactionism	Qualitative; interviews	1
	Lucas (2002)	To explore undergraduate student nurses' perceptions of reflective journals	Developing and generating an emerging theory (Glaser and Strauss, 1967)	Qualitative; participant observation, interviews and journal documents	0
	Watson (2001)	To examine how disabled people experience the embeddedness of their daily lives and negotiate their ways through their social world as embodied subjects	Sociology and anthropology	Qualitative; semi-structured interviews	0
	Cameron (1994)	To describe the interaction on a routine home visit, compare the perceptions of the participants, and explore their contrasting views	Ethnomethodology—micro-sociology	Mixed method; interviews and questionnaire	—
	Lugton (1994)	To explore perceptions of the meaning of social support, a concept that has been loosely used in previous sociological, nursing and breast cancer research, and by practitioners	Sociological theories of social supports	Qualitative; interviews	0
Pedagogic (N = 4)	Nugent (2014)	To explore the interactive effects of the constructs of Modified Social Learning Theory in relation to predicting health behaviour in Type 2 Diabetes	Different learning theories	Mixed method; semi-structured interviews and questionnaire	0
	Msiska (2012)	To gain an understanding of the nature of the clinical learning experience for undergraduate students in Malawi	Experiential learning models	Qualitative; conversational interviews	0

(Continues)

TABLE 1 (Continued)

Field of study	Author (year)	Aim or purpose	Theoretical approach	Method	Use of NT
Psychology (N = 12)	Mulgrew (2002)	To explore female surgical patients' descriptions of what for them, constituted the experience of "recovering" and to find out what might have helped or hindered postsurgical recovery	The sociocultural learning theory	Qualitative; semi-structured interviews	0
	Ferguson (2000)	To examine the perceptions of student nurses and illuminate their experiences of preceptorship	Sociocultural learning theories	Qualitative; semi-structured interviews	0
	Du (2014)	To understand the health promotion role in-hospital settings from the nurses' accounts by studying hospital-based nurses' expectations of their role and their experiences of health promotion	Role theory	Mixed method; survey, semi-structured interviews	0
	Ng (2013)	To explore the effects of a specifically designed self-management education programme on Stage II to IV COPD patients in Macau	Cognitive-behavioural theories	Mixed method: RCT and focus group	0
	Kilbride (2006)	To explore the changes in neurological function and the emotional issues experienced by patients with malignant glioma and their families between surgery and radiotherapy	Framework for study of coping	Mixed method; measurement, interviews and questionnaire	0
	Vivar (2007)	To provide understanding of the psychosocial impact of recurrent cancer on patients and family members and to develop a substantive theory that explains the phenomenon of recurrence from a psychosocial perspective	Theory of symbolic interactionism. Epidemiology	Qualitative; family and individual interviews, memos	0
	Frei (2005)	To develop an understanding of complexity of early in-hospital postnatal care for first-time mothers, and to inform nursing and policymakers about requirements necessary for successful change	Theory of "becoming a mother" and theory of caring (toc). Sociological, psychological and nursing perspectives	Qualitative; observation, documentation and conversations	0 (11 toc)
	Hogg (2002)	To explore parents' perceptions of the role of the health visiting service in relation to working with families with young children, set in the context of an examination of contemporary parenthood as understood by parents	Theory of stress and coping, family nursing theory and theory of social learning	Qualitative; semi-structured interviews and focus group interviews	6
	Greig (2002)	The extent to which parents' prenatal preparation for neonatal unit care meets their perceived needs	Crises theory	Mixed method; semi-structured interviews and questionnaire	0
	Haycock-Stuart (1999)	To explore Mothers' perceptions of childhood injury risk, the ways in which mothers develop knowledge and skills for keeping their children safe and how they are motivated to adopt accident prevention strategies	Social cognitive theory and protection motivation theory	Mixed method; questionnaire and in-depth interviews	0
	Rukholm (1999)	To explore patients, families, and nurses' perceptions of supportive nursing care provided by nurses to patients and their families during acute episodes of chronic heart failure and on a day-to-day home	Symbolic interactionism. Family nursing theory	Qualitative; interviews	11
	Smith (1998)	Hypothesis: That a nurse led counselling service improves health related quality of life in inflammatory bowel disease patients	Models of helping counselling	Mixed method; interviews and questionnaire	1

(Continues)

TABLE 1 (Continued)

Field of study	Author (year)	Aim or purpose	Theoretical approach	Method	Use of NT
	Mennie (1995)	To measure and describe the impact of screening for cystic fibrosis (CF) carriers in pregnancy and to assess the implications for midwifery practice	Model of stress and coping	Quantitative; screening and questionnaire	1
	Kadmon (1994)	To gain knowledge of the lived experience of women with breast cancer in order to better understand what it is like to make decisions about one's own treatment	Decision-making about treatment	Qualitative; interviews and group discussion	0
Medicine Biology (N = 5)	Kydonaki (2011)	To study nurses' decision-making processes when managing the weaning of long-term ventilated patients and to explore the impact of the diverse elements of the clinical environment on this intricate practice	Clinical decision-making	Qualitative; participant observation and semi-structured interviews	0
	Ramsay (2010)	To examine HRQoL among a rarely studied sub group of the critically ill patient population, and to explore the extent to which professionally endorsed measures capture their experiences of and perspectives on the recovery process	HRQoL	Mixed method; semi-structured interviews/cognitive interviews and questionnaire	0
	Tricas-sauras (2008)	To explore the potential presence and the experiences of eating disorders in female patients' irritable bowel syndrome, and to examine (gastrointestinal) nurses' perception and knowledge of each condition	HRQoL	Mixed method; screening, questionnaire and interviews	0
	Bailey (1998)	To develop a description of the acute exacerbation event of COPD: a theoretical understanding of this event that may assist nurses in their work with COPD patients and their family caregivers	Theoretical model of managing a "medical crisis"	Qualitative; in-depth interviews	0
	Freer (1997)	To describe the pattern of sucking, breathing and swallowing during breastfeeding in infants admitted to a neonatal unit and the effect this feeding method has on physiological status	Theories of premature infants' development and model of effective feeding	Quantitative; measurements	0
Others (N = 2)	Mortimer (2002)	To uncover and evaluate the role of the unreformed lay nurses associated with the city of Edinburgh in the middle of the nineteenth century	History of women's work, nursing and Scottish medical professionalization	Qualitative; historical literature and biographies	0
	Grosvenor (2005)	To explore why nurses are asked to give spiritual care to patients by considering whether there is something amiss with nursing care that would be remedied by the addition of spiritual care	Nursing theories of spiritual care. Feminist informed theories and Marxist materialist political philosophy	Qualitative; semi-structured interviews	12

Note: Use of NT (how many times the concept nursing theory is used in the PhD text not included reference lists), — refer to "not access" on internet databases.

the theoretical perspective or field of study, information from PhD theses, such as use of concepts, models, theories and references to theorists, was collated in a data matrix and structured. The matrix also recorded author, year, title, aims, research questions, findings and type of PhD thesis (monograph or articles). The data, related to theory, models and concepts, as well as references to theorists, were compiled and classified. In the fourth phase, the collected data were reviewed multiple times in order to define the theoretical approaches of the dissertations. Most of the theses' theoretical approaches were obvious and some used multiple approaches. As an example, McGrath's (2006) PhD thesis, using both sociological theories of identity and psychology, is described in Table 1, whereas the main approach is identified as sociological in accordance with the phases described above. Data collection took place through the Centre of Research Collection, University of Edinburgh, from October 2015–April 2016.

3.3 | Ethical approval

Investigating one's peers' research work is important and requires curiosity, interest and respect for other perspectives. I have not changed the candidates' names but have presented them as official literature sources. All readers may therefore check the PhD theses used in this study to assess how they have been treated, analysed and interpreted. This study is approved by the Norwegian Centre for Research Data, project number 51425.

4 | RESULTS

All 61 PhD theses examined were written as monographs, which is an atypical form compared with the Nordic countries (Larsen & Adamsen, 2009), where article-based PhD theses make up the vast majority. Twenty of the PhD theses used theoretical approaches with a sociological perspective and 12 used a psychological perspective. Eighteen of the PhD theses were based on theoretical approaches from philosophy, ethics, pedagogy, medicine or biology as a primary perspective. Two PhD theses used a theoretical approach with a cultural or linguistic perspective, and the organizational perspective was used by seven PhD theses. An "other" category was created to accommodate the theses that did not fit into any established category. "Others" represented just two PhD theses, one using nursing theories of spiritual care and another exploring historical sources. The PhD theses thematically described, investigated, explored, uncovered, examined, compared, identified, determined, provided, created, developed, generated, extended, measured or contributed to advanced understanding of the challenges faced by patients, the changes associated with illness as disease, sickness and experience and how nurses can help, intervene and alleviate; what nurses and nurse students do when they are nursing and preparing for nursing; and the interaction between patients and nurses.

The Internet and the search function were helpful in examining the use of the concept «nursing theory» in the PhD theses. Of the 61

PhD theses examined, 54 were available on the Internet and were included in this concept search (7 March 2018; <https://www.era.lib.ed.ac.uk/>). In the 54 accessible PhD theses, the concept "nursing theory/theories" was referred to by 13 authors. Five theses referred to the concept more than once. In addition, one thesis used "theory of caring" as one of the theoretical approaches and mentioned it 11 times (Frei, 2005). Most of the theses used theoretical approaches based on non-nursing disciplines (Table 1). Post-2005, nursing theory is referred to in only two of 26 theses accessible online (Table 2).

Qualitative research methods were the most commonly used methodologies (43 of 61 PhD theses used qualitative methods; Table 2). Prior to 2000, the dissertations were inspired more by organizational and psychological theoretical approaches and showed more diversity in the use of methods compared with after 2000, when the use of sociological and philosophical approaches increased, as did the extensive use of qualitative methods. The 5-year period preceding 2015 shows a trend of a greater use of mixed methods.

5 | DISCUSSION

This study reveals that different scientific disciplines, traditions and abstraction levels informed the PhD theses we examined. Only a few of the PhD theses referred to nursing theory and even fewer used it as their theoretical approach, or as part of the theoretical approach (Table 1; Everingham, 2012; Frei, 2005; Grosvenor, 2005; Hogg, 2002; Rukholm, 1999). Most authors used theories based in disciplines other than nursing as theoretical approaches for studying their topic. Risjord (2011) claims that "it is a mistake to suppose that a theory is either a nursing theory or a non-theory; disciplines do not own theories" (p. 517). McEven and Wills (2014) discuss the use of shared or borrowed theories used by nurse researchers and tried to identify what the application of different theories means for nursing. They argue that use of theory offers structure and organization to nursing knowledge and promotes rational and systematic practice and make nursing practice more purposeful, coordinated and less fragmented. Meleis (2012) brings in another point of view when she states that "all theories used in nursing to understand, explain, predict, or change nursing phenomena are nursing theories" (p. 35), wherever they may have originated.

This study confirms the limited references to nursing theories and shows that after 2005, such references are only rarely present. Why is this? Most nursing theories were developed in the USA, with roots tracing back to the 1980s and earlier. The nursing education systems in the USA differ from those in the UK and Europe in general, and these differences might also have affected the type of theoretical approaches used. Another reason might be that methods and theories from related sciences frame some nursing research questions better. The limited use of, or references to, nursing theories might also reflect a perception that using such theories does not aid the study of nursing practice or the nursing context. As explained by Risjord (2010), this might historically relate to the relevance gap between the professional nurses' need of knowledge and the

nursing theorists' knowledge production. Critical voices have also claimed that nursing theories have no relevance as tools in nursing practice and that clinically based nurses find nursing theory to be of no practical value, useful only as an academic abstraction separating theory from everyday practice (Doane & Varcoe, 2005). According to Allgood (2014), these assumptions undermine a rationale for developing nursing theories as a means of facing challenges in nursing practice and patient care more confidently. These perspectives will have consequences for education and leadership in nursing.

The use of sociological theories represents 20 of the theses. This is perhaps not surprising, considering that nursing studies at the University of Edinburgh are affiliated with the social sciences. More importantly though, the sociological approach emphasizes the interaction between human society and individuals, which is valuable for the subject of nursing and its impact on individuals, families, groups and societal health and well-being. According to Laiho (2010), nursing science is clearly a social discipline, motivated to develop itself through the influence of social interests and goals. Nursing research with a sociological approach is crucial in order to consider social factors and issues that prevent, constrain and promote societal health behaviours (Laiho, 2010). An example is Muangman (2014), who studied the nature of "emotion work" in the context of care among adult stroke survivors aged 18–59 and their carers, situated in Thailand. This helped advance knowledge and understanding of the interaction between stroke survivors and their carers, the sociology of family, helping nurses to better facilitate and optimize their nursing and family care.

The use of psychological theory represents 12 of the studied doctoral theses. This is not surprising. Psychology or behavioural science theories are often used by nurse researchers, especially the theories surrounding stress and/or coping. An example here is Kilbride's (2006) PhD thesis. This study explored changes in neurological function and the emotional challenges experienced by patients with malignant glioma and their families, during the time period between surgery and radiotherapy. In addition to measuring changes in neurological functional status, the researcher used a coping framework to examine practical and emotional issues. This is relevant knowledge for nursing practice to anticipate and predict the physical and emotional responses of patients and their carers and to contribute to optimal quality of life for both patients and relatives.

Philosophical/ethical theory defined nine theses, with most of them leaning more towards the philosophical. Philosophy is defined by Teichman and Evans (1999) 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" (p. 1). Adamson's (2015) study explored the shared experiences of one woman's experience with ovarian cancer from diagnosis to death, using philosophical theories. Adamson used the insights from German idealism (18th century) as a framework for understanding the aesthetics of how to live and die. In this context, philosophy brings to light knowledge on how to identify what is valuable and essential for this woman and her partner. Nurses need such

knowledge to better understand, be prepared for and better care for both patients and their families during the disease trajectory.

Organizational theories were employed by seven PhD theses that looked at different applications of management and administration. One example is Miller (2004), who studied the processes of Trust managers and how they handle incidents involving qualified nurses, as well as how the outcomes of these processes are used to inform the organization and to develop new models of management. Leading an organization, which many nurses do, requires knowledge of, for instance, theories of error as employed by Miller (2004). Such theories allow nurses to be better prepared and develop strategies to improve leadership, change, decision-making and motivation in the repertoire of practice among advanced nursing practitioners (McEven & Wills, 2014).

Fields of study in culture and linguistics were represented by two PhD theses. One of them, Quickfall (2009), studied cross-cultural promotion of health, investigating issues underlying culturally competent nursing for asylum seekers. Knowledge from such theses has implications for all healthcare professions, including nurses, in providing culturally sensitive and evidence-based nursing, regardless of geographic location (McEven & Wills, 2014).

Important aspects of nursing, including promoting health, advising patients and clients how to live with their illness and teaching nurse students, were addressed by four PhD theses. In the investigation of such phenomena, pedagogy and learning theories contribute to a scientific understanding of nurses in their teaching endeavours. Examples of the use of learning theory include the thesis by Msiska (2012), who explored the clinical learning experiences of undergraduate student nurses in Malawi and Nugent (2014), who studied the interactive effects of the construction of a special learning theory in relation to predicting health behaviour when supporting patients with type 2 diabetes mellitus in Scotland.

The last field of study is medicine and biology, used by five PhD theses. An example is Bailey (1998), who developed a description of the acute exacerbation event of Chronic Obstructive Pulmonary Disease to assist nurses in their work with the patient and their families. Bailey used a theoretical model of managing a medical crisis. The development of knowledge in this field has implications for clinical practice. Nurses need deep knowledge about how to manage crises to ensure the best care for patients and their families in acute situations.

As indicated, the nursing programme at the University of Edinburgh is affiliated with the social sciences, owing to its inclusion in the School of Health in Social Science. This affiliation may have influenced the choice of theoretical approaches in the examined PhD theses' nursing research. This might represent a distinctiveness associated with the location of the PhD programmes in nursing science, either in independent faculties or as a part of other disciplines' PhD programmes. In this study, most of the PhD theses were included in the collective term social sciences and only a few in medicine or biology. With regard to this, the findings in this study diverge from the results of Heyman (1995), who found that the

TABLE 2 Summarizing through the years; field of study, methods and references to nursing theory

Year	PhD	Culture/ linguistic	Philosophy/ ethic	Organization	Sociology	Pedagogic	Psychology	Medicine/ biology	Others	Qualitative method	Quantitative method	Mixed methods	nursing theory	PhD online accessible
2011–2015	16	–	3	–	8	2	2	1	–	9	–	6	–	15
2006–2010	15	2	2	–	7	–	2	2	–	13	–	3	2	11
2000–2005	16	–	3	3	3	2	3	–	2	14	–	2	5	15
1994–1999	14	–	1	4	2	–	5	2	–	7	3	4	6	13
Total	61	2	9	7	20	4	12	5	2	43	3	15	13	54

theoretical approaches fell within either biomedical research or the social sciences.

According to Silverman (2011), “the facts that we find in ‘the field’ never speak for themselves but are impregnated by our own assumptions” (p. 38). The facts remain the challenges faced by patients, the changes associated with illness as disease, sickness and experience and how nurses can help, in their research focus, which the present study has shown.

Complex tasks often require a heterogeneous knowledge base. They require that a professional practitioner in the actual action situation is able to coordinate and merge various forms of disciplinary and practice-based knowledge. Professional occupation can therefore not be reduced to a question of the relationship between “theory” and “practice”. It is actually not just about applying theoretical knowledge in practical situations. Describing theories used exclusively in nursing research as nursing theory (Meleis, 2012) is not seen as a fruitful way to discuss the theoretical challenges in nursing science. The use of different theoretical approaches in nursing research, as the results of this study show, reveals the different theoretical approaches’ importance for the development of advanced nursing knowledge as a support for nursing practice. Nursing science originates in a heterogeneous and fragmented body of knowledge, which this study of PhD theses also reflects. According to Risjord (2010), nursing knowledge will be strengthened when theory is shared with other disciplines, not weakened.

Nursing research is an amalgamation, inspired by a broad range of theories and methodological approaches. This status is what brought nursing to its present academic level: scientific nursing journals, PhD programmes, professors, nursing institutes and faculties. Risjord (2011) asks “does nursing science need a distinct kind of theory?” (p. 489). It is interesting that nursing research does not seem to rest on one distinct kind of theory. Most of the theses in this study do not refer to or use nursing theory as a theoretical approach. There is quite simply a gradual reduction in direct reference to nursing theory over time.

Professions, such as nursing, are characterized by heterogeneous and fragmented bodies of knowledge and there is no one theory used, but nursing is rather enacted in the application of multiple theories (Grimen, 2008). In general, PhD theses represent the scientific contribution to the improvement of nursing knowledge and nursing practice, through an increase in research-based knowledge. A seemingly natural extension is that increased research activities, given their importance to nursing practice, will boost the nursing reputation and its position in the health research landscape.

6 | CONCLUSION

This study concludes that most PhD theses have aims and research questions connected to nursing contexts and practices and are thus nursing related. All the theses studied can be seen as appropriate contributions to improving a general body of knowledge, driven by nursing research.

A relevant question generating from this study is whether the failure to relate research to nursing theory has meant that the traditional nursing theories are obsolete and outdated? It might look that way. However, we need more research to investigate this very question, both empirically and theoretically. The present study investigated all PhD theses on nursing-related issues, all most likely increasing the knowledge base in nursing practice. Nursing research and nursing science offer a different perspective on health through examining nursing phenomena and posing research questions from a nursing perspective. The PhD theses examined in this study applied a wide variety of theories from other disciplines. The core principle of developing the theoretical basis for nursing and nursing knowledge remains, however, to advance and support nursing practice.

7 | LIMITATIONS

The strength of this study is the access to all of the PhD theses from the University of Edinburgh and the Centre of Research Collection. The systematic descriptions in Table 1 strengthen the transparency of this study. The weakness of this study lies, however, also in this interpretive table, as some of the PhD theses combined different fields of study, such as Robertson (2007), who used both sociological and psychological theories. I chose to include Robertson's study in the field of sociology based on its thematic issues, a subjective decision that is open for discussion.

The selection of only one university for examination may also be considered a weakness. However, the University of Edinburgh has contributed pioneering work in building nursing science in Europe. It therefore represents an important and interesting institution for the investigation of nursing studies. Further research is, however, required to present a more complete picture of nursing researchers' use of theoretical approaches in their research.

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CONFLICT OF INTEREST

There were no conflicts of interest associated with this study.

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