



**UNIVERSITY  
OF TURKU**

# **ETHICAL COMPETENCE OF A PHYSIOTHERAPIST**

**Concept and evaluation**

**Kati Kulju**





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Concept and evaluation

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The originality of this publication has been checked in accordance with the University of Turku quality assurance system using the Turnitin OriginalityCheck service.

ISBN 978-951-29-8167-0 (PRINT)  
ISBN 978-951-29-8168-7 (PDF)  
ISSN 0355-9483 (Print)  
ISSN 2343-3213 (Online)  
Painosalama, Turku, Finland 2020

*Ethics – “a pause to wonder, to question,  
to step back and to notice”*

*Moules 2006*

UNIVERSITY OF TURKU

Faculty of Medicine

Department of Nursing Science

KATI KULJU: Ethical competence of a physiotherapist – Concept and evaluation

Doctoral Dissertation, 156 pp.

Doctoral Programme in Nursing Science

September 2020

## ABSTRACT

Interest in physiotherapy ethics and ethical competence have internationally increased during the last ten years. Physiotherapy raises ethical issues that should be actively discussed – ethical competence is a key area of professional expertise in physiotherapy. The aim of the study was to identify ethical problems that physiotherapists encounter and to analyse the concept of ethical competence in order to clarify and verify the definition of the concept in physiotherapy. The aim was also to develop an instrument to assess physiotherapists' ethical competence.

This study included four Phases. In the **Identification phase I**, a descriptive and correlational study design was chosen to describe ethical problems that physiotherapists encounter, and to find out how the demographic data influence encountering ethical problems (n=116). The **Theoretical phase II** consisted of a concept analysis of the concept ethical competence. The results of the Theoretical phase formed the basis for the development of the instrument. In the **Empirical phase III**, a newly developed, mainly structured instrument (PECET) was used to evaluate ethical competence of a physiotherapist (n=839). The **Analytical phase IV** included verification of the concept ethical competence. The conceptualisation was based on the Hybrid model by Schwartz-Barcott and Kim.

Based on the results, physiotherapists encounter ethical problems related to everyday ethics even weekly. Ethical competence is needed to solve these issues. The concept of ethical competence is defined in terms of character strength, ethical awareness, moral judgement skills and willingness to do good. As these attributes were all illustrated in physiotherapists' responses, the concept was verified in physiotherapy. Measured with the PECET, most of the respondents evaluated themselves highly ethically competent. Ethical codes of conduct were not well known among the respondents.

The results of the study provide a theoretical framework for the concept of ethical competence and the development of the PECET, a thought-provoking tool as a part of ethical reflection, to evaluate the ethical competence of health professionals. In the future, research on ethical competence should be continued with more extensive data. It is also necessary to look at patients' views on ethical care and the importance of guidelines in ethical decision-making, in practice and during education.

**KEYWORDS:** Ethical competence, physiotherapy, self-evaluation, PECET, concept analysis

TURUN YLIOPISTO

Lääketieteellinen tiedekunta

Hoitotieteen laitos

Hoitotiede

KATI KULJU: Fysioterapeutin eettinen osaaminen – Käsite ja arviointi

Väitöskirja, 156 s.

Hoitotieteen tohtoriohjelma

Syyskuu 2020

## TIIVISTELMÄ

Kiinnostus fysioterapian etiikkaa ja eettistä osaamista kohtaan on lisääntynyt viimeisen kymmenen vuoden aikana. Fysioterapia herättää eettisiä kysymyksiä, joista tulisi keskustella – Eettinen osaaminen määritellään yhdeksi fysioterapian ammatillisen osaamisen ydinalueeksi. Tämän tutkimuksen tarkoituksena oli kuvata fysioterapeuttien työssään kohtaamia eettisiä ongelmia ja analysoida eettisen osaamisen käsitettä käsitteen määritelmän selventämiseksi ja todentamiseksi fysioterapian käytännössä. Tarkoituksena oli myös kehittää mittari arvioimaan fysioterapeutin eettistä osaamista.

Tutkimus suoritettiin neljässä vaiheessa: **Identifikaatiovaihe I** koostui niiden eettisten ongelmien kuvaamisesta, joita fysioterapeutit kohtaavat, sekä taustamuutustujen vaikutuksesta eettisten ongelmien kohtaamiseen (n=116). **Teoreettinen vaihe II** koostui käsitteen eettinen kompetenssi käsiteanalyttisestä tarkastelusta. Teoreettisen vaiheen tulokset muodostivat perustan mittarin kehittämiseksi. **Empiirisessä vaiheessa III** kerättiin aineisto fysioterapeutin eettisen osaamisen arvioimiseksi (n=839) itsearviointimittaria (PECET) käyttäen. **Analyttinen vaihe IV** sisälsi eettisen kompetenssin käsitteen todentamisen fysioterapiakontekstissa. Käsitteellistäminen tehtiin hyödyntäen Schwartz-Barcott & Kimin Hybridistä mallia.

Tulosten perusteella eettiset ongelmat ovat fysioterapeuteille jopa viikoittaisia. Näiden haasteiden ratkaisemiseksi tarvitaan eettistä osaamista. Eettisen kompetenssin käsitteen voidaan ajatella sisältävän luonteen vahvuuden, eettisen tietoisuuden, eettisen päätöksentekotaidon ja halun tehdä hyvää, ja näiden ominaispiirteiden esiintyessä fysioterapeuttien vastauksissa käsitteen olemassaolo voitiin todentaa. Tulosten perusteella suurin osa kyselyyn vastanneista fysioterapeuteista arvioi osaamisensa tason hyväksi kaikilla eettisen osaamisen alueilla. Eettisiä ohjeita ei tunnettu hyvin.

Tutkimuksen tulokset tarjoavat teoreettisen kehyksen eettisen osaamisen käsitteelle ja PECET-mittarin kehittämiseksi, tavoitteena terveydenhuollon ammattilaisten eettisen osaamisen arvioiminen käytännössä ja jo koulutuksen aikana. Tulevaisuudessa eettisen osaamisen tutkimusta kannattaa jatkaa laajemmalla aineistolla. Jatkossa on tarpeen tarkastella myös asiakkaiden näkemyksiä eettisestä hoidosta ja eettisten ohjeiden merkitystä eettisessä päätöksenteossa.

AVAINSANAT: Eettinen osaaminen, fysioterapia, itsearviointi, PECET, käsiteanalyysi

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# List of Abbreviations

ANOVA	Analysis of variance
CINAHL	Cumulative Index to Nursing and Allied Health Literature
COPE	Committee on Publication Ethics
COREQ	Consolidated Criteria for reporting qualitative research
EC	European Commission
ERIC	Education Resource Information Center
ETENE	National Advisory Board on Social Welfare and Health Care Ethics
FAP	Finnish Association of Physiotherapists
MEDLINE	Medical Literature Analysis and Retrieval System Online
MIEST	Measuring Instrument for Ethical Sensitivity in the Therapeutic sciences
MSQ-R	Moral Sensitivity Questionnaire – Revised
PCA	Principal component analysis
PECET	Physiotherapist’s Ethical Competence Evaluation Tool
PT	Physiotherapist
SAS	Statistical Analysis Software
SD	Standard deviation
TENK	Finnish Advisory Board on Research Integrity
WCPT	World Confederation for Physical Therapy
WHO	World Health Organization

# List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

- I Kulju K, Suhonen R & Leino-Kilpi H. Ethical problems and moral sensitivity in physiotherapy: A descriptive study. *Nursing Ethics*, 2013; 5: 568–577.
- II Kulju K, Stolt M, Suhonen R & Leino-Kilpi H. Ethical competence: A concept analysis. *Nursing Ethics*, 2016; 4: 401–412.
- III Kulju K, Suhonen R, Puukka P, Tolvanen A & Leino-Kilpi H. Self-evaluated ethical competence of a practicing physiotherapist: a national study in Finland. *BMC Medical Ethics*, 2020; 21:43: 1–11.
- IV Kulju K, Suhonen R, Tolvanen A & Leino-Kilpi H. Ethical competence – exploring situations in physiotherapy practice. *Physiotherapy Theory & Practice*, 2020; SUBMITTED. issue number: pages.

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The summary of this dissertation also contains unpublished material.

# 1 Introduction

In physiotherapy, knowledge in ethics as well as professional recognition of the ethical dimension have internationally increased during the last few decades (Praestegaard & Gard 2013; Delany et al. 2019). Physiotherapy raises ethical issues that should be discussed – physiotherapists need skills to perceive, interpret, and respond to ethical challenges in their practice, taking into account patient's preferences in order to be able to provide high-quality care in co-operation with other health care professionals. Ethical competence has been defined as a key area of professional expertise in physiotherapy (FAP 2017), consisting of active listening, critical reflection and honesty and loyalty to patients. It is also highlighted in the quality assurance standards of physiotherapy (WCPT 2018). Ethical consciousness is needed to be able to recognise one's ethical reflections and actions (Praestegaard & Gard, 2011). According to Finland's Ministry of Education and Culture (2006), the professional competence of a physiotherapist consists of ethical activities and cooperation, the knowledge and practical application of methods and skills, and research, development and management. In terms of ethical behaviour and co-operation, a physiotherapist acts in accordance with the professional and ethical principles and legislation; takes responsibility for the physiotherapy; understands the patient and takes into account their cultural background; is able to work independently and collaborate on a multidisciplinary basis (Ministry of Education and Culture 2006).

In the European Qualifications Framework, which covers all levels and sub-systems of education and training, ethical competence is described as an integral part of knowledge, skills and competence, being essential for the development of responsibility and autonomy (European Commission 2008). The WHO Global Competency Model (2012) defines the key components related to ethical competence, including for example the ability to identify conflicts, to act according to the legal and ethical framework and personal values and respect individuality (WHO 2012).

The Global Network of WHO Collaborating Centres for Bioethics (WHO 2015) names some key issues and challenges in ethics. Ethical behaviour in health care is based on universal ethical principles that provide the basis for ethical decisions and

practices and other ethical principles in different areas of health care (Sim 1997). Most health professionals want to act for the best interest of their patients. Autonomy, including respect for self-determination and privacy, nonmaleficence and beneficence, as well as the principle of justice are fundamental ethical principles at the heart of clinical care (Beauchamp & Childress 2008). Health professionals also aim to ensure that patients get adequate information, give an informed consent to treatment, and have the capacity to understand the benefits and risks of the treatment they receive, not forgetting patient's privacy and confidentiality issues (WHO 2015). The issues in clinical ethics concern not only individuals but also other aspects in health care: Access to treatment and how the services are provided, raise important ethical questions. Hence, ethical issues in clinical practice are often linked to larger ethical questions in health care organisations and different environments. (WHO 2015.)

Health care educators and leaders need to enable the development of ethical competence of health professionals (Dierckx de Casterle et al. 2008). In Finland, for example in 2018, the Parliamentary Ombudsman solved 581 cases (Parliamentary Ombudsman of Finland 2019), in which patients had made complaints about the health service they received: the patient's right to proper care and equal, respectful treatment, self-determination and information. Generally, about one third of patient complaints concern unethical behaviour of health care staff (Reader et al. 2014; Mäkelä 2015): issues concerning ethical awareness, patient's self-determination and equal and respectful communication with the patient (Mäkelä 2015). The year 2019 was critical in Finland. There were major ethical problems in the care services. Economic values and dignity contrasted in the care of the elderly. For example, the nurse-patient ratio was discussed. The insufficient numbers of nursing staff led to a situation where good care for all could not be guaranteed. In 2020, the situation worldwide is exceptional due to the coronavirus pandemic. The situation has raised difficult ethical questions, which challenge the ethical competence of health care professionals.

The main aim of this study was to verify the concept of ethical competence in the empirical world of physiotherapy. The focus was in concept development. The aim was to identify and describe ethical problems that physiotherapists encounter in their practice and to analyse the concept of ethical competence in order to clarify and verify the definition of the concept in the physiotherapy context. The aim was also to develop a self-evaluation instrument to assess physiotherapists' ethical competence. The goal is in enhancing physiotherapists' ethical knowledge and awareness of ethical issues and in the creation of the first part of theory generation. Self-assessment of skills, in the form of an instrument, which will work as a checklist for managers, teachers, supervisors, students and physiotherapists themselves, to identify ethical problems and ethical judgment, can increase the interest in ethical

issues and enhance critical thinking among physiotherapists to analyse their own work, which is an essential component of lifelong learning (Sharma et al. 2016).

This doctoral study consisted of four phases. All the **Phases I–IV** were interacting with each other during the whole process aiming at the development and verification of the concept ethical competence, in the context of physiotherapy, using the Hybrid model of Schwarz-Barcott & Kim (2000) in the conceptualisation. The **Identification phase I** consisted of the description of ethical problems in physiotherapy practice. The **Theoretical phase II** consisted of a concept analysis, aiming to define the concept, and develop the instrument. In the **Empirical phase III**, a semi-structured instrument to evaluate ethical competence in the physiotherapy context was used for data collection. The **Analytical phase IV** included an empirical verification of the concept ethical competence in physiotherapy. (Figure 1.)

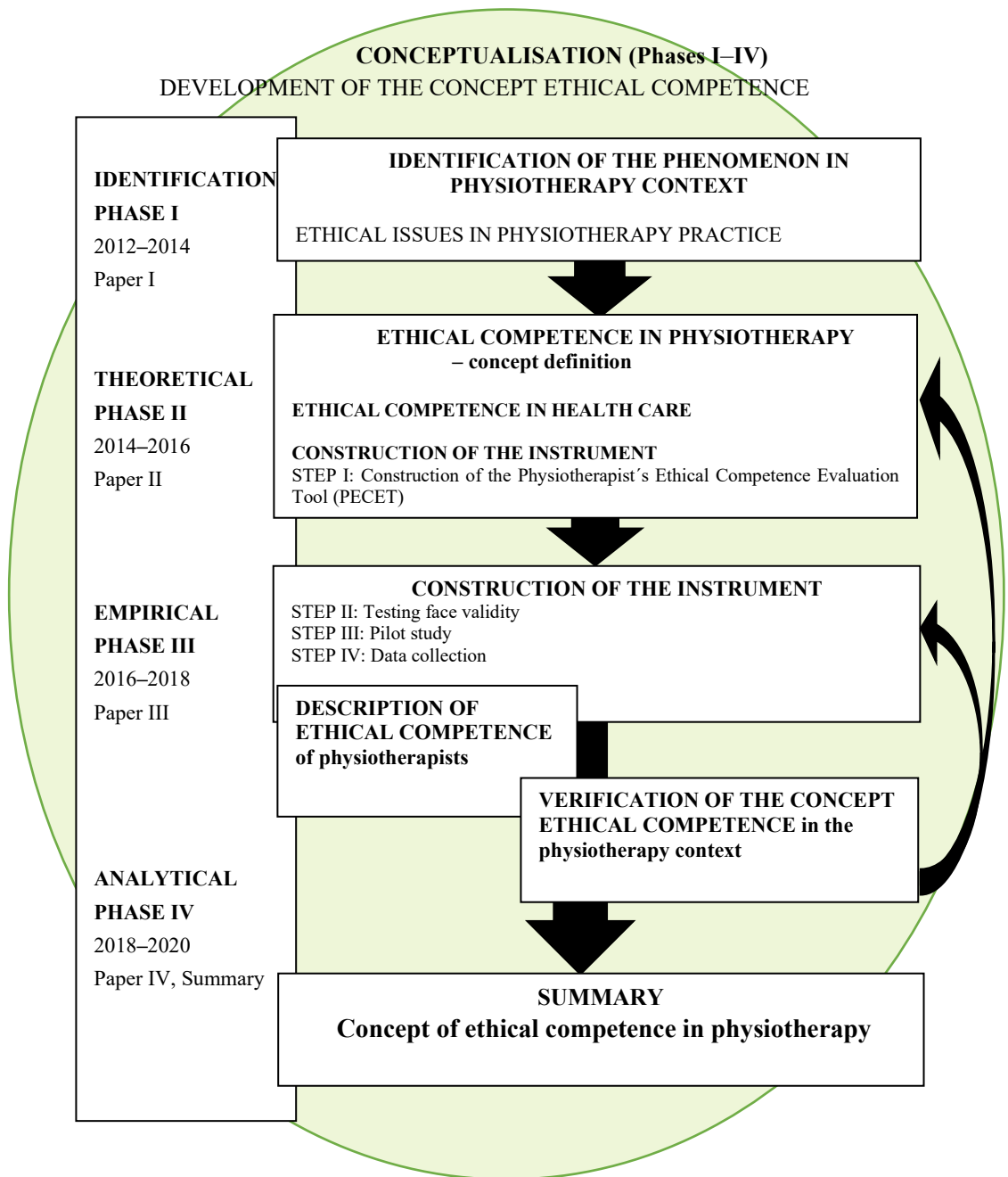


Figure 1. Study design

## 2 Theoretical Background

In this chapter, the first paragraphs introduce a literature review of ethics research in the field of physiotherapy and ethical issues encountered in physiotherapy practice. The next paragraphs deal with the concept ethical competence in general and in the context of physiotherapy. Finally, the concept analysis methods are introduced.

### 2.1 Ethics in physiotherapy

#### 2.1.1 Research on ethics in physiotherapy

Research on ethics in physiotherapy was sought through a systematic literature search on PubMed (MEDLINE), CINAHL (Cumulative Index to Nursing and Allied Health Literature; Ebsco), Philosopher's Index (Ebsco) and Web of Science Core Collection. The terms "ethics" or "moral", and "physiotherapy" or "physical therapy" were used as keywords. The publication period of the studies was about forty years (1980–2020) and literature in the English language was included (Table 1). Mainly studies published in scientific journals were selected. The abstract was available from almost all 70 articles selected from the databases. Via manual search eleven articles were included in the search, so altogether 81 articles consisting of a variety of topics and contexts related to physiotherapy ethics were detected.

Research exploring especially ethical problems encountered in physiotherapy practice in different contexts has been listed and introduced in Appendix 1.

**Table 1.** Research on ethics in physiotherapy during 1980–2020

<b>Theme/ Context</b>	<b>Author, country, year</b>
Ethical issues from scattered fields of physiotherapy	Guccione, USA 1980; Gartland, Canada 1987; Triezenberg, USA 1996; Barnitt, UK 1998; Romanello & Knight-Abowitz, USA 2000; Voors, UK 2000; Dronberger, USA 2003*; Carpenter, UK 2005*; Poulis, Greece 2007*; Scheirton et al., USA 2007; Nalette, USA 2010*; Dawson & Sim, UK/Ireland 2012; Delany, Australia 2012; Kulju et al., Finland 2013; Delany et al., Australia 2015; Chigbo et al., Nigeria 2015; Laliberté et al., Canada 2017; Roman, Romania 2017*; Shojaei & Ghofrani, Iran 2018*; Delany et al., Australia 2019; Sviland et al., Norway 2020*
Work environment	Cantu, USA 2019a; Cantu, USA 2019b
Sports	Poulis, Greece 2012; Riendeau et al., Canada 2015*
Private practice	Saporta & Gibson, Canada 2007; Praestegaard & Gard, Denmark 2011; Praestegaard & Gard, Denmark 2013; Praestegaard et al., Denmark 2013; Drolet & Hudon, Canada 2015; Hudon et al., Canada 2015
Education	Solomon & Geddes, Canada 2000; Triezenberg & Davis, USA 2001; Dieruf, USA 2004; Geddes et al., Canada 2004*; Aveyard et al., UK 2005; Gard et al., Sweden 2005; Edwards et al., Australia 2011; Hudon et al., Canada 2014; Strawbridge et al., Ireland 2014; Laliberté et al., Canada 2015; Hudon et al., Canada 2016; Magalhães et al., Brazil 2016; Hudon et al., Canada 2018; Kordahl & Fougner, Norway 2017; Manspeaker et al., USA 2017; Aguilar-Rodríguez et al., Spain 2019
Informed consent practices	Purtilo, USA 1984; Delany, Australia 2007; Fenety et al., Canada 2009; Copnell, UK 2018; Aderibigbe & Chima, South Africa 2019; Roman et al., Romania 2019
Confidentiality	Cross & Sim, UK, Ireland 2000*; Malcolm & Scott, UK 2014
Values, codes and principles	Sim, UK 1998*; Tunde, Canada 2004; Nosse & Sagiv, USA 2005; Greenfield & Jensen, USA 2010a; Swisher et al., USA 2010; Swisher & Hiller, USA 2010; Edwards et al., Australia 2011; Areskoug-Josefsson & Kjellström, Sweden 2019; Boyczuk et al., Canada 2019
Moral distress	Carpenter, UK 2010; Monrouxe et al., UK 2015 (students)
Ethical / moral sensitivity	Naudé & Bornman, South-Africa 2016
Ethical / moral reasoning / decision-making / judgment	Barnitt & Partridge, UK 1997; Edwards et al., USA 2005; Finch et al., Canada 2005; Greenfield & Jensen, USA 2010a; Swisher, USA 2010; Edwards et al., Australia 2011; Swisher et al., USA 2012 (students); Sisola, USA 2000 (students); Barnitt & Roberts, UK 2000 (students); Geddes et al., Canada 2009 (students); Edwards et al., Australia/USA 2012 (students)
Ethics knowledge	Swisher, USA 2002; Carpenter & Richardson, UK 2008; Delany et al., Australia 2010

\*manual search

## 2.1.2 Ethical issues in physiotherapy

The ethics of caring and the reflection on ethical issues go back to the days of Hippocrates. Many of the old ethical problems are always topical and may not be permanently resolved which is characteristic of an ethical problem. (Louhiala & Launis 2009.) When a professional is unaware of how to act correctly, he/she has an ethical problem (Juujärvi et al. 2007). Ethical problems are about conflict between values. Typically, there is not one correct solution to it – all existing solutions are

incomplete and do not completely eliminate the problem. An ethical problem is usually manifested in communication and action between human beings. (Leino-Kilpi 2014a.) In the discussion of the problems strong emotions and a fear of making a bad choice tend to be involved (ETENE 2012).

In health care, including physiotherapy, ethical issues can be identified in many different areas. The problem may occur in the professional's own actions, for example in relation to the professional's relationship with the patient. In this interaction, it is important to understand that it is usually the patient who makes the decision to seek treatment, and thus their own decision-making and action regarding health. An ethical problem can also arise between the professionals and their colleagues, inside their own profession, or with other professions. An ethical problem related to collegiality may be, for example, a colleague's unethical behaviour towards a patient. The professionals may also have differing views with their colleagues or other professional groups on how to act in the profession or in a particular situation, which may cause ethical conflicts. Ethical issues at the organisational level include issues such as access to care and continuity of care, or an excessive workload. Ethical issues at the societal level are more broadly related to the importance of the whole health service system and its value base in society. (Leino-Kilpi 2014a.) Solving ethical problems should be based on as truthful information as possible about the situation, but it also requires reflection on right and wrong (Juujärvi et al. 2007).

The amount of research about the ethical problems and awareness of ethics in physiotherapy has increased. Qualitative research in physiotherapy ethics has been conducted internationally, including ethical problems in physiotherapy in the private sector (Praestegaard & Gard 2013; Drolet & Hudon 2015) as well as in the public sector (Barnitt 1998; Kulju et al. 2013; Laliberté et al 2017) and regarding the first physiotherapy reception visit (Praestegaard & Gard 2011), using the theoretical framework to analyse ethical problems (Drolet & Hudon 2015), describing the ethical problems of physiotherapy and ethical reasoning (Barnitt & Partridge 1997) and how physiotherapists experience ethical problems (Riendeau et al. 2015). (Appendix 1.)

Physiotherapists encounter some typical ethical problems in their practice (Aguilar-Rodriguez et al. 2019). Setting the goals and limits to treatment may sometimes be problematic, if the ending point of the treatment is not defined, because it is difficult to predict the goals that will be achieved (Poulis 2007). For example, in a situation where the treatment has been continued and it seems that physiotherapy is no longer effective, the physiotherapist needs to decide when and how much treatment should be given (Barnitt 1998; Finch et al. 2005). Ethical problems are about to emerge in a situation when the patient doesn't receive the amount of physiotherapy that is needed, for whatever reason, often due to resource issues (Nalette 2010; Hudon et al. 2015; Cantu 2019a) also raising questions about who gets access to physiotherapy (Poulis 2007; Laliberté et al. 2017). The attitudes in how the therapists prioritise between patients based on their socioeconomical status, for example the

patient's employment status or educational level (Madsen et al. 2016), and asymmetrical relationship between the therapist and the patient (Dierckx et al. 2013; Praestegaard & Gard 2013), are problematic. The patient's active role in the success of the treatment (Poulis 2007) and in decision-making (Dierckx et al. 2013) challenges physiotherapists to be ethically aware, to listen and notice what is important for the patient, and it also promotes patient's engagement in physiotherapy (Bernhardsson et al. 2017). Ethical issues concerning the realisation of patients' autonomy (Hudon et al. 2015), and professional decisions and patient competence challenges (Barnitt & Partridge 1997) also occur. Additionally, a close physical and emotional relationship between the patient and the physiotherapist creates specific ethical issues (Poulis 2007; Praestegaard & Gard 2013; Shojaei & Ghofrani 2018), such as how to keep a professional distance, for example in a situation when a patient visits the same physiotherapist regularly and for a long time.

Also, technological issues by means of physiotherapy devices can generate ethical problems concerning the design and use of the devices. The user may not have the required knowledge to use the equipment or to be able to assess if the devices' use might cause harm. Lack of sufficient clinical research background in this field leads to that the device's effectiveness or that it has not got any contraindications cannot always be proved. (Roman 2018.) Since physiotherapists encounter a variety of ethical challenges in their practice, ethical competence is needed to interpret and respond to those challenges.

## 2.2 Ethical competence

Ethical competence is a field of knowledge that relates to all interaction and communication between people meeting each other. In this paragraph the concept will be first introduced at a general level and then linked to health care. In addition, ethical competence in the context of physiotherapy is reviewed.

### 2.2.1 Concept of ethical competence

The terms "ethical" (referring to normative ethics) and "moral" (referring to applied, individual's personal, ethics) will be used interchangeably in this study as is common in the literature on ethics (Bolmsjö et al. 2006; Eriksson et al. 2007; Paganini & Egry 2011; Buzgová & Sikorová 2013; Pohling et al. 2016; Merriam-Webster Online Dictionary 2020). Philosophical ethics seeks theoretical justifications for human moral action. Based on etymology, the words "ethics" and "ethical" may be considered as refer to a trait of character or personality, whereas "morality" and "moral" are a matter of acting in accordance with some general instruction or principle. (Pietarinen 2015.)

Dictionaries do not offer a definition for the concept 'ethical competence'. The term ethical is defined in various dictionaries for example as 'pertaining to morality or the science of ethics' or as 'relating to moral principles or the branch of knowledge dealing with these'. The term ethical also expresses 'moral approval or disapproval', 'conforming to accepted standards of conduct'. In the literature, the term moral is often seen as a synonym of the term ethical (Paper II). The definition of competence varies between theoretical and philosophical contexts. In dictionary definitions, competence is defined as 'a sufficiency of means for the necessities and conveniences of life' and 'having sufficient knowledge' to enable an action, or, 'sufficiency of qualification; capacity to deal adequately with a subject'. (Paper II.)

The aspect of ethical competence is considered and explored across disciplines and professions in medicine, nursing, business, engineering, law, psychology, social work, public administration and education (Menzel 2016). Already in elementary school, children participate in a variety of ways in ethics education aiming at ethical competence, research suggesting an integrative way of handling theoretical and practical dimensions of ethics in teaching (Lilja et al. 2018). It has been stated that ethical competence distinguishes skills from true professionalism (Professional Associations Research Network 2020). Ethical competence is the capacity, a psychological skill of a person or a group, to choose the right way to handle the encountered ethical problem. One has to be able to see the different ways of handling those problems, to think and act independently and openly, not constrained by moral fixations or automatic actions, and critically considering all relevant values, principles, feelings and beliefs. (Kavathatzopoulos 2003.) In that sense, an ethically competent person is one who can distinguish between right and wrong and also behaves accordingly (Menzel 2016). Ma (2012) defines moral competence as altruistic and emotional behaviour towards others, being able to judge the moral dimensions logically. According to Kohlberg (1984), moral competence is one element in the hierarchy of values and standards in a specific community, and the ability to make decisions based on internal principles and moral rules (Kohlberg 1984).

Pohling et al. (2016) define ethical competence as "(1) conscious decisions and actions within a given (2) situation with responsibility. It implies (3) to feel obliged to one's own moral principles and (4) to act responsibly taking into account legal standards as well as economical, ecological, and social consequences. Ethical competence (5) requires normative knowledge and (6) the willingness to defend behavioural options against occurring resistance". (Pohling et al. 2016, p. 469.) In the field of health care, ethical competence is a foundational, important component of a health care professional's competence (Dierckx de Casterle et al. 2008). In this study, ethical competence is seen as one of the core competences of a professional, as an umbrella concept covering and crosscutting all competence areas.

## 2.2.2 Ethical competence as a core competence of a health care professional

In the context of health care, ethical competence has been defined in different ways. As Koskenvuori et al. (2019) state, the research around the topic has increased and focused on conceptualisation, evaluation, and realisation of ethical competence (Koskenvuori et al. 2019). Lechasseur et al. (2016), in their literature review, conceptualised the concept, stating that the components of ethical competence in health care are ethical sensitivity, ethical knowledge, ethical reflection, ethical decision-making, ethical behaviour, and ethical action. According to Jomsri et al. (2005), ethical/moral competence is three-dimensional, including moral perception, moral judgment and moral behaviour. Eight attributes indicate these dimensions in nursing practice in Thailand and are loving kindness, compassion, sympathetic joy, equanimity, responsibility, discipline, honesty, and respect for human values, dignity and rights. (Jomsri et al. 2005.) According to a concept analysis conducted by Maluva et al. (2019) in the nursing context, the defining attributes of moral competence were kindness, compassion, caring, critical thinking, ethical decision-making ability, problem solving, responsibility, discipline, accountability, communication, solidarity, honesty, and respect for human values, dignity and rights. Also in the nursing context, ethical competence characteristics have been defined in terms of knowledge of legislation, knowledge of values, principles and codes of ethics, ethical sensitivity, ethical decision-making and ethical action (Poikkeus 2019). For medical students, ethical competence was defined in terms of belief and respect for values, beneficence in relation to the patients and colleagues, and moral character including virtues like altruism and integrity (Alni et al. 2018). Ethical competence is also considered to be a part of professional competence (Paganini & Egry 2011), loyalty and honesty to patients (Höglund et al. 2010), requiring abilities of character, action and knowledge and consisting of virtues, principles and critical reflection (Eriksson et al. 2007).

Ethical competence as a field of expertise is emphasised in various documents of e.g. health care curricula, WHO (World Health Organization), ETENE ((The National Advisory Board on Social Welfare and Health Care Ethics) and in ethical guidelines of health care professionals. Ethical competence is described as meta-competence (European Commission 2008). The World Health Organization Global Competency Model includes several key qualities that can be seen related to the concept of ethical competence: time and understanding in communication with others, active listening, responsibility for one's own work, ability to identify conflicts, respecting others' individuality, acting collegially and confidentially, according to the ethical and legal framework and personal values (WHO 2012). The consensus statement about competencies for ethics committees has been made by the UK Clinical Ethics Network, including for example the definition of competencies required for the provision of ethics support for health professionals (Larcher et al. 2010). ETENE has

published several documents and recommendations concerning ethical conduct in health care, e.g. Ethical grounds for the social and health care field (2012) and Shared values in health care – common goals and principles (2001).

Various health care professions have published their own ethical guidelines and principles based on shared values. They emphasise respect for human dignity and self-determination, justice, the protection of life and the promotion of health. (ETENE 2001.) These codes of professional ethics contain concrete principles that guide practice and define the ethical responsibilities associated with the profession (Sim 1997; Greenfield & Jensen 2010a). The guidelines remind the employee that health care is also a moral activity, not just a technical exercise, and at its best involves ethical discussion and critical reflection of the content of the activity. Ethical guidelines also express the values associated with the profession. (Sim 1997; Boyczuk et al. 2019.) The guidelines should be specific enough in different professional fields, but still loose enough to be applied to different situations and leave room for the professional's own thinking. (Juujärvi et al. 2007.)

It is considered important to offer possibilities for all health care professionals to strengthen their ethical competence. Developing ethical awareness and courage, for example, in ethics clubs discussing different ethical cases, and strengthening moral judgement skills in virtual ethics labs or with ethics games could be the ways for development of ethical competence. (Paper II.) It could also be gained via ethics rounds, ethics groups, multidisciplinary ethics committees, ethics consultation and e.g. web-based ethics resources (Clark & Taxis 2003). The managers in the organisations should organise work so that ethical reflections can be carried out, and clearly indicate the importance of ethical competence, also allocating resources to make sufficient learning processes around the topic possible (Falkenström et al. 2016; Poikkeus 2019).

### 2.2.3 Research on assessment of ethical competence in health care

Few instruments have been developed and used to assess ethical competence or parts of it. In health care, the assessment of ethical competence has been done mainly as one minor component of clinical competence evaluation tools (Karayurt et al. 2008; Holt et al. 2010; Dalton et al. 2011). Various instruments have been used to measure moral / ethical sensitivity or moral judgment skills (often mentioned in the definitions of ethical competence) in health care. For example, Hébert et al. (1990) and Ersoy & Göz (2001) have measured ethical sensitivity by means of various brief reports (vignettes). Bebeau, Rest & Yamoor (1985) developed an instrument to measure the ethical sensitivity of dental students. The Dental Ethical Sensitivity Test (DEST) contains recorded real-life situations. Later, the instrument has been further developed and used in other disciplines. (Bebeau 1994; Myyry 2003.) The MSQ-R (Revised

version of the Moral Sensitivity Questionnaire; Lütznén et al. 2006; Dahlqvist 2008), originally developed for assessment of moral sensitivity among psychiatric nurses, was modified to be suitable for other health care professionals. (Lütznén et al. 2006; Lütznén & al. 2010.) Applied in the physiotherapy context, Naudé & Bornman (2016) have developed and implemented MIEST which has been found effective to assess ethical sensitivity of professionals in therapeutic sciences. Moral judgment skills, as a part of ethical competence, have been measured for example among nursing students (Bužgová & Sikorová 2013), among medical students (Neves Feitosa et al. 2013) using Lind's Moral Judgment Test (MJT, 1995 – in 2014, renamed the Moral Competence Test, MCT) and with the Defining issues test (Rest 1994) for example among physiotherapists (Swisher 2010).

Instruments developed to measure ethical / moral competence as a whole are presented in Table 2. The Moral Competence questionnaire for public health nurses (Asahara et al. 2015) was developed based on James Rest's four components of moral behaviour (Rest 1994). Five theoretical components of moral competence were identified: moral sensitivity (interpreting the situation), moral judgment (judging which action is morally right or wrong), moral motivation (prioritising moral values relative to other values), moral character (having courage, overcoming difficulties, implementing skills), and implementing the moral decision. (Asahara et al. 2015.) Chambers et al. (2011) also based their Moral Skills Inventory –instrument, developed for the purposes of dentistry, to the elements of Rest's four-component model of moral behaviour (Chambers et al. 2011). The Ethical competence instrument (Poikkeus et al. 2016) was developed to assess nurses' perceptions of their ethical competence, including the components of ethical competence: knowledge of laws and regulations, values, principles and codes of ethics, ethical sensitivity, ethical decision-making, and ethical action (Poikkeus et al. 2016). Savulescu et al. (1999) identified two core skills central to medical ethics, ethical awareness and critical thinking. Mitchell et al. (1993) based their instrument Modified Essay Question on the Know-Can-Do –model (Norman 1991) to measure ethical sensitivity, knowledge, critical thinking and judgment skills of medical students (Mitchell et al. 1993).

**Table 2.** Instruments for assessment of ethical / moral competence in health care

Author, country, year	Instrument
Mitchell KR et al., Australia, 1993	MEQ Modified Essay Question for assessment of clinical ethical competence of medical students, measuring ethical sensitivity, knowledge, critical reflection and judgment
Savulescu J et al., Australia, 1999	Ethics competence of medical students: being able to identify ethical issues (awareness) and critical thinking skills.
Jomsri P et al., Thailand 2004	Moral Competence Scale (MCS) for measuring moral competence in nursing practice
Chambers DW, USA 2011	The Moral Skills Inventory to measure the elements of Rest's four-component model of moral behavior in dentistry
Asahara K et al., Japan 2013	Moral Competence Scale for Home Care Nurses (MCSHCN) self-assessment questionnaire
Asahara K et al., Japan 2015	Moral competence questionnaire for public health nurses in Japan self-assessment questionnaire
Poikkeus T et al., Finland 2016	Ethical Competence instrument to analyse the level of nurses' and nurse leaders' ethical competence

## 2.3 Ethical competence in physiotherapy

Physiotherapists as health care professionals are in an important role in working with individuals with disabilities and, when working in different work environments and contexts with a variety of patients, they must have a variety of competencies (Sjögren et al. 2016). They need skills to encounter the ethical challenges in their work and to understand the patient's perspective in a situation (Greenfield & Jensen 2010b).

### 2.3.1 Ethical competence as a core competence of a physiotherapist

Ethical competence has been defined as one of the core competences in physiotherapy (Sjögren et al. 2016; Finnish Association of Physiotherapists 2017) and ethical practice is also emphasised in the international quality assurance standards of physiotherapy (WCPT 2018).

The work of a physiotherapist is independent: the professional is responsible for the planning, implementation and evaluation of their work, as well as for the development of the profession. The profession of a physiotherapist often requires the ability to quickly assess the need for and implementation of physiotherapy. It also requires extensive and in-depth knowledge of the various aspects in the field. The work is patient-oriented and evidence-based, taking into account ethical and regulatory aspects. (FAP 2020.) The Social Insurance Institution of Finland (2011)

has defined the basis for good rehabilitation practice. Successful rehabilitation practice emphasises multidisciplinary cooperation: patient-oriented work, in which different professional groups combine their knowledge and work towards a common goal, taking into account the patient's life and care path (Paltamaa et al. 2011). Good rehabilitation practice also includes mutual respect and trust, effective interaction and openness, commitment to care and cooperative decision-making, as well as individual consideration of the patients and their needs (Paltamaa et al. 2011). During the last decades, the autonomy of the physiotherapy profession has even increased (Praestegaard & Gard 2013), which highlights the importance of the ethical competence of physiotherapists. The physiotherapist must have the ability to identify, evaluate and make decisions about ethical issues in the daily work. (Praestegaard & Gard 2013.) Being able to identify situations that require ethical reflection is central to any physiotherapist (FAP 2016).

In Finland, physiotherapists' core competencies have been recently defined based on the results of the University of Jyväskylä survey aiming to reveal physiotherapists' viewpoints about the core competences of physiotherapy (Sjögren et al. 2016). Physiotherapy science forms a starting point in the Core competencies of physiotherapist –report (FAP 2016). The core competencies of physiotherapists are defined in terms of movement, mobility, and functioning, the examination of the patient and clinical reasoning, therapeutic competence, competence in teaching and guidance, health promotion, accessibility, interaction, ethical aspects, multiculturalism, networking, and working life and business-related skills. It is important to notice, that all areas of competence interact with each other. (FAP 2016; Table 3.) Ethical competence could also implicitly be seen as a part of all the competence areas in the health care context like an umbrella concept, since it cannot be distinct from other competencies but can be regarded as a generic competence guiding the others (Park & Peterson 2006).

**Table 3.** Core competences of a physiotherapist (FAP 2016)

<b>Specific core competences of a physiotherapist</b>	<b>Core competences common with other professional groups</b>	<b>Common areas of competence of social and health care professionals</b>
Patient examination and clinical reasoning	Ethical competence	Innovation competence
Therapeutic competence	Technological competence	Research and development competence
Teaching and guidance	Social competence	Management competence
	Accessibility competence	Business competence
		Internationalisation competence
		Working community competence
		Co-operation and social competence
		Working community competence
		Multiculturalism competence

Professional ethics in physiotherapy is based on professional knowledge, values and life experience. The physiotherapist supports the patient in a variety of life situations, helping them find resources and improve the quality of life. The Codes of ethics for physiotherapists prepared by Finnish Association of Physiotherapists (2014; Table 4) are based on the World Confederation for Physical Therapy WCPT Ethical principles, which expect the physiotherapists to respect the rights of individuals, comply with the laws and regulations, provide honest, competent and high-quality services, provide accurate information and make sound judgments (WCPT 2019; Table 4). These codes aim to help the practitioner to encounter each patient equally, support physiotherapist in ethical reflection, decision-making and critical evaluation of the consequences of one's own actions (FAP 2016) and to maintain the best ethical quality in their work.

**Table 4.** The FAP / WCPT ethical guidelines for physiotherapists (FAP 2014; WCPT 2019)

<b>Context (FAP)</b>	<b>The FAP expects physiotherapists to (e.g.)</b>	<b>The WCPT expects physiotherapists to</b>
<b>The physiotherapist and the client</b>	respect life, the client's human dignity and autonomy <ul style="list-style-type: none"> <li>• perform their tasks confidentially and equally</li> <li>• inform clients that they have the right to refuse the treatments, the expected impacts of the activities and of possible risks</li> </ul>	respect the rights and dignity of all individuals
<b>Regulatory compliance</b>	know the Acts and other regulations defining their work <ul style="list-style-type: none"> <li>• act in the best interests of their clients in matters pertaining to professional practice.</li> </ul>	comply with the laws and regulations governing the practice of physiotherapy in the country in which they practice
<b>The physiotherapist's expertise</b>	acquire information about their client's background and current state <ul style="list-style-type: none"> <li>• examine the client in an appropriate manner</li> <li>• together with the client, set the goals for the therapy, draw up a plan and act accordingly, and evaluate</li> <li>• respect the expertise of others</li> <li>• are personally responsible for their work.</li> </ul>	accept responsibility for the exercise of sound judgement provide honest, competent and accountable professional services
<b>The physiotherapist's professionalism</b>	act justly, honestly, expertly and responsibly <ul style="list-style-type: none"> <li>• ensure that clients understand the goals and contents of therapy, the use of time and the costs</li> <li>• develop themselves, recognise the limits of competence</li> <li>• act in a collegial manner</li> <li>• look after their own well-being at work.</li> </ul>	
<b>Quality of actions</b>	are committed to high-quality activities <ul style="list-style-type: none"> <li>• comply with good evidence-based physiotherapy practice</li> <li>• as superiors, enable employees' professional development</li> </ul>	provide high-quality services
<b>Economy and society</b>	act in keeping with good business practice <ul style="list-style-type: none"> <li>• act in accordance with the principles of social responsibility</li> </ul>	contribute to the planning and development of services which address the health needs of the community receive a just and fair level of remuneration for their services
<b>Information about physiotherapy</b>	provide information accurately and comprehensively <ul style="list-style-type: none"> <li>• know the risks associated with data protection and data security.</li> </ul>	provide accurate information to patients/clients, to other agencies and the community about physiotherapy and the services physiotherapists provide

### 2.3.2 Research on ethical competence in physiotherapy

Literature search with keywords “ethical competence” OR “moral competence” from the databases Medline (Pubmed; 139 matches) and Web of Science Core Collection (165 matches) was conducted in February 2020 and only one research article reflecting ethical competence in the physiotherapy context (Praestegaard & Gard 2011) was detected in last 20 years (2000–2020). The study concludes that physiotherapists’ consciousness about ethical issues differs, and reflections and actions are based on an insufficient awareness of ethical theories and guidelines. Beneficence towards the patient is important but a deeper ethical awareness of one’s personal resources, values and boundaries is needed – only an ethically conscious physiotherapist knows when he or she reflects and acts ethically. (Praestegaard & Gard 2011.)

As ethical competence is one of the core competencies in physiotherapy, there should exist ways to evaluate it (Paganini & Egry 2011). A comprehensive instrument which could measure all the defined areas of ethical competence in the physiotherapy context is lacking according to the literature search results, but the aspect of ethical awareness, which can be seen as a part of ethical competence has been studied previously (MSQ-R, Kulju et al. 2013; MIEST, Naudé & Bornman 2016). Also, ethical judgment /ethical decision-making skills have been analysed in physiotherapy practice (Barnitt & Partridge 1997; Edwards et al. 2005; Finch et al. 2005; Greenfield & Jensen 2010a; Swisher 2010; Edwards et al. 2011), mainly among physiotherapy students (Sisola 2000; Barnitt & Roberts 2000; Geddes et al. 2009; Edwards et al. 2012; Swisher et al. 2012).

Most physiotherapists face ethical problems on a weekly basis, but the ability of physiotherapists to recognise ethical problems varies (Paper I, III). Physiotherapists do recognise ethically demanding situations, but do necessarily not recognise the ethical principles involved (Finch et al. 2005). Physiotherapists working in the private sector rarely base their analysis of ethical problems on ethical knowledge (Drolet & Hudon 2015), and rarely consciously refer to ethical theories, principles, or ethical guidelines (Triezenberg 1996; Swisher 2002; Finch et al. 2005; Carpenter & Richardson 2008; Delany 2010; Praestegaard & Gard 2013). According to Greenfield & Jensen (2010a), professional codes of ethics are not easily applicable to ethical decision-making when facing an ethical problem. In ethical decision-making, physiotherapists most often consult with a colleague and do not use ethical literature to support decision-making. (Finch et al. 2005.)

Ethical decision-making skills of physiotherapists have been found to be lower compared to other health care professionals with similar education (Swisher 2010). Weakness in the ethical sensitivity of graduating physiotherapy students was also found in some areas compared to other therapists (Naudé & Bornman 2016). Higher education, further ethics education, and the female gender were found to be associated

with better ethical decision-making skills (Swisher 2010). Higher education and working experience were also linked to the ethical sensitivity of the physiotherapist. Most of the physiotherapists felt uncertain when faced with ethical issues. They were challenged to explain their notions of ethics, and they were also uncertain about what ethical issues covered. (Praestegaard & Gard 2011.) Ethical sensitivity was demonstrated in particular in how a professional's behaviour affects an individual patient, while the professional's responsibility to the community was sometimes overlooked (Naudé & Bornman 2016). Physiotherapists, who dealt more often with ethical problems, had a more clear understanding of professional ethics and patient autonomy. In addition, they were able to keep their own emotional reactions separate from problematic situations, to see many different solutions, and to act on what they regarded as the best solution. (Finch et al. 2005.) Physiotherapists experienced a feeling of inadequacy and frustration at decisions that could not be judged right or wrong and for which there was no obvious way to act. They also described how these situations affected their sense of competence and confidence. (Barnitt & Partridge 1997.)

As ethics is a core competence of physiotherapy practice, it should also be a core component of the physiotherapy curricula. Ethics education increases ethical awareness and develops reflective and analytical skills (Hudon et al. 2015). There is no consensus about how best to teach ethics in physiotherapy and the quantity of ethics teaching is highly variable (Laliberté et al. 2015). Various challenges to ethics teaching were reported, including lack of time, large class sizes and lack of suitable pedagogical tools to teach ethics. In addition, students seemed to be less interested in ethics and preferred topics related to clinical skills. (Laliberté et al. 2015.) Yet, as Stolt et al. (2018) stated in their review, educational interventions can influence the ethics of health care practices. Experimental learning in multiprofessional groups (Poikkeus et al. 2014) and multiprofessional debates could stimulate critical thinking and interest in complex issues. Students consider working as a team beneficial, concluding that debate is a useful way of learning ethics together (Strawbridge et al. 2014). Also, ethics simulations (Hooper 2015), case study method and role-playing using a blended-learning model could improve physiotherapy students' attitudes, knowledge and opinions towards learning professional ethics (Aguilar-Rodriguez et al. 2019). Clinical ethics consultations and mentoring between professionals could also be helpful when guiding physiotherapists to identify the ethical dimensions in their practice (Delany 2012; Hudon et al. 2015).

## 2.4 Concept analysis

Conceptual work is an essential component of knowledge development of a discipline (Rodgers et al. 2018). In this study, the central method is concept analysis. Concept analysis has been defined as an activity which aims to clarify the concepts, their

characteristics and relations to other concepts (Nuopponen 2010). For example, nursing has a long history of conceptual work. Activity in this area grew during the late 1970s and 1980s, as interest in theory development increased. Linking conceptual work to the resolution of problems in the discipline is important to promote continuing development in science. (Rodgers et al. 2018.) That is, there should be a clear connection to the existing conceptual problem. In previous concept analyses, that often has not been the case and the statement of identifiable problem has been lacking. (Rodgers et al. 2018.)

When conducting a concept analysis, according to Morse et al. (1996), the concepts of interest are usually abstract, and the meaning of the concept cannot be directly observed but must be identified by its indicators. As concepts mature through critical assessment, there is increasing consensus about their meanings, and the meanings become more stable. Finally, although such concepts may be manifest in various forms in different contexts, their attributes or characteristics remain recognisable. Ideally, a mature concept should be well defined, with characteristics (attributes) identified, boundaries determined, and preconditions and consequences described (Morse et al. 1996b).

The purposes of concept analysis are e.g. to find the defining attributes of a concept, to develop critical thinking through analysis, to identify areas for research, to help clarify abstract concepts and to develop a process for operationalising variables (tool development) (Walker & Avant 2019). Within health care disciplines mainly behavioural concepts have been explored aiming to understand health and illness experiences (Cronin et al. 2010).

Forty-three distinct strategies of concept analysis were described in the articles included in the review of Rodgers et al. (2018). The most commonly used strategies were the Wilson's Method, which forms a basis for many other methods (e.g. Walker & Avant 2019), the Evolutionary Method (Rodgers 2000), the Principle-based Method (Morse et al. 1996), and the Hybrid Method (Schwartz-Barcott & Kim 2000). The methods have different approaches: The entity-theoretic approach is characterised by the idea that there is an end point for the definition, at least at a certain moment, at a certain time. The dispositional approach emphasises the connection between the concept and human activities and the ways in which the concept is used, being a non-static approach – concept advancement is viewed as evolving over time. (Rodgers & Knafl 2000.)

**Table 5.** Examples of approaches to concept analysis (based on Rodgers & Knafelz 2000; Cronin et al. 2010)

<b>Wilson's method</b> (1963)	<b>Walker &amp; Avant</b> (based on Wilson's method)	<b>Hybrid model</b> (Schwartz-Barcott & Kim 2000; based on Wilson's method)	<b>Evolutionary method</b> (Rodgers 2000)	<b>Principle-based method</b> (Morse et al 1996; Penrod & Hupcey 2005)
Entity-theoretic 11-step model	Entity-theoretic 8- step model	Dispositional	Dispositional	Dispositional
<ol style="list-style-type: none"> <li>1. Isolate questions implicit within the concept</li> <li>2. Examine multiple use of the concept</li> <li>3. Describe a model case from real life</li> <li>4. Describe a contrary case</li> <li>5. Describe related cases</li> <li>6. Describe borderline cases</li> <li>7. Invent cases if there are insufficient real life examples</li> <li>8. Identify social context in which the concept is used</li> <li>9. Examine underlying anxiety</li> <li>10. Practical results</li> <li>11. Results in language</li> </ol>	<ol style="list-style-type: none"> <li>1. Select a concept</li> <li>2. Set the aims of analysis</li> <li>3. Identify uses of the concept</li> <li>4. Determine the defining attributes</li> <li>5. Identify a model case</li> <li>6. Identify borderline, related, contrary, invented &amp; illegitimate cases</li> <li>7. Identify antecedents and consequences</li> <li>8. Define empirical referents</li> </ol>	<p>Phase I – Theoretical phase</p> <ol style="list-style-type: none"> <li>1. Select a concept</li> <li>2. Search the literature</li> <li>3. Deal with meaning and measurement</li> <li>4. Choose a working definition</li> </ol> <p>Phase II – Fieldwork/ Empirical phase</p> <ol style="list-style-type: none"> <li>1. Set the stage</li> <li>2. Negotiate entry</li> <li>3. Select cases</li> <li>4. Collect and analyse data</li> </ol> <p>Phase III – Final analytical phase Weighing, working and writing up the findings</p>	<ol style="list-style-type: none"> <li>1. Identify the concept of interest and associated expressions</li> <li>2. Select an appropriate realm for data collection</li> <li>3. Collect relevant data</li> <li>4. Analyse the data</li> <li>5. Identify an exemplar of the concept</li> <li>6. Identify implication, hypotheses and implications for further development of the concept</li> </ol>	<p>Evaluation of the maturity of the concept, based on four principles: epistemological, pragmatic, linguistic and logical.</p> <ol style="list-style-type: none"> <li>1. Determine the concept of interest and collect the scientific literature</li> <li>2. Treat the literature as data that are assessed according to the criteria of the four principles above.</li> <li>3. Integrate assessment into a perspective on the current state of the literature.</li> </ol>

Wilson's work (1963/1987) has been influential for many disciplines in forming the basis of concept development. However, it is based on a philosophical design, a literature study and analysis without empirical methods. The absence of empirical methods (qualitative or quantitative) has been seen as a limitation of Wilson-derived methods. (Botes 2002.) In this study, in Phase II, Walker & Avant's (2019) entity-theoretic eight-step concept analysis method was applied to analyse the concept ethical competence. The results from the Phases are tied up using a hybrid model

(Schwartz-Barcott & Kim 2000), adding the empirical phase to the traditional analysis and that way overcoming the limitations of the method of Walker & Avant. (Table 5.)

The hybrid model includes theoretical analysis and empirical observations, focusing on the essential aspects of definition and measurement. There are three phases in the hybrid model, namely theoretical, empirical/fieldwork and analytical phase. In the theoretical phase of the hybrid model, cross-disciplinary literature is searched, aiming at understanding the meaning of the concept and mapping the possible ways the concept has been or might be measured (Schwartz-Barcott & Kim 2000). The analysis from the literature is integrated with the empirical data, as in the empirical fieldwork phase the defining elements of a concept and measurement criteria developed for the concept are specified. In the final analytical phase of the hybrid model the applicability and importance of the concept in the applied field are assessed. This phase also includes the reflection of the concept's definition and measurability and to what extent do the review of the literature, theoretical analysis and empirical findings support the presence of the concept in the chosen context. (Schwartz-Barcott & Kim 2000.) The empirical findings may lead e.g. to modification or refinement of an existing definition or to a recommendation of a new way of measuring the phenomenon of interest. (Schwartz-Barcott & Kim 2000.)

A database search (Pubmed, CINAHL, Philosophers Index and Google Scholar) using the search terms “hybrid model” AND “concept analysis” was conducted with the time limitation of ten years. According to the literature search, a few different ways to use the hybrid model as a concept analysis method were identified in several different contexts, for example combining it with other methods and using different methods for data collection in the fieldwork phase. (Table 6.) It is worth noticing, that in the chosen studies, the theoretical and fieldwork phases were mostly well described including literature search from databases, a variety of data collection methods and data analysis. The descriptions of the final analytical phase were quite limited, since the objective of the analytical phase is to re-examine findings from the literature and fieldwork to answer the questions about concept selection, applicability and importance to the discipline and how did the theoretical analysis and field work suggest the presence and frequency of the concept in the chosen context (Schwartz-Barcott & Kim 2000).

In this study, the concept analysis combining aspects of the method of Walker & Avant (in Phase II) and aspects of the hybrid model (need for situating the concept analysis in the physiotherapy practice in reality; Phases I-IV) was used. An important difference between the method of Walker & Avant and the hybrid model is that the cases are identified from empirical data and not constructed by the researcher (Hupcey et al. 1997).

**Table 6.** Examples of using the hybrid model as a concept analysis method during 2010–2020

Author, country, year	Title / Context of the study	Use of the hybrid model
Gillsjö C & Schwartz-Barcott D., Sweden/USA 2011	A concept analysis of <b>home</b> and its meaning in the lives of three older adults	<ol style="list-style-type: none"> <li>1. Interdisciplinary literature review</li> <li>2. Semi-structured interviews with three older adult women, observational notes</li> <li>3. Extended literature review</li> <li>4. Findings from the data were compared with the literature and a definition identified for nursing research and practice</li> </ol>
Sitterding MC et al., USA 2012	Understanding <b>situation awareness</b> in nursing work: A hybrid concept analysis	<ol style="list-style-type: none"> <li>1. Literature review, cross-disciplinary investigation of the theoretical concept</li> <li>2. The experience of situation awareness among nurses explored through semi-structured interviews.</li> <li>3. The analytical phase clearly answered the questions about concept selection, applicability and importance and the theoretical and field work phases combining the presence and frequency of the concept</li> </ol>
Sheriff N et al., UK 2014	<b>Engaging and supporting fathers to promote breast feeding:</b> A concept analysis	<p>The concept analysis combining aspects of the evolutionary model of concept development and aspects of the hybrid model (need for situating the concept analysis in the reality of parents' experience)</p> <ol style="list-style-type: none"> <li>1. Literature review</li> <li>2. Seven focus groups and five telephone interviews</li> <li>3. Analysis and synthesis of the literature and data from focus groups and interviews revealed defining attributes</li> </ol>
Dalvand H et al., Iran 2015	Concept analysis of <b>occupational therapy handling in the children with cerebral palsy:</b> A hybrid model	<ol style="list-style-type: none"> <li>1. Review of relevant articles</li> <li>2. Deep and semi-structured interviews with six clinical therapists and meeting with 11 therapists and two observations in clinic.</li> <li>3. Two previous phases were generally analysed</li> </ol>
Lundgren SM et al., Sweden 2015	<b>Radiography</b> – How do students understand the concept of radiography?	<ol style="list-style-type: none"> <li>1. Theoretical phase: Literature review.</li> <li>2. Fieldwork phase: Data were collected with questionnaires from radiography students at four universities. Content analysis of the results.</li> <li>3. Analytical phase: The findings in the theoretical phase compared to the field work phase. The researchers took step back from the fieldwork and re-examined the findings in the light of the research focus</li> </ol>

**Table 6.** (cont.) Examples of using the hybrid model as a concept analysis method during 2010–2020

<b>Author, country, year</b>	<b>Title / Context of the study</b>	<b>Use of the hybrid model</b>
Lee Y & Seomun G., Korea 2016	Development and validation of an instrument to measure nurses' <b>compassion competence</b> .	Instrument development – first step was concept analysis 1. Theoretical phase: literature review for the conceptual definition of compassion competence 2. Fieldwork phase: eight in-depth interviews were conducted with six nurses 3. Analytical phase: a constant comparative analysis to confirm that the attributes of compassion competence identified in the theoretical phase were in accord with those identified during the fieldwork
Jasemi M et al., India 2017	A concept analysis of <b>holistic care</b> by hybrid model	1. Characteristics of holistic care were identified through a review of the literature from databases. 2. In-depth interviews were conducted with eight nurses 3. Following the analysis of the literature and the qualitative interviews, a theoretical description of the concept of holistic care was extracted.
Sadooghiasl A et al., Iran 2018	Concept analysis of <b>moral courage</b> in nursing: A hybrid model	1. Literature review from databases using keywords related to the concept of courage. 2. Field work data were collected over an 11-month time period. In-depth interviews with ten nurses and observation. Content analysis in theoretical and field work phases 3. The results of 1 and 2 were combined in the final analysis phase. The results of the field work phase confirmed the theoretical phase findings.
Aghajari P et al., Iran 2019	<b>Cultural Sensitivity</b> in Paediatric Nursing Care: A Concept Analysis Using the Hybrid Method	1. Articles from 2007 to 2017 were reviewed for relevance. 2. Twenty-five nurses and nine parents were interviewed to explore the aspects of cultural sensitivity in paediatric nursing. Content analysis was conducted. 3. An overall analysis of the two previous phases was performed.

## 2.5 Summary of theoretical background

Based on the review of the previous literature, the topics and knowledge gaps can be identified and summarised as follows (Figure 2):

## Ethical competence

### Ethical issues and their identification

-Ethical issues encountered in physiotherapy practice are related to variety of themes, including constrained physiotherapy and obligation to do one's best cf. lack of resources, professionalism issues and informed consent practices in variety of different contexts.

-Ethical topics related to education have also been studied and ethical sensitivity as well as moral judgment skills assessed.

-There has been no previous study concerning ethics in general or ethical problems in the clinical physiotherapy context in Finland.

### Definitions of ethical competence

-The concept of ethical competence has been described in multiple ways. Previously, literature reviews have been done to clarify the concept (e.g. Koskenvuori et al. 2019, Lechasseur et al. 2016). No consensus on the definition can be found.

-No previous analyses of the concept have been done. A concept analysis is a way to clarifying abstract concepts and to develop a process for operationalising variables. The hybrid model includes theoretical analysis and empirical observations, leading to definition or to a recommendation of measuring the phenomenon.

-In physiotherapy, there is only a little research on ethical competence.

### Ethical competence assessment

-Education in ethics and assessment of ethical competence is important. Self-evaluation tool for ethical issues could increase physiotherapists' interest in ethics, helping them to identify strengths and weaknesses that need to be addressed and to develop critical skills for analysis of their own work.

-There seems to be a lack of sufficient tools to assess ethical competence. There exists few instruments used in physiotherapy context, measuring only parts of ethical competence (e.g. ethical sensitivity, ethical reasoning) and no specific instruments constructed for physiotherapy profession. Neither has been studied ethical success of physiotherapists.

**Figure 2.** Summary of the literature

### 3 Aims of the Study and the Research Questions

The conceptualisation including all the study phases forms a foundation for the study, aiming at the concept development. The conceptualisation is based on the hybrid model, a concept analysis model developed by Schwartz-Barcott and Kim (2000). The main aim of the study was to verify the concept of ethical competence in the empirical world of physiotherapy using the hybrid model and produce empirical knowledge in physiotherapy. To reach this aim, the following objectives for this four-phase study (Figure 1) were set: (1) to identify ethical problems that Finnish physiotherapists encounter in their practice and to describe ethical competence in physiotherapy – to clarify and verify the definition of the concept in the physiotherapy context and to create a visual description for it (all study phases), (2) to develop an instrument to assess physiotherapists' ethical competence (study phases II, III) and (3) to evaluate the ethical competence of practising physiotherapists by using this novel self-evaluation tool (study phases III, IV).

The goal of the study was in the creation of the first part of theory generation in physiotherapy and more generally in health sciences. The goal was also to enhance physiotherapists' ethical knowledge and awareness of ethical issues, by developing their ethical knowledge base and illustrate the role of ethics already in physiotherapy education and curricula. The way physiotherapists evaluate their ethical competence is important as this would likely affect whether they see a need to pay attention to their ethical decisions or educate themselves in ethical issues. In the future, a self-evaluation tool will be offered to work as a checklist for managers, teachers, supervisors, as well as for students and physiotherapists themselves to think and evaluate the skills to identify ethical problems and ethical judgment skills. More specifically, the research questions addressed were as follows:

- Conceptual 1. What is ethical competence in physiotherapy? (PAPER II, IV, Summary)
- Empirical 2. What are the ethical issues in physiotherapy? (PAPER I, IV)
3. How can ethical competence of physiotherapists be assessed? (PAPER III)
4. How ethically competent are practising physiotherapists? (PAPER III, IV)

# 4 Materials and Methods

This chapter describes the study designs, samples, data collection, analysis and ethical questions for the four phases of the study (Figure 3, Table 7). A wide range of data collection and analysis methods were used: a novel instrument PECET, the instrument MSQ-R (Lützné et al. 2006), concept analysis; statistical analysis as well as deductive and inductive content analysis.

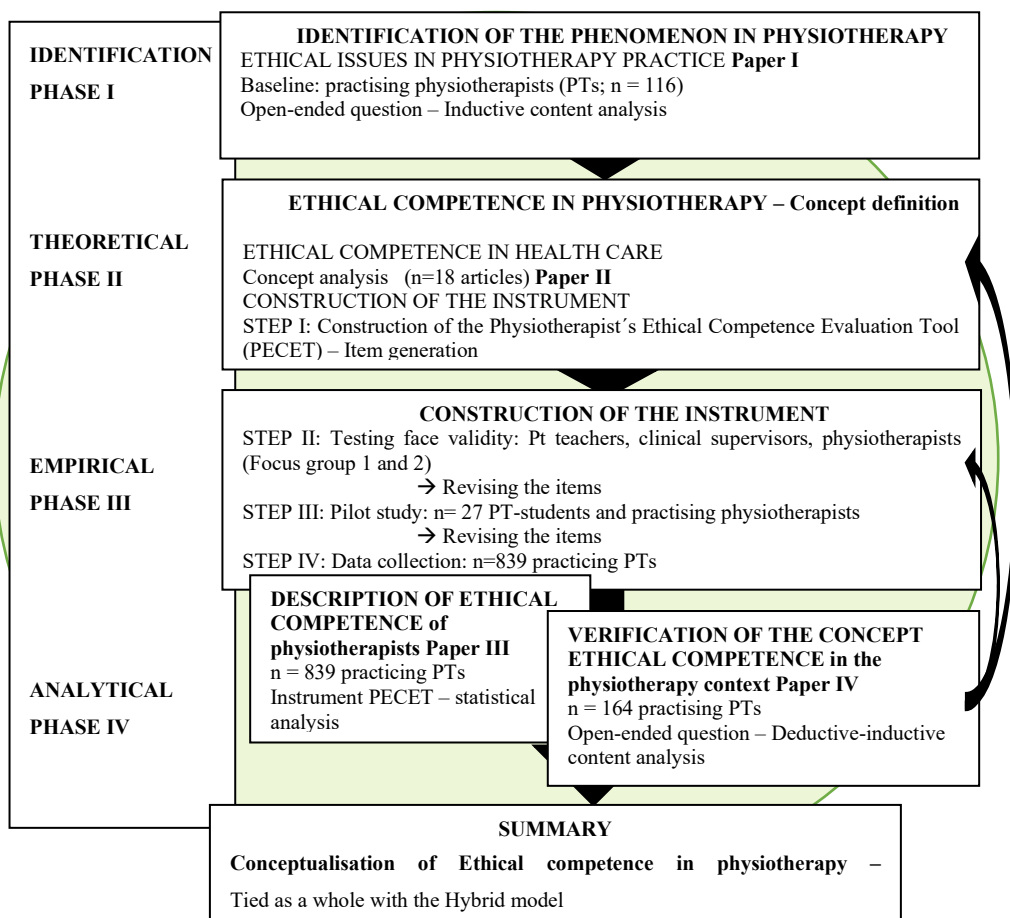
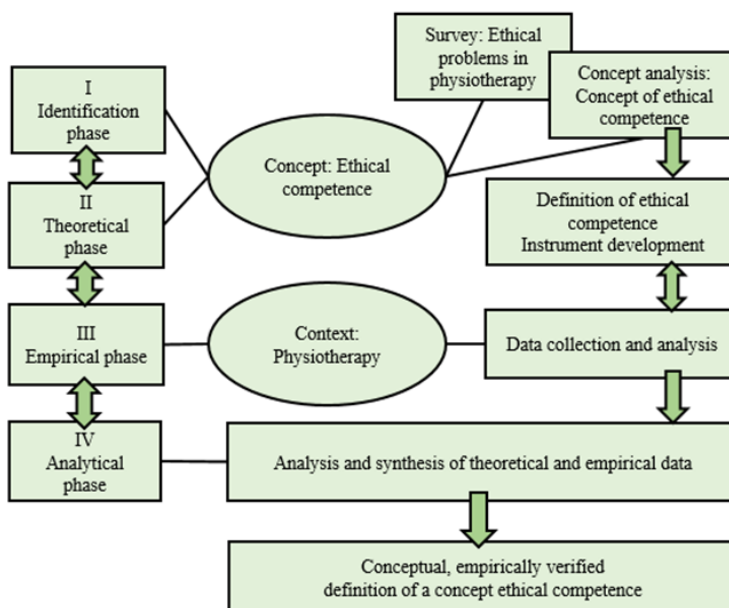


Figure 3. Study design: Phases specified

## Methodological approach

The conceptualisation including all the study phases forms a foundation for the study design, aiming at the concept development (research question 1.). The conceptualisation is based on the hybrid model, a concept analysis model developed by Schwartz-Barcott and Kim (2000) that combines theoretical and empirical definition of the concept. The hybrid model contains three (3) steps. The first step is a Theoretical phase where the literature review and concept analysis using the method of Walker & Avant provided the basis for the analysis (Phases I–II in this study). The Theoretical phase is preceded by the Identification phase, which introduced the ethical theme in the context of interest. At the same time, the Identification phase guided choosing the concept as an essential part of the hybrid model. The second step is the Empirical phase (Phases III–IV in this study), where the concept was analysed in a practical context. Quantitative measurement and narratives were used as research methods in Empirical phase of the hybrid model. The third step is to combine the results of the two steps above to create a definition that describes the concept. At this Analytical phase IV, it was possible to go back and forth between the steps and refine the information search and analysis performed. (Schwartz-Barcott & Kim 2000; Figure 3; Figure 4.) The definition of ethical competence created during Theoretical phase II was verified and clarified in Analytical phase IV according to the results from the open-ended question in Empirical phase III.



**Figure 4.** Hybrid model by Schwartz-Barcott & Kim, modified in this study (based on Hupcey et al. 1997; Ali-Kleemola et al. 2010)

**Table 7.** Designs, samples, methods of data collection and analysis of this study

Phase	Aim	Paper	Research question	Design	Sample	Data collection	Data analysis
<b>I Identification phase</b>	Identifying ethical problems	I	2.	Descriptive and correlational questionnaire survey	PTs (n=116)  Convenience sample	Questionnaire	Statistical analysis: descriptive and inferential statistics. Inductive content analysis
<b>II Theoretical phase</b>	Description of ethical competence, Instrumentation / creating basis for the instrument	II	1., 3.	Concept analysis	n=18 theoretical (12) and empirical (6) articles from the year 1993 to 2012  Systematic	A literature search of the CINAHL, MEDLINE and ERIC databases; reference lists, books and dictionaries.	Inductive content analysis
<b>III Empirical phase</b>	Instrumentation, Evaluation of ethical competence	III	3., 4.	Descriptive and correlational questionnaire survey	Expert panels (n=16, n=7) Pilot PTs (n=15) and PT-students (n=12) PTs (n=839)  Total sample	PECET cross-sectional questionnaire survey	Statistical analysis: descriptive and inferential statistics.
<b>IV Analytical phase</b>	Verification of the concept of ethical competence in physiotherapy	IV, Summary	1., 2., 4.	Descriptive and explorative Hybrid model	PTs (=164)	PECET: an open-ended question	Deductive-inductive content analysis

## 4.1 Design, setting and sampling

### Identification phase I

In Phase I, a descriptive and correlational study design was used to map the current situation and existence of ethical issues in physiotherapy practice. A questionnaire survey was employed in spring 2010. A convenience sampling method was used to ensure versatility in age, length of work experience and practice setting. A total of 177 physiotherapists working in various settings in public health services were included in the study as the target sample. The questionnaires were sent to physiotherapy units and 168 were distributed to the physiotherapists: nine of the questionnaires were returned empty. The total sample was 168 participants (= N). One hundred and sixteen completed questionnaires were received (response rate 69 %). Ninety-two respondents (79 %) also answered the open-ended question in the questionnaire, which was essential for the purposes of Phase I.

### Theoretical phase II

In Phase II, it was essential to be able to capture the critical elements of the concept and develop an operational definition of the concept under examination. For that reason, concept analysis was selected as the method to define the concept of ethical competence. An entity theoretic strategy based on Wilson's method and modified by Walker and Avant (2019) was employed. A total of 61 abstracts were analysed in more depth.

### Empirical and analytical phases III, IV

Utilisation of the results of the concept analysis depends on the aims. The results can be used for example to refine terms, make operational definitions with a broad theoretical base and that way facilitate instrument development, and to increase understanding of the underlying attributes and/or common understanding of the language in the area of discipline (Walker & Avant 2019). The main focus in the concept analysis in study phase II was to identify the attributes, antecedents and consequences of the concept to gain maturity of the concept for the purpose of operationalisation (Morse et al. 1996), in order to finally verify the concept through the situations in the empirical world.

In Phases III–IV, a descriptive and correlational study design was used. A total sample of 5719 physiotherapists from the Finnish Association of Physiotherapists' membership register, physiotherapists working in various settings (in outpatient and inpatient physiotherapy facilities, in private practice), were invited to respond in the

questionnaire survey. A total sampling was used to get as much variability in age, length of work experience and practice setting as possible. A questionnaire survey was employed via Webropol 2.0 in spring–autumn 2016 and finally, a total of 839 completed questionnaires were received via Webropol (response rate 15%), of which 164 respondents had answered to the open-ended question. Among the respondents, the distribution in age and gender was nearly the same as the member structure of the Finnish Association of Physiotherapists (T. Mäkinen, personal communication 8 Dec 2017).

## 4.2 Instruments

### Identification phase I

In Phase I, a questionnaire based on the literature review and constructed for the purposes of this study was used, including also the previously developed instrument Moral Sensitivity Questionnaire – Revised (MSQ-R; Lütznén et al. 2006). The questionnaire included a cover letter, Finnish version of ethical guidelines for physiotherapists and a definition of an ethical problem to ease answering the questions. The questionnaire consisted of four sections: (1) demographic data, (2) contextual frequency of encountering ethical problems designed as a 5-point Likert-type scale consisting of eight items, with anchors 1= ‘I have never encountered’ and 5= ‘I have very often encountered’, (3) one open-ended question allowing the respondents to freely describe the situations in which they had encountered ethical problems, and (4) moral sensitivity questionnaire MSQ-R. The Moral Sensitivity Questionnaire – Revised (MSQ-R; Lütznén et al. 2006), developed for health care professionals was used to measure moral sensitivity of the physiotherapists. Three factors of moral sensitivity (sense of moral burden, moral strength and moral responsibility; Lütznén et al. 2006) were also analysed. For semantic equivalence, the MSQ-R was translated from the original language (Swedish) to the target language (Finnish), and then back-translated to the original language (Beck et al. 2003). Ten physiotherapists working in public sector physiotherapy departments participated in piloting the questionnaire. Only minor technical changes were made after the piloting. (Paper I.)

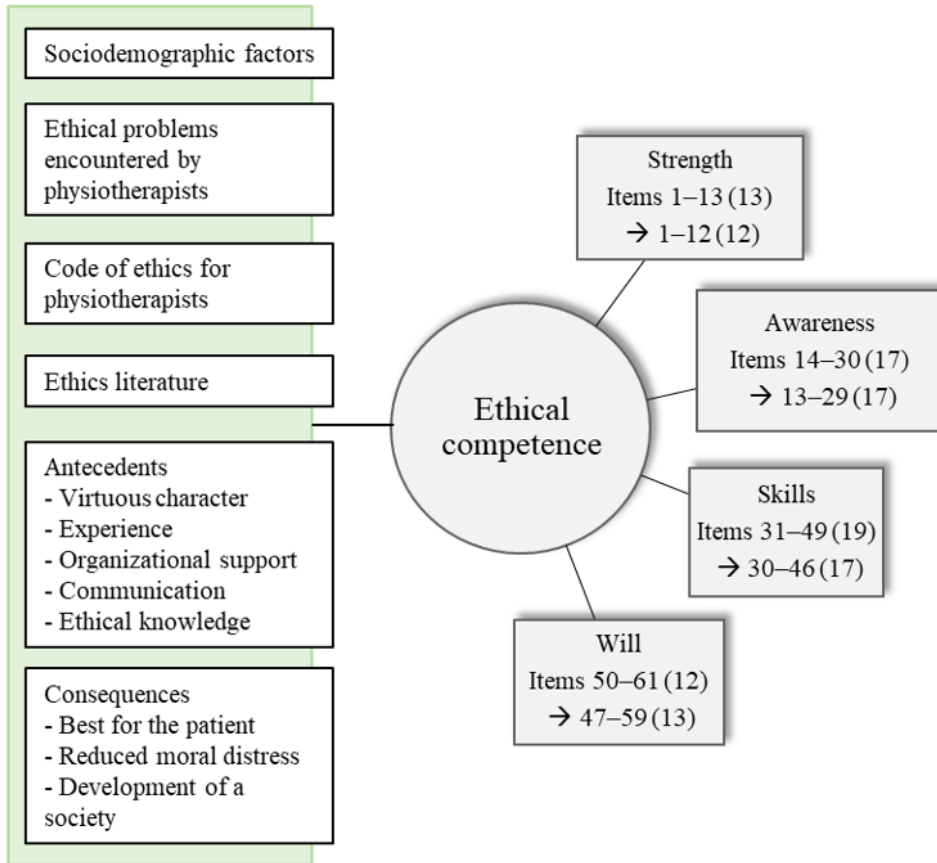
### Theoretical phase II

The instrument to assess ethical competence was developed in this phase. Theoretical phase created the basis for the instrument development through the concept analysis. In Phase II, the key elements of the method of Walker & Avant, were the eight steps followed: (1) select a concept, (2) determine the aims and

purposes of the analysis, (3) identify all concept uses, (4) determine defining attributes, (5) establish a model case, (6) examine additional cases, (7) acknowledge antecedents and consequences and (8) define empirical referents (Walker & Avant 2019). In step (1), the selected concept was interesting, relevant, important, known, manageable, and contributing significantly to knowledge development about the phenomenon of concern (Walker & Avant 2019). In step (2), the aim for the analysis was defined: To clarify the meaning of the concept of ethical competence, to develop an operational definition of the concept and to enhance understanding of the concept for future research related to ethical competence and its assessment among health care professionals. In step (3), a literature search was conducted to identify the uses of the concept, including diverse methodologies in studies reviewed to reach a deeper understanding of the concept. (Whittemore & Knafl 2005.) In step (4) the attributes defining the concept were determined. In this study, the method of Walker and Avant was modified as steps 5 and 6 were excluded from the analysis. In step (7) antecedents, as preconditions to the existence of the concept, and consequences resulting from the realisation of the attributes were detected (Walker & Avant 2019). (Paper II.)

The concept analysis aimed to provide an operational definition for the concept, with a broad theoretical base, understanding of the underlying attributes and facilitate instrument development in this research. The results of the concept analysis were used in the development of an instrument to measure ethical competence. Also, ethical guidelines for physiotherapists (FAP, WCPT) and previous studies concerning ethical issues encountered in physiotherapy (Paper I) guided the instrument development process. (Figure 5.)

In the Theoretical phase II, the operationalisation of the concept followed these five steps: Definition of a concept, definition of various dimensions of the concept, definition of various possible indicators for each dimension, selection of indicators and designing data collection. Definition, dimensions and indicators (content of the items) emerged from the theoretical background, literature and study. Generation of the items also included expert opinions. (Netemeyer et al. 2003.) After the expert panels, the amount of the items was slightly changed (Figure 5). Items' wording was done by the researcher.



**Figure 5.** Main content of the instrument to assess ethical competence

### Empirical and analytical phases III, IV

After the items were extracted from the literature on ethical competence, for the purposes of the validation, the questionnaire was delivered to experts who provided input about number, content and wording of items and format. Content validity of the instrument was improved by using these expert analyses to review the potential scale items and check that they are appropriate indicators of the construct (Schilling et al. 2007). To evaluate the relevance and clarity of the items, two expert panels were carried out. In the beginning, it was beneficial to have a large pool of potential items, which then could be reduced based on content reviews (Netemeyer et al. 2003). Expert panel I consisted of PhD students in Nursing Science (n=16). They were ethics researchers and health care professionals who had expertise in ethics. Expert panel II consisted of physiotherapists, physiotherapy students and physiotherapy teachers (n=7). After the panels, revision of the items was done (Table

8). The items were reduced from 61 to 59. A pilot study was conducted with physiotherapy students (n=12) and practising physiotherapists (n=15) and based on the pilot study, minor technical changes in the questionnaire were made. (Paper III.)

**Table 8.** Instrument development process

Action	Participants	Assessment	Main revision
Panel 1, 2013	ethics researchers, health care professionals, teachers, clinical specialists, health care managers, physiotherapy clients  n=16	Part A and B: Please rate the clarity of question X on a scale of 1-5 (1 = not at all clear, 5 = very clear)  Other comments	From part B the question "I consider this important in the field of ethical competence on a scale of 0–5" was removed  Amount of the items was slightly changed (Figure 5.)
Panel 2, 2014	physiotherapists, physiotherapy students, physiotherapy teachers  n=7	Clarity of question X on a scale of 1–4 (1 = not at all clear, 4 = very clear)  The importance of question X on a scale of 1-4 (1 = not at all important, 4 = very important)  Other comments	Question 3: option "Kuntohoitaja" removed Question 13: wording clarified Question 21: the response space was limited and the question moved in the end of the questionnaire VAS-scales were removed in order to build up the questionnaire in Webropol and substituted with Likert-scale Question 15: "tuntea" was changed to "tietää" Question 16: options clarified. Questions 17-20: scale and items modified
Pilot testing, 2015	physiotherapy students (n=12) and practising physiotherapists (n=15)	Webropol	No revision Minor technical changes for tenses or redundant wording

Hence, a novel self-evaluation instrument based on the concept analysis and a literature review was constructed and used in Phase III. The Physiotherapist's Ethical Competence Evaluation Tool (PECET) is a mainly structured questionnaire including two sections. The section (A) consisted of demographic data and background information about ethical knowledge and methods used for ethical decision-making. This section also consisted of a structured question about how physiotherapists understand the meaning of professional ethics (alternative answers

being ethical principles; values and attitudes; doing good, avoiding harm; doctrine of right and wrong; laws and regulations; professional skills), a question about level of competence (from expert to novice, 5 stages) and an open-ended question about values that guide physiotherapists in their work. The section (B) included self-evaluation of ethical competence and success in ethically challenging situations. The structured part of section B was designed as a Likert-type scale consisting of 59 items. The respondents were asked to answer the question “I feel I succeed in this area of ethical competence”, the anchors being 4 = ‘excellent’ and 1 = ‘not at all’, in four subscales formed in Phase II concept analysis (Table 9.) (Paper III.) The respondents were also given the opportunity to answer, “I cannot say”.

**Table 9.** Four subscales forming the structured part of the PECET

Subscale	Number of Items
Character strength	12
Awareness	17
Skills	17
Will	13

Section B also consisted of one open-ended question. The respondents were given an opportunity to freely describe a situation at work in which they think they have succeeded in an ethically competent way. This part of the questionnaire was used to verify the existence of the concept ethical competence in the physiotherapy context. The respondents answered the following question by writing the short narratives illustrating the situations in practice: *“Freely describe the situation you have encountered in your work in which you think you have succeeded to act ethically competently. The description should include at least the following: What happened? Where did it happen? Who were involved in the situation and how? How did you experience the situation yourself?”* (Paper IV.)

## 4.3 Data collection

### Identification phase I

In Phase I, the survey questionnaire forms were sent out to the managers of the physiotherapy departments and they delivered the questionnaire forms and return envelopes to the physiotherapists in their units. The data were collected in 2010. The managers were informed of the study and instructed on how to deal with the forms.

Approximately two weeks' response time was given in the cover letter, after which the response time was extended with a reminder from the department managers. The researcher received the completed questionnaires via internal mail in the sealed envelopes.

## Theoretical phase II

In Phase II, a literature search using the search terms 'ethical competence' or 'moral competence' was conducted from the databases CINAHL, ERIC and MEDLINE, reaching 358 citations. Although the concept 'ethical competence' was under exploration, it was also essential to clarify the meaning of the concept 'moral competence', as both terms have been used synonymously in the dictionary definitions and literature and it was important to find all the relevant literature in this area. Also, for that reason, the education literature database ERIC was included in the search, as more diverse research on professional competence development was expected to be found there. In addition, a manual search from reference lists, books and dictionaries was made. (Paper II.)

The inclusion and exclusion criteria for the abstracts were set as follows: The inclusion criteria were a theoretical or empirical article, the English language and abstract available. The exclusion criteria were a commentary or an editorial, an anonymous article and a book review. Duplicates and the articles irrelevant to the topic were also excluded. Most of the research in the area of ethical competence had been done in health care, but studies could also be found in the fields of educational sciences, business and psychology. A total of 61 abstracts were analysed further and finally, 18 articles (12 theoretical and 6 empirical ones) defining the concept of ethical competence and ranging from the year 1993 to 2012, were included in deeper exploration in concept analysis. (Paper II.)

## Empirical and analytical phases III, IV

In Phase III, the data were collected via Webropol 2.0. The questionnaire was resent once to remind the physiotherapists about the survey to reach a satisfactory response rate. (Paper III.) According to the hybrid model of the concept development (Schwartz-Barcott & Kim 2000), Analytical phase IV was about to analyse the concept in a practical context. In the questionnaire, the narratives were used as data collection method in that point (Paper IV).

## 4.4 Data analysis

### Identification phase I

In Phase I, data from a structured questionnaire were analysed using the JMP 9 and SAS statistical software. To describe the data, frequencies, percentages, means and SDs were used. Chi-square test was used to test the associations of the frequency of encountering ethical problems and demographic variables gender, education and workplace. Spearman's correlation coefficient was used to investigate the correlation between the frequency of encountering ethical problems and age and length of working experience (in years). The demographic variable workplace was cross-tabulated with the variables concerning the contextual frequency of ethical problems in inpatient and outpatient physiotherapy, and Chi-square test was used to test the association. (Paper I.)

Spearman's correlation coefficient was used to examine the correlation between the contextual frequency and demographic variables, age and length of working experience. Chi-square test was used to explore the associations of the items of moral sensitivity (Lützn et al. 2006) and demographic variables, gender, education and workplace. Correlation between the items of moral sensitivity, age and length of working experience (in years) was investigated with Spearman's correlation coefficient. The sum variable of moral sensitivity was also formed based on the guidelines of the instrument. Principal component analysis (PCA) using orthogonal Varimax rotation and Kaiser's Normalization was computed to determine the three components' (sense of moral burden, moral strength and moral responsibility; Lützn et al. 2006) structure in the data. The level of significance (p-values) was defined as  $p < 0.05$ . (Paper I.)

The data derived from the open-ended question, the narratives about encountered ethical problems, were analysed using inductive content analysis. Words, phrases or sentences were used as units of analysis as the contents of the answers were categorised into groups. After that the meaning units derived from the units of analysis were condensed, still preserving the core of the narratives. (Graneheim & Lundman 2004.) The condensed meaning units were sorted into subcategories and further into main categories and abstracted. This data were also quantified by counting the similar meanings in the original expressions. (Paper I.)

### Theoretical phase II

In the concept analysis in Phase II, the data (literature) were analysed using inductive content analysis (Graneheim & Lundman 2004) – the answers were categorised into groups by using words, phrases or sentences as units of analysis and divided into

meaning units, and then condensed. The condensed meaning units were abstracted and sorted into categories – into attributes, antecedents and consequences. (Paper II.)

### Empirical and analytical phases III, IV

In Phase III, data from a structured part of the questionnaire (PECET) were analysed using the SAS 9.1 statistical software for descriptive and inferential statistics. Frequencies, percentages, means and SDs described the data. The sum variables were calculated based on the theoretical construct of the instrument (the results of the concept analysis in Phase II, Character Strength, Awareness, Skills and Will; Paper II) and the internal consistency of items in every category was measured using Cronbach's alpha coefficient (Cronbach 1951). According to DeVellis (2016) the reliability guidelines for alpha coefficient are as follows: below .60 unacceptable, between .60 and .65 undesirable, between .65 and .70 minimally acceptable, between .70 and .80 respectable, between .80 and .90 very good. Alphas much above .90 are excellent, but the researcher should consider shortening the scale. (DeVellis 2016.) Repeated measures analysis of variance (ANOVA) was used to analyse the differences between the four sum variables. Pearson's correlation test was used to explore the correlation between age and working experience and sum variables. The association between dichotomous variables (e.g. gender, further ethics education) and sum variables was examined using T-test. If the variables had more than two categories (e.g. respondent's perception of the stage in ethical competence - from novice to expert, 5 stages), an analysis of variance was used to examine the association between background variables and sum variables of the four subscales in ethical competence (section B). The level of significance (p-values) was defined as  $p < 0.05$ . (Paper III.)

In Phase IV, the data derived from the open-ended question, the narratives about the situations in which the respondents described they succeeded in an ethically competent way, were analysed using deductive-inductive content analysis. The reason for selecting the analysis method (also called an abductive content analysis, see Graneheim et al. 2017) was the aim to integrate surface and deep structures – not only to explore the characteristics of ethical competence in the data, but also to verify the existing concept analysis of ethical competence determined in general level in health care, against the collected data, to discover meaningful underlying patterns in the empirical world of physiotherapy (Graneheim et al. 2017).

The raw data, that is short narratives, were entered into an Excel table. The analysis started with familiarisation with the material. A categorisation matrix developed through the concept analysis of ethical competence (Phase II; Paper II) was used as an analysis frame (Figure 6). Two researchers (KK, AT) reviewed and categorised the data (Polit & Beck 2012) to ensure credibility and broader

understanding of the phenomenon (Tong et al. 2007). The expressions and themes in the original responses were identified and placed in the main themes of the analysis frame (Gerrish & Lacey 2010). (Paper IV.) The main themes (attributes) in the analysis frame were character strength, ethical awareness, moral judgment skills and willingness to do good and the main emphasis was on the realisation of the attributes in physiotherapy practice. Also, the antecedents and consequences of ethical competence were examined, as they are seen as an important part of the concept's existence. Antecedents are preconditions to the existence of the concept and need to appear before the attributes, and consequences result from the realisation of the attributes. (Walker & Avant 2019.)

According to the hybrid model (Figure 4.) the results from the study phases were combined to create a definition that describes the concept. At this stage, it was possible to go back and forth between the steps and refine the information search and analysis performed. (Schwartz-Barcott & Kim 2000.) In this study, the definition of ethical competence created during Theoretical phase II was verified and clarified in Analytical phase IV according to the results from the open-ended question in Empirical phase III, to produce a refined definition of the concept supported by both literature and participants' perspectives (Schwartz-Barcott & Kim 2000; Figure 4).

## 4.5 Ethical considerations

Approval for the research plan was received (10 April 2012) from the University of Turku Doctoral Committee and Faculty Council. Every phase in this thesis was conducted according to international and national guidelines for ethical research (ETENE 2001, TENK 2012, EU 2013, COPE 2020). In every phase, permission to conduct the study was requested at participating organisations according to national standards. The respondents got written information about the aim and nature of the study and voluntary participation in form of the cover letter. The respondents were informed of and guaranteed anonymity and confidentiality. (Paper I, III, IV.) Permission to use and modify the necessary instruments in data collection was sought (Paper I).

In Identification phase I, permission to gather the data was obtained from the participating organisation according to national standards: the permission to carry out the study was obtained from the managing director of the health care centre (4/2010). The permission to translate and use the MSQ-R as an instrument was received from Prof. Kim Lützén at Karolinska Institutet, Sweden (2/2010). The respondents got written information in form of the cover letter about the aim of this study. By informing that participation in this study was voluntary, self-determination of the respondents was guaranteed. The confidentiality and anonymity of the subjects were considered and protected by treating the data confidentially. The respondents

answered the questions anonymously and returned the questionnaire to the researcher in a sealed envelope.

Theoretical phase II was conducted according to good scientific integrity (TENK 2012). As this was a concept analysis and item generation for the instrument, ethical approval was not required. The work of the other researchers was respected by citing their work or publications appropriately.

In Empirical and Analytical phases III-IV, The Ethics Committee for Human Sciences at the University of Turku approved the study (30/2014). The Finnish Association of Physiotherapists gave the permission for data collection from the member register according to their standards (10/2015). Also, in this Phase, the respondents got written information about the aim of the study. Procedure for informing subjects and recording voluntary consent was completed by using a cover letter of the questionnaire to explain the purpose of the study, the voluntary nature of participation in the study and the fact that responding to the questionnaire is considered as informed consent to participate in the study. The usage of this implied consent was also approved by the Ethics Committee. The anonymity of the subjects and confidentiality were considered and protected by treating the data confidentially.

Overall, the data handling and storage in Phases I, III and IV were based on ethical standards in data storage (COPE 2020). The data, all the written material obtained from participants (both paper in phase I and electronic in Phases III-IV) were treated and stored appropriately, according to ethical guidelines for safe data storage and anonymity. The participants' privacy was safeguarded by not collecting or publishing any personal information. The data will be stored securely and confidentially after the present study has been published. (TENK 2012.)

When writing the original articles, the work of the other researchers was respected by citing their publications appropriately (TENK 2012). The possibility for respondent identification was evaluated and eliminated before any quotations were published. Ethics approval and consent to participate, availability of data and materials, competing interests, funding and other authors' contributions were declared according to publication standards: KK was a major contributor in doing the research (design, instruments, data collection and analysis). HL-K and RS have made contributions to the conception and design of the work. PP and AT have made contributions to the analysis of the data. KK was a major contributor in designing and writing the manuscripts. Other authors have revised the work. All authors have read and approved the final manuscripts (Paper I, II, III and IV).

## 5 Results

The results are presented in three parts according to the research questions. The first part describes ethical issues that practising physiotherapists encounter to identify the existence of the phenomenon under research (Paper I; research question 2). The second part reports the overall analysis of the concept ethical competence, identifying the attributes of the concept which were the crucial elements in the development of the survey instrument and in the analysis process as a deductive content analysis frame (Papers II, III, IV; research question 3). The third part describes the results of self-evaluated ethical competence of a practising physiotherapist using the newly developed instrument PECET (research question 4), and verification of the concept analysis and the concept in the empirical world of physiotherapy (Papers III, IV, Summary; research question 1).

### 5.1 Participants

The characteristics of the participants in study phases I, III and IV are summarised in Table 10.

**Table 10.** Characteristics of participants in study phases I, III and IV

Characteristics/Variable	Participants		
	Phase I n=116	Phase III n=839	Phase IV n=164****
Age			
<b>Mean</b>	41.8	44.53	46
<b>Median</b>		46	
<b>SD</b>	11.2	11.57	
<b>Min</b>	22	22	24
<b>Max</b>	62	70	70
Gender n(%)			
<b>Male</b>	12(10)	86(10)	13(9)
<b>Female</b>	104(90)	753(90)	151(91)
Education n(%)			
<b>University of applied sciences</b>	45(39)	414(49)	
<b>College level</b>	71(61)	385(46)	
<b>Other*</b>		40(5)	
Working experience in years			
<b>Mean</b>	14.5	18.10	20.0
<b>Median</b>		18.00	
<b>SD</b>	10.6	11.79	
<b>Min</b>	0	0	0
<b>Max</b>	40	45	45
Workplace n(%)			
<b>Out-patient</b>	68(58)		
<b>In-patient</b>	46(40)		
Workplace n(%)			
<b>Public sector</b>		392(48)	76(46)
<b>Private sector</b>		397(48)	81(50)
<b>Other**</b>		30(4)	7(4)
Encountering ethical problems at work n(%)			
<b>Yes</b>		611(73)	
<b>No</b>		222(27)	
Frequency of encountering ethical problems n(%)			
<b>Daily</b>	14(12)	24(4)	
<b>Weekly</b>	48(41)	122(20)	
<b>Monthly</b>	36(31)	175(29)	
<b>Rarely</b>	18(16)	293(48)	
Continuing education in ethics after graduation n(%)			
<b>Yes</b>	5(4)***	166(20)	36(22)
<b>No</b>	110(96)	672(80)	128(78)
Team / committee work in ethics n(%)			
<b>Yes</b>		24(3)	6(4)
<b>No</b>		808(97)	158(96)

SD: standard deviation.

\*only the highest degree reported (MSc, PhD)

\*\*unemployed, researcher, teacher

\*\*\* questions combined in Phase I

\*\*\*\* part of the Phase III data

## 5.2 Ethical issues identified in physiotherapy

Physiotherapists encountering of ethical problems varied according to the collected data (encountering at least weekly from 24% to 53%) (Table 10). Most of the physiotherapists still encounter ethical situations at least monthly. Yet as much as 27% of the respondents reported that they have never encountered ethical problems in their practice. About 17% of the respondents working in inpatient physiotherapy encountered ethical problems daily, while in outpatient physiotherapy, the percentage was only 9%. Almost a quarter of the respondents working in outpatient clinics reported that they rarely/never encounter ethical problems, while when working in inpatient environments, the percentage was only 4%. According to the results, ethical problems seem to be more often encountered in inpatient physiotherapy than in outpatient physiotherapy. (Table 10; Paper I.)

Initially, the responses were categorised in two groups: ethical issues encountered by physiotherapists working i) in outpatient settings and ii) in in-patient settings. The ethical problems encountered by physiotherapists working in outpatient settings were divided into 18 sub-categories, which were then classified into 10 upper categories. The ethical problems encountered in inpatients settings were divided into 17 sub-categories, and further classified into 11 sub-categories. As a result, a total of ten main categories of ethical problems in the work of a physiotherapist were detected in the content analysis.

The most common ethical problems encountered in physiotherapy practice mainly concerned financial considerations and quality at care (72 cases), equality and justice (47 cases), good care and respect for person (mainly meaning unethical conduct of physiotherapist or other professions towards the patient, 38 cases) and patient's self-determination (32 cases). Insufficient staff and time resources reduced the quality of physiotherapy and limited the implementation of physiotherapy as therapy periods shortened. Access to physiotherapy may also delay due to scarce resources. Equality in patient care or access to physiotherapy was mentioned to be uneven due to patient characteristics: patient's background, illness, socio-economic status or behaviour of significant others were about to cause ethical problems. Referring to good care and respect for the person, in particular physiotherapists working in in-patient physiotherapy highlighted the patients' discharging issues and the conflict between organisational values and the physiotherapist's own values, as well as the unethical behaviour of other health care staff. The physiotherapist's role as an advocate for the patient was also emphasised. Concerning patient's autonomy, the responses highlighted the importance of informed consent practices and the physiotherapist's uncertainty as to how far the patient could be persuaded, especially when other professionals pressured the physiotherapist to act. Other issues mentioned concerned professionalism, e.g. difficulty in maintaining a professional attitude in all situations, or lack of or doubt about the physiotherapists own clinical

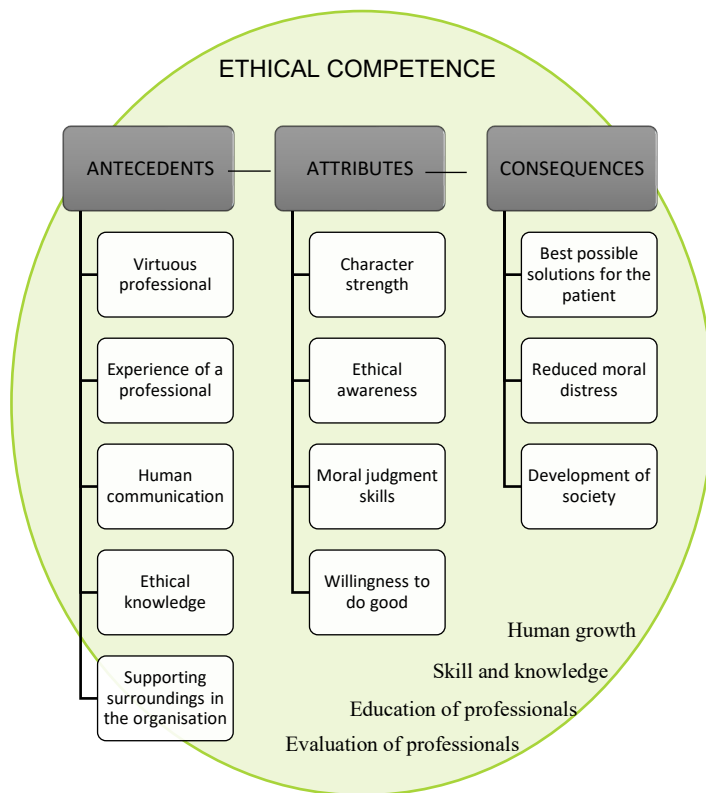
competence. Organisational values may have been different from the physiotherapist's own values. Also lack of support from the management and colleagues was about to cause ethical problems. Confidentiality issues, e.g. coffee table discussions about patient matters, truthfulness e.g. in reporting therapy or patient's behaviour, mainly meaning sexual harassment were also mentioned. (Paper I.)

Economic issues, and equity and fairness in access to physiotherapy as factors causing ethical problems and diminishing the quality of physiotherapy, were highlighted in particular by the physiotherapists working in outpatient settings. Respondents working in inpatient physiotherapy settings perceived the lack of patient's self-determination, as well as issues related to good care and treatment in the settings, to be the most common ethical issues. (Paper I.)

### 5.3 The concept of ethical competence

In Phase II, the uses and characteristics of the concept of ethical competence were identified. Four main contexts for the use of the concept (step 3 in the concept analysis model) were found in the concept analysis: Human growth, Skill and knowledge, Education and Evaluation of professionals (Figure 6). In some ethical theories illustrating human growth in the ethical sense, ethical competence is used as an essential concept (see e.g. Kohlberg 1981; Rest 1994; Jomsri 2005; Bolmsjö et al. 2006; Eriksson et al. 2007). Strengthening the components in these theories (e.g. moral judgment skills, moral motivation, ethical sensitivity) may have a positive effect on ethical competence of an individual (Baerøe & Norheim 2011). Referring to Education of professionals, the third context where the concept ethical competence was identified, ethical competence has been used in combination between knowledge, practice and experience. Sensitivity and willingness to identify the needs of a human being, ability to critical thinking and practical wisdom can be seen as different approaches to teaching ethics and are in the core of ethical competence (Thompson et al. 2006). Some research in health care (Jomsri et al. 2005; Asahara et al. 2015) and also in business (Kavathatzopoulos 2003) build a knowledge base for the evaluation of ethical competence, the fourth context for the use of the concept ethical competence. (Paper II.)

In step 4 of the concept analysis, the attempt was to find the characteristics that most frequently occur in relation to the concept in the literature (Walker & Avant 2019). As a result, four attributes defining ethical competence were detected being repeatedly presented in seven different studies. They all illustrate the professional's personal characteristics. In step 7 (acknowledge antecedents and consequences), five antecedents preceding or promoting ethical competence and three consequences resulting from ethical competence were detected. (Figure 6.)



**Figure 6.** Uses, antecedents, attributes and consequences of the concept of ethical competence (according to Walker & Avant 2019)

Character strength can be seen as courage to act ethically (Park & Peterson, 2006), guiding the individual to desire and do good and strength to justify own choices and act according to moral values. At the organisational level it includes the strength to support ethical processes. (Kavathatzopoulos 2003; Jomsri et al. 2005.) Ethical awareness is seen as being sensitive and having attentiveness when interpreting the situations, for example the ability to identify ethical problems and their consequences (Baerøe & Norheim, 2011), and awareness of roles and responsibilities in the situation (Rest 1994; Bolmsjö et al. 2006; Lütznén et al. 2006). Moral judgment is the ability to judge which activities are ethically right or wrong (Baerøe & Norheim 2011), logically examining the values and principles and making decisions in ethically demanding situations (Kavathatzopoulos 2003; Jomsri et al. 2005). The willingness to do good is about putting ethical values first over other values (Baerøe & Norheim 2011), as well as the professional's willingness to act ethically according to those values (Park & Peterson, 2006). (Paper II.)

## 5.4 Ethical competence of physiotherapists

### 5.4.1 Physiotherapist's self-evaluated ethical competence – measured with PECET

One of the main results of the dissertation study was the development of PECET, Physiotherapist's Ethical Competence Evaluation Tool, based on the literature and concept analysis of the concept ethical competence (Paper III).

Using the newly developed instrument PECET as a self-evaluation tool, the Finnish physiotherapists (n=839, response rate 15 %) evaluated themselves as highly ethically competent in all subscales of ethical competence. Willingness to do good was evaluated as the highest, including for example willingness to act according to ethical values, to provide high-quality care and to get educated in ethics. Character strength, including for example the strength to discuss difficult topics and support a colleague, was evaluated the lowest (Paper III). Most of the respondents (70%) considered themselves to be competent in handling ethical issues (from novice to expert; Benner 1982). Only 5% of the respondents considered themselves to be in the early stages in ethical competence and only one percent as experts in the area of competence. Analysis of variance was conducted to clarify the association between respondent's perception of the stage in ethical competence (from novice to expert, 5 stages) and sum variables of the four subscales in ethical competence. The better the self-estimated stage of ethical competence, the higher values in all subscales of ethical competence. (See Table 13 in the section Validity and reliability.)

Over half of the physiotherapists (55%) reported that identifying the ethical problem is easy or quite easy. Participating in further professional education in ethics or in ethics committees was uncommon (Table 10). Participating in those was associated with higher self-perceived ethical competence in all areas. Female physiotherapists considered themselves more competent than men in all areas of ethical competence (Paper III). The respondents used different methods in ethical problem solving and decision-making, mostly consulting a colleague (93%). Also, discussions in groups (69%) and ethics literature (38%) were used to facilitate ethical problem solving. Using ethical theories (28%) or literature (31%) to enhance ethical reflection or decision-making was quite unfamiliar (Paper III). Ethical committees or ethics specialists as aids for ethical problem solving were known rather poorly or not at all by most of the respondents. The respondents' knowledge of different documents essential for ethical competence was also estimated. Those who reported excellent or fairly good knowledge of the documents (ethical guidelines and laws) evaluated themselves also more ethically competent in all areas of ethical competence compared to those reporting poor or no knowledge of the documents. The respondents knew the laws concerning patients' rights and processing the

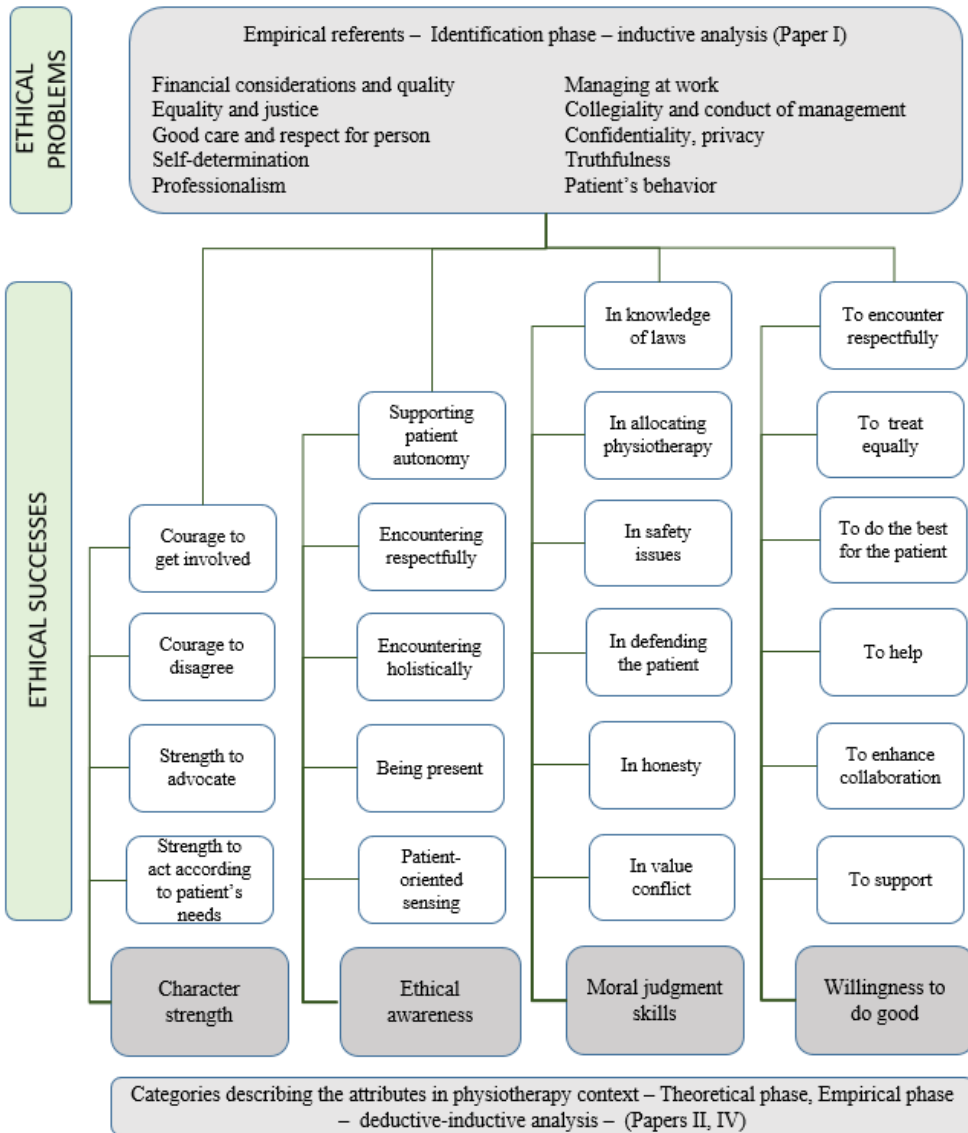
personal data quite well, but both the WCPT Ethical principles and the FAP Ethical guidelines were known mostly poorly or not at all. In summary, the better the respondents estimated their knowledge of different documents and methods to solve ethical problems and make decisions in ethically challenging situations, the higher they evaluated themselves in terms of ethical competence. (Paper III.)

As a result of ethical sensitivity measured with MSQ-R, the ability to identify the patient's needs was considered important by the respondents. According to the results, some parts of self-estimated ethical sensitivity (as a part of ethical competence, paper II) seemed to increase as the physiotherapist gets older and gains more experience. Work experience seemed to increase the self-estimated ability to sense when a patient is not receiving good care. Ageing increases the feeling that it is easier to talk to the patient about even difficult things. Physiotherapists also felt responsible for ensuring that the patient receives good care despite limited resources. (Paper I.) Likewise, using the PECET-instrument, the older and the more experienced the respondent was, the higher the self-estimated value was in the sum variable Skills (Paper III).

The physiotherapists reported a variety of practical situations in which they experienced they had succeeded well, that is were able to act an ethically competent way. Those situations were related to for example implementing physiotherapy according to the patient's wishes and needs despite of limited resources or the limits set by the organisation. Respecting patient's self-determination and situations concerning patient advocacy were also mentioned in the narratives. In addition, successes were experienced for example in identifying barriers in own knowledge and skills, being present in the situation with the patient, and being willing to treat patients equally despite of age, illness, habits, culture or socioeconomic status. (Paper IV; Figure 7.)

#### 5.4.2 Verification of the attributes of ethical competence in physiotherapy

According to the hybrid model (Schwartz-Barcott & Kim 2000), the concept was empirically verified in the physiotherapy context by collecting the qualitative data in form of narratives. All the attributes determined in the concept analysis of ethical competence (Phase II) were present in physiotherapists' responses, mostly related to ethical awareness. The definition of ethical competence created during Theoretical phase II was verified in Analytical phase IV according to the results from the open-ended question in Empirical phase III and clarified also based on the results from Identification phase I. (Figure 7.)



**Figure 7.** Final Analytical phase IV: The concept of ethical competence in physiotherapy – Synthesis of theoretical and empirical data

The hybrid model does not describe the formulation of antecedents or consequences for the concept (Schwartz-Barcott & Kim 2000). Since those were identified in the concept analysis of ethical competence using the method of Walker & Avant (2019; Paper II), some results from the narratives are reported from that viewpoint. Antecedents for ethical competence include a virtuous professional, professional experience, human communication, ethical knowledge, and a supportive

environment in the organisation. As a consequence, ethical competence enables the patient to achieve the best possible solutions, reduces moral anxiety at work, and promotes community development (Figure 6; Paper II). According to the results from the narratives, empathy and role-taking skills of a virtuous character, human communication, and ethical knowledge were emphasised as important preceding factors in ethical competence, whereas supporting surroundings in the organisation was not. Human communication and interaction between people were described in all the situations. Ethical knowledge was expressed in the situations concerning for example the patient's rights or confidentiality. As a consequence, what was best for the patient was a clear result of ethical competence, but on the contrary, physiotherapist's perceived moral distress at work was not reduced. The feeling gained from doing one's best for the patient was expressed as happiness and joy, mostly rewarding. As antecedent defined in the concept analysis in Phase II according to the literature, supportive surroundings at the organisation promote ethical competence and as a result, moral distress at work reduces. Physiotherapists reported situations in which they felt they had succeeded ethically, they felt happiness and joy as a result, but in which they reported lack of organisational support and increase in moral distress. This finding did not verify these components of the concept analysis. (Paper IV.)

## 5.5 Summary of the results

The main results of the study are summarised phase by phase in Figure 8. To identify the phenomenon of interest in physiotherapy, ethical problems demanding ethical competence do occur in physiotherapy practice in many different ways – mainly as financial considerations and resource allocation, equal and respectful encountering of a patient and patient's self-determination (Paper I). The theoretically examined concept of ethical competence revealed four determinants for the concept, all illustrating the individual traits of a physiotherapist – namely character strength, ethical awareness, moral judgment skills and willingness to do good (Paper II). Physiotherapists self-evaluated themselves as competent in all these areas of ethical competence measured with the developed instrument PECET; however, certain documents and ethical principles were still poorly known by them (Paper III). The physiotherapists felt they have succeeded in certain situations where ethical competence was required, the situations demanding e.g. strength to act for the patient, encountering the patient in respectful, honest and supportive way. Reduced moral distress because of the feeling of success in ethically demanding situation was reported as a clear consequence of ethical competence. The concept of ethical competence was verified in physiotherapists' narratives in multiple ways. (Paper IV.)

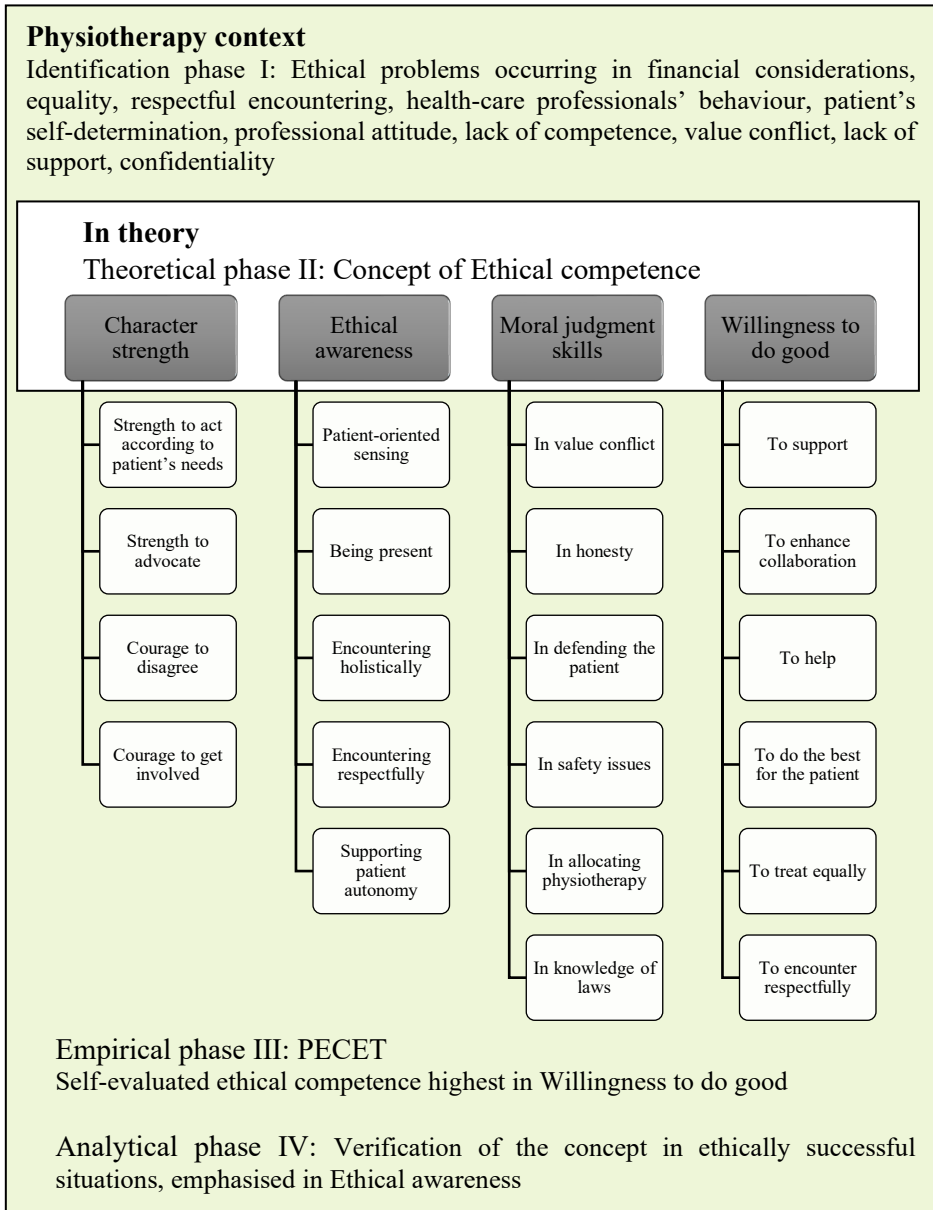


Figure 8. Summary of the main results

## 6 Discussion

This chapter discusses the results phase by phase in accordance with the progress of the hybrid model and reliability of this study. Implications for practice as well as suggestions for future research will also be discussed.

The main aim of the study was to verify the concept of ethical competence in the empirical world of physiotherapy and produce empirical knowledge in physiotherapy – the holistic definition of the concept ethical competence in health care aimed to form a structural framework for the evaluation of ethical competence in physiotherapy. The conceptualisation including all the study phases, aiming at the concept development, was based on the hybrid model developed by Schwartz-Barcott and Kim (2000). The whole was tied up using the hybrid model – and the first step was taken for the theory generation of physiotherapy and more generally in health sciences. Out of the four study phases, a comprehensive definition of the concept ethical competence in physiotherapy emerged. The content of these mainly personal character traits was defined through the ethical successes illustrated by the physiotherapists in their narratives.

This was a first attempt to define ethical competence using concept analysis as a method as the aim was not only the concept development but also to make the concept observable and measurable, build the subscales for the instrument PECET, so that it can be tested and verified in the empirical world. For that reason, it was essential to first gather information about ethical issues that Finnish physiotherapists encounter in their practice. The developed instrument PECET (Physiotherapists' Ethical Competence Evaluation Tool) was used to evaluate the ethical competence of physiotherapists. It had a solid ground in previous concept analysis defining the subscales for the instrument. The instrument was mainly a quantitative electronic survey instrument and a self-evaluation tool in nature, and the respondents were demanded to use self-reflection skills to analyse their knowledge and behaviour in quite a complex topic. That is why it was fruitful to gather information about the specific situations in which physiotherapists experience they have succeeded to act ethically competently, even if it can be discussed if a person's own perception of an ethically successful situation really reflects ethical competence.

Verification of the concept ethical competence in the reality of physiotherapist's experiences revealed several different categories under the attributes of ethical competence. In this context, it was possible to clarify and verify the content of the attributes based on the situations that physiotherapists encounter in their work.

## 6.1 Discussion about results

### Identification phase I

Examining physiotherapists' responses in relation to physiotherapist's ethical guidelines (FAP 2014; WCPT 2019), it can be noted that the ethical reflection in physiotherapists' work was particularly related to activities and interaction with the patient, and on the other hand to the physiotherapists' professional skills and workplace factors. The results are also in line with the study of Triezenberg, who already in 1996 classified ethical problems encountered in physiotherapy in three categories, namely problems related to patient's rights and well-being, problems related to professional responsibility and problems related to financial aspects (Triezenberg 1996).

The study identified economic factors as one of the major causes of ethical problems in physiotherapy. This has also been found in previous research on the ethical issues of physiotherapy (e.g. Triezenberg 1996; Barnitt 1998; Finch et al. 2005; Nalette 2010; Praestegaard & Gard 2013, Hudon et al. 2015; Laliberté et al. 2017; Cantu 2019a; Cantu 2019b). Physiotherapists' responses repeatedly included scarce time and staff resources and the diminished quality of physiotherapy as an ethical issue. Partly due to resource issues, physiotherapists felt inadequate when they were forced to perform lower quality physiotherapy, which in turn contributed to coping at work. Resource issues and their role as disincentives are also closely related to the equal treatment of patients, for example in accessing physiotherapy, and the internal factors within the organisation.

Content analysis brought up a lot of reflections on the physiotherapists' own coping skills, which are often linked to internal organisational issues, such as work organisation, and the resource issues already mentioned (e.g. Leino-Kilpi 2014a; Schaefer & Vieira 2015). Studies have also shown that experiencing moral distress is associated with managing at work and the development of possible work-related exhaustion (e.g. Gustafsson et al. 2010; Carpenter 2010; Monrouxé et al. 2015), and with ethical sensitivity (e.g. Glasberg et al. 2007; Dahlqvist 2008). The concept of moral distress, which focuses on the moral actor and the ethical dimensions of practice and emphasises the ethical nature of the work environment and multiprofessionalism, is a well-researched concept in nursing science. Exploring the concept more deeply also in the field of physiotherapy and incorporating it into

education and ethical decision-making could help to draw attention to the ethical aspects and problems that arise in physiotherapy. (Carpenter 2010; Monrouxé et al. 2015.)

Physiotherapists reported a great deal on the unequal treatment of patients in their own activities or in the activities of other professionals. Previous studies have also identified ethical issues in physiotherapy because of inequality and injustice (e.g. Gard et al. 2005; Lee et al. 2006; Dogan 2009; Laliberté et al. 2017). The topic has been approached from the perspective of different cultures, linguistic and communication difficulties and, more rarely, diseases. There is less research on the biases and behaviour of physiotherapists with clients with whom cooperation does not work, for example because the physiotherapist does not like the client. Also, there are a few studies on the unequal treatment and its consequences for the patient's autonomy, due to the socio-economic status of the patient or a substance abuse problem. Attitudes in how the therapists prioritise between patients based on their socioeconomic status, for example the patient's educational level and employment status (Madsen et al. 2016), is a difficult topic and requires a physiotherapist to deeply examine their own attitudes.

Ethical problems among Finnish physiotherapists have not been empirically explored before. As the results of this study showed, physiotherapists face ethical problems weekly. This study provides not only a starting point for examining the ethical issues facing physiotherapists in a broader and different perspective, but also hopefully a starting point for ethical discussion in physiotherapy. The results of the Identification phase formed the basis for the concept selection and item generation in the next study phases.

## Theoretical phase II

When the attributes were combined with antecedents and consequences, a definition of a concept of ethical competence and a building block for theory generation in health sciences was formed. A sufficient theoretical base of the concept made it possible to proceed from conceptualisation to measuring ethical competence subjectively (Koskenvuori et al. 2019).

Considering the reliability of the results of the concept analysis, it must be noticed that even if the literature revealed the attributes presented in Figure 6, the concept of ethical competence had not been previously described this broadly in the literature. Hence, when the concept has now been operationalised (Phase III) and the validity of the concept analysis actually tested (Morse et al. 1996) – ethical competence assessed empirically in a clinical physiotherapy context (Phase IV; Schwartz-Barcott & Kim 2000) – this concept analysis could be taken under re-examination at a new level. It is important to notice that concept analysis results can

change over time (Walker & Avant 2019), and are influenced by the context they are used in. While the concept analysis itself is strictly defined and precise work, the results also have certain subjective researcher's interpretation (Walker & Avant 2019). As Rodgers et al. (2018, p. 455) stated, the concept analysis is not an intellectual dead end, providing "a conclusive answer to the nature of the concept". It can provide a solid ground for further conceptual work, placing the analysis in the context of continuing concept development. (Rodgers et al. 2018.)

Ideally, concepts used in disciplines should be mature. Mature concepts are well defined with the attributes, antecedents and consequences described (Morse et al. 1996b). Evaluating the level of maturity of a selected concept can be performed through identifying gaps in knowledge, determining the need to clarify a concept, evaluating the difference from and relation to competing concepts, examining the congruence between the definition of the concept and its operationalising, or ensure the fit between the definition of the concept and appropriate use in context (Morse et al. 1996; Gift 1997). In this study, it can be stated that the chosen concept was between immature and partially developed (Morse et al. 1996) and in Theoretical phase, it was possible to use the previous literature in defining the concept. However, the collection of both qualitative and quantitative data was seen necessary to further gain the maturity of the concept (see Morse et al. 1996). Related concepts were not identified, which is a methodological question and a question of validity of the results in the analysis. Relation to other concepts was considered between the concepts ethical and moral and their interchangeable use was justified (Paper II). The quality of the concept analysis was also strengthened as the concept was operationalised and tested in physiotherapy.

Physiotherapist's Ethical Competence Evaluation Tool (PECET) was developed in Theoretical phase of the study. Constructing a self-evaluation instrument to assess physiotherapist's ability to evaluate their professional ethical behaviour is justified. As Schubert et al. (2008) have stated, "assessment drives learning", and therefore the assessment of ethical competence helps to emphasise its importance for the physiotherapists (Schubert et al. 2008). Self-assessment can increase the interest for ethical issues and enhance critical thinking among physiotherapists to analyse their own work, even if there is also the risk for over assessment of own knowledge and skills (Sharma et al. 2016). Ethical issues in clinical practice can sometimes be quite complex and acting in a certain situation depends on how it is interpreted. As already Mitchell et al. stated in their paper in 1993 based on the Know-Can-Do –model (Norman 1991), assessing the knowledge of what to do, and a demonstration what could be done will not predict the performance, ethical reasoning and decision-making in a specific practice setting and situation. This is the case also in the year 2020.

### Empirical phase III

According to the results of Empirical phase III, the patient was clearly in the core of the values that guide the work of physiotherapists. The values that were mostly emphasised by the respondents were a respectful attitude towards patients, honesty, justice, equality, self-determination and professionalism including professional attitude towards a patient and professional skills.

Physiotherapists reported their knowledge of laws as quite good while the knowledge of ethical codes and guidelines was poor. Codes of ethics for professionals have become the centrepiece of discussion, but there is no consensus of their effectiveness in guiding a professional (Meine & Dunn 2013). Eriksson et al. (2008) have stated that ethical guidelines are not sufficient in facilitating ethical behaviour and three problems with ethical guidance can be detected, namely concerning the interpretation, multiplicity and legislation (Eriksson et al. 2008). According to Greenfield & Jensen (2010a) professional codes of ethics are not easily applicable to ethical decision-making when facing an ethical problem. Anyway, ethical principles may help in addressing ethical issues mainly by helping to identify an ethical issue and justifying why a certain action ought to be preferred over another. They aim to provide the basis for specific rules that can be applied in practice, even if how different ethical principles are applied depends on the specific context. (WHO 2015.) According to Meine & Dunn (2013), codes that are goal-oriented and include operational guidelines would better support the search for ethical competence.

As the results show, physiotherapists rarely take part in ethics education (only 20% had participated after graduation), maybe due to the topic which is not considered as important as hands-on clinical skills in gathering further education. Previous research notes that ethical competence can be acquired through education (Cannaerts et al. 2014; Poikkeus et al. 2014; Stolt et al. 2018). According to this study, further ethics education as well as knowledge of the different documents and methods related to ethical decision-making are positively connected to physiotherapists' self-estimated ethical competence (Paper III; see also Delany 2012) and is consistent with the concept analysis (Paper II) stating that the knowledge of ethics is the prerequisite of ethical competence.

Development of ethical competence can be enhanced through different ways: ethics rounds, ethics groups, multidisciplinary ethics committees, ethics consultation and ethics resources (e.g. web-based) are seen as good strategies (Clark & Taxis 2003). According to the results of the study, some of these tools are used by physiotherapists (discussion in groups and consultation of a colleague). Physiotherapists seem to have different abilities to recognise different methods and aids that could be used in ethical judgment and decision-making. Hence, physiotherapist should be informed about the variety of methods and encouraged to

use them in their practice. To support the ethical competence of physiotherapists, there are different aids available, for example ethics committees in health care organisations and ethics education. There is variation among organisations in terms of possibilities to get consultation in ethical issues, to develop ethical knowledge, awareness and courage and moral judgment skills. Organisations are in an important role in supporting ethical competence of the employees (Falkenström et al. 2016). The leaders could offer supporting structures for ethical issues and encourage discussion, inform of ethical practices and support the employee at an individual level to participate in ethics education and multidisciplinary ethics collaboration (Poikkeus et al. 2016).

Overall, responding physiotherapists considered themselves as highly ethically competent in all measured areas of ethical competence. The better the respondents knew different ways in ethical problem-solving and decision-making, or the codes of conduct and other documents, and the more experienced and more educated in ethics they were, the higher they evaluated themselves in ethical competence, which in turn increase the reliability of the results. There are some limitations concerning the PECET. One limitation was that the criterion-related validity of the PECET was not estimated. Therefore, even if the validity of the PECET was supported (see also the Validity and reliability –section), further research is needed to refine this questionnaire to estimate its criterion-related validity for developing the instrument. In addition, this instrument did not have reversed items or items that would have checked the participants' answers for bias because of social desirability. For these reasons, the questionnaire needs additional psychometric testing to establish the full range of validity and items (see also Asahara et al. 2015). One of the items suggests that if “My work is evidence-based” it means that it is of ethical high standard. This assumption disregards that there may be situations where evidence-based practice may actually be unethical. Ethical competence could mean, in a certain situation, to have sufficient courage to deviate from evidence-based practice. Likewise, this applies to ethical guidelines. How to act depends on how a situation is interpreted as well as the guidelines.

Usually, there were only few respondents who answered “I cannot say” to the items in different subscales. Interestingly, seven items out of 59 had more than eight percent of these responses (Table 11). The low response rate, however, needs to be kept in mind in the interpretation of the results.

**Table 11.** Items with more than 8% of the respondents answering "I cannot say" (PECET; Phase III; Paper III)

Attribute	Item	n	%
Strength	I act according to the needs of the client, even if it conflicts with my own values.	86 /828	10
Strength	I act according to the needs of the client, even if it conflicts with the values of the organisation	111 /831	13
Skills	request informed consent from the client	76 /830	9
Skills	use experts to support ethical problem-solving and decision-making	67 /832	8
Skills	recognise the need for ethics education	84 /832	10
Will	get educated in ethics	69 /830	8
Will	base activities on new ethics research	82 /830	10

The reason for these responses concerning some of the items may be substantive – that is, something that the respondent had not thought of – or it may be methodological, biased-measurement meaning that the question/item may have been problematic. A Rasch analysis for further study may be suggested to determine how the questions work at the item level to identify the difficulty of the items.

#### Analytical phase IV

The description of the concept ethical competence was constructed using the concept analysis method of Walker and Avant (2019) in Theoretical phase II. After that, it was essential to situate the theoretical construct in the reality of physiotherapists' experiences, and therefore it was used in conjunction with the hybrid model of concept development (Schwartz-Barcott & Kim 2000), which clearly identifies empirical fieldwork phase (here Phase III) as a separate entity from the theoretical phase (here Phase II). It is crucial to acknowledge the dynamic and developmental nature of the concept and the hybrid model allows that viewpoint. The Wilsonian method of Walker & Avant is based on a literature study and intellectual analysis without empirical methods. This has been seen as a limitation of the method. (Botes 2002.) This study ties up the results using the hybrid model (Schwartz-Barcott & Kim 2000), adding the empirical phase to the analysis, and that way overcoming the limitations of the method of Walker & Avant. The attributes were situated in the reality of physiotherapists' experiences and deductive-inductive approach was used in content analysis. The reason for selecting the analysis method was the aim to integrate surface and deep structures in order to discover meaningful underlying patterns in the empirical world of physiotherapy (Graneheim, Lindgren & Lundman 2017). This context made it possible to clarify and verify the content of the attributes based on the situations that physiotherapists encounter in their work.

No studies have been conducted on the ethical success of physiotherapists. The ethically successful practices described by physiotherapists reflect the self-esteem of physiotherapists in these situations. Perceived success in ethical actions contributes to competence by including the elements of competences for success (e.g. communication and interaction, awareness for own actions and organisational aspects, critical thinking and problem solving, and courage; Washington University in St. Louis 2020). With the deductive-inductive approach in content analysis, the resulting categories overlapped so that they could be situated in several different competence-themes (attributes). That is why it also was challenging to divide and categorise them, even if the theoretical base and definitions for the themes were accurate. Understandably, with human experiences, it might not always be possible to create mutually exclusive categories (Graneheim & Lundman 2004) and, as the realisation of all the attributes is a precondition for the existence of the concept (Walker & Avant 2019), it seems not to be even necessary. All the attributes of ethical competence were present in various ways in the situations described by physiotherapists. Hence, the categorisation matrix can be regarded as valid – the attributes as broad enough as no meaningful data were left over (Schreier 2012; Graneheim et al. 2017; Paper IV.) This result was confirmed in the Master’s thesis of Anna Tolvanen (2020) in which she approached the same qualitative data purely inductively. The results of that study show that the categories inductively formed could be situated under the attributes of ethical competence defined in this study.

In the narratives, character strength occurred in the situations for example as strength to act according to the patient’s needs and strength to advocate. The physiotherapists stand next to the patient, striving for the patient's best (Nalette 2010; Laliberté et al. 2017) and in those situations physiotherapists perceived they acted in ethically competent way. Ethical awareness appeared for example as patient-oriented sensing and respectful encountering. The respondents also reported success in supporting patient autonomy for example in decision-making concerning patient’s treatment. However, according to Dierckx et al. (2013) physiotherapists often make decisions without involving the patient in the decision-making process, without recognising they are acting this way (Dierckx et al. 2013). (Paper IV.)

Moral judgment skills occurred for example in value conflict, allocating physiotherapy and in knowledge of laws. Respondents felt they succeeded in making a judgment of allocating physiotherapy properly even if it conflicts with organisational values (see also Laliberté et al. 2017; Cantu 2019b). Sometimes the respondents felt that organisational constraints made it difficult to respond to patients’ needs. Physiotherapists solved situations by adapting practices to the patient’s needs when striving to act ethically. However, these situations may be challenging from the viewpoint of equality – how flexible physiotherapists can be in their practices with different patients. (Laliberté et al. 2017; Paper IV.) In the

narratives, moral judgment skills were limited to intuitive moral reasoning. Intuitive moral justification should be followed by critical and logical reasoning (Mpeli 2018). The physiotherapists were conforming mainly to their personal values. Also, previous studies (e.g. Praestegaard & Gard 2013; Drolet & Hudon 2015) have stated that physiotherapists rarely refer to ethical theories or guidelines in their decision-making processes.

Willingness to do good appeared in narratives for example as willingness to support the patient, to do the best for the patient and in will to act equally. The respondents reported many situations in which they made decisions reflecting between economic values and patient's best. This result reflects the previous studies of Nalette (2010), Praestegaard et al. (2013) and Hudon et al. (2015) – willingness to do the best for the patient is balancing between the patient, the physiotherapist's own values and the financial aspects.

Also some antecedents and consequences of the concept ethical competence were explored and detected in the narratives, as they implicitly form a part of the concept (Walker & Avant 2019) – even if it does not follow the use of the hybrid model (Schwartz-Barcott & Kim 2000). It is worth noticing, that as the respondents described the situation they had succeeded in, they were not asked to describe what preceded the situation or resulted from the situation. In the previous literature reviews concerning interaction between the patient and the physiotherapist (O'Keeffe 2016; Wijma et al. 2017), some similarities with the narratives can be found at the conceptual level, for example in taking patients' opinions into account, supporting a patient and also having supportive surroundings in the organisation. These are also prerequisites for ethical competence (Paper II), implicitly included in ethical competence and could be seen as the ways to prevent ethical problems in physiotherapy practice. In many narratives, the respondents reported lack of organisational support, which has been named as an important factor preceding ethical competence (Poikkeus 2019). Also, as a result of perceived ethically competent action, moral distress seemed to increase in some situations even though the physiotherapist thought they acted in ethically correct way. The employer putting pressure on the physiotherapist is experienced distressing – as the physiotherapist acts against the organisation's rules or does not get support from the management, the risk of experiencing moral distress increases (Carpenter 2010; Schaefer & Vieira 2015). Promoting ethical competence of professionals increases the skills in coping with the ethical challenges in practice and, as a result, the professionals are better able to deal with moral distress and its consequences (Schaefer & Vieira 2015).

## 6.2 Validity and reliability of the study

In this study, the method of Walker & Avant was used in combination with the hybrid model to gain the main aim of the study, development and conceptualisation of the concept ethical competence. The concept analysis was started with the clear steps provided by Walker & Avant in Theoretical phase II and the concept development was deepened and carried on by using the hybrid model, which allows several methods for analysis, to generate a conceptualisation of the concept and to verify it in reality. Hence, the validity of the concept analysis as well as the validity of the PECET instrument were strengthened.

Strengths of the Wilsonian-derived concept analysis methods, including the hybrid model, increasing the reliability of the results of this study, have been mentioned to be i) choosing the concepts by first examining a situation from literature, ii) determining the cases from actual situations, iii) in the hybrid model, invented cases are not needed as actual cases are available and iiiii) the intellectual rigour requisite in concept development is described. The process of analysis continues until adequate results are obtained. (Hupcey et al. 1997.) The critique according to Hupcey et al. (1997) concerns the idea that the Wilsonian-derived methods have been too simplified and used by researchers in a prescriptive way, and the results often do not expand knowledge. The findings are usually not integrated into a concluding statement, and a discussion about the results is missing. (Hupcey et al. 1997.)

The hybrid model of concept analysis was developed for the purposes of an adequate approach to concept development for the process of theory building. Critical aspects for the reliability of the hybrid model are as follows: i) the selected concept is integral to practice. ii) the literature reviewed is broad enough to capture the different aspects in conceptualisation and usage of the concept across disciplines, iii) the focus of analysis is on the essential aspects of definition and measurement and iiiii) analysis from the literature is tightly integrated with the empirical aspects of the definition and measurement. (Schwartz-Barcott & Kim 2000.) Morse et al. (1996) have made the evaluation criteria for accuracy of concept analysis research and also the maturity of the concept has been assessed especially in Morse's literature, so Morse's criteria were therefore used in this study (Table 12).

Even if it is suggested by Schwartz-Barcott and Kim (2000), that only a limited selection of actual cases need to be observed and then analysed, in this study the rigour, validity, and completeness of concept explication were improved by analysing the large amount of both quantitative and qualitative data. That is, the data was actually representative of the concept of interest in its entirety in one context. In addition, as the use of limited cases from one situation limit the applicability of the concept to other situations (Hupcey et al. 1997), not only one specific situation in physiotherapy practice were detected.

**Table 12.** Evaluation of rigour of concept analysis research (Criteria based on Morse et al. 1996)

Criteria	Standard		Evaluation of the completed concept analysis research
	Unacceptable	Acceptable	
Extensiveness of the data	Thin and scant Brief reports Recollected data Abbreviated case studies Fabricated examples	Rich and complete Lot of literature Full description Amount of observations Widely sampled examples	Literature search from multiple databases, interdisciplinary, including theoretical and empirical articles and dictionaries*. No fabricated cases. Large data collected in two phases
Depth of analysis	No analysis Trivial, insignificant Superficial	Intellectual rigour Logical Creative and original	Co-coders used in data collection (Phase II) and in content analysis of qualitative data (Phase IV)
Development of argument	Confusing Lacks reasoning	Logical Clear	COREQ used in reporting in Phase IV. Summary aiming to systematic presentation of the results
Validity	No specificity to concept	Determines inclusion/exclusion criteria	Phase III: construct validity was assessed (alphas, convergent validity), to explore the dimensionality and structure of the concept
Level of abstractness	Context/situational bound	Encompasses all forms and situations of the concept	Phase II in the context of health care. Phases I-III-IV verified in physiotherapy*
Contribution to knowledge	Findings are obvious Research does not contribute to the literature	Findings make sense Provides new perspectives Empirical questions identifiable Facilitates inquiry	The results of the study provide new knowledge and perspective on the topic. Aim to facilitate discussion. Lead to new areas of research in other fields in health care

\*Criticised by Morse et al. 1996

Quantitative methods can make a significant contribution to the testing of the structure of concepts, for example the extent to which several indicators actually measure it (Morse et al. 1996). Using a combination of qualitative and quantitative methods, qualitative methods can be used to explain the quantitative results and/or to generate items for a closed-ended survey (Forman & Damschroder 2008). In this study, both quantitative (Phases I and III) and qualitative methods (Phases I, II, IV) were used for the purposes of verifying the concept, since the concept was regarded as being between immature and partially developed (Morse et al. 1996).

To ensure trustworthiness in qualitative study parts in Phases I and IV, credibility, transferability, dependability and confirmability were taken into consideration (Polit & Beck 2012). Open-ended questions give respondents the opportunity to freely express their views. For example, when it comes to ethical

issues, the open question is definitely a good choice. However, open-ended questions require respondents to stop to think and thus take more time. The temptation to leave an open question unanswered or to answer only superficially exists. Open-ended questions must be clear and unambiguous, so that there is no room for interpretation, but everyone - both the respondent and the researcher - understands the questions in the same way. (Parahoo 2006.) In Identification phase I, Finnish guidelines of ethics for physiotherapists (FAP 2014) and definition of an ethical problem (Leino-Kilpi 2014b) were offered linked to the questionnaire to facilitate answering the questions. To improve the reliability of the results obtained through open-ended questions using content analysis the direct quotes from the responses were used to describe how the different categories had been formulated (Paper IV; Graneheim & Lundman 2004). The response rate to the open-ended question that compiled the qualitative data for Phase IV was 25 %. In addition, 44 responses were removed according to the exclusion criteria for not describing a single situation or ethically successful activity. The low response rate may be due to many different things. It may indicate, for example, the ability of physiotherapists to recognise the ethical dimensions of practical work, or the fact that answering an open-ended question is time consuming and laborious. Maybe they had not even thought about the issues related to the topic and for that reason, found it difficult to respond. In the open-ended question, respondents were asked to describe a situation in which they had experienced ethically correct behaviour in their practical work. The responses were requested in writing via an electronic form. Therefore, it would be appropriate to consider whether the replies represent real action, or whether they are wholly or partly virtuous representations of how one should act.

When conducting the concept analysis in Theoretical phase II, 61 abstracts were read independently by two researchers (KK, MS). When analysing the data in Phase IV, it were reviewed by two researchers (KK, AT). These actions were taken to ensure confirmability, dependability and credibility, and broader understanding of the phenomenon (Tong et al. 2007). After the researcher (KK) and co-coder (AT) had analysed the narratives independently, a discussion took place in order to reach a consensus regarding the identified themes and categories. Consolidated criteria for reporting qualitative research (COREQ) was used to enhance the explicit and comprehensive reporting of the study design, analysis and results in Phase IV (Tong et al. 2007). (Paper IV.)

In Phase I, the respondents (n=116) represented only a limited part of the physiotherapists working in public health-care services in Finland. The findings of this study may not be consistent in other populations or in other environments. In addition, as the concept analysis in Phase II was based on studies in several countries and the empirical data with a low response rate (15%) collected in Phase III were limited to one country, the results are not generalisable. The respondents in Phase III

represented less than one fifth of all possible respondents. So, even if the amount of respondents ( $n = 839$ ) can be seen statistically sufficient, the results have low generalisability. The reasons for the low response rate can be considered to be related to both the data collection method and the content. The data were collected electronically, which has been indicated to be connected with lower response rates (Ebert et al., 2018). In this study, however, it was selected due to the national nature of the sample. As it comes to the content of the PECET instrument, the topic requires stopping by and reflecting one's own ways of thinking and doing, which takes time and can be difficult (Sharma et al., 2016). In a national sample, non-response bias analysis was not conducted. However, among the respondents in Phases I and III, there was great variability in age, work experience and practice setting, and the distribution in age and gender was nearly the same as the member structure of the Finnish Association of Physiotherapists (T. Mäkinen, personal communication 8 Dec 2017). The purpose of Empirical phase III was to explore empirical explanations for the results in the literature in a new context. Furthermore, the results of the Phase II concept analysis coincided with the categories found in narratives in Phase IV, which indicate the probable validity of the analysed concept.

The reliability of research can be considered from the viewpoint of the instrument and data collection, and on the other hand, as the reliability of results. In Phase I, to ensure the semantic equivalence of the scale used, the MSQ-R was translated from the original language to the target language, that is, from Swedish into Finnish, and then translated back to the original language, by an official translator (Beck et al. 2003). The MSQ-R has been used mostly in research of health-care personnel in general or in psychiatric care (Lütznén et al. 2010; Gustafsson et al. 2010) and further study is needed to find out whether the tool is suitable for physiotherapists' way of thinking.

In Empirical phase III, the survey instrument PECET was a self-evaluation tool in nature, so the respondents were demanded to use self-reflection skills to analyse their knowledge and action in quite a complicated area. How they use the self-evaluation skills raises a question of validity and leads to consideration of what actually is being measured with the self-evaluation tool. The respondents assessed themselves very positively in all dimensions of ethical competence, even though twenty-seven percent reported that they have not encountered ethical problems in their practice. Besides ethical awareness, this may also be a question of over-assessment of knowledge and skills (Sharma et al. 2016). On the other hand, it should be noted that the group of respondents (response rate 15 %) may have been selected according to what they considered important and familiar. Therefore they felt confident answering the questions and the assessment of one's own competence also rose to a high level.

However, the instrument used in study phase III was constructed based on a concept analysis of the concept ethical competence, which formed a theoretically solid ground for the questionnaire. The internal consistency of the constructed instrument was also good: Cronbach's alphas were 0.95 for the total scale, and between 0.76–0.90 for its sum variables (Cronbach 1951; DeVellis 2016; Paper III.) For the total scale, alpha 0.95 is considered excellent, but at the same time, it brings into consideration shortening the instrument (DeVellis 2016).

In Empirical phase III, most of the respondents (70%) considered themselves as competent in handling ethical issues (from novice to expert; Benner 1982). Analysis of variance was conducted to clarify the association between respondents' perception of the level of ethical competence (from novice to expert, 5 stages) and sum variables of the four subscales in ethical competence (Table 13). The better the self-estimated stage of ethical competence, the higher values in all subscales of ethical competence. Since the results correlated with another measurement scale used – showing a similar increase in the ethical competence level, convergent validity of the constructed instrument PECET was strengthened. This result indicates that the PECET would be able to identify the increase in ethical competence – it is sensitive to the phenomenon being measured, which increases the reliability (Bannigan & Watson 2009).

**Table 13.** Correlations between respondents' perception of the stage in ethical competence and sum variables of the four subscales in ethical competence (n=823) (Phase III)

	n	Character strength		Awareness		Skills		Will		Total	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Level of competence											
Novice	45	3.09	0.20	3.29	0.28	2.97	0.36	3.54	0.34	3.22	0.25
Advanced beginner	93	3.12	0.29	3.33	0.31	3.07	0.32	3.50	0.40	3.25	0.25
Competent	572	3.22	0.31	3.46	0.32	3.26	0.37	3.56	0.33	3.38	0.28
Proficient	103	3.37	0.33	3.56	0.32	3.47	0.39	3.65	0.34	3.52	0.30
Expert	10	3.55	0.37	3.60	0.30	3.58	0.44	3.60	0.42	3.58	0.36
p		<.0001		<.0001		<.0001		0.0326		<.0001	

## 6.3 Practical implications

For practice implications, it is important to pay attention to the ethical conduct of the physiotherapists already during physiotherapy education, but also when encountering ethical issues in practical work. This also implies all fields of health

care in a broader sense. The questions of ethical care at organisations are nowadays much discussed and will be even more important in the future, for example due to limited resources, resource allocation and rationing of the health care staff (Scott et al. 2019). The results of the study provide new knowledge to use in the area of rehabilitation practice. They can help physiotherapy education programmes to support ethical development of the students as well as provide tools for continuing ethics education in workplaces. In addition, this study provided a new self-evaluation instrument, which in the future could work as an ethics checklist for teachers and supervisors in clinical practice as well as for students and physiotherapists themselves to consider the ethical viewpoints in their practice.

As the concept of ethical competence has now been defined and verified in the empirical world, it should be brought into practical level in different organisations. How does an organisation put the various components of ethical competence into the practice, so that it transforms into people-to-people interaction at work, and so that people become aware of ethical issues and the demanded ethical competence in their work – these are the questions that need to be considered. Since it is also the duty of the management to familiarise and guide the community to act ethically. The physiotherapists and other health care professionals need to be informed of and encouraged to use different aids to support ethical competence. According to Poikkeus et al. (2016), leaders in organisations are in an important role in offering supporting structures for ethical conduct and competence development (Poikkeus et al. 2016).

### Implications for practice

The results of this study can be used when assessing the ethical climate and environment and the need for further ethics education at workplaces, as well as when planning continuing ethics education for professionals. Continuing education on the topic, for example on multiculturalism, the significance of various illnesses or other patient characteristics in the ethically successful interaction, and also ethical considerations may be necessary at the workplaces. By doing a concept analysis, it was possible to promote understanding about the phenomenon of interest (Walker & Avant 2019) in the field of health care. With the newly developed instrument (PECET), it is possible not only to explore the professionals' self-evaluated ethical competence but also to enhance the professionals' reflection on ethical issues and promote discussion about those issues.

Ethically competent health professionals can position themselves as an other person (having empathy, role-taking skills) and has courage to address ethically challenging issues, understands the importance of ethics and incorporates ethical principles into the work (Leino-Kilpi & Suhonen 2017). The content of ethical

competence has now been described in physiotherapy and the results of the study could be used as a frame for the identification of ethically competent actions and judgment skills, highlighting the certain character traits of the individual professional. This, in turn, may facilitate ethical decision-making as an individual identifies these character traits facilitating and reflecting ethical competence. Knowing the characteristics constituting ethical competence may ease the health care professionals to identify if they are not getting enough individual and organisational support for the development of ethical competence, since, according to the results of the study, supporting environment in the organisation is a prerequisite for ethical competence, which in turn increases employees' job satisfaction, and, at the same time, ethical safety for both the physiotherapist and the patient.

An ethically safe environment is created by discussing ethics in the entire organisation. Ethical practices should be updated regularly, and discussion should remain open and continuous. The environment must create a safe atmosphere for both the patient and professional. (Leino-Kilpi & Suhonen 2017.) Managers in physiotherapy wards and health care organisations are in a key role in supporting the development of ethical conduct and ethical competence of the employees. They should organise work so that ethical reflections can be carried out, and clearly express the importance of ethical competence (Falkenström et al. 2016). The assessment of ethical competence is important, since it is also the duty of the management to guide the community to act ethically, and the results of this study provide a novel instrument for that. PECET could be used as a tool for managers to evaluate ethical competence of the physiotherapist and, at the same time, to encourage discussion, inform of ethical practices at workplaces and support the employee at an individual level to participate in ethics education and multidisciplinary ethics collaboration (see also Poikkeus et al. 2016).

As the results indicated, for example the knowledge, benefits and use of ethical codes in ethical decision-making should be discussed in the practical context, as it, according to the results, seems to be unclear. It would be beneficial to develop processes for construction and revision of ethical codes and guidelines, so that they would become adopted in the physiotherapy practice. Physiotherapists would benefit from exploring the ethical issues in their workplaces, which could encourage them to approach a difficult and personal topic and provide a deeper perspective into the subject.

### Implications for education

Ethical competence is described and implemented in curricula all over Europe – the results of this study can be used as a reference for ethical competence, when planning and developing physiotherapy curricula in Finland and to promote national

comparisons of physiotherapy competencies in the EU in basic education. The results can help health care education programmes in supporting ethical development of the students and in preparing the students to begin clinical practice. The results also provide tools for continuing ethics education in workplaces.

It is important to pay attention to the ethical conduct of the health care professionals already during basic education to ensure highly ethically competent care. The analysis of the concept ethical competence can guide the educators, as well as managers in health care, to direct the educational contents more deeply around the topic, to support the development of ethical conduct.

Self-evaluative methods to assess student's or employee's ethical competence can be used to support ethical development, since the ability to identify, reflect and deeply explore one's own ethical values and attitudes is an essential aspect of ethics education (De las Fuentes et al. 2005) and learning, requiring the ability to assess one's own skills and limitations as well as to identify additional information needs. It is important to give students and professionals the opportunity of evaluating their own ethical competence and now, with the PECET, the opportunity to analyse such skills against the components of ethical competence, is a step closer to this aim.

## 6.4 Suggestions for further research

The first part of the theory generation has been done in this work – conceptualisation using literature review, concept analysis of ethical competence and empirical testing for verification of the concept - and this can be used to further develop the theory. The hybrid model does not define the maturity of the concept - when the analysis has been completed, it begins again, and the hybrid circle continues forever, if wished. Also, according to Morse et al (1996), full maturity of a concept is achieved only over time, with continued use and refinement. For further research, the concept's empirical testing according to the hybrid model can be extended to other empirical worlds, by exploring the ethical problems and verification of the concept in other contexts. For researchers, the results of the study can be used as a framework in further study in developing a structured instrument to evaluate the phenomenon in other health care professionals in practice and during education. Also, research on ethical competence in physiotherapy should be continued with more extensive data. The concept analysis could be tested further by exploring inductively the real-life situations that physiotherapists describe, to get data-driven trustworthiness and credibility for the frame in the physiotherapy context. The first step towards this aim has been taken by analysing the narratives inductively in a thesis completed at the University of Turku (Tolvanen 2020). Also, the PECET needs further development and psychometric evaluation, for example structural or factorial validity testing as well development for the purposes of other professions in health care or for

international use. Further testing is needed for analysing the sensitivity and specificity of the instrument. Item response theory, such as the Rasch model, can be used to analyse the validity of the instrument at the item level. International comparative studies would shed light on the usefulness of the instrument in revealing possible cultural differences.

A qualitative study of ethical problems, reasoning and ethical decision-making of physiotherapists would deepen the level of knowledge around the subject. For example the ethical guidelines' role in giving guidance in ethical issues in practice should be explored further. Further research is needed to explore the ethical issues in physiotherapy more broadly: describing ethical issues in physiotherapy in the public, private and third sectors would also produce comparative research in the field of physiotherapy. The use of qualitative methods, such as interviews or narratives, to approach a difficult and personal topic could provide a deeper perspective and insight into the subject. Also, physiotherapy patients' viewpoints about ethically competent treatment should be explored.

In addition to ethical issues, information is needed on the ethical decision-making and problem-solving skills of physiotherapists. It is possible to approach the topic with various ethical decision-making models, such as the Realm-Individual Process-Situation (RIPS) model (Swisher et al. 2005) and problem-solving indicators such as the James Rest's Defining Issues Test (e.g. Swisher 2010) and Lawrence Kohlberg's Moral Judgment Interview (Kohlberg 1984). Situational Judgment Tests (SJT) are tests used to assess individuals' professional behaviour, reactions to hypothetical scenarios, which reflect situations individuals in certain roles are likely to encounter. These scenarios include for example ethical, legal and communication aspects. (Schubert et al. 2008.) Physiotherapists' presumptions and attitudes towards different patient groups should be explored and the reasons for this attitude may need to be explored, as this may lead to unequal behaviour with patients and thus to ethical problems in physiotherapy. Referring to that, as a part of ethical competence, ethical sensitivity could be measured. The Measuring Instrument for Ethical Sensitivity in the Therapeutic Sciences (MIEST) is found to be effective to assess and describe the ethical sensitivity of physiotherapists (Naudé & Bornman 2016).

The need for further education on ethical issues should be investigated and more knowledge about teaching and learning ethics in physiotherapy education should be acquired. Research could focus on, among other things, the role of ethics in teaching and its inclusion in curricula, the importance and inclusion of ethical guidelines for physiotherapists, teaching methods and teaching materials used in ethics teaching, and learning to identify ethical issues and ethical decision-making. The need for multidisciplinary ethics teaching e.g. in forms of simulations and its potential for

physiotherapy should be explored to improve collaboration between different professional groups and thereby improve the quality of care and well-being at work.

Further research is also needed on teaching the ethics in Finnish physiotherapist education. Research could focus on, among other things, the role of ethics in teaching and its inclusion in curricula, the importance and inclusion of ethical guidelines for physiotherapists, teaching methods and teaching materials used in ethics teaching, and learning to identify ethical issues and ethical decision-making.

## 7 Conclusions

The holistic definition of the concept ethical competence in health care formed a structural framework for the evaluation of ethical competence in physiotherapy, using a novel self-evaluation instrument PECET. The attributes determined in the concept analysis of ethical competence, being present in physiotherapists' narratives of successes in ethically challenging situations, empirically verified the theoretical construct of the concept, and strengthened the theoretical basis for the PECET. In this study, the first step in theory generation in physiotherapy and more generally in health sciences has been taken, using the hybrid model.

A critical attitude is needed for the idea that all aspects of ethical competence can be measured objectively, using surveys or quantitative measures to address issues such as ethics, as it is not the case. A self-evaluating questionnaire can only portray a picture of how physiotherapists evaluate themselves. However, this is one aspect of evaluation, and other approaches and methods are needed to reach critical justification and decision-making processes, which are not easily "seen", to find out the actual capacity to act ethically in a given situation. Even if physiotherapists evaluated themselves as competent in ethics, further exploration is needed for the components constructing ethical competence, to gain trustworthiness and credibility for the tested frame in the physiotherapy context but also in the broader sense in health care. Physiotherapy patients' viewpoints and experiences about ethically competent care are also worth considering.

Too often, ethical issues in everyday physiotherapy remain unnoticed. Education in ethics, more communication between the management and employee about ethics and greater professional autonomy of physiotherapists could be the ways of promoting ethical competence. The results of the study can be used in organisations to promote ethical competence of the employees, when planning continuing ethics education for professionals but also during basic education. Since ethical reflection and decision-making are present when interacting with another person, the importance of teaching ethics in physiotherapy curricula should be emphasised. Practising physiotherapists' conscious reflection on ethical perspectives may easily remain in the shadow of learning clinical physiotherapy skills. This study provides not only a starting point for examining the ethical issues facing physiotherapists in a broader perspective, but also hopefully a starting point for deeper and continuous ethical discussion within physiotherapy profession.

# Acknowledgements

This study was carried out at the Department of Nursing Science, University of Turku. The work presented in this thesis would not have been possible without my close association with many people. I take this opportunity to extend my sincere gratitude to all those who made this Ph.D. thesis possible, although I cannot name everyone here individually.

Firstly and foremost, I would like to express my deepest gratitude to my supervisors, Professor Helena Leino-Kilpi and Professor Riitta Suhonen. Without your continuous support whenever I needed it, insight and patience, I wouldn't be here as I am today with this thesis. Professor Leino-Kilpi, as my principal supervisor, I feel that you have always believed in me, even when I have not. You have taught me a lot about concepts and your wise, critical guidance has led me through these years. Professor Suhonen, as my secondary supervisor, you have guided me with patience through methodological questions, encouraged me and given your support in writing the manuscripts. It has always been easy to come to meet you at the department and every time I have left the meeting empowered, full of new insights and lot of work that needs to be done.

The official reviewers of my thesis, Professor Donna Schwartz-Barcott from the University of Rhode Island and Professor Anna-Maija Pietilä from the University of Eastern Finland, I thank for your careful review and constructive feedback regarding the ways to improve this thesis. Special thanks to Docent Jari Kylmä from Tampere University, I was privileged to have you as the opponent of my thesis.

I would also like to thank the academic crew, my seminar group and scientific colleagues, as well as former co-workers at the Department of Nursing Science. My sincere thanks go to co-writers, Docent Minna Stolt and MNSc Anna Tolvanen. Minna, you helped me with my first steps of concept analysis process and Anna, your contribution in the analysis process of huge qualitative data was invaluable. I am also grateful to Statisticians Pauli Puukka and Tommi Kauko, for leading me deeper into the secrets of statistics.

My sincere thanks go to the organisations that were involved in the study in different ways – Finnish Association of Physiotherapists, City of Helsinki and Turku University of Applied Sciences. Tiina Mäkinen, Chairman of the Finnish

Association of Physiotherapists, I gratefully acknowledge your assistance in data collection and all the support you gave me during the process. I also appreciate the time and effort that the physiotherapists gave to this work when participating the studies by answering the questions and reflecting the ethical issues and dimensions of ethical competence in their work. I am grateful that Turku University of Applied Sciences as my employer offered me the possibility for study leave when it was needed.

I thank authorised translators Elli Sillanpää and Marja-Liisa Palmroth, for checking my English during this process. Thanks should also go to the technical personnel at the Department of Nursing Science, Anna Mäkinen for helping me with the Webropol and Tero Vesanen for giving me acute support with the thesis template.

I owe my special thanks to my scientific colleague, my dear friend Eriikka Siirala, PhD(c), for sharing this path, especially its last steps with me.

My sincere thanks go to all my colleagues at the Turku University of Applied Sciences. It is a privilege to work with you. You have supported me in many different ways during this research process. Annukka and Anu, our lunch break discussions are always empowering. Riitta-Liisa, Teija and Riikka, discussions and reflections with you around this topic and ethics projects have been important to me and given me strength to go on.

Last, but not least, my family and friends gave me support with various ways during these years. I am deeply grateful to my parents for their support and love in all different stages of my life. They have always believed in me. My dearest thanks belong to my soul mate Olli and my children Inka and Eeli, who have reminded me every day, that there is life also beyond the research and writing process. My love and gratitude for them can hardly be expressed in words. Olli, I thank you for your encouragement and patience, our discussions that gave me invaluable insight into this thesis, and for taking care of the tasks of daily life while I have been writing.

This study was financially supported by Finnish Association of Physiotherapists, which is also gratefully acknowledged.

Turku, September 2020

*Kati Kulju*

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# Appendices

**Appendix 1.** Research on ethical problems encountered in physiotherapy 1980–2020

<b>Authors, country, year</b>	<b>Purpose</b>	<b>Method, Instrument</b>	<b>Results</b>
Guccione USA, 1980	To identify the ethical decisions that are most frequently encountered and most difficult to make for practicing physiotherapists	Questionnaire n=187 physiotherapists	Ethical issues involve the decision about which patients should be treated, what obligations are entailed by that decision, who should pay for treatment, and what duties derive from the physiotherapist's relationship with other health professionals.
Triezenberg HL. USA, 1996.	To define ethical issues in physiotherapy	Expert panel /focus group n=6 Questionnaire	Ethical problems were divided into three themes: 1. problems related to patient's rights and well-being 2. problems related to professional responsibility. 3. problems related to business and financial aspects.
Barnitt R. & Partridge C. Great Britain, 1997.	To describe and then compare ethical dilemmas reported by eight physiotherapists and eight occupational therapists	Interview n=8 physiotherapists and 8 occupational therapists	The context or setting of the dilemma had a major effect on reasoning. Physiotherapists and occupational therapists showed differences in reasoning style: PTs more likely adopt a diagnostic or procedural style, and OTs a narrative style. Capacity to deal with the dilemmas was negatively influenced by uncertainty of outcome, emotional aspects, and social pressure to behave in certain ways. Positive influences included previous experience with similar dilemmas, time for reflection, and support from peers.
Barnitt R. Great Britain, 1998.	To identify ethical dilemmas experienced by occupational and physiotherapists working in the UK National Health Service (NHS).	Questionnaire survey n=179 physiotherapists n=182 occupational therapists	Different ethical themes emerged between the two groups, with the most common in occupational therapy being difficult behaviour in patients and unprofessional staff behaviour, and for physiotherapists resource limitations, treatment effectiveness, problematic situations involving unqualified staff and telling the truth to the patient.
Sim J. Great Britain, 1998*	To examine the ethical principle of respect for autonomy within the context of neurological rehabilitation	Theoretical paper	Difficulties of communication, issues of competence related to patient decision-making, problems of consensus between patient and professional, and the role of the patient's family in the rehabilitation process.
Cross S. & Sim J. Great Britain, Ireland, 2000.*	To examine confidentiality in physiotherapy, and the awareness, experiences and attitudes of physiotherapists related to ethical problems they encountered with respect to confidentiality.	Questionnaire survey in university physiotherapy programmes n=29. Focus group interview n=44 physiotherapists	Respondents identified environmental factors and working practices as barriers to preserving confidentiality. Revealing patient information to others also gave rise to difficulties.

**Appendix 1.** (cont.) Research on ethical problems encountered in physiotherapy 1980–2020

<b>Authors, country, year</b>	<b>Purpose</b>	<b>Method, Instrument</b>	<b>Results</b>
Swisher LL. USA, 2002.	To describe and analyse literature examining ethics in physiotherapy from 1970 to 2000, using different perspectives	Literature review	Research has focused on the role of the physiotherapist as a patient counselor and on ethical decision-making. Gaps in current knowledge were identified: the unique ethical problems commonly encountered; patient perspectives on ethical issues in physiotherapy; factors affecting moral judgment, sensitivity, motivation, and courage; and cultural dimensions. The need to further define the ethical issues of physiotherapy, ethical decision-making and role of the physiotherapist
Dronberger USA, 2003*	To explore the components of negligence, levels of obligation of a physiotherapist and, appropriate practice options to avoid negligence and fraud	Case example n=1	Controversy between available time and required actions may lead to dishonesty or diminished quality in physiotherapy, making it unethical.
Geddes, Wessel & Williams Canada, 2004*	To find out what kind of ethical issues are encountered by physiotherapist students during practical training.	Content analysis of the students' diaries n=56	Three main ethics themes emerged: respect for the person, accountability as a profession member and collegiality. Other themes were resources, advocacy and patient's informed consent.
Carpenter C. Great Britain, 2005*	To explore ethical issues encountered by physiotherapists in in-patient rehabilitation	Four interviews n=10 physiotherapists	Three themes were identified: physiotherapists' competence and skills, experience of moral distress and multiprofessional cooperation.
Finch E., Geddes L. & Larin H. Canada, 2005	To explore the way in which physiotherapists integrate ethical issues into decisions and to identify ethical themes in physiotherapy.	Semi-structured interviews n=8 physiotherapists	Following themes were identified: the integration of ethical issues in the clinical decision-making process, patient welfare, professional ethos of the physiotherapist, and health care economics and business practices. Respondents described clinical situations involving ethical issues but rarely identified specific conflicting ethical issues.

**Appendix 1.** (cont.) Research on ethical problems encountered in physiotherapy 1980–2020

<b>Authors, country, year</b>	<b>Purpose</b>	<b>Method, Instrument</b>	<b>Results</b>
Delany CM Australia, 2007	To explore, how physiotherapists in private practice understand and interpret the meaning of informed consent	semi-structured interviews n=17 physiotherapists	Therapists' primary concern was to provide information that led to a (therapist-determined) beneficial therapeutic outcome, rather than to enhance autonomous patient choice
Poulis. I. Greece, 2007*	Issues in bioethics in physiotherapy	Editorial	Ethical issues specific to physiotherapy: there is no clear end point in physiotherapy, there is a close relationship between the physiotherapist and the patient, and the responsibility for the treatment also lies with the patient.
Carpenter C. & Richardson B. Great Britain, 2008	To evaluate the current knowledge in physiotherapy ethics	Narrative literature review n=27 research articles, 3 editorials	Interest in physiotherapy ethics has increased. Studies give similar results from ethical issues but the consistency is lacking in the research. Connecting theories of ethics in practice is incomplete.
Delany CM., Edwards I., Jensen GM. & Skinner E. Australia, 2010.	To define the ethical dimensions and emphasise the development of ethical knowledge in physiotherapy. A model of applied ethics is used, seeking to combine a practical clinical and ethical dimension.	Literature review	Gaps in knowledge regarding the application of ethical theories in practice. Telling stories, listening to them, and questioning clinical practice provides the first step in illuminating both visible and hidden perspectives on physiotherapy ethics, combining ethical theories and ethical knowledge with physiotherapists' experiences of ethical practice. Reflection on these stories offers new dimensions to understanding ethical issues and provides a method for physiotherapists to develop their own ethical practices.
Nalette E. USA, 2010*	To provide an ethical analysis of a typical patient case of constrained clinical practice, and to identify key moral principles and virtues fostering ethical physiotherapist practice.	Patient case scenario	Constrained clinical practice creates an ethical dilemma for physiotherapist. Being responsive to the patient's needs is a professional requirement of the physiotherapist as moral agent.
Swisher L. USA, 2010.	To identify different ethical decision-making methods used by physiotherapists, describe the differences between them, and compare the ethical decision-making of physiotherapists with other professions.	Instrument to assess ethical decision-making skills (the Defining Issues Test) n=537 physiotherapists and 12 experts in physiotherapy ethics.	The ethical decision-making skills of physiotherapists have been found to be lower compared to other health care professionals. Higher education level, ethics education, and the female gender were found to be associated with better ethical decision-making skills.

**Appendix 1.** (cont.) Research on ethical problems encountered in physiotherapy 1980–2020

<b>Authors, country, year</b>	<b>Purpose</b>	<b>Method, Instrument</b>	<b>Results</b>
Praestegaard J. & Gard G. Denmark, 2011.	To explore whether ethical issues rise during the first physiotherapy session in private practice	Semi-structured interviews n=21 physiotherapists	Four descriptive themes emerged: general reflections on ethics in physiotherapy; the importance of the first physiotherapy session; the influence of the clinical environment on the first session and; reflections and actions upon beneficence towards the patient within the first session.
Kulju K., Suhonen R. & Leino-Kilpi H. Finland, 2013.	To identify and describe ethical problems encountered by physiotherapists	Questionnaire Physiotherapists working in public health services n=116	Most of the physiotherapists encounter ethical problems weekly. They concern financial considerations, equality and justice, professionalism, unethical conduct of physiotherapists or other professions and patients' self-determination.
Praestegaard J. & Gard G. Denmark, 2013.	To explore the nature and scope of ethical issues as they are understood and experienced by physiotherapists in private practice	Semi-structured interviews n=21 physiotherapists	One main theme emerged: the ideal of being beneficent toward the patient. Here, the ethical issues uncovered in the interviews were embedded in three code-groups: 1) ethical issues related to equality; 2) feeling obligated to do one's best; and 3) transgression of boundaries
Praestegaard J., Gard G. & Glasdam S. Denmark, 2013.	How physiotherapists in Danish private practice, from an ethical perspective, perceive to practice physiotherapy.	Interviews n=21 physiotherapists	Four main themes are constructed: beneficence as the driving force; disciplining the patient through the course of physiotherapy; balancing between being a trustworthy professional and a businessperson; the dream of a code of practice
Drolet M-J. & Hudon A. Canada, 2015.	To discuss the ethical issues raised by private physiotherapy practice.	Literature review, n=39 texts	Physiotherapists rarely use ethical knowledge to analyse the ethical issues raised in their practice. Gaps exist in the theoretical frameworks currently used to analyse these issues. a four-part prism called the Quadripartite Ethical Tool (QET) was developed.
Hudon A., Drolet MJ. & Williams-Jones B. Canada, 2015.	To identify ethical issues encountered by physiotherapists in private practice settings and to identify potential solutions and recommendations to these issues	Literature review, 39 studies addressing ethical issues in a private practice context	Three main categories were detected: (1) business and economic issues (e.g., conflicts of interests, inequity, lack of time affecting quality of care); (2) professional issues (e.g., professional autonomy, clinical judgment, treatment effectiveness, professional conduct); and (3) patients' rights and welfare issues (e.g., confidentiality, power asymmetries, paternalism vs. patient autonomy, informed consent).

**Appendix 1.** (cont.) Research on ethical problems encountered in physiotherapy 1980–2020

<b>Authors, country, year</b>	<b>Purpose</b>	<b>Method, Instrument</b>	<b>Results</b>
Riendeau C., Parent-Houle V., Lebel-Gabriel ME., Gauvin P., Liu LY., Pearson I. & Hunt MR. Canada, 2015*	To increase understanding of how sports team physiotherapists experience ethical issues in their work.	Semi-structured interviews. n=11 physiotherapists	Ethical issues consisted of four themes: defining and maintaining professional boundaries, respectful and effective collaboration, seeking answers to ethical issues, e.g. by consulting a colleague, and making the best possible solutions.
Laliberté M., Williams-Jones B., Feldman DE. & Hunt M. Canada, 2017.	To investigate how public health outpatient physiotherapy department staff experience access to physiotherapy treatment from an ethical perspective.	Semi-structured individual interviews. n=13 physiotherapists	Physiotherapists balance between competing interests and values, and how to respond to outside influences, when making resource allocation decisions, striving to be a good professional in a non-ideal world. The organisation culture and the roles of the staff have influence on distribution of resources. Client's characteristics or outside constraints may affect queuing times or treatment duration.
Delany CM, Edwards I, Fryer C. Australia, 2019	How physiotherapists perceive, interpret, and respond to the ethical dimensions of practice	Purposive sampling of 88 members of national clinical special interest groups were recruited for focus group discussions.	Five themes were developed to represent the findings: (1) the working environment, (2) balancing diverse needs and expectation, (3) defining ethics, (4) striving to act ethically, and (5) talking about ethics
Cantu R. USA, 2019.	To identify groups who may be vulnerable to low perception of organisational ethical environment and to identify self-reported strategies to remedy these perceptions	An organisational ethics survey along with 2 open-ended questions n=340	Physiotherapists working in skilled nursing/assisted living environments had concerns regarding their ethical work environments: high productivity standards, aggressive coding/billing policies, decreased reimbursement, and increased insurance regulation. Management perceived their organisations to be more ethical than employees. Possible solutions included more frequent communication about ethics, greater professional autonomy, and increased training in business ethics.
Cantu R. USA, 2019	To determine how PTs in skilled nursing facilities (SNFs) viewed their ethical work environment, what ethical issues drove their views, and what solutions were identified	An organisational ethics survey along with 2 open-ended questions n=340	Physiotherapists working in SNFs had the lowest perceptions of ethical work environment. Their primary concerns were overutilisation issues, productivity standards, and billing and coding issues. Two primary themes regarding solutions were allowing PTs to be autonomous in their decision making and decreasing productivity standards.

\*manual search



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ISBN 978-951-29-8167-0 (PRINT)  
ISBN 978-951-29-8168-7 (PDF)  
ISSN 0355-9483 (Print)  
ISSN 2343-3213 (Online)