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WHISTLEBLOWING FOR WRONGDOING IN HEALTH CARE

From identification to action

Johanna Wiisak

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University of Turku

Faculty of Medicine
Department of Nursing Science
Nursing Science
Doctoral programme in Nursing Science

Supervised by

Professor, Helena Leino-Kilpi
Faculty of Medicine
Department of Nursing Science
University of Turku
Turku, Finland

Professor, Riitta Suhonen
Faculty of Medicine
Department of Nursing Science
University of Turku
Turku, Finland

Reviewed by

Professor, Eija Paavilainen
Faculty of Social Sciences/Health Sciences
Department of Health Sciences
Tampere University
Tampere, Finland

Title of Docent, Lauri Kuosmanen
Faculty of Health Sciences
Department of Nursing Science
University of Eastern Finland
Kuopio, Finland

Opponent

Professor, Marit Kirkevold
Faculty of Medicine
Department of Public Health Science
University of Oslo
Oslo, Norway

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“The world is a dangerous place,
not because of those who do evil,
but because of those who look on,
and do nothing.”

Albert Einstein

To all my nearest and dearest
Tero
Daniel, Ilona and Patrik

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ABSTRACT

The purpose of this multi-method study was to analyse whistleblowing for wrongdoing in health care as perceived by health care professionals. Based on the analysis, a conceptual model of reasoning for whistleblowing in health care was developed, as an overall goal of this study. In addition, based on the results, suggestions for stakeholders and researchers are presented to prevent and decrease wrongdoing and support individual whistleblowing in health care. The study was divided into descriptive (Phase I) and explorative (Phase II) phases.

In **Phase I**, data were collected by a cross-sectional survey, among health care professionals recruited via email from the national Finnish trade union. Whistleblowing in Health Care (WIHC) instrument was used, producing statistical data (n=278, sub-data I) and written narratives (n=226, sub-data II). In **Phase II**, data were collected via email among nurses from the national membership register of the Finnish Nurses' Association. Nurses Moral Courage Scale© (Numminen et al. 2019), the video vignette of the care situation and an open question about that situation, were used, producing written narratives (n=244, sub-data III), and written narratives (n=706) of which the narratives and statistical data (n=454), were included in sub-data IV. The analysis consisted of grounded theory approach and descriptive correlational analysis.

First, according to literature, the concepts of the phenomenon of whistleblowing for wrongdoing were defined and described and then organised into a whistleblowing process. In **Phase I**, the manifestation of wrongdoing and the whistleblowing process in health care were described. In **Phase II**, a theoretical construct of reasoning for whistleblowing was created composing dimensions and patterns of reasoning and the core category. In addition, the whistle-blower as the actor, based on their background variables and moral courage, was identified.

The conceptual model of reasoning for whistleblowing was developed using integrative approach of exploring the phenomenon through multiple sources and theorising. The results of the study can be implemented both in the nursing and health care practices, management and education, for preventing and decreasing wrongdoing. The results also produce new theoretical understanding on the phenomenon of whistleblowing for wrongdoing.

KEYWORDS: Conceptual model, health care, health care professional, multi-method research, reasoning, whistle-blower, whistleblowing, wrongdoing

TURUN YLIOPISTO
Lääketieteellinen tiedekunta, Hoitotieteen laitos
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TIIVISTELMÄ

Tämän monimenetelmätutkimuksen tarkoituksena oli analysoida väärinkäytösten paljastamista terveydenhuollossa terveydenhuollon ammattilaisten näkökulmasta. Analyysin perusteella kehitettiin käsitteellinen väärinkäytösten paljastamisen päättelymalli terveydenhuollossa, joka oli tämän tutkimuksen päätavoitteena. Lisäksi tulosten perusteella esitetään sidosryhmille ja tutkijoille ehdotukset väärinkäytösten ehkäisemiseksi ja vähentämiseksi sekä väärinkäytösten paljastajien tukemiseksi terveydenhuollossa. Tutkimus toteutettiin kahdessa vaiheessa.

Tutkimuksen ensimmäisessä vaiheessa aineisto kerättiin poikkileikkaustutkimuksella, jossa terveydenhuollon ammattilaiset rekrytoitiin sähköpostitse kansallisen ammattiyhdistyksen jäsenistä. Whistleblowing (WIHC) -kyselylomakkeella kerätty aineisto tuotti tilastollista aineistoa (n=278, alajoukko I) ja narratiivista tietoa (n=226, alajoukko II). Tutkimuksen toisessa vaiheessa aineisto kerättiin sairaanhoitajilta, jotka rekrytoitiin sähköpostitse ammatillisen yhteisön Sairaanhoitajat jäsenistä. Aineisto kerättiin Hoitotyöntekijän moraalisen rohkeuden -mittarilla (Nurses' Moral Courage Scale©, Numminen et al. 2019) ja video vignettemenetelmällä, esittämällä video hoitotyön tilanteesta ja avoimella kysymyksellä siihen liittyen. Aineisto tuotti narratiivista tietoa (n=244, alajoukko III). Neljäs alajoukko IV muodostui narratiiveista (n=706), joista poimittiin tilastollinen ja narratiivinen aineisto (n=454).

Aluksi ilmiötä määriteltiin ja kuvattiin kirjallisuuden perusteella ja käsitteistä muodostettiin väärinkäytösten paljastamisen prosessi, jonka ilmenemistä terveydenhuollossa kuvattiin ensimmäisen vaiheen tuloksissa. Toisessa vaiheessa luotiin väärinkäytösten paljastamisen päättelyn teoreettinen rakenne, joka muodostui käsitteen ulottuvuuksista, päättelyketjuista ja ydin kategoriasta. Lisäksi väärinkäytösten paljastaja tunnistettiin taustamuuttujiensa ja moraalisen rohkeutensa perusteella. Käsitteellinen väärinkäytösten paljastamisen päättelymalli kehitettiin integroivalla lähestymistavalla, tutkimalla ilmiötä useiden tiedonlähteiden avulla ja teoretisoimalla. Tutkimuksen tuloksia voidaan hyödyntää hoitotyössä ja terveydenhuollossa sekä johtamisessa ja koulutuksessa väärinkäytösten ehkäisemiseksi ja vähentämiseksi. Tulokset tuottavat myös uutta teoreettista ymmärrystä väärinkäytösten paljastamisen ilmiöstä.

AVAINSANAT: Käsitteellinen malli, monimenetelmätutkimus, väärinkäytösten paljastaminen, päättely, terveydenhuollon ammattilainen, terveydenhuolto, väärinkäytösten paljastaja, väärinkäytös

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Abbreviations

ALLEA	All European Academies
AVI	Regional State Administrative Agency
COPE	Committee on publication ethics
ETENE	National Advisory Board on Social Welfare and Health Care Ethics
EU	European Union
ICN	International Council of Nurses
NMC	Nursing & Midwifery Council
NMCS	Nurses' Moral Courage Scale
OECD	Organisation for Economic Co-operation and Development
TEHY	The Union of Health and Social Care Professionals in Finland
TENK	The Finnish National Board on Research Integrity
Valvira	National Supervisory Authority for Welfare and Health
WHO	World Health Organization
WMA	World Medical Association

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 Pohjanoksa J, Stolt M, Suhonen R, Löyttyniemi E & Leino-Kilpi H. Whistle-blowing process in health care: From suspicion to action. *Nursing Ethics*, 2019; 26 (2): 526–540.

II Pohjanoksa Johanna, Stolt Minna, Suhonen Riitta & Leino-Kilpi Helena. 2019. Wrongdoing and whistleblowing in healthcare. *Journal of Advanced Nursing*, 2019; 75: 1504–1517.

III Wiisak J (former Pohjanoksa), Suhonen R & Leino-Kilpi H. Reasoning for whistleblowing in health care. *Scandinavian Journal of Caring Sciences,* 2022; 00: 1–12.

IV Wiisak J (former Pohjanoksa), Suhonen R & Leino-Kilpi H. Whistle-blowers – Morally courageous actors in health care?. *Nursing Ethics*, 2022; 29(6): 1415–1429.

1 Introduction

This study is in the field of health sciences and professional ethics. The special interest is in the phenomenon of whistleblowing for wrongdoing in health care as a value-based action. Wrongdoings that occur globally in health care, are actions that are counter to the values and principles of professional ethics. They are usually done intentionally and can cause severe harm to others, and at worst can increase the mortality of patients. Wrongdoings also increase overall health care costs. Furthermore, wrongdoings have been reported to increase during structural changes in health care. (Kennedy, 2001; Walshe & Shortell, 2004; Francis, 2013; Jackson, et al., 2014; Francis, 2015; Kirkup, 2015; Jack, et al., 2020; Jack, et al., 2021.) Health care professionals have a professional role in which they are responsible to society, and to people and their well-being, thus they are obliged by professional rules, ethical codes of conduct and legislation to address wrongdoings which may cause harm (International Council of Nurses (ICN), 2021; Nursing & Midwifery Council (NMC), 2018; Government of Ontario US, 1991; Legislation Government UK, 1999). There are also the expectations that health care professionals commit to their profession and professional standards to protect and ensure the ultimate good of patients (Beauchamp & Childress, 2001). In addition, health care professionals usually have a strong professional identity as being the advocates of patients; an identity that evolves during their professional education and that further develops throughout their working career (Orbe & King, 2000; Ahern & McDonald, 2002; Jackson, et al., 2010b; Moore & McAuliffe, 2012; Monrouxe, et al., 2014; Bickhoff, et al., 2017; Jack, et al., 2021). Whistleblowing is an individual professional's ultimate response to address wrongdoing. Prior to that action, they have often used other mechanisms or alternative means to end the wrongdoing but without success. (Mannion, et al., 2018; Blenkinsopp, et al., 2019.)

Whistleblowing began to manifest in the organisational literature during the early 1970's (Nader, et al., 1972) and in the health care context after the 1990's (Hunt, 1995). Whistleblowing has been a subject considered in the literature of many fields including: the administrative sciences (Near & Miceli, 1985), behavioural sciences, sociology (Hunt, 1998), political science (Ceva & Bocchiola, 2020), psychology, information systems, media studies, business, management, criminology, public policy and various branches of law (Brown, et al., 2014). Even though whistleblowing has

been an increasing interest in the health sciences and health care discussions (Hunt, 1995; Jackson, et al., 2014; Ion, et al., 2016; Jack, et al., 2020; Jack, et al., 2021), according to the literature review (see Chapter 3.1 and Figure 2), only six studies were discovered during the past seven years. In this study, whistleblowing located in health care has been examined as both whistleblowing and wrongdoing may increase overall health care costs, decrease the quality of care, increase the moral distress of health care professionals and eventually decrease their work well-being. These factors may eventually lead to individuals leaving their profession, thereby worsening the already existing shortage of professionals in health care. (Francis, 2013; Francis, 2015; World Health Organization (WHO), 2016.) Therefore, whistleblowing and wrongdoing can have tremendous effects on labour policy.

Legislation and ethical guidelines determine the duties and responsibilities of health care professionals to intervene in wrongdoing (International Council of Nurses (ICN), 2021; Nursing & Midwifery Council (NMC), 2018; Government of Ontario US, 1991; Legislation Government UK, 1999). Despite these guidelines, many health care professionals do not necessarily intervene or lack the courage to intervene in wrongdoing (Jackson, et al., 2014). There should be structures in the organisations to encourage and support health care professionals whistleblowing and also alternative solutions before that. Even though some countries stated that they have appropriate structures for reporting which encourage a transparent and honest culture for open communication about wrongdoing, it appears that in health care, these structures can be inadequate or inconsistent. (Skivenes & Trygstad, 2010; Mannion, et al., 2018.) This may be because whistleblowing is probably not adequately identified or understood in health care (Francis, 2015). A conceptual model of reasoning for whistleblowing provides perspective and knowledge that can be used for developing ethics management in organisations, high quality health care and health care policy (Meleis, 2012; Mannion, et al., 2018).

In some countries, there is advanced legislation to protect the whistle-blower from negative consequences of whistleblowing (Transparency International, 2021). In addition, a growing interest to develop legislation to protect the whistle-blower has been identified (European Union, EU, 2019). The consequences of whistleblowing can be detrimental to the whistle-blower, in both their personal and professional lives, despite the fact, that they aim to do good through the whistleblowing and to end wrongdoing (Teo & Caspersz, 2011; Wilkes, et al., 2011). Whistleblowing often involves a considerable risk for the whistle-blowers (Kenny, 2019) and is considered to be altruistic and prosocial behaviour, that requires moral courage from the individual (Elliston, 1982; Dozier & Miceli, 1985; Miceli & Near, 1985; Miceli & Near, 1988; Miceli, et al., 1988; Lachman, 2008).

This study is situated at the interface between health sciences, professional ethics and health care. The study represents both basic and applied research as theoretically

it provides a conceptual model for a better understanding of the phenomenon of whistleblowing for wrongdoing and an abstract concept of reasoning. As applied research, the study provides suggestions to solve the basic problem of whistleblowing for wrongdoing and produce solutions to the problem. (Meleis, 2012; McEwen & Wills, 2014.) From a conceptual model of reasoning for whistleblowing could be learned, as whistleblowing is not desirable. In an ideal world it would not be needed as the wrongdoings could be prevented before they occur and there could be alternative solutions to whistleblowing.

The terms *model,* the *framework* and *theory* have been used interchangeably and the researchers (Chin, 1961; Dickoff & James, 1968; Artinian, 1982; Fawcett, 1988; Fitzpatrick & Whall, 1989; Kim, 1994; Kim, 2010; Meleis, 2012) use them in different ways. Some researchers do not differentiate these concepts, suggesting that conceptual systems, models or frameworks are developed for same goal or purpose (Dickoff & James, 1968). Prescriptive models, also referred to as practice theories (Jacox, 1974) or situation-specific theories (Meleis, 2012; McEwen & Wills, 2014). In this study, the term *conceptual model* is used as it is a central expression for developing a practice based model. (Dickoff & James, 1968; Meleis, 1997; Kim, 1994).

The purpose of this multi-method study was to analyse whistleblowing for wrongdoing in health care as perceived by health care professionals. Based on the analysis, a conceptual model of reasoning for whistleblowing in health care was developed, as an overall goal of this study. In addition, based on the results, suggestions for stakeholders and researchers are presented to prevent and decrease wrongdoing and support individual whistleblowing in health care. This study consisted of two phases and four sub-studies. (Figure 1.) A conceptual model of reasoning for whistleblowing was developed according to the steps of the integrative approach: ***exploring the phenomenon through multiple sources*** and ***theorising*** (Meleis, 1997)**.**

Firstly, ***the phenomenon*** of whistleblowing for wrongdoing was ***explored through multiple sources*** defined using interdisciplinary literature and dictionary definitions. Interdisciplinary literature searches were conducted in each four Sub-studies (I-IV) and Summary. (Chapter 2.) Secondly, the concepts describing the phenomenon of whistleblowing for wrongdoing were identified from the literature in health care context and as a result, they were organised into the whistleblowing process, and the whistle-blower as an actor (Chapter 3). In the descriptive **Phase I**, the manifestation of wrongdoing (Chapter 6.1) and the whistleblowing process in health care were described (Chapter 6.2). Then, to understand why whistleblowing happens, in the explorative **phase II**, a theoretical construct of reasoning for whistleblowing was created, including the core category, dimensions and patterns of reasoning (6.2.1). After this, the whistle-blower was identified by their background variables and moral courage (6.3).

Secondly, in the step of ***theorising*** (Meleis, 1997) the model of reasoning for whistleblowing was developed by integrating the literature, research results about wrongdoing and the whistleblowing process and a theoretical construct of reasoning for whistleblowing (6.5) (Figure 1).

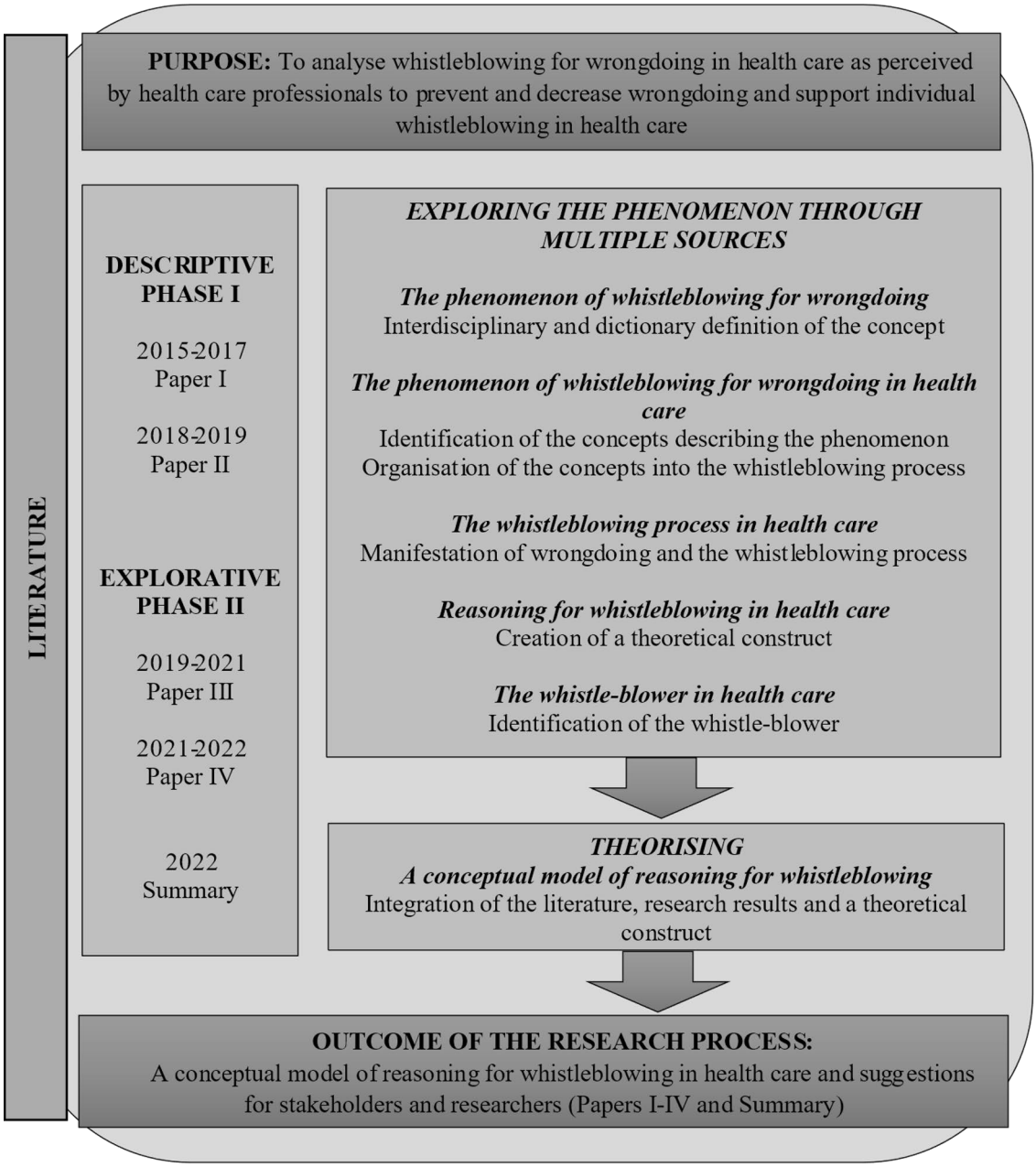

Figure 1. Research process with the steps of the integrative approach

2 Definition of the concepts

This chapter will present interdisciplinary and dictionary definitions of the phenomenon of whistleblowing for wrongdoing. First, wrongdoing and the concepts interchangeably used as synonyms with it (2.1) are generally defined according to the dictionary and whistleblowing literature. Following this, the concept of whistleblowing and the concepts that are used interchangeably with it as well as the whistle-blower are described with their background variables (2.2). Finally, the concepts of health care and health care professionals (2.3) are defined. This section was conducted to identify the phenomenon of whistleblowing for wrongdoing and defining the concept describing it from an interdisciplinary literature.

2.1 Wrongdoing

Wrongdoing is defined as illegal, dishonest, improper or evil action or behaviour (Merriam-Webster Dictionary, 2022; MOT Oxford Dictionary of English, 2022). Many concepts are used interchangeably as synonyms, to varying degrees, with wrongdoing in whistleblowing literature and in different contexts. All of these concepts refer to illegal activities such as crime, lawbreaking and corruption or to unethical behaviour such as immorality, misconduct or malpractice (MOT Oxford Thesaurus dictionary, 2022); in addition, one feature that is a common characteristic is that they are usually done intentionally and are harmful to third parties (Mansbach, 2009). (Table 1.) When wrongdoings occur in the context of whistleblowing, they occur within some particular organisation, whether it is a business or health care organisation (Dozier & Miceli, 1985; Miceli & Near, 1985; Near & Miceli, 1985).

Wrongdoings which occur within organisations are defined as unethical, illegal or illegitimate organisational practices or activities carried out by employees or managers (Dozier & Miceli, 1985; Miceli & Near, 1985; Near & Miceli, 1985). The seriousness of various wrongdoing such as corruption or bribery, determine the level of threat that wrongdoing causes the organisation or public (Mansbach, 2009). Wrongdoings can occur as one or more acts or as a continuous activity, committed by at least one member of an organisation where the wrongdoing takes place; these acts or activities are viewed as wrong by another person. However, wrongdoing is not always an action or an organisational practice, but can potentially be the result

of inaction or the neglect of civic, professional or moral duties. The wrongdoers are those employees or managers that engage in such wrongful activity. (Near & Miceli, 1985; Kumar & Santoro, 2017.)

Wrongdoer's power and status may influence the protection or sanctions they receive from co-workers or the organisation. The power bases of wrongdoers are their charisma, expertise and coercive power or credibility within the organisation. (Near & Miceli, 1995.) In addition, there may be multiple wrongdoers that engage in or contribute to the wrongdoing and this is then called collective wrongdoing (Boot, 2019).

When wrongdoing is collective, complicit employees or managers contribute to the wrongdoing and therefore they are accountable for the harm that the wrongdoing causes. Individuals may contribute to the wrongdoing by some form of direct participation or by standing by and remaining silent. One of the examples of collective wrongdoing is organisational wrongdoing. (Boot 2019.)

Organisational wrongdoings such as shortcomings in policies or operations are harmful to the organisation. However, they can potentially be beneficial to the organisation, making them dependent on wrongdoing (Near & Miceli, 1995; Hedin & Månsson, 2012.) Sometimes an organisational culture allows the normalisation of deviance, thus creating a slippery slope that means the gradual erosion of ordinary procedures and acceptable standards. This creates a culture that slowly accepts and normalises wrongdoing and abnormal activity in the organisations; this also occurs in health care. (Vaughan, 1996; Jones & Kelly, 2014.)

Wrongdoing in health care context

Wrongdoing is defined in a corresponding way in the health care context as in the other fields described previously. Wrongdoing is defined as immoral, illegal, or illegitimate action (Orbe & King, 2000; Ohnishi, et al., 2008). However, instead of defining the concept itself wrongdoing is sometimes defined using the actual incident of wrongdoing such as threats, abuse, incompetency or unsafe practises (Orbe & King, 2000; Davis & Konishi, 2007). In addition, wrongdoing is used interchangeably as a synonym with several other concepts such as **misconduct, malpractice, negligence, inadequate** or **poor care** (Jackson, et al., 2014; Mannion, et al., 2018). However, both a common definition of these concepts is lacking and a uniform use in the literature. These concepts are briefly described in the following paragraphs and Table 1.

Misconduct is defined as improper or unacceptable behaviour, especially by a professional or employee (MOT Oxford Dictionary of English, 2022), intentional wrongdoing, mismanagement (Merriam-Webster Dictionary, 2022) or illegal behaviour (Merriam-Webster Thesaurus, 2022). Misconduct is often referred to as

an act of professional misconduct (LaDuke, 2001; Searle, et al., 2017; Mannion, et al., 2018), an intentional action that violates the norms of the organisation and threatens the wellbeing of the organisation, the employees or those receiving services (Robinson & Bennet, 1995).

Malpractice is defined as an illegal, injurious, improper or negligent practice or professional behaviour (Merriam-Webster Dictionary, 2022; MOT Oxford Dictionary of English, 2022). Malpractice is identified in professionalism as a failure to exercise professional skills, services or dereliction of professional duties (Merriam-Webster Dictionary, 2022). Malpractice is often used to refer to medical malpractice that normally involves medical errors. In addition, it is normally used in the context of legislation as malpractice claims or allegations. (Gittler & Goldstein, 1996.) The occurrence of malpractice requires the presence of four elements: professional duty, a breach of duty such as a breach of the standard of care, an injury to the patient with the causation of the injury being the result of inappropriate or careless behaviour on the part of the health care professional. This definition suggests that malpractice goes beyond negligence and includes harm to patients but excludes harm to others. (Rundio, et al., 2016; Gittler & Goldstein, 1996.)

Neglect is defined as a failure to take care or doing something without the usual precautious a prudent person would take (Merriam-Webster Thesaurus, 2022). In health care, neglect is defined as the responsible health care professional's failure to take care and to respond adequately to the needs of the patient (Malmedal, et al., 2009a). In addition, neglect is sometimes considered as a type of wrongdoing that is often connected with the concept of abuse (King, 1997; Malmedal, et al., 2009b; Ion, et al., 2016) and constitute inadequate or poor care (Malmedal, et al., 2009a; Ion, et al., 2016; Jack, et al., 2021).

Inadequate and poor care are defined through the two concepts, inadequate and poor. Inadequate is defined as not meeting particular needs (MOT Oxford Thesaurus dictionary, 2022), not good enough or not adequate and poor is defined as less than adequate (Merriam-Webster Dictionary, 2022), falling short of standard or low quality (Merriam-Webster Thesaurus, 2022). In health care literature, there is no agreed definition of these concepts, however, they are usually collocated with care and refers to not meeting the care and needs of the patient (Malmedal, et al., 2009b) or the standards or quality of care (Blenkinsopp, et al., 2019), and mainly imply abuse or neglect. There is inconsistency in whether inadequate or poor care can be seen as a result of unintentional or intentional action (Malmedal, et al., 2009b; Ion, et al., 2016). These concepts exclude those wrongdoings that are directed to someone else or something other than the patient or patient care.

Wrongdoing concept seems to have the most clear and uniform definition, which is often used as an umbrella term in whistleblowing literature (Dozier & Miceli, 1985; Near & Miceli, 1985; King, 1997; Ohnishi, et al., 2008). Therefore, this study

is about whistleblowing on wrongdoings which are defined here as unethical, illegitimate or illegal activities or organisational practices that are intentionally done by health care professionals or health care managers. Many health care professionals witness intentional wrongdoing that harms a third party. Some employees choose to respond to their observations of wrongdoing when others decide to remain silent. (Mansbach, 2009.) One of the means to detect, end and prevent wrongdoing in organisations is whistleblowing (Kumar & Santoro, 2017; Blenkinsopp, et al., 2019).

Table 1. Concept of wrongdoing and synonyms used interchangeably with it and their definitions with references.

Concept	Definition of the concept	References
Wrongdoing	An immoral, illegal, illegitimate, dishonest, improper or evil action or behaviour, lawbreaking, immorality, misconduct, malpractice	Merriam-Webster Dictionary 2022, Oxford Dictionary of English Dozier & Miceli 1985, Miceli & Near 1985, Near & Miceli 1985, King 1997, Ohnishi et al. 2008
Misconduct	An improper or unacceptable behaviour, especially by a professional or employee, intentional wrongdoing, mismanagement or illegal behaviour	Oxford Dictionary of English 2022, Merriam-Webster Dictionary 2022, Oxford Thesaurus dictionary 2022 Robinson and Bennett, 1995, LaDuke 2001, Searle et al. 2017, Mannion et al. 2018
Malpractice	An illegal, injurious, improper or negligent practice or professional behaviour Often used as a medical malpractice that normally involves medical errors Normally used in the context of legislation as malpractice claims or allegations	Oxford Dictionary of English 2022, Merriam-Webster Dictionary 2022 Gittler & Goldstein 1996, Rundio et al. 2016
Neglect	A failure to take care or do something that a cautious or prudent person usually takes A failure of professional, responsible to take care and to respond adequately to the needs of the patient One type of wrongdoing often used with the concept of abuse Constitute inadequate or poor care	Merriam-Webster Thesaurus 2022 King 1997, Malmedal et al. 2009, Ion et al. 2016, Jack et al. 2021
Inadequate or poor care	Inadequate: not meeting particular needs, not good enough or not adequate Poor: less than adequate, falling short of standard or low quality In the health care inadequate or poor care refers to not meeting the care and needs of the patient or the standards or quality of care, mainly abuse or neglect	Oxford Thesaurus Dictionary 2022, Merriam-Webster Dictionary 2022, Merriam-Webster Thesaurus 2022 Malmedal et al. 2009, Ion ate al. 2016, Blenkinsopp et al. 2019

2.2 Whistleblowing for wrongdoing

Definition of the concept

Whistleblowing as a concept began to manifest in the literature in an organisational context in the early 1970s (Nader, et al., 1972). In the health care context, it began to emerge in the 1990s (Hunt & Shailer, 1995). Whistleblowing (noun) is defined as the activity of informing on someone, putting a stop to something or preventing certain actions (Collins English Dictionary – Complete and Unabridged, 12th Edition, 2014). (Table 2.) Elsewhere, it is suggested that whistleblowing is a derivative of the whistle-blower concept (MOT Oxford Dictionary of English, 2022). In addition, instead of whistleblowing, some dictionaries offered a definition of the whistle-blower (Merriam-Webster Thesaurus, 2022). However, the verb, to blow the whistle on, was defined as to as calling official or public attention to something such as wrongdoing, to reveal the true nature of something (Merriam-Webster Dictionary, 2022) or to provide information in order to end an illicit activity (MOT Oxford Dictionary of English, 2022). The concept of whistleblowing is said to originate from the practice of English police officers blowing a whistle when they observed a crime, to attract the attention of the public or other police officers (Dasgupta & Kesharwani, 2010; Mannion, et al., 2018). The other suggestion for the etymology of whistleblowing is that it is from sports game where the referee blows a whistle after observing a violation of the rules of the game (Mannion, et al., 2018).

Whistleblowing is defined either as one act of disclosure (Nader, et al., 1972) or as an extensive process. One of the most common definitions of whistleblowing is Near and Miceli's (1985.) In their definition, whistleblowing means disclosing wrongdoing by a current or former member of the organisation to someone capable of effecting and correcting the action (Near & Miceli, 1985; Hedin & Månsson, 2012; Jackson, et al., 2014). Whistleblowing can be addressed internally inside the organisation where wrongdoings occur, to a person or party such as the managers or externally outside the organisation to parties such as the media or the regulatory authorities (Near & Miceli, 1985; Jackson, et al., 2014).

External whistleblowing is suggested as being the only true case of whistleblowing as the whistleblowing acts addressed internally do not entail similar process (Janis & Mann, 1977; Farrell & Petersen, 1982; Ion, et al., 2015; Ion, et al., 2016); however, in contrast, some studies present that internal whistleblowing, raising concerns or speaking-up entails a same process to external whistleblowing (Hirchman, 1970; Nader, et al., 1972; Elliston, 1982; Miceli & Near, 1992; Mannion, et al., 2018; Blenkinsopp, et al., 2019). Nonetheless, whistleblowing, whether it is internal or external, involves a remarkable risk of retaliation for the whistle-blower (Near & Miceli, 1985; Jackson, et al., 2014). Whistleblowing can be performed

anonymously internally or externally. However, anonymous whistleblowing is described as potentially increasing the difficulty of the complaint recipient to acquire additional information about the wrongdoing and can hinder the credibility of the whistleblowing complaint. (Elliston, 1982; Miceli, et al., 1988.) (Table 2.)

Concepts used interchangeably as synonyms for whistleblowing

Concepts used interchangeably as synonyms for whistleblowing were identified as **report, reporting, speak(ing) -up, speak(ing) out** and **raising concerns**. In health care especially, raising concerns or speaking up are becoming more commonly used as the term whistleblowing is considered to have negative connotations (Jones & Kelly, 2014; Rauwolf & Jones, 2019). However, there is no consensus about the use of these concepts or their definitions (Attree, 2007; Francis, 2015; Mannion, et al., 2018). In the following two paragraphs, these interchangeably used synonyms are defined briefly (Table 2).

Report and reporting are defined as to give a formal or informal oral or written account or to serve as a carrier of a message (MOT Oxford Thesaurus dictionary, 2022). The concept of reporting is used in health care as reporting poor or inadequate care, concerns (Ion, et al., 2016), incidents (Moore & McAuliffe, 2010) or peer wrongdoing (Beckstead, 2005). The verb to report is often used in whistleblowing literature to describe the whistleblowing activity i.e. to report wrongdoing (Orbe & King, 2000; Mesmer-Magnus & Viswesvaran, 2005; Mansbach & Bachner, 2010; Skivenes & Trygstad, 2010; Moore & McAuliffe, 2012). As reporting can be both oral or written, speaking up or out is defined as an oral expression of one's opinions freely about the truth and justice (Merriam-Webster Thesaurus, 2022). It means communicating concerns of patient safety through questioning, opinions or information, where action is needed immediately to avoid patient harm (Schwappach & Richard, 2018). **Speak(ing) -up or speak(ing) out** is considered as a lighter version of whistleblowing and as one type of raising concerns (Francis, 2015; Ion, et al., 2016; Mannion, et al., 2018; Merriam-Webster Thesaurus, 2022). (Table 2.)

Raising concerns was not identified from the dictionaries as such. However, the verb to raise is defined as to bring something up or forward for discussion, consideration or debate and concern (noun) as an uneasy state of mind over a possible or anticipated troubling situation (Merriam-Webster Thesaurus, 2022). Raising concerns is considered to include both informal and formal reporting channels and as a means of reporting unintentional or intentional errors or wrongdoing (Jones & Kelly, 2014; Francis, 2015; Ion, et al., 2015; Mannion, et al., 2018). It is considered to include whistleblowing and speaking up. However, sometimes in the literature raising concerns implies an escalation from raising concerns into whistleblowing (Francis, 2015) whereas other literature refers to raising concerns as synonymous with whistleblowing (Jones & Kelly, 2014; Ion, et al., 2016). (Table 2.)

Table 2. Concept of whistleblowing and synonyms used interchangeably with it and their definitions with references.

Concept	Definition of the concept	References
Whistleblowing (noun)	Derivative of whistle-blower The practice of informing on someone or putting a stop to something An effective way to detect and prevent harm A disclosure of wrongdoing by a current or former member of the organisation to someone capable to effect and correct the action One act of disclosure or a process One type of activity for raising concerns A form of truth-telling in the workplace A formal reporting for wrongdoing	Oxford Dictionary of English 2022, Collins English Dictionary – Complete and Unabridged, 12th Edition 2014 Elliston 1982, Near & Miceli 1985, Mansbach 2009, Jones & Kelly 2014, Francis 2015, Weiskopf & TobiaMiersch 2016, Mannion et al. 2018, Transparency International 2021
Blow the whistle on (verb)	To call official attention or public to something such as wrongdoing To reveal the true nature of something To inform to end an illicit activity	Merriam-Webster Dictionary 2022, Oxford Dictionary of English 2022
Report/ reporting (verb)	To give a formal or informal oral or written account To serve as a carrier of a message Used in health care as reporting poor or inadequate care, concerns or incidents	Merriam-Webster Thesaurus 2022, Oxford Thesaurus Dictionary 2022 Moore & McAliffe 2012, Ion et al. 2016
Speak up/out	To express one's opinions freely about the truth and justice Considered as a lighter version of whistleblowing and as one type of raising concerns Communicating concerns of patient safety through questioning, opinions or information, where action is needed immediately to avoid patient harm	Merriam-Webster Thesaurus 2022 Francis 2015, Ion et al. 2016, Mannion et al. 2018, Schwappach & Richard 2018
Raising concerns	Not identified in the dictionaries as such Raise (verb) is defined as to bring up or forward for discussion, consideration or debate Concern (noun) is defined as an uneasy state of mind over a possible anticipated trouble Considered to include whistleblowing and speaking up Sometimes imply an escalation from raising concerns to whistleblowing Includes informal and formal reporting channels Reporting of unintentional or intentional errors or wrongdoing	Merriam-Webster Thesaurus 2022 Jones & Kelly 2014, Francis 2015, Ion et al. 2015, Mannion et al. 2018

One concept analysis of whistleblowing in a health care context was identified. It excluded all interchangeably used concepts, focusing only on whistleblowing. However, they ultimately suggested that there is a need for an analysis combining literature of the concepts such as speaking up, raising concerns or reporting wrongdoing with whistleblowing. (Gagnon & Perron, 2020.) In this study, whistleblowing for wrongdoing was chosen as the phenomenon under study as it clearly indicates disclosing of wrongdoing that is done intentionally; however, those studies that used concepts of speaking up or raising concerns were included. In addition, whistleblowing for wrongdoing is identified as interdisciplinary phenomenon in society in which the benefits are acknowledged. (Table 2.)

Benefits of whistleblowing

The benefits of whistleblowing are broadly identified as it is assumed to benefit **society** (Near & Miceli, 1995) by protecting the public good (Mansbach, 2009). Thus, the **public** will benefit when health endangering activity or acts are brought to light (Mansbach, 2007). In addition, whistleblowing provides information that serves and upholds public interest and accountability (Orr, 1995; Kumar & Santoro, 2017). It is acknowledged that societal cultures and organisational environments potentially influencing whistleblowing, differ (Ohnishi, et al., 2008; Miceli, et al., 2009). In some countries and cultures, whistleblowing is an employee's statutory right, protected by the constitution (e.g. Sweden) and a central tenet of democracy. While it is suggested that in some other countries and societies, where collectivism and group harmony are highly appreciated, whistleblowing is barely tolerated. (Park, et al., 2005; Ohnishi, et al., 2008; Cheng, et al., 2019.) Nonetheless, whistleblowing has been described as a modern form of parrhesia, a risky but courageous act, where an individual dares to speak the truth about wrongdoing to power (Foucault, 2001; Weiskopf & Tobias-Miersch, 2016; Weiskopf, et al., 2019). Parrhesia is a term for the granting of certain individuals the right to speak the truth in public and the right to actively participate in political life. In the workplace, whistleblowing as truth-telling is an interweaving of social, political and personal aspects. It is a beneficial practice in the workplaces of liberal democracies, where free speech, accountability and transparency are cultivated. (Mansbach, 2009.) Overall, whistleblowing is not only both a right to free speech and expression but also a duty regulated by legislation and ethical codes of conduct that benefits organisations, society and the public at large. (Near & Miceli, 1985; Ohnishi, et al., 2008; Hedin & Månsson, 2012).

The benefits of whistleblowing to **organisations** have been acknowledged as significant (Rauwolf & Jones, 2019). Whistleblowing is considered an effective tool for developing the organisation (Blenkinsopp, et al., 2019; Rauwolf & Jones, 2019) and improving organisational effectiveness (Near & Miceli, 1985). It attempts to

change questionable policies, illegitimate action and pave the way to social and cultural changes in the organisation (Bjørkelo & Madsen, 2013). In addition, whistleblowing disrupts *the status quo* and cultures of silence, often existing in hierarchical and bureaucratic organisations (Hedin & Månsson, 2012). The benefits of whistleblowing to organisations are numerous and therefore they are required to listen adequately and respond sufficiently to employees' whistleblowing for wrongdoing (Rauwolf & Jones, 2019), and thus prevent situations from escalating (Near & Miceli, 1995) as well as further wrongdoing (Blenkinsopp, et al., 2019). When organisations learn from whistleblowing, it has the potential to improve working conditions through a positive, constructive and supportive environment and open culture, thereby protecting both patients and employees (Attree, 2007; Jones & Kelly, 2014; Brown, et al., 2020).

The benefits of whistleblowing to **patients** and **employees** are that it aims to end wrongdoing leading to better patient outcomes and improving the safety and quality of health care as well as improving employee morale and well-being (Jackson, et al., 2014; Rauwolf & Jones, 2019). Whistleblowing is one of the means to ensure patients receive the acceptable standards of high-quality health care (Orbe & King, 2000; Francis, 2013; Ion, et al., 2016) and enables health care professionals to advocate for the patient (Ahern & McDonald, 2002; Jackson, et al., 2010b; Jack, et al., 2021). In addition, whistleblowing empowers employees when they do the right thing and act according to their own moral conscience and professional values and principles (Orbe & King, 2000; Attree, 2007; Moore & McAuliffe, 2012; Jones & Kelly, 2014; Ion, et al., 2015; Ion, et al., 2016).

Ethical perspectives of whistleblowing

Whistleblowing has been considered from ethical perspectives such as **utilitarianism, deontology** or **virtue ethics** (Elliston, 1982; Dozier & Miceli, 1985; Grant, 2002; Bolsin, et al., 2005; Kline, 2006). From the perspective of **utilitarianism**, whistleblowing is considered to produce the best overall result for everyone (Elliston, 1982) by looking at the consequences of the whistleblowing act. **Deontology** in contrast, considers that the act is judged on whether it, of itself, is good or not (De Cremer & Vandekerckhove, 2007), emphasising duties and rules (Vandekerckhove & Tsahuridu, 2010). However, of these definitions, virtue ethics is recognised to provide the most a well-suited normative foundation for health care whistleblowing (Faunce, et al., 2004; Bolsin, et al., 2005).

Whistleblowing is considered good because the whistle-blowers themselves are good, when viewing from the perspective of **virtue ethics** (Lachman, 2010). Unlike utilitarianism and deontology focusing on obligations, duties and consequences, virtue ethics emphasis the whistle-blower's virtuous characteristics and the whistle-

blower is seen as a virtuous person who has adopted or developed a consistent set of virtues, including moral courage (Sellman, 1997). Whistleblowing can be considered as one of the means to uphold the ideals and standards of a profession (Orbe & King, 2000; Lachman, 2008). The expectations are placed on health care professionals to commit to their profession and professional standards, rules and codes in order to protect and ensure the ultimate good of the patient (Beauchamp & Childress, 2001). Furthermore, through their professional role, they are accountable for society at large (International Council of Nurses (ICN), 2021). Health care needs professionals with moral courage to blow the whistle on wrongdoing (Lachman, 2008).

Moral courage is a highly valued and appreciated human virtue (Aristotle, 2004), very much required in health care practice (Numminen, et al., 2017). It is seen as standing behind one's beliefs as regard what is right and defending the moral end of professional caring, i.e. the patients' ultimate good (Gastmans, 2002; Numminen, et al., 2017; Numminen, et al., 2019). Moral courage has been discussed in health sciences and in nursing science since Florence Nightingale's era when a moral disposition became to be considered as an essential characteristic of a good and virtuous health care professional and nurse (Sellman, 1997). Moral courage as a part of an ethical competence of the individual, can be developed and strengthened through education (Aristotle, 2004; Numminen, et al., 2017; Sadooghiasl, et al., 2018; Poikkeus, et al., 2018). Moral courage is needed as whistleblowing means exposing one's inner self, emotions and values in order to stand for what one believes is right, thereby putting oneself under scrutiny by others (Sekerka & Bagozzi, 2007; Sekerka, et al., 2009; Numminen, et al., 2017; Sadooghiasl, et al., 2018). Furthermore, moral courage is an empowering way for health care professionals to tackle and alleviate moral distress caused by the inability to blow the whistle according to one's own and professional values and principles and advocating the patients (Iseminger, 2010; Lachman, 2010; LaSala & Bjarnason, 2010; Gallagher, 2011; Hawkins & Morse, 2014). Reflecting on moral courage as a human virtue, courageous behaviour such as whistleblowing for wrongdoing require rational deliberation, committing to professional principles and values, action, and risk-taking (Aristotle, 2004; Lachman, 2007). Therefore, whistleblowing for wrongdoing requires individual reasoning.

Reason and reasoning for whistleblowing

Reason and **reasoning** could both be nouns or verbs. As a noun, a reason is a statement, explanation or justification given to explain one's beliefs or activity and as a verb it refers to logically thinking, understanding and forming judgments. Both reason and reasoning as nouns are defined as the process or chain of logical thinking that leads to solution to problems. Reasoning as a verb means the action of thinking

about something in a logical, sensible way or the use of reason or having the ability to reason and reach a conclusion. (Aristotle, 2004; Merriam-Webster Dictionary, 2022; MOT Oxford Dictionary of English, 2022; MOT Oxford Thesaurus dictionary, 2022.) In this study, reasoning is considered as a verb of thinking logically by the whistle-blower. Several models and theories have been developed or used as frameworks to explore whistleblowing and reasoning for whistleblowing. (Table 3.)

Table 3. Concepts of reasons and reasoning and their definitions with references.

Concept	Definition of the concept	References
Reason (noun/verb)	A statement, explanation or justification given to explain a belief or action that frees one from fault or blame The process or chain of logical thinking as leading to solutions to problems To logically think, understand and form judgments	Merriam-Webster Dictionary 2022, Oxford Dictionary of English 2022, Oxford Thesaurus Dictionary 2022 Aristotle 2004
Reasoning (noun/verb)	The process or a chain of rational inquiry that has been established as leading to solutions to problems The action of thinking about something in a logical, sensible way The use of reason or having the ability to reason and reach a conclusion	Merriam-Webster Dictionary 2022, Oxford Dictionary of English 2022, Oxford Thesaurus Dictionary 2022 Aristotle 2004

Models and theories for whistleblowing and reasoning for whistleblowing research

Models and theories in the research about whistleblowing and reasoning for whistleblowing were identified. The power, justice and prosocial perspectives have dominated the whistleblowing models (Gundlach, et al., 2003). However, researchers have increasingly criticised these traditional perspectives and included intuition and emotions into their models (Gundlach, et al., 2003; Watts & Buckley, 2017). As whistleblowing has been considered to be prosocial behavior, Dozier and Miceli (1985), constructed a prosocial organisational behaviour model. Their model includes three phases: 1) observation of questionable activities and labelling them as wrong, 2) reacting to their observations of wrongdoing, and 3) deciding what action to take (Dozier & Miceli, 1985), the fourth phase was added later by Miceli and Near (1992) 4) organisation members reacting for whistleblowing (Miceli & Near, 1992). In addition, Near and Miceli (1995) have presented a model of effective whistleblowing, that concentrates on the factors influencing the outcomes of whistleblowing as termination of wrongdoing (Near & Miceli, 1995). Furthermore, some studies have used power models to explore whistleblowing for wrongdoing,

however, these models viewed the phenomenon from the perspective of organisation. (Near & Miceli, 1995; Skivenes & Trygstad, 2010).

Reasoning for whistleblowing has been explored in experimental studies using Piaget's theory of cognitive development which was originally developed for children moving through four different stages of learning (Piaget, 1932, reprint 1966). Other theory used to explore reasoning for whistleblowing is Kohlberg's theory of moral development, which developed Piaget's theory further. Originally, Kohlberg's theory focused also on children and their development of morality and moral reasoning. (Kohlberg, 1969.) It is suggested that individuals' high level of moral reasoning is associated with their willingness or intensions to blow the whistle (Arnold & Ponemon, 1991; Shawver & Shawver, 2018) and the propensity of blowing the whistle (Liyanarachchi & Newdick, 2009). The ethical decision-making model which consists of four components: recognition of moral issues, making judgment on whether the action is right or wrong, intention to act, related to motivation and prioritising values, and engaging in actual behaviour. (Rest, 1986). Treviño's (1986) interactionist model of ethical decision making in organizations aims to explain ethical decision making in organisations by the interaction of situational and individual components with the major component being Kohlberg's theory of individuals' moral development stages (Treviño, 1986). A dual processing model of moral whistleblowing was proposed by Watts and Buckley (2017). In their model, the dual-pathway component to the whistleblowing process is proposed to describe how moral intuition (i.e., irrational) and deliberative reasoning (i.e., rational) might interact to influence whistleblowing act. (Watts & Buckley, 2017).

Other models identified from the whistleblowing literature were Latané and Darley's (1968) model about the decision steps of the bystander (Latané & Darley, 1986), and Cavanagh, Moberg, and Velasquez's (1981) normative model of political behaviour in organisations (Cavanagh, et al., 1981). Gundlach, Douglas and Martinko (2003) developed a social information processing model by integrating justice, power, prosocial and emotion literature, and Jones, Spraakman and Sánchez-Rodríguez (2014) developed a model that integrated prosocial organisational behaviour model (Dozier & Miceli, 1985) with the emotional perspective on whistleblowing. In addition, Ajzen and Fishbein's (1980) theory of reasoned action which was further developed into a theory of planned behaviour has been adapted to whistleblowing research, however, it focuses on attitudes, norms, and perceived behavioural control. (Carpenter & Reimers, 2005; Park & Blenkinsopp, 2009). In contradiction to the whistleblowing models, MacGregor & Stuebs (2014) developed a decision-making model for "fallacious silence" a situation involving not blowing the whistle (MacGregor & Stuebs, 2014).

The models and theories identified from the literature included particularly relevant parts considering the purpose of this study and all of them provided various

perspectives for understanding the phenomenon of whistleblowing for wrongdoing. These models and theories strengthened the preliminary thought that reasoning has some role in understanding the phenomenon of whistleblowing for wrongdoing and why it happens. However, the overall structures of the models and theories were considered as somewhat inadequate to use in this study.

Whistle-blower

The concept of a **whistle-blower** is usually connected with professional activity (Alford, 1999; Weiskopf, et al., 2019) and is defined as an employee who reveals wrongdoing by other employees, or the organisation to the attention of a law enforcement agency or government authority (Merriam-Webster Dictionary, 2022; Merriam-Webster Thesaurus, 2022). In addition, a whistle-blower refers to an individual, who is a member of an organisation (current of former), where they observe wrongdoing and report it to someone capable of ending it (Near & Miceli, 1985; Mesmer-Magnus & Viswesvaran, 2005; Vandekerckhove & Tsahuridu, 2010). It is a characteristic of whistle-blowers that they lack the power and authority to end the wrongdoing by themselves (Elliston, 1982; Near & Miceli, 1985). However, the power of the whistle-blower along with their hierarchical position such as a managerial position, increase the probability for whistleblowing (Near & Miceli, 1985). Sometimes whistleblowing is a part of an individual's work description such as those of auditors or ombudsmen, in these cases, whistleblowing is not entirely voluntary (Dozier & Miceli, 1985; Near, et al., 1993), and they are usually considered as outsider whistle-blowers (Smaili & Arroyo, 2019). Whistle-blowers are described either in a positive or negative way (Weiskopf, et al., 2019). (Table 4.)

Table 4. Concept of the whistle-blower and its definitions with references.

Concept	Definition of the concept	References
Whistle-blower	An employee who reveals wrongdoing by other employer, employees or organisation to the attention of a law enforcement agency or government Commonly protected legally from retaliation An individual, a member (a current or former) of an organisation, where they observe wrongdoing and report it to someone capable of ending it "Ethical resisters" or moral and virtuous heroes Rats, traitors, villains, snitches or troublemakers	Merriam-Webster Dictionary 2022, Merriam-Webster Thesaurus 2022, Oxford Dictionary of English 2022 Near & Miceli 1985, Jasper 1997, Grant 2002, Mesmer-Magnus & Viswesvaran 2005, Lachman 2008, Vandekerckhove & Tsahuridu 2010

Whistle-blowers, in a positive way, are celebrated figures (Weiskopf, et al., 2019), “ethical resisters” (Jasper, 1997) or moral and virtuous heroes. Negatively, they are described as rats, traitors, villains, snitches (Grant, 2002) or troublemakers (Lachman, 2008). In addition, whistle-blowers often suffer negative consequences in their personal or professional life such as retaliation or loss of their employment (Dasgupta & Kesharwani, 2010; Bjørkelo, et al., 2011; Hedin & Månsson, 2012; Chen & Lai, 2014). However, the responses are sometimes positive ones such as the correction of the wrongdoing or personal rewards (Dasgupta & Kesharwani, 2010; Heumann, et al., 2013). The ways in which whistle-blowers are treated or spoken in an organisation often depends on prevailing culture or attitudes towards whistleblowing (Hedin & Månsson, 2012). These positive or negative framings affect the credibility of the whistle-blower and the effectiveness of their whistleblowing (Near & Miceli, 1995; Weiskopf, et al., 2019). Despite the potential negative consequences, some whistle-blowers are willing to take risks and their individual background variables may predict their whistleblowing (Bjørkelo, et al., 2010).

An individual’s background variables such as a higher educational degree (Mesmer-Magnus & Viswesvaran, 2005), longer work experience or working in a managerial position may increase their probability of becoming whistle-blowers (Moore & McAuliffe, 2010; Moore & McAuliffe, 2012). Furthermore, an individual is more likely to become a whistle-blower when their level of perceived social responsibility is high (Dozier & Miceli, 1985). In addition, individuals who have a personality with a high form of extraversion have been found to be more prone to becoming a whistle-blower (Bjørkelo, et al., 2010). It has been demonstrated that reporting wrongdoing is as its highest when the role identity of a health care professional is low (Grube, et al., 2010). However, individuals with low self-esteem are less likely whistle-blowers than those with adequate self-esteem (Near & Miceli, 1985). Moreover, those individuals with an internal locus of control are more likely to act than those having an external locus of control (Chiu, 2003). Individuals who allow others to influence their own opinions are less likely to become whistle-blowers than those who maintain their own opinions (Miceli, et al., 2012). An individual’s moral courage has the potential to increase their whistleblowing, and the individual variations in the levels of moral courage may increase individuals’ willingness to put themselves at risk and become whistle-blowers (Grant, 2002; Sekerka & Bagozzi, 2007; Sekerka, et al., 2009; Watts & Buckley, 2017).

The background variables of individuals associated with their level of moral courage were identified from the literature in health care contexts, although not in the whistleblowing literature. An individual’s sociodemographic age and gender are associated with moral courage, however, the knowledge regarding gender is inconsistent (Black, et al., 2014; Bickhoff, et al., 2016; Hauhio, et al., 2021;

Koskinen, et al., 2021). Furthermore, continuing education, additional ethics education, a previous degree in health care and a higher degree are all associated with moral courage, potentially strengthening it. (Bickhoff, et al., 2016; Koskinen, et al., 2021). In addition, longer work experience (Sadooghiasl, et al., 2018; Koskinen, et al., 2021), a management position (Hauhio, et al., 2021) and professional competence (Hanifi, et al., 2019; Koskinen, et al., 2021) can also strengthen an individual's moral courage. The frequency of situations which require moral courage (Hauhio, et al., 2021) and positive personal experiences (Numminen, et al., 2017; Sadooghiasl, et al., 2018) such as maintaining moral integrity when solving ethically problematic situations (Edmonson, 2015; Numminen, et al., 2017; Pajakoski, et al., 2021), ethical sensitivity (Escolar-Chua, 2018), accountability, responsibility (Hardingham, 2004; Gibson, et al., 2020; Nunthawong, et al., 2020) and compassion (Numminen, et al., 2017; Pajakoski, et al., 2021), as well as strong personal values (Kelly, 1998) seem to strengthen an individual's moral courage. There are also factors inhibiting an individual's moral courage. These factors are dissatisfaction with the nursing profession and nursing as career (Koskinen, et al., 2021) as well as a lack of confidence and power (Kelly, 1998) and a sense of moral distress (Escolar-Chua, 2018; Gibson, et al., 2020). Moral courage should be supported in situations that increase moral distress since it is an effective response to relieve and prevent moral distress (LaSala & Bjarnason, 2010). In this study, the whistle-blower refers to a health care professional who is either a nurse or allied health professional. Even though potential whistleblowing is explored in Phase II, for the consistency of this study, the potential whistle-blowers are referred to as the whistle-blowers.

2.3 Health care and health care professionals

The context of this study is Finnish health care which is based on public health care services, though there are also various private health care services operating in Finland. The private services are partially subsidised by public funds. In Finland, every citizen has a constitutional right to equal social, health and medical services. (EU-Healthcare.fi, 2022.) Health care structures and systems are in constant change globally (Francis, 2013; Australian Government, 2022), and Finland is not an exception in this respect. Health care reforms are needed to produce equal and equally accessible healthcare services, but also financial constraints and economic situation require these changes to produce health care services more efficiently. In Finland, there is a massive Health and social services reform ongoing at the moment, in which public health care, social welfare and rescue services will be reformed. Instead of municipalities, new counties for wellbeing services have been established which will be responsible for organising these services from 2023. (Finnish

Governement, 2022.) This study covered the health care services as primary health care and specialised medical care on a national level, in a situation where the municipalities were responsible for financing and organising these services.

In Finland, health care professionals have licenses or protected occupational titles. Licensing means that the health care professional has completed a health care degree and is authorised by the National Supervisory Authority for Welfare and Health (Valvira) to work in that particular profession and to use the occupational title. In Finland, there is a nationwide register which contain information about health care professionals, that is public and open to everyone (National Supervisory Authority for Welfare and Health (Valvira), 2016). This study included individuals working in nursing and allied health professions. In the first phase, the health care professionals were recruited from the membership register of the Union of Health and Social Care Professionals in Finland (Tehy), which includes over fifty different health care degrees and professions such as registered nurses, practical nurses, midwives, public health nurses, physiotherapists, radiographers. However, over fifty percent of these professionals are registered nurses. (The Union of Health and Social Care Professionals in Finland (Tehy), 2022). In the second phase of the study, health care professionals were recruited from the membership register of the Nurses' Association which members are registered nurses, public health nurses, nurse paramedics and midwives (Finnish Nurses Association (Sairaanhoitajat), 2022).

Nurses, as a group of health care professionals was chosen as participants for the study Phase II, as they represent the largest group of professionals in health care (World Health Organization (WHO), 2016) and in Finland, sharing similar education as bachelors graduated from the University of Applied Sciences (i.e. higher education) (The Union of Health and Social Care Professionals in Finland (Tehy), 2022). In addition, they have quite broad professional responsibilities and accountability in health care, sharing similar values and code of conduct and ideology (Nursing & Midwifery Council (NMC), 2018; International Council of Nurses (ICN), 2021). Therefore, it was considered that this group of health care professionals would provide knowledge about responsible action and reasoning.

3 Review of the literature

In this chapter, the existing scientific literature about whistleblowing for wrongdoing will be described. At first, the literature search (3.1) and overview of the studies will be presented (3.2). After that, the results of the literature review will be described as follows: wrongdoing (3.3), whistleblowing for wrongdoing (3.4) and whistle-blowers in health care (3.5). Finally, the summary of the results will be described, and any gaps in the knowledge presented (3.6).

The purpose of this literature review was to synthesise previous literature about whistleblowing for wrongdoing in health care. The research questions were as follows: I) What research has been conducted about whistleblowing for wrongdoing in health care?, and II) What is known about whistleblowing for wrongdoing in health care?. The initial literature search was conducted in December 2014 and 29 research articles (n=29) were discovered. The search was correspondingly updated for this summary in April 2022 to cover literature published during 2015-2022 and six new research articles (n=6) were discovered. In total, this review includes (n=35) research articles that were analysed with inductive content analysis (Graneheim & Lundman, 2004). In addition, interdisciplinary literature was searched in each of the four sub-studies, which are presented in original publications I-IV and Summary (Chapter 2).

3.1 Literature search

The literature search regarding whistleblowing for wrongdoing in health care was conducted following a systematic search protocol in three scientific databases including CINAHL EBSCOhost (Cumulative Index to Nursing and Allied Health Literature), PubMed/Medline (National Library of Medicine) and ScienceDirect (the source for scientific, technical, and medical research). The following search phrases were used: (whistle* AND ("health care" OR nurs* OR “allied health profession*” OR student)) for CINAHL and PubMed and ((whistleblowing OR "whistle-blowing" OR "whistle blowing" OR "blowing the whistle" OR "whistle blow") AND (“health care” OR nurse OR “allied health professional” OR student)) for ScienceDirect. (Figure 2.) The search strategy and search terms were discussed with a library informatics expert.

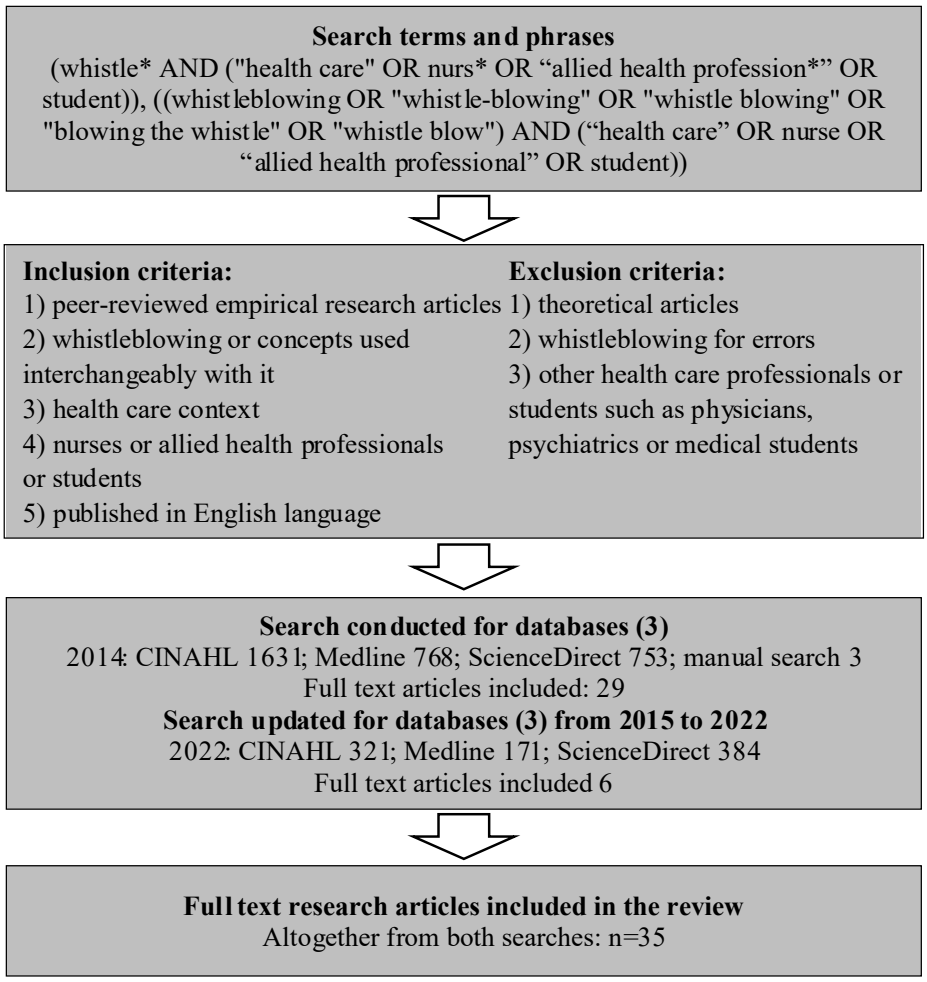

Figure 2. Literature search protocols of both, an initial and updated searches.

The following inclusion criteria were used: 1) the articles were peer-reviewed empirical research articles about 2) whistleblowing for wrongdoing or concepts used interchangeably as synonyms with this term 3) in the health care context 4) were from the perspective of nurses or allied health professionals or students and 5) the articles were published in the English language with, 6) an abstract and full text available. Articles were excluded if they were: 1) theoretical articles, literature reviews, books, dissertations, reports, editorials, opinions, discussion papers or grey literature, or if they were about 2) whistleblowing on errors or mistakes or if the whistleblowing was analysed 3) from the perspective of other health care professionals or students such as physicians, psychiatrics or medical students. (Figure 2.)

The literature search conducted in 2014 produced 3,152 citations and the updated search in 2022 produced 876 citations. All the citations were screened by the title and abstract if available yielding forty-six and eight (updated search) full text research articles for inclusion. Once the duplicates were removed, twenty-six research articles altogether were included and three were identified with a manual search, yielding twenty-nine research articles for inclusion. In addition, six research articles were included in the updated search. The results of all the included research articles (n=35) will be presented in the following summary. (Figure 2.)

3.2 An overview of the studies

Whistleblowing for wrongdoing in health care was explored in thirty-five research articles. Detailed information about the included articles is described in Appendix 1. The included articles were published between 1999 and 2021. Most of the studies were carried out in Europe (n=14) or in Australia (n=10), some were conducted in Western Asia (n=5) or in the USA (n=4) and a few studies in East Asia. In addition, two studies were carried out, in both countries Australia and the United Kingdom (Jack, et al., 2020; Jack, et al., 2021). (Appendix 1.)

The whistleblowing was studied mainly from the perspective of nurses (n=22) or nursing students (n=5) and one study included both. Some studies (n=6) included allied health professionals such as physiotherapists or physiotherapy students, dental or pharmacy students. In addition, one study included nurses, students, care assistants, managers and regulators. Most of the studies explored participants with real life experiences (n=27) of whistleblowing in health care either in the role of a whistle-blower or a non-whistle-blower or as the receiver of a whistleblowing complaint. However, in some studies, hypothetical scenarios were used (n=7) and one study explored whistleblowing from both real life and hypothetical perspectives. (Appendix 1.)

The study design was mostly a qualitative narrative inquiry (n=12) or a descriptive survey (n=11). An observational survey was the design in five (n=5), grounded theory in two (n=2) and an exploratory quantitative design in two (n=2) studies. Then single study designs were an experimental, a phenomenological and a qualitative/quantitative research design. The data collection methods were mainly questionnaires (n=21) or semi-structured interviews (n=12), focus group interviews were used in two studies. The data analysis methods were predominantly statistical (n=19), followed by thematic content analysis (n=7). In the single studies, grounded theory method, modified grounded theory, constant comparison, content analysis, categorical content analysis, framework analysis, discourse analysis and a phenomenological approach, were used. Both statistical and thematic analysis were used in one study. (Appendix 1.)

Wrongdoing and concepts used interchangeably as synonyms such as misconduct or poor care were mentioned in all the included articles (n=35), because whistleblowing requires something that is wrong that needs to be corrected (Orbe & King, 2000). Whistleblowing was a concept under study in most of the articles (n=21). Instead of whistleblowing, concepts of reporting (n=11), speaking out (n=1) or raising concerns (n=2) about wrongdoing or poor care, were used. (Appendix 1.)

Wrongdoing in health care was described or explored in over half of the articles (n=19). With regard to whistleblowing for wrongdoing, the reasons for whistleblowing or not blowing the whistle (n=21), the whistleblowing acts (n=16) and the consequences of the whistleblowing acts (n=17) were described or explored.

The background variables of the whistle-blowers were explored in six studies. One study identified and presented the whistleblowing process (Ohnishi, et al., 2008), another explored nurses' thinking processes when they make decisions about reporting wrongdoing (Beckstead, 2005) and one study examined the process of raising concerns (Jack, et al., 2021). In these studies, whistleblowing was identified as an emotional (Ohnishi, et al., 2008) and complex (Beckstead, 2005) process. In addition, raising or reporting concerns were mentioned as processes in some studies, but they were not defined more specifically (Ion, et al., 2015; Ion, et al., 2016; Brown, et al., 2020).

3.3 Wrongdoing in health care

In health care, various types of wrongdoings are intentionally committed or omitted by health care professionals, managers or organisation, and their actions are either suspected or observed by some other health care professional (King, 2001; Davis & Konishi, 2007; Ohnishi, et al., 2008; Jones & Kelly, 2014) (Table 5). Wrongdoings are usually related to patients, their care, health care professionals or the organisation (Ohnishi, et al., 2008). Wrongdoings related to patients occur in various forms such as malpractice, neglect, mistreatment, violence or abuse with the latter occurring as physical or financial abuse of the patient (Ahern & McDonald, 2002; Malmedal, et al., 2009a; Malmedal, et al., 2009b; Jones & Kelly, 2014; Jack, et al., 2021). In addition, patient safety issues or violations of patients' rights or their dignity have been observed in health care (Monrouxe, et al., 2014). Patient care related wrongdoing occur as poor, unacceptable, inadequate or unsafe care, referring usually to care, that does not meet the expected standards (Beckstead, 2005; Malmedal, et al., 2009a; Malmedal, et al., 2009b; Black, 2011; Jones & Kelly, 2014; Cole, et al., 2019; Jack, et al., 2020; Jack, et al., 2021). (Table 5.)

Wrongdoings related to health care professionals were described as health care professional's incompetence to perform the required tasks, substance or alcohol abuse, stealing narcotics or student abuse while they are on placement (Orbe & King,

2000; Beckstead, 2005; Monrouxe, et al., 2014). Moreover, the wrongdoings related to organisations included such things as hiring incompetent personnel, forging documents or accepting the wrong course of action and violating policies (Orbe & King, 2000; Ohnishi, et al., 2008; Jack, et al., 2021). (Table 5.)

Table 5. Whistleblowing for wrongdoing in health care in the reviewed studies (n=35).

Whistleblowing for wrongdoing	References, (author, year)
Wrongdoing in health care	
A Suspicion or an observation of wrongdoing Type of wrongdoing Frequency of wrongdoing observations	Orbe & King 2000, King 2001, Ahern & McDonald 2002, Beckstead 2005, Attree 2007, Davis & Konishi 2007, Ohnishi et al. 2008, Malmedal et al. 2009a & 2009b, McDonald & Ahern 2000, Moore & McAuliffe 2010 & 2012, King & Scudder 2013, Jones & Kelly 2014, Black 2011, Cole et al. 2019, Jack e al. 2020, Monrouxe et al. 2014, Jack et al. 2021
Whistleblowing for wrongdoing in health care	
Reasons for whistleblowing or not blowing the whistle	McDonald & Ahern 1999, Orbe & King 2000, King 2001, Ahern & McDonald 2002, Attree 2007, Davis & Konishi 2007, Ohnishi et al. 2008, Malmedal et al. 2009a, Jackson et al. 2010b, Mansbach et al. 2010, Black 2011, Moore & McAuliffe 2010 & 2012, King & Scudder 2013, Jones & Kelly 2014, Monrouxe et al. 2014, Ion et al. 2015 & 2016, Cole et al. 2019, Brown et al. 2020, Jack et al. 2020, Jack et al. 2021
Whistleblowing act Internal External	Orbe & King 2000, McDonald & Ahern 2000 & 2002, Attree 2007, Ohnishi et al. 2008, Malmedal et al. 2009a, Mansbach et al. 2010, Mansbach & Bachner 2010, Mansbach et al. 2012, 2013 & 2014, Black 2011, Moore & McAuliffe 2010 & 2012, King & Scudder 2013, Cole et al. 2019
Consequences of the whistleblowing act Positive Negative	McDonald & Ahern 1999, 2000 & 2002, Orbe & King 2000, Attree 2007, Ohnishi et al. 2008, Moore & McAuliffe 2010, Peters et al. 2011, Wilkes et al. 2011, Jackson et al. 2010a, 2010b, 2011 & 2013, Black 2011, Ion et al. 2015, Jack et al. 2020 & 2021
Whistle-blower in health care	Ohnishi et al. 2008, Malmedal et al. 2009a, Moore & McAuliffe 2010 and 2012, Mansbach & Bachner 2010, Mansbach et al. 2012 & 2014, Jack et al. 2021

The frequencies of the observations of wrongdoing in health care were described (Table 5). However, there was variation in the observation frequencies between different studies. One study described that only a minority (30 %) of health care professionals had observed wrongdoing during the past year (King & Scudder, 2013)

when another study reported that the majority (88 %) of the respondents, had observed an incident of poor care in the past six months (Moore & McAuliffe, 2010; Moore & McAuliffe, 2012). In addition, the majority of health care professionals were shown as having committed (87 %) or observed (91 %) at least one act of inadequate care (Malmedal, et al., 2009b). The most frequently observed wrongdoings were poor practice, health care professional's incompetence (57 %) (McDonald & Ahern, 2000; Moore & McAuliffe, 2010), management problems (37 %) (Moore & McAuliffe, 2010) and entering a patient's room without knocking first (84 %) (Malmedal, et al., 2009b). (Table 5.)

3.4 Whistleblowing for wrongdoing in health care

Whistleblowing in health care was defined as an act of disclosure (Jackson, et al., 2011) or as a process (Ohnishi, et al., 2008). Whistleblowing was sometimes considered as a negative concept and therefore some studies referred to whistleblowing as reporting or raising concerns (Jones & Kelly, 2014). The reasons for whistleblowing, whistleblowing act and consequences of the whistleblowing act were identified from the literature. In addition, reasons for not blowing the whistle were identified as being lack of courage and fear of the possible negative consequences in different forms to one's self as the main reasons. (Table 5.)

3.4.1 Reasons for whistleblowing

The reasons health care professionals gave for whistleblowing as identified in the literature were related to patients or their care or personal, professional, organisational or societal reasons. Moreover, the reasons may have been related to the severity of the wrongdoing where it threatened patient's well-being or violated the professional codes of ethics. (Table 6.) Health care professionals consider themselves as patients' advocates and many blew the whistle to protect the patients and their safety or aimed to ensure the quality of patient care (Orbe & King, 2000; Ahern & McDonald, 2002; Jackson, et al., 2010b; Moore & McAuliffe, 2012; Monrouxe, et al., 2014; Jack, et al., 2021).

Health care professionals' personal reasons for whistleblowing related to one's own morality (Orbe & King, 2000; Ohnishi, et al., 2008; King & Scudder, 2013; Jones & Kelly, 2014; Ion, et al., 2015; Ion, et al., 2016), personal attributes (Ion, et al., 2016) or fear of complicity (Ohnishi, et al., 2008). Individual ethical values, conscience and responsibility are described as the moral reasons for whistleblowing (Orbe & King, 2000; Ohnishi, et al., 2008; King & Scudder, 2013; Jones & Kelly, 2014; Ion, et al., 2015; Ion, et al., 2016). The personal attributes of health care

professionals such as strength, confidence or ambition were also given as the reasons for whistleblowing (Ion, et al., 2016).

Health care professionals' reasons for whistleblowing were sometimes related to their professional duty or responsibility to follow a code of conduct or other professional standard (Table 6). In addition, by blowing the whistle, health care professionals considered they were upholding ideals of the profession. (Orbe & King, 2000; Attree, 2007; Moore & McAuliffe, 2012; Ion, et al., 2015; Ion, et al., 2016).

Table 6. Reasons for whistleblowing in health care identified in the reviewed studies (n=35).

Reason	References (author, year)
Patient or care Patient advocacy Patient safety Patient protection Quality of patient care	Orbe & King 2000, Ahern & McDonald 2002, Jackson et al. 2010b, Moore & McAuliffe 2012, Monrouxe et al. 2014, Jack et al. 2021
Personal Moral and ethical values, conscience or responsibility Experiences Personal attributes Fear of complicity	Orbe & King 2000, Ohnishi et al. 2008, King & Scudder 2013, Jones & Kelly 2014, Ion et al. 2015 & 2016
Professional Duty or responsibility Code of conduct or other standards Upholding the ideals	Orbe & King 2000, Attree 2007, Moore & McAuliffe 2012, Ion et al. 2015 & 2016
Organisational Culture Management Support Policies and procedures	Orbe & king 2000, Attree 2007, Davis & Konishi 2007, Jones & Kelly 2014, Brown et al. 2020
Societal Legislation	Orbe & King 2000
Wrongdoing Severity Threat to patient Violations of professional codes of ethics	King 2001, Davis & Konishi 2007, Ohnishi et al. 2008, Malmedal et al. 2009a, Mansbach et al. 2010, King & Scudder 2013

The reasons health care professionals gave for whistleblowing related to organisations were specifically its positive culture and management (Table 6). In

addition, the support from the managers as well as supportive whistleblowing policies and procedures in the organisation were the reasons for whistleblowing (Orbe & King, 2000; Attree, 2007; Davis & Konishi, 2007; Jones & Kelly, 2014; Brown, et al., 2020). At a societal level, the health care professionals described obeying the legislation as one of the reasons for their whistleblowing (Orbe & King, 2000).

3.4.2 Whistleblowing act

A whistleblowing act was performed by the majority (~70 %) of the health care professionals who observed wrongdoing in health care (Moore & McAuliffe, 2010; Black, 2011; Moore & McAuliffe, 2012; Cole, et al., 2019). The whistleblowing act could be performed internally, inside the organisation or externally, outside the organisation, in various ways and to different parties or persons capable of ending the wrongdoing (Ohnishi, et al., 2008; Mansbach, et al., 2013). Health care professionals were described as facing difficulties in how to blow the whistle for wrongdoing (Attree, 2007), but they also described positive attitudes towards whistleblowing (Malmedal, et al., 2009a). Oral communication, written documents, formal complaints or informal discussions in the workplace were identified as different whistleblowing acts (Orbe & King, 2000). The majority (79 %) of the respondents performed the whistleblowing act verbally and only a few anonymously (3 %) (Moore & McAuliffe, 2010), however, over half (56 %) stated that the whistleblowing act should be anonymous (Moore & McAuliffe, 2012).

The whistleblowing act is preferably addressed internally rather than externally (Malmedal, et al., 2009a; Mansbach & Bachner, 2010; Mansbach, et al., 2010; Mansbach, et al., 2012; Mansbach, et al., 2013; Mansbach, et al., 2014). Internally, half (51 %) of the health care professionals spoke directly to the wrongdoer while the majority (ranging between 60-93 %) addressed the whistleblowing act to the manager, supervisor or the higher management (McDonald & Ahern, 2000; Orbe & King, 2000; McDonald & Ahern, 2002; Black, 2011; Cole, et al., 2019). Some health care professionals addressed the whistleblowing act externally and most often to health authorities (10 %) (McDonald & Ahern, 2000; Orbe & King, 2000). Only a few contacted the media regarding the whistleblowing. Health care professionals become whistle-blowers when they perform the whistleblowing act, but they may face various consequences. (Ohnishi, et al., 2008.)

3.4.3 Consequences of the whistleblowing act

Consequences of the whistleblowing act were positive or negative to the whistle-blower. The positive consequences for the whistle-blowers were mostly (39 %)

private praise or support (27 %) or their whistleblowing act was accepted. In addition, some whistle-blowers experienced positive emotions such as pride or relief after performing the whistleblowing act. (McDonald & Ahern, 2000; Attree, 2007; Ohnishi, et al., 2008; Moore & McAuliffe, 2010.)

The negative consequences of the whistleblowing act were related to whistle-blower's personal, professional or social lives (Orbe & King, 2000; Ion, et al., 2015). Personally, some whistle-blowers suffered emotional (Peters, et al., 2011) or physical consequences (McDonald & Ahern, 1999). In one study, nearly all (94 %) of the whistle-blowers suffered negative emotions such as fear or anger and the majority (70 %) also suffered from physical consequences such as sleep or body disturbances or cardiac problems (McDonald & Ahern, 1999; McDonald & Ahern, 2000). In addition, a guilty conscience (Ohnishi, et al., 2008; Ion, et al., 2015) and distress (Jackson, et al., 2010b; Jackson, et al., 2011) were the negative emotions suffered after the whistleblowing act. Professionally, the whistleblowing act had negative effects on the whistle-blower's work as they lost their career prospects or suffered promotional difficulties (Attree, 2007) and sometimes they even had to leave their workplace (Jackson, et al., 2010a). Moreover, confidentiality issues such as enforced silence (Jackson, et al., 2011) and avoidant leadership practices such as ignorance or manager's hostility were described as the negative consequences of a whistleblowing act (McDonald & Ahern, 2000; Jackson, et al., 2013).

The social negative consequences suffered by the whistle-blowers, extended from their workplace to their family lives, spoiling collegial relationships (Jackson, et al., 2010a) and straining the relationships with their family members (Wilkes, et al., 2011). Whistle-blowers suffered from repercussions, retaliation, bullying or social isolation from their peers or managers (Orbe & King, 2000; Attree, 2007; Black, 2011; Jack, et al., 2020; Jack, et al., 2021). They also reported that their whistleblowing act was not supported and their concerns were not taken seriously (Attree, 2007; Moore & McAuliffe, 2010).

3.5 Whistle-blowers in health care

According to the previous literature, very little is known about the whistle-blowers and their characteristics in health care, even though whistleblowing for wrongdoing is usually an individual's decision and requires an actor, the one who is blowing the whistle. Of health care professionals' background variables, age, length of work experience and educational level were associated with their attitudes to whistleblowing. The older staff were more reluctant to perform a whistleblowing act, and they felt less brave and were more afraid of the potential negative consequences than the younger staff. Those health care professionals with more than 30 years of work experience were more sceptic that whistleblowing would change anything and

considered that wrongdoing was best dealt with internally; this was in contrast with those with less than 30 years of work experience. In addition, a higher level of education was related to more positive attitudes to performing a whistleblowing act and feelings of less fear. (Malmedal, et al., 2009a.) Managers were more likely to perform a whistleblowing act than the general staff (Moore & McAuliffe, 2010; Moore & McAuliffe, 2012) and students were more willing to perform a whistleblowing act than the staff (Mansbach & Bachner, 2010; Mansbach, et al., 2012; Mansbach, et al., 2014).

It is acknowledged in the literature that whistleblowing requires courage from the whistle-blower (McDonald & Ahern, 2000; Ohnishi, et al., 2008) and more particularly moral courage. This is because it is activity driven by the desire to act in according with one's own personal and professional values and principles in order to overcome one's own fear despite the potential negative consequences (Jack, et al., 2021.) However, the literature about whistle-blowers' characteristics concerning moral courage or personality were not identified in a health care context.

3.6 Summary of the literature review and gaps in the knowledge

In summary, whistleblowing for wrongdoing occurs in health care and was mainly studied from the perspective of nurses or nursing students in Australia or United Kingdom. Research based mostly on health care professionals' real life experiences. Whistleblowing for wrongdoing was also studied using hypothetical vignettes, however, any studies using video vignette for this purpose was not identified. The study design was mainly a qualitative narrative inquiry or a descriptive survey.

Various types of wrongdoings were observed in health care, harming patients or their care, health care professionals or organisations and the frequencies of wrongdoing observations varied considerably. Most of the studies described health care professionals' reasons as motives for whistleblowing, relating to patient or their care, supportive professional, organisational or societal structures or themselves. Internal whistleblowing act to the manager was preferred over external. The consequences of the whistleblowing act were either positive or negative with the negative ones wide-ranging effecting largely to the whistle-blowers' personal, professional or social lives. When it comes to the whistle-blower, only a few studies identified the background variables of the whistle-blowers and the associations with their willingness or attitudes towards whistleblowing.

The concepts describing the phenomenon of whistleblowing for wrongdoing were identified in health care context and organised into a whistleblowing process where the whistle-bower is an actor (Figure 3). The process consists of consecutive phases, beginning with a suspicion or an observation of wrongdoing, leading to the

whistleblowing act and ending up at the consequences of the whistleblowing act (Figure 1; Paper I, Figure 1; Paper II). The arrow in the background describes the proceeding of the process (Figure 3). The phases of the process were identifiable form the literature, however, the process description was not identified organised as such, even though, a few studies explored whistleblowing processes in health care context. There is a **gap** in the literature concerning the manifestation of the whistleblowing process organised as it is in Figure 3. In addition, reasons as motives for whistleblowing were explored in several studies, however, the other **gap** identified is the conceptualisation of reasoning for whistleblowing as thinking logically. It is suggested here that reasoning situates between the phases of a suspicion or an observation of wrongdoing and the whistleblowing act. One more **gap** was identified in the literature which was an identification of the whistle-blower in health care though a few background variables were identified describing the whistle-blower.

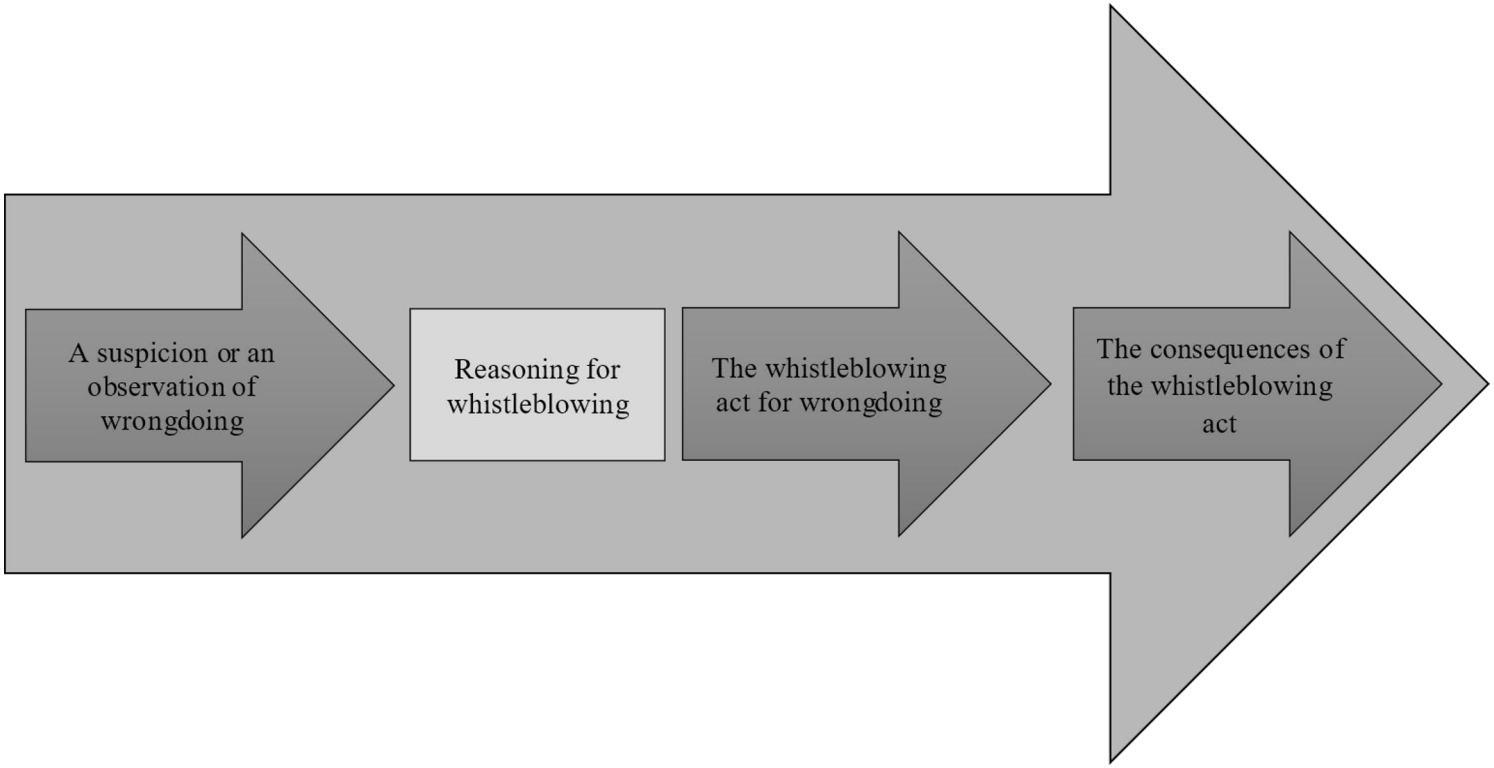

Figure 3. The description of the whistleblowing process in health care organised based on literature (adapted and modified from Figure 1; Paper I). The concepts that are situated inside the smaller arrows, were identified from the literature. The bigger arrow in the back, describe the proceeding of the process. Gaps identified from the literature: the manifestation of the whistleblowing process in health care context, the conceptualisation of reasoning for whistleblowing (suggested to situate between wrongdoing and the whistleblowing act) and identification of the whistle-blower.

4 Aims

The purpose of this multi-method study was to analyse whistleblowing for wrongdoing in health care as perceived by health care professionals. Based on the analysis, a conceptual model of reasoning for whistleblowing in health care was developed, as an overall goal of this study. In addition, based on the results, suggestions for stakeholders and researchers are presented to prevent and decrease wrongdoing and support individual whistleblowing in health care. The research questions were as follows:

Descriptive phase I

1. What is wrongdoing in health care? (Papers I and II)
2. What is the whistleblowing process in health care? (Papers I, II and IV)

Explorative phase II

3. What is reasoning for whistleblowing in health care? (Paper III)
4. Who is the whistle-blower in health care? (Papers I and IV)
5. What constitutes a conceptual model of reasoning for whistleblowing in health care? (Summary)

5 Materials and Methods

This study included different designs and was conducted in a health care context at a national level in Finland between 2014 and 2022. This chapter describes for both phases of the study: the designs, setting and sampling (5.1), the instruments, (5.2), the data collection (5.3) and the data analysis (5.4) are described in the two phases of the study. Finally, the ethical considerations of the overall study are described (5.5). (Figure 4, Table 7.)

The research process was conducted in two phases and four sub-studies and two data collections were carried out. The steps of the integrative approach were followed: ***exploring the phenomenon through multiple sources*** and ***theorising*** (Meleis, 1997) to develop a conceptual model of reasoning for whistleblowing. ***The phenomenon*** of whistleblowing for wrongdoing was ***explored through multiple sources***. First, the concept of the phenomenon of whistleblowing for wrongdoing was defined using interdisciplinary literature and dictionary definitions (Chapter 2). Then, the phenomenon of whistleblowing for wrongdoing was described according to the literature from health care context identifying the concepts and organising them into the whistleblowing process, where the whistle-blower in an actor (Chapter 3). In the descriptive **Phase I,** the manifestation of wrongdoing and the whistleblowing process in health care were described. A descriptive cross-sectional survey (**Sub-study I, sub-data I**) and narrative designs (**Sub-study II, sub-data II**) were selected. In the explorative **Phase II**, a grounded theory was selected for creating a theoretical construct of reasoning for whistleblowing (**Sub-study III, sub-data III**). Then the whistle-blower was identified by their background variables and moral courage and a cross-sectional descriptive-correlational survey design was selected (**Sub-study IV, sub-data IV**). Finally, in the step of ***theorising***, a model of reasoning for whistleblowing was developed by integrating the literature, research results about wrongdoing and the whistleblowing process and a theoretical construct of reasoning for whistleblowing. (Figure 4, Table 7.)

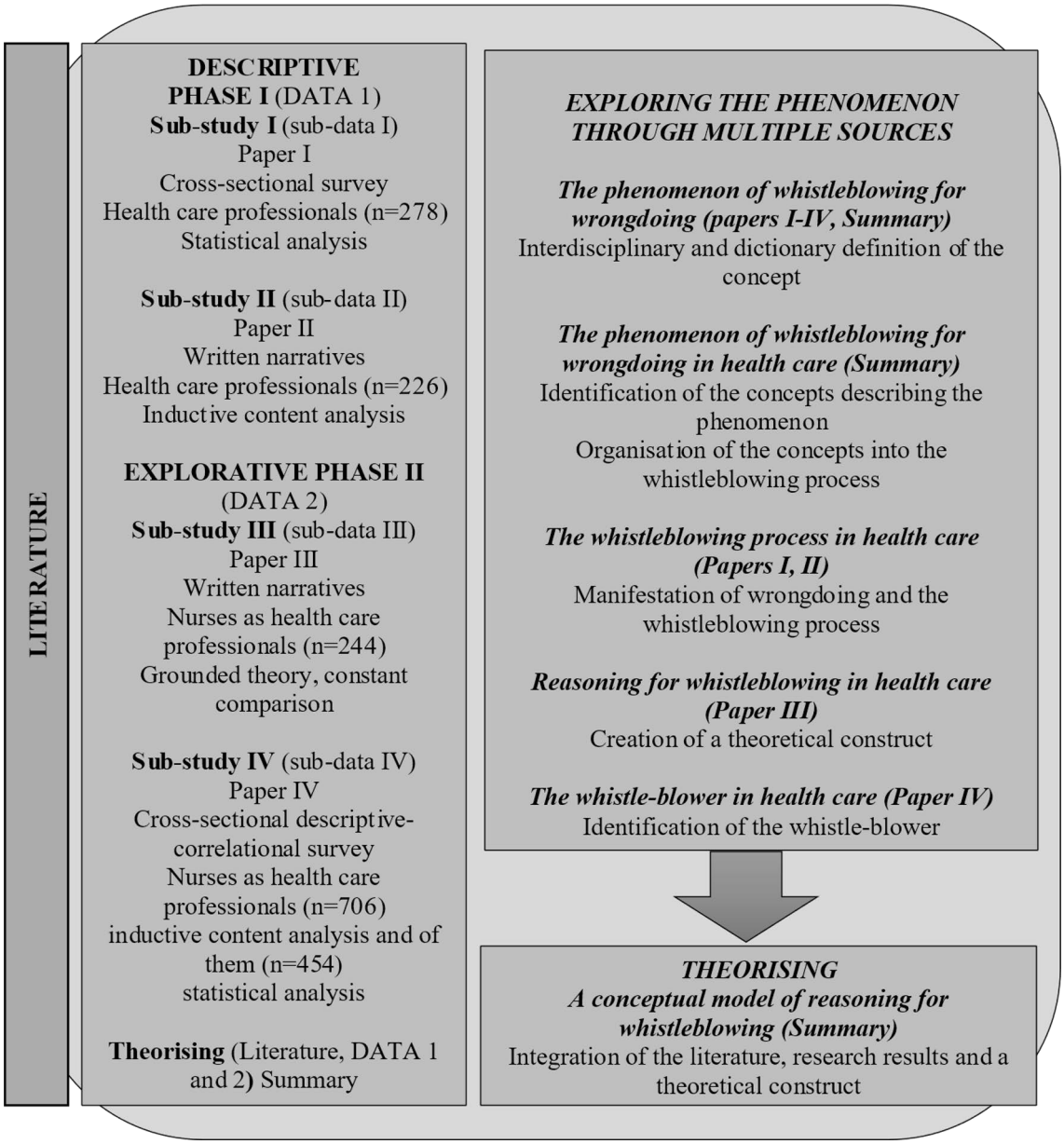

Figure 4. Research process with the steps of the integrative approach: phases specified.

Table 7. Overview of the research phases, sub-studies, papers, aims of the sub-studies, designs, methods, data, samples and analysis.

RESEARCH PHASE, SUB-STUDY, PAPER	AIMS OF THE SUB-STUDIES	DESIGN, METHODS	DATA AND SAMPLES	ANALYSIS
PHASE I 2015-2017: sub-study I PAPER I	To describe wrongdoing in health care and to examine the whistleblowing process	Descriptive cross-sectional survey, Questionnaire	Data I; sub-data I n=278 Health care professionals	Statistical data analysis using SPSS Statistics (frequencies, percentages, mean values and standard deviation) Pearson's chi-square (associations), Sum scores
PHASE I 2018-2019: sub-study II PAPER II	To explore wrongdoings and whistleblowing acts regarding them in health care	Descriptive narrative, Written narratives	Data I; sub-data II n=226 Health care professionals	Inductive content analysis Dividing into meaning units, condensing, abstracting, labelling and sorting into subthemes and themes.
PHASE II 2019-2021: sub-study III PAPER III	To create a theoretical construct about individual reasoning for whistleblowing in health care	Grounded theory, Written narratives	Data II; sub-data III n=244 Health care professionals (nurses)	Constant comparison Open coding, axial coding, selective coding
PHASE II 2021-2022: sub-study IV PAPER IV	To analyse the moral courage of whistle-blowers and its association with their background variables in health care	Cross-sectional descriptive-correlational survey, Questionnaire	Data II; sub-data IV n=706 Health care professionals, nurses (content analysis) n=454 Health care professionals, nurses (statistical analysis)	Inductive content analysis Statistical analysis using R version 4.0.2 software Descriptive statistics (frequencies, percentages, mean values and standard deviations), Mann-Whitney U-test and Kruskal–Wallis (associations) Spearman's correlations
PHASE II, 2022: Summary	To integrate literature, research results about wrongdoing and the whistleblowing process and a theoretical construct of reasoning for whistleblowing into a conceptual model	Integrative approach	Literature, Data I and II	Literature and data integration

5.1 Design, setting and sampling

PHASE I

Descriptive **Phase I** of this study included two **Sub-studies I** and **II** concentrated to describe wrongdoing and whistleblowing process in health care (Papers I-II). The study design, a descriptive correlational survey was selected to describe wrongdoing and examine whistleblowing process in health care (**Sub-study I, sub-data I**). A narrative approach was selected to explore health care professionals' observations about wrongdoing and their whistleblowing acts regarding their observations (**Sub-study II, sub-data II**).

A random sampling was used in a Finnish health care context, at the national level to collect the data. The sampling method was chosen to cover the health care professionals with geographical locations and experiences of working in various fields and specialities in health care in order to describe the phenomenon of whistleblowing for wrongdoing as widely as possible. Potential participants were recruited from the trade union, The Union of Health and Social Care Professionals in Finland (Tehy). The membership coordinator sent an email containing the survey to 100,502 members with valid email addresses in the membership register. NQuery4 software was used to estimate the sample size statistically which was determined to be between 1,290 and 1,500. Altogether 1,273 (=N) health care professionals opened the Whistleblowing in Health Care (WIHC) instrument and of these 397 (=n) responded (DATA 1), giving a response rate of 31 %. In **Sub-study I**, the sub-data I consisted of those health care professionals 278 (=n) who had suspected or observed wrongdoing in health care. In **sub-study II**, the sub-data II consisted of those health care professionals 226 (=n) that provided a narrative in response to the open question about their wrongdoing observations and experiences of whistleblowing for wrongdoing. (Table 8.)

PHASE II

Explorative **Phase II** of this study included two **Sub-studies III** and **IV** that concentrated on reasoning for whistleblowing and the whistle-blower (Papers III-IV). The study design, grounded theory with a classical approach (Glaser, 1978) was selected to create a theoretical construct of an individual reasoning for whistleblowing (**Sub-study III**, sub-data III). A cross-sectional descriptive-correlational survey was selected to identify the whistle-blower in health care by their background variables and moral courage (**Sub-study IV**, Sub-data IV).

Table 8. Sample characteristics in Sub-studies I-IV.

VARIABLES		**PHASE I**[2] **Sub-study I** (n=278)	**PHASE I**[2] **Sub-study II** (n=226)	**PHASE II**[3] **Sub-study III** (n=244)	**PHASE II**[3] **Sub-study IV** (N=454)
SOCIO-DEMOGRAPHICS					
AGE	Mean / years	46.8	47.2	45.0	47.0
	Range	16–66	16–66	21–72	21–77
GENDER (%)	Female	263 (95)	214 (95)		428 (95)
	Male	13 (5)	11 (5)		21 (5)
EDUCATION					
PROFESSIONAL DEGREE n (%)					
	Registered nurse	158 (57)	123 (54)		389 (90)
	Other health care professional	120 (43)	103 (46)		43 (10)
HIGHEST DEGREE n (%)					
	Student	4 (1)	4 (1)	11	11 (3)
	Vocational	146 (54)	120 (54)	64	134 (30)
	Polytechnic	94 (35)	77 (35)	127	238 (53)
	University	27 (10)	27 (10)	38	64 (14)
WORK EXPERIENCE					
	Mean / years	19.6	20.1	18.1	19.8
	Range	0–43	0–43	0–41	0–49
WORK ROLE n (%)					
	Employee	-	-	149	284 (63)
	Health care manager	50 (17)	45 (19)	31	59 (13)
	Not working at the moment	18 (6)	13 (5)	28	43 (10)
	Other role	226 (77)	179 (76)	35	65 (14)
PERSONALITY TYPE n (%)		-	-		
Introvert				35	73 (16)
Extrovert				86	155 (34)
Between introvert and extrovert				121	224 (50)
				MEAN/RANGE	**MEAN/RANGE**
RESPECT OWN PROFESSION[1]				85.5/18–100	85.2/18–100
SELF-ESTEEM[1]				72.4/16–100	73.3/16–100
OTHERS INFLUENCE TO OWN OPINIONS[1]				44.4/0–93	44.8/5–90
INTERNAL LOCUS OF CONTROL[1]				58.8/9–100	58.5/2–100
SOCIAL RESPONSIBILITY FOR					
	Patients or their next of kins[1]			84.6/25–100	84.6/25–100
	Co-workers[1]			75.9/3–100	75.2/3–100
	Work community[1]			82.6/50–100	81.2/29–100

[1]Single questions, visual analogy scale (VAS 1-100)

[2]DATA 1, includes sub-data I and II, which may contain the same respondents

[3]DATA 2, includes sub-data III and IV, which may include the same respondents

A random sampling was used at the national level in Finland, with registered nurses as the health care professionals. The sampling method aimed to capture the heterogeneity of the population, for example, their clinical expertise, background variables and the variation of their geographical locations. The potential participants were recruited from the membership register of the Finnish Nurses' Association (including registered nurses, public health nurses, nurse paramedics and midwives, who were all registered nurses or students) by the membership coordinator of the association. The coordinator sent an email to 30,000 nurses with a valid email address in the membership register. An email contained an invitation to participate in the study and a link to an electronic survey. The statistical power analysis (Raosoft, 2004) was used to estimate the minimum sample size as 380. Altogether 1,461 (=N) health care professionals responded and returned the completed survey (DATA 2). In **Sub-study III**, the sub-data III consisted of 244 (=n) health care professionals who provided a narrative about their potential whistleblowing and their reasoning for whistleblowing. In **Sub-study IV**, the sub-data IV consisted of 454 (n=) health care professionals who provided a narrative in response to an open question describing both 1) observing the wrongdoing in the video vignette, and 2) potentially acting as blowing the whistle in their narratives; the response rate was 31 %. (Table 8.)

5.2 Data collection methods

PHASE I

In **Phase I**, of the study the data collection for **Sub-studies I** and **II** (Papers I-II) was carried out between 26 June and 17 July 2015 electronically and the potential participants were recruited form the membership register of The Union of Health and Social Care Professionals in Finland (Tehy). The data were collected using the Whistleblowing in Health Care (WIHC) instrument that was developed for the purposes of this study by the author based on the literature review. The WIHC instrument included a total of 41 structured, open-ended, multiple choice questions and one open question.

The WIHC instrument measured suspicions and observations of wrongdoing with eight questions, the whistleblowing act with 17 questions and the consequences of the whistleblowing act with three questions. In addition, the background variables were examined with 12 questions. Finally, health care professionals were asked to describe with, one open question an example of wrongdoing they had observed in

health care and whether they had performed a whistleblowing act regarding their observations. The WIHC instrument was pre tested by second year students studying for a Master of Nursing Science (MNSc) qualification, who also had a profession health care degree. **Sub-study I** included sub-data I that was mainly statistical structured data, but also the data from the open-ended and multiple choice questions (Paper I). **Sub-study II** dealt with the sub-data II that were gathered with an open question (Paper II).

PHASE II

In **Phase II**, of the study the data collection for **Sub-studies III** and **IV** (Papers III and IV) was carried out between 16 August and 5 September 2019 electronically and the potential participants were recruited from The Finnish Nurses Association. The data were collected using a video vignette and an open question about the vignette, the Nurses Moral Courage Scale NMCS© (Numminen, et al., 2019), and multiple single questions about the health care professionals related background variables i.e. socio-demographics education, work, personality and social responsibility (Table 8) were measured using a visual analogy scale (VAS 1-100), continuous variables and closed questions.

A video vignette method was chosen as a part of the data collection as it is challenging to observe and capture whistleblowing for wrongdoing and reasoning for whistleblowing in real life. A video vignette that was scripted and filmed for the purposes of this study by the researcher and both, the script and vignette were pre tested by PhD students, who were also health care professionals. An open question: *"How would you act in the situation (seen on the video) and why?"*, about the vignette. In the video vignette, a health care event takes place in a home nursing and in the vignette, nurse A slips a package of medicine in her pocket while dispencing the patient's medicine in the kitchen. The nurse B observes the incident from the living room while carrying out therapeutic measures to patient, and the video ends here. More detailed description about the vignette is presented in Paper III.

The NMCS© (Numminen, et al., 2019) self-assessment instrument was used to measure health care professionals' level of moral courage. The studies show good validity, reliability and internal consistency for the NMCS© (Numminen, et al., 2019; Numminen, et al., 2021) with a total Cronbach's alpha of 0.93 and for the four dimensions of moral courage between 0.73-0.82 respectively. The NMCS© (Numminen, et al., 2019) consists of 21 items that measure moral courage within four dimensions: 1) *compassion and true presence* (five items), 2) *moral responsibility* (four items), 3) *moral integrity* (seven items), and 4) *commitment to good care* (five items). Health care professionals assess their moral courage on a 5-point Likert-scale where 1 = *"Does not describe me at all"* to 5 = *"Describes me*

very well" with the higher scores indicating the higher levels of moral courage and vice versa. Moreover, one question measures health care professionals' overall assessment of their moral courage with a Visual Analogy Scale (VAS) 1-10 where 1 = *"I never act morally courageously even though the care situation would require it"* and 10 = *"I always act morally courageously when the care situation requires it"*. The dimensions in NMCS© (Numminen, et al., 2019) are based on literature. The dimension of *"Compassion and true presence"* means health care professionals having the courage to encounter the vulnerability and suffering of the patients by overcoming their own vulnerability and fears. *"Moral responsibility"* means acting courageously and taking responsibility in situations where ethical dilemmas and wrongdoing occurs even when health care professionals face possible obstacles and lack of power caused by circumstances such as organisational hierarchy. *"Moral integrity"* means nurses adhering to the professional code of conduct as ethical values and principles in the situations where a risk of potential personal negative consequences prevails. *"Commitment to good care"* means health care professionals acting courageously as patient's advocate and defending the moral goal of professional caring, that is the patient's ultimate good in situations where good care is threatened, for example by, inadequate or poor care or wrongdoing. (Numminen et al. 2019, Numminen et al. 2021.)

Sub-study III included sub-data III the narratives provided by the health care professionals in an open question about their response to the video vignette (Paper III). **Sub-study IV** included the sub-data IV from both, the health care professionals' narratives describing both 1) the observation of the wrongdoing in the video vignette, and 2) acting as blowing the whistle, and the data gathered with the NMCS© (Numminen, et al., 2019) (Paper IV).

5.3 Data analysis

The data analysis conducted for four Sub-studies (I-IV) and Summary, which are described in the following paragraphs according to the steps of the integrative approach: **exploring the phenomenon through multiple sources** according to both study Phases I and II, and **theorising** (Meleis, 1997).

5.3.1 Exploring the phenomenon through multiple sources

PHASE I

In **Phase I**, the data analysis consisted of statistical analysis (**Sub-study I**) and inductive content analysis (**Sub-study II**). In the **Sub-study I** cross-sectional survey (Paper I), the data was described using descriptive statistics (frequencies,

percentages, mean values and standard deviation). Associations between the background variables of health care professionals and their whistleblowing acts regarding their suspicions or observations of wrongdoing were calculated using Pearson's chi-square test and the statistical significance was considered when the p-value was less than 0.05 (two tailed). In order to equalising the amounts of responses between the groups, following variables were combined: patient-, healthcare professional- and organisation-related wrongdoing, internal and external whistleblowing acts and the positive and negative consequences. The data analysis was conducted using SPSS Version 22 for Windows (IBM, Chicago, IL). (Paper I.)

In the **Sub-study II**, the inductive content analysis (Paper II) (Graneheim & Lundman, 2004; Denzin & Lincoln, 2011) was used. This method was considered to be suitable as previous literature concerning wrongdoings and whistleblowing acts regarding them was scarce. The unit of analysis was the participants' written narratives of their wrongdoing observations and whistleblowing acts regarding them. The narratives varied by their nature, from detailed and extensive to superficial descriptions. The narratives were then condensed by identifying and sorting the codes into meaning units. (Denzin & Lincoln, 2011.) During the condensing process, observed wrongdoings and the whistleblowing acts regarding them were identified. Then the condensed meaning units were further abstracted and then labelled as codes that were then compared for similarities and differences yielded into eleven subthemes and further into three themes. (Polit & Beck, 2004). The consensus about the themes was achieved by reflective discussion among the research team. Lastly, re-examination of the data yielded the identification of twenty-four sub-paths and three main paths connecting an observation of wrongdoing to the whistleblowing act (Table 3; Paper II), or whether it was left undone (Figure 2; Paper II). The paths were identified connecting the phases of the whistleblowing process, wrongdoing observation and whistleblowing act first, according to subtheme level then on the level of themes and finally identifying the main paths (Table 3; Paper II). Even though, in **Sub-study II**, the paths connected these two whistleblowing process phases with each other, they were insufficient describing what actually happens between those two phases.

PHASE II

In **Phase II**, the data analysis consisted of grounded theory with constant comparison (**Sub-study III**), content analysis and statistical analysis (**Sub-study IV**). The grounded theory method consist of the participants' written narratives, which were analysed using constant comparison (Glaser & Strauss, 1967; Glaser, 1978) and NVivo software to process the data (Bazeley & Jackson, 2013). Grounded theory was chosen as the method since its philosophical basis lies in symbolic

interactionism (Blumer, 1969) and is therefore appropriate for studying complex social and psychological phenomena when there is very little or no information available in the previous literature about the research topic, here reasoning for whistleblowing (Glaser, 1978).

In **Sub-study III**, grounded theory data analysis, the NVivo software was used to process the voluminous data (Bazeley & Jackson, 2013). The questions were set on the data and theoretical memos were written throughout the analysis. During the research process, the analysis moved back and forth and the data were analysed according to three steps of classical grounded theory: *open coding, axial coding* and *selective coding* (Glaser, 1978.) Firstly, the original expressions of the participants were line-by-line *open coded* into substantive codes. These were then further analysed by comparing similarities and differences; this yielded thirty-four sub-categories. The sub-categories were then further compared with each other by their nature and properties, generating fourteen categories. Theoretical saturation was considered to be reached when no new codes or categories emerged from the data. Then by comparing connections for similarities and differences between the categories three dimensions of reasoning for whistleblowing were identified. In the second phase of the grounded theory data analysis, *axial coding* was used to connect the categories together. Three dichotomous and one trichotomous comparisons were carried out using cross-tabulation in terms of identifying the patterns of reasoning for whistleblowing (Figure 2; Paper III). In the last phase of the analysis, *selective coding* was used to discover the core category of a theoretical construct describing individual reasoning for whistleblowing which had the most related categories, dimensions and patterns. The theoretical memos were important in the discovery of the core category. (Figure 1; Paper III.)

In **Sub-study IV**, the data analysis of the cross-sectional descriptive-correlational survey, consist of the statistical analyses (Waltz, et al., 2010) and the written narratives analysed and quantified according to an inductive content analysis technique (Patton, 2002; Graneheim & Lundman, 2004; Polit & Beck, 2017). Firstly, the narratives were analysed in order to identify those participants who had observed the wrongdoing in the video vignette and described their potential whistleblowing acts regarding their observations. Descriptive statistical tests (frequencies, percentages, mean values and standard deviations) were conducted to describe participants' background variables, their potential whistleblowing acts, level of moral courage and easiness for acting morally courageously. To equalise the number of responses between the groups, the following variables were combined: participants' highest degree and the professional degree. The associations between the levels of participants' self-assessed moral courage and their background variables were analysed with a Mann-Whitney U-test and a Kruskal Wallis test when the distributions of the data were asymmetric. In addition, correlations were examined with Spearman's correlations for the same reason concerning asymmetric distributions. Statistical significance was considered when P value was less than

0.05. The statistical tests for data analysis were conducted using R version 4.0.2 software (The R Foundation for Statistical Computing, Vienna, Austria). (Paper IV.)

5.3.2 Theorising

The step of theorising in the integrative approach, was conducted to develop a conceptual model of reasoning for whistleblowing by integrating the literature, research results about wrongdoing, and the whistleblowing process, and a theoretical construct of reasoning for whistleblowing (Figure 5).

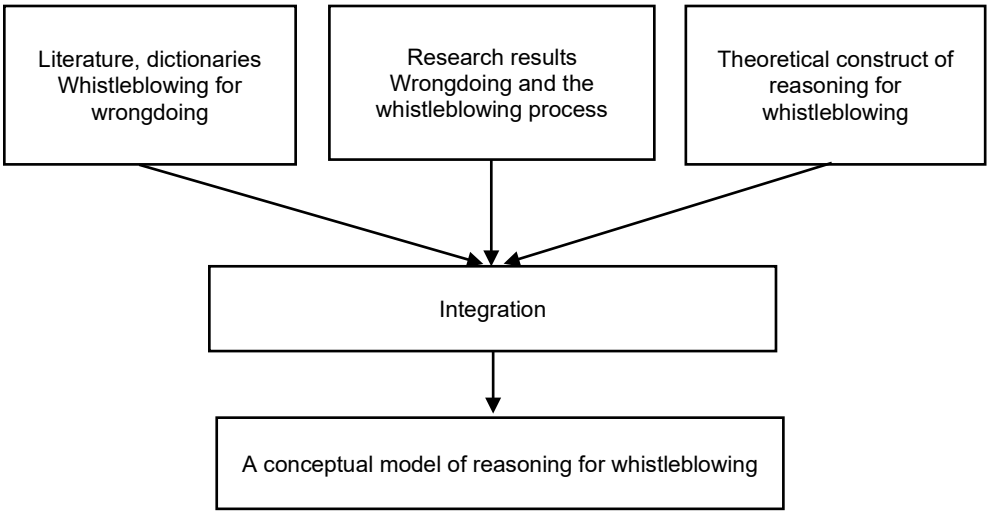

Figure 5. The development of a conceptual model of reasoning for whistleblowing.

Firstly, the phenomenon of whistleblowing for wrongdoing was defined using interdisciplinary literature and dictionary definitions. Interdisciplinary literature searches were conducted in each four Sub-studies (Papers I-IV) and in Summary (Chapter 2). This included the definitions of the concepts of wrongdoing, whistleblowing for wrongdoing, reasons and reasoning and the whistle-blower. In addition, benefits, ethical perspectives and existing model and theories of whistleblowing for wrongdoing were described. (Chapter 2.) Literature searches were conducted to health care databases and the concepts describing wrongdoing and whistleblowing for wrongdoing were identified in the health care context and were organised into the whistleblowing process (Chapter 3).

The manifestation of wrongdoing (Chapter 6.1) and the whistleblowing process (Chapter 6.2) in health care were described confirming that the phenomenon of whistleblowing for wrongdoing exist and manifests organised as a process (Papers

I-II). A theoretical construct was created including the dimensions and patterns of reasoning for whistleblowing (Chapter 6.2.1) situating between wrongdoing and whistleblowing, aiming to understand how health care professionals reason for whistleblowing and why whistleblowing happens (Paper III). The whistle-blower was identified as an actor, essential to reasoning for whistleblowing and whistleblowing for wrongdoing to happen (Paper IV). However, the concept of the whistle-blower was not considered to be relevant to be visible in the model as such.

The concepts that were considered to be relevant to achieve the overall goal of the model to prevent and decrease wrongdoing were integrated into a model. These were a theoretical construct of reasoning for whistleblowing including the dimensions and patterns of reasoning, internal and external whistleblowing, and wrongdoing as both, an initiative phase of suspicion or an observation and a goal of preventing and decreasing wrongdoing. In addition, the relationships between the concepts and a process nature are presented in the model.

5.4 Ethical considerations

Ethical approvals were obtained separately for both phases (**Phase I** 20/2015; **Phase II** 10/2019) from Turku university ethics committee. Permissions for recruiting the potential participants, for initially pre testing the WIHC instrument and pre testing the video vignette in the second phase were applied according to each organisations' policies. The WIHC instrument and video vignette were both developed by the researcher and therefore separate permissions for their use were not necessary. In addition, permission to use the Nurses' Moral Courage Scale© (Numminen, et al., 2019) was obtained in January 2018 via email from the developer of the instrument Olivia Numminen.

Throughout the research process, the researcher was committed to acting according to good scientific standards and the responsible conduct of research guidelines and the publication ethics when writing and publishing the four original publications (Papers I-IV) (Finnish Advisory Board on Research Integrity (TENK), 2012; The World Medical Association (WMA), 2013; Committee on publication ethics (COPE), 2022; All European Academies (ALLEA), 2017). The work of other researchers was respected throughout the research process and their publications were appropriately cited. In addition, the basic moral principles of biomedical ethics: respect for autonomy, maleficence, beneficence and justice, guided the researcher during this research process (Beauchamp & Childress, 2001, p. 12).

The autonomy of the participants was respected and maleficence and beneficence were considered throughout the research process. Regarding autonomy, all potential participants received information about the study in a cover letter and an opportunity to obtain additional information from the researcher. Participation

was voluntary, confidential, anonymous and self-determined by the respondents. Confidentiality and anonymity were guaranteed by treating and storing the data confidentially. Returning the completed instrument was considered as a consent to participation. The principles of the General Data Protection Regulation (GDPR) were followed (European Parliament and Council 2016/679, 2016) throughout the research process and the data were protected and stored appropriately using the infrastructures of the University of Turku. The collected data will be stored for ten years after completion of this study for the purposes of further research.

The potential maleficence of the participation was acknowledged. Therefore, information was provided on the potential risks and the voluntariness of participating in the study was emphasised. Moreover, the participants were health care professionals and healthy individuals with the capacity to participate from the perspective of informed consent. Even though participation may possibly have been stressful for the participants, the overall benefit achieved by the results was to potentially decrease and prevent wrongdoing and decrease the possible negative consequences of whistleblowing and to support individual whistleblowing. Therefore, this study was justifiable conducted. In addition, the principle of justice was considered by ensuring equal opportunities to participate for those in the two trade unions, used to recruit the potential participants. In Finland, the rate of the unionisation among health care professionals is around 90 % (The Union of Health and Social Care Professionals in Finland (Tehy), 2022).

Whistleblowing is considered to be an emotional and sensitive research topic for participants, by both health care professionals (Jackson, et al., 2014) and health care organisations (Near & Miceli, 1985). This is especially true for those participants with experiences of being whistle-blowers and suffering from emotional, physical, or professional negative consequences after their whistleblowing (McDonald & Ahern, 2000; Jackson, et al., 2011). Due to the sensitivity of the research topic, the data collection was electronic, and the participants were recruited from the trade unions, instead of any particular organisations. In addition, whistleblowing is unethical and difficult to observe in real life, in any health care organisation (Near & Miceli, 1985) and therefore, a video vignette method was conducted. The literature review pointed out gaps in the knowledge about whistleblowing for wrongdoing in health care context, which guided the layout of the research questions for this study.

6 Results

The results are presented according to the research questions of the study (see Chapter 4). A conceptual model of reasoning for whistleblowing in health care will be developed, according to the steps of the integrative approach: ***exploring the phenomenon through multiple sources*** and ***theorising.*** The first four chapters provide knowledge concerning the development of the conceptual model. ***The phenomenon*** of whistleblowing for wrongdoing was ***explored through multiple sources*** and their results are described as follows: wrongdoing (6.1) and the whistleblowing process (6.2) with a theoretical construct of reasoning for whistleblowing (6.2.1), the whistleblowing act (6.2.2) and the consequences of the whistleblowing act (6.2.3). Then the whistle-blower, the actor in the whistleblowing process is identified and described by means of their background variables and moral courage (6.3). These sections are followed by the summary of the results (6.4). Finally, a conceptual model of reasoning for whistleblowing developed according to the step of ***theorising***, is described (6.5). The background variables of the participants are summarised in Table 8 (Chapter 5.1). The results from all four sub-studies are presented with more details in the original publications (Papers I-IV).

6.1 Wrongdoing in health care

Wrongdoings in health care were explored, firstly, by their frequencies (Tables 2 and 3; Paper I), and secondly by describing the content of the observed wrongdoings (Tables 4-6; Paper II). The majority (70 %) of the health care professionals had suspected or observed wrongdoing in health care. A little over half of them had either suspected (57 %) or observed (52 %) wrongdoing more often than once a month, while the minority suspected (15 %) or observed (17 %) wrongdoing less than once a year (Figure 6).

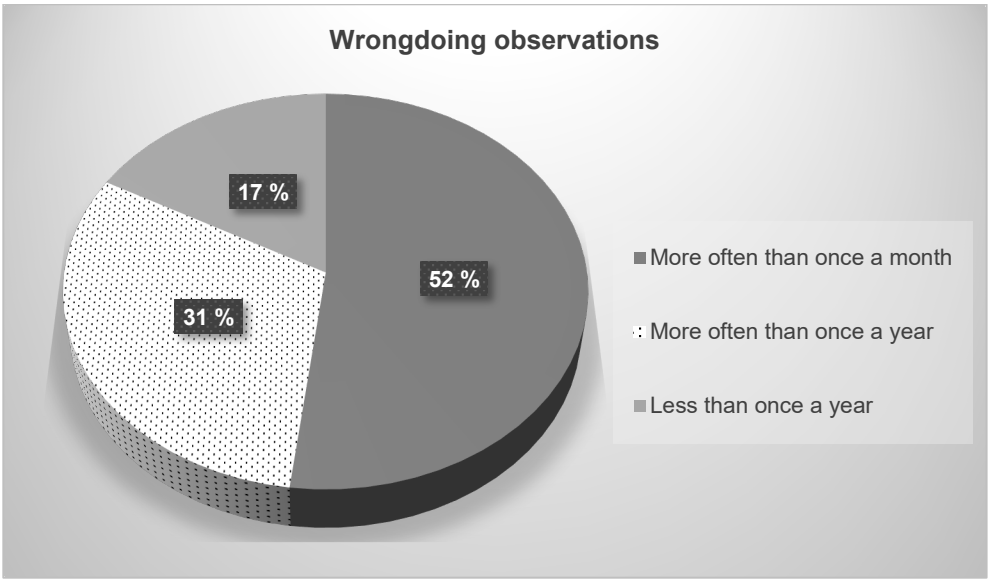

Figure 6. Frequency of wrongdoing observations in health care (n=262).

The most suspected (70 %) or observed (66 %) wrongdoings were related to the organisation such as scarcity of human resources (53 %, 51 %) and the least wrongdoing were related to patients (59 %, 55 %) such as stealing patients' property (5 %, 4 %) (Figure 7) (Tables 2 and 3; Paper I). Health care professionals described their observations of wrongdoings in relation to patients, health care professionals or health care managers (Tables 4-6; Paper II).

The wrongdoings related to patients were described as malpractice, observed in different forms such as treating patients inappropriately or neglecting patient care. In addition, physical abuse was observed in various forms such as rough handling or restraining patients. Stealing money or other property of the patients was also observed in health care. Wrongdoings related to health care professionals were described as bullying peers, neglecting work, abusing or stealing alcohol or other substances. Bullying occurred in different forms such as verbal, psychological and physical abuse. Neglecting work was observed as leaving tasks undone or irresponsible working practices. Health care professionals were seen to abuse or steal alcohol or other substances. These were observed in different forms such as the behavioural changes of the abuser or an increased medication consumption.

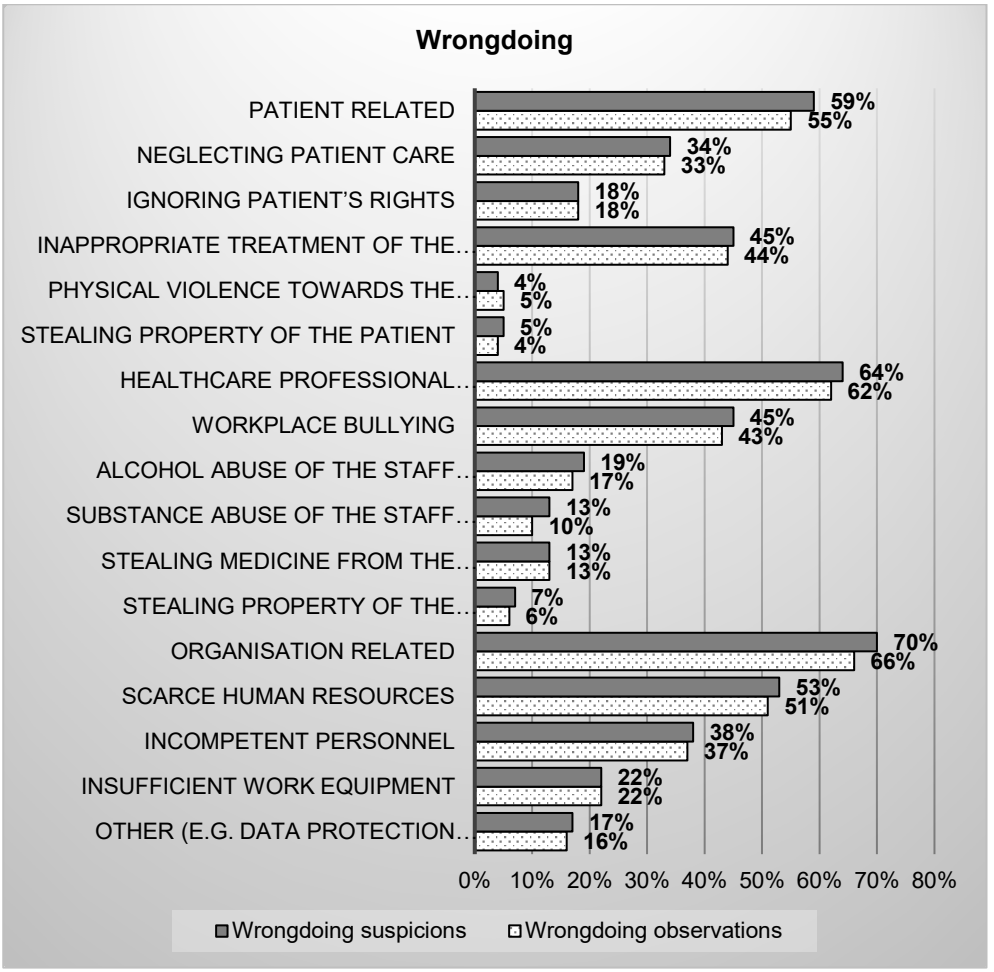

Figure 7. Frequencies of wrongdoing observations in health care (n=278).

Finally, wrongdoings related to health care managers and the organisation were described as abusing alcohol, bullying subordinates, hiring incompetent personnel and allowing inadequate procedures. Sometimes health care managers worked under the influence of alcohol. Bullying subordinates was observed as verbal or psychological abuse. Health care managers hired incompetent personnel at all levels and allowed inadequate procedures by ignoring policies or guidelines. (Table 9 and Tables 4-6; Paper II.)

Table 9. Wrongdoings observed in health care.

WRONGDOINGS	**PHASE I, Sub-study II** DATA 1 (N=226)
RELATED TO PATIENTS Malpractice	Inappropriate treatment or neglecting care
Physical abuse	Rough handling, restraining, over medicating or assaulting patients
Stealing from the patient	Stealing medication or money or confiscating other personal belongings
RELATED TO HEALTH CARE PROFESSIONALS Bullying peers	Verbal, psychological or physical abuse
Neglecting work	Leaving tasks undone or working irresponsibly
Abusing/stealing alcohol	Coming to work drunk or hungover or using alcohol during work shift
Abusing/stealing substances	Changing behavior or increasing consumption of medicine
RELATED TO HEALTH CARE MANAGERS Bullying subordinates	Verbal or psychological abuse
Abusing alcohol	Working under the influence of alcohol
Allowing inadequate procedures	Ignoring medication policies and guidelines
Hiring incompetent personnel	At all levels

6.2 Whistleblowing process in health care

The whistleblowing process was described from a suspicion or an observation of wrongdoing, followed by the whistleblowing act and the consequences of the whistleblowing act. Whistleblowing was explored by its occurrence (Paper I) and content (Papers I and II), then the potential whistleblowing was described (Paper IV). Two whistleblowing processes in health care were identified: 1) the SUSP process from suspicion through the whistleblowing act into the consequences that occurred for 27 % and 2) the OBSE process from observation to consequences that occurred for 37 % of the 278 health care professionals. Of these health care professionals, 266 (=n) had suspected wrongdoing in health care and 40 % had performed the whistleblowing act regarding their suspicions and 70 % stated receiving either negative or positive consequences after their whistleblowing act (SUSP). Of those 278 health care professionals, 262 had observed wrongdoing in health care and 56 % had performed the whistleblowing act regarding their observations and 69 % stated receiving the consequences as either negative or

positive ones. Half of those health care professionals who had performed the whistleblowing act either regarding their wrongdoing suspicions or observations stated that the wrongdoing was not terminated despite their whistleblowing act (Figure 2; Paper I.) After identification of two whistleblowing processes (SUSP and OBSE), the study focused on the beginning of the OBSE process (Paper II). The paths connecting the phases of the OBSE whistleblowing process, wrongdoing observations and whistleblowing acts were analysed and identified. Whistleblowing act was performed internally for wrongdoing related to patients. However, the whistleblowing act was performed both internally and externally for wrongdoing related to health care professionals or health care managers. Whistleblowing act was also left undone for wrongdoing related to patients, health care professionals or managers. A total of twenty-four paths were identified and of these, two main paths between wrongdoing and whistleblowing act were identified as a) Internal whistleblowing and b) External whistleblowing. In addition, a third path was identified between wrongdoing and whistleblowing act which was left undone as c) No whistleblowing. (Table 7 and Figure 3; Paper II.)

6.2.1 Reasoning for whistleblowing in health care

Reasoning for whistleblowing in health care was analysed and a theoretical construct was created (Paper III) to describe reasoning for whistleblowing in health care. The reasoning was identified as a multidimensional phenomenon and the core category was discovered as "The formation of morally courageous intervening" consisting of three dimensions: Reasoning Actors, Reasoning Justifications, and Reasoning Activities and their categories and three patterns of reasoning that connect these dimensions and their categories with each other: Individual reasoning, Collaborative reasoning, and Collective reasoning. Dimensions of reasoning their categories and sub-categories are summarised in Table 10.

Core category

The core category: *"The formation of morally courageous intervening"* reflects individual's beliefs and values of what is right and wrong and it is needed to recognise one's own limitations and strengths to act and intervene for observed wrongdoing. Morally courageous intervening reflects doing what one considers is the right thing to do and good for others when facing human rights and dignity breaches even with a prevailing risk of potential negative consequences to oneself. Morally courageous intervening is an integration of an individual's emotion and cognition that forms mentally. (Paper III.)

Table 10. Summary of the dimensions of reasoning, their categories and sub-categories (with nurses as health care professionals (HCP), Dimensions, categories and sub-categories adapted and modified from Figure 3; Paper III).

DIMENSIONS OF REASONING	CATEGORIES	SUB-CATEGORIES
REASONING ACTORS	Individual actors	HCP
	Collaborative actors	HCP and healthcare manager HCP and patient HCPs together
	Collective actors	HCP and profession HCP and organization HCP and health care or nursing HCP and work community HCP and society
REASONING JUSTIFICATIONS	Acting for the benefit of the patient	Advocate patients and defend their rights Concern for patient safety
	Acting for the benefit of the colleague	Help colleague Concern for colleague
	Acting for the benefit of the organisation OR work community	Following guidelines and directives Concern for the organization or work community
	Acting for the benefit of the profession OR nursing	Following ethical guidelines Concern for profession or nursing
	Acting for the benefit of society	Following the norms Concern for health care services
	Acting for one's own benefit	Desire to act right Consider someone else is responsible Condemning wrongdoing Desire to protect oneself
REASONING ACTIVITIES	Anticipating potential consequences	Anticipating potential consequences for oneself Anticipating potential consequences for others Anticipating other's reactions or actions
	Struggling with self-overcoming	Pressuring oneself to act Forcing oneself to act
	Self-reflection	Reflecting on earlier experiences Reflecting on emotions
	Seeking confirmation in uncertainty	Seeking help or support Seeking additional information
	Assisting others in their vulnerability	Supporting others Helping others

Dimensions of reasoning for whistleblowing

The dimension of *Reasoning Actors* refers to those actors who reason for whistleblowing. Some health care professionals can reason as individual actors by themselves when others may reason as collaborative actors with other health care professionals, health care managers or patients. Furthermore, health care professionals could reason as collective actors, which refers to relying on the rules, guidelines or legislation of the various groups in society, health care, profession, organisation or work community that they belong to. (Paper III) (Table 10.)

The dimension of *Reasoning Justifications* describes why health care professionals would blow the whistle for wrongdoing, as to what are their justifications. Health care professionals would act for the benefit of others when they are concerned or desire to advocate for the patient or to help their colleague. Collectively, health care professionals would act when they are concerned or follow the norms, directives or guidelines of the work community, the organisation, the profession or society. However, some health care professionals would act for their own benefit when they desire to act right, protect themselves, condemn the wrongdoing or consider someone else is responsible. (Paper III) (Table 10.)

The dimension of *Reasoning Activities* describes what activities health care professionals perform when they reason for whistleblowing. Health care professionals anticipate the potential consequences of whistleblowing for themselves or others' reactions. Some health care professionals struggle with overcoming themselves, and they need to pressure or force themselves to act while other rely on self-reflection on their emotions or earlier experiences. Some seek confirmation in their uncertainty as they seek additional information or help or support from others. Finally, some health care professionals assist others in their vulnerability by supporting or helping them. (Paper III) (Table 10.)

Patterns of reasoning for whistleblowing

The patterns of reasoning for whistleblowing describe how the dimensions and their categories are connected to each other. In the pattern of *Individual reasoning,* health care professionals reason for whistleblowing by themselves. They rely on their own judgement with their moral courage forming through their own inner voices and they take personal responsibility when observing wrongdoing. In the pattern of *Collaborative reasoning*, health care professionals reason for whistleblowing with others. They rely on others and seek guidance for their reasoning, but also offering support and helping others with their moral courage being formed through their own inner and outer voices and they aim at morally courageous collective action and shared responsibility. In both individual and collaborative reasoning, health care professionals act for the good of others or themselves when they observe

wrongdoing. In the pattern of *Collective reasoning*, health care professionals reason for whistleblowing as a collective actor who belongs to some particular group. They rely on the guidelines, rules and norms established by the group or the group cohesiveness with their moral courage forming through their own inner and collective voices, relying on collective responsibility and acting for the collective good when they observe wrongdoing. (see Figure 2; Paper III.)

6.2.2 Whistleblowing act in health care

The whistleblowing acts were performed by less than half of those health care professionals who had suspected wrongdoing (40 %) and slightly over half of those who had observed (56 %) and nearly all of them performed the act internally, inside the organisation where the wrongdoing occurred (Table 11). In addition, the majority stated they would blow the whistle internally (98 %).

Table 11. The whistleblowing acts regarding suspected or observed wrongdoing in health care according to the Sub-studies I, IV and II.

WHISTLEBLOWING ACT	**PHASE I, Sub-study I** DATA 1 (n=278) f (%) Suspicion (n=107)	**PHASE I, Sub-study I** DATA 1 (n=278) f (%) Observation (n=147)	**PHASE II, Sub-study IV** DATA 2 (n=454) f (%) Observation	**PHASE I, Sub-study II** DATA 1 (n=226)[1] Observation
INTERNAL	104 (97)	138 (94)	445 (98)	
Wrongdoer				x
Colleague				x
Closest manager	81 (76)	111 (76)		x
Middle management	21 (20)	33 (22)		x
Higher management	24 (22)	37 (25)		x
Workplace union representative	11 (10)	29 (20)		
Safety representative	12 (11)	31(21)		
Other (e.g. Occupational healthcare)	25 (23)	29 (20)		
Occupational health care				x
Human resource manager				x
Lawyer				x
EXTERNAL	29 (27)	43 (29)	9 (2)	
Media	1 (1)	5 (3)		
AVI	5 (5)	9 (6)		x
Valvira	7 (7)	11 (8)		x
Union representative	13 (12)	22 (15)		x
Parliamentary ombudsman	1 (1)	2 (1)		
Police	(5) 5	9 (6)		x
Other (e.g. Patient representative)	11 (10)	17 (12)		

[1]The whistleblowing acts marked with X were identified from an open data 1 in Phase I, Sub-study II

A minority of the health care professionals had (27 %, 29 %) or would (2 %) blow the whistle externally, outside the organisation. Internally, the whistleblowing act was most often addressed to the closest manager (76 %) and externally to the union representative (12 %, 15 %). In addition, internally, health care professionals had talked directly to the wrongdoer or to their colleagues. (Table 11.) The whistleblowing acts were identified from the open data which are marked with an x in Table 11. Some health care professionals blew the whistle immediately after observing wrongdoing, others tolerated wrongdoing for years. In addition, the whistleblowing acts were performed once or several times (Paper II).

6.2.3 Consequences of the whistleblowing act in health care

Consequences of the whistleblowing act were experienced by the majority of those whistle-blowers who had performed the whistleblowing act regarding their suspicions of wrongdoing (70 %) or their observations (69 %) (Figure 8). As presented in Figure 8, there was some variation in the number of consequences whether the whistleblowing act was performed regarding suspected or observed wrongdoing. The consequences were either negative (46 %, 43 %) or positive (39 %, 42 %) to the whistle-blower. The negative consequences that the whistle-blowers suffered were mainly forms of discrimination by the manager (16 %, 17 %) or colleagues (11 %, 12 %), or bullying (13 %, 15 %) and the positive ones were received mainly as private form of thanks (28 %, 29 %). (Figure 8.) Half (50 %) of those whistle-blowers who had performed the whistleblowing act regarding their suspicions of wrongdoing and half (50 %) regarding their observations described that the wrongdoing did not end with their whistleblowing act (Figure 2; Paper I).

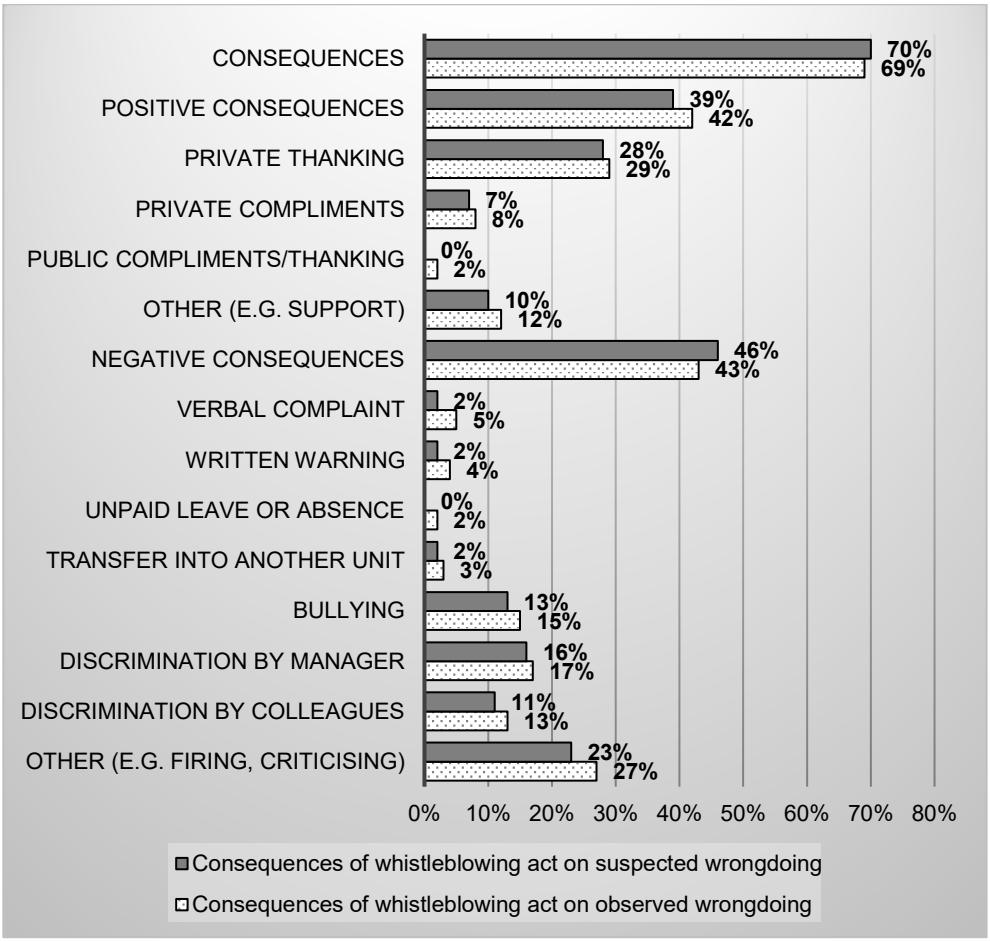

Figure 8. Consequences to the whistle-blower of their whistleblowing act regarding suspected (n=107) or observed wrongdoing (n=147).

6.3 Whistle-blower in health care

The whistle-blower is the actor in the whistleblowing process. The whistle-blower was identified in health care by their background variables associated with their whistleblowing act (Paper I) and their self-assessed level of moral courage (Paper IV). Three associations were identified between the background variables of health care professionals and their whistleblowing acts – the length of working experience, gender and working in a management position. Those participants, whose length of work experience was ten or over ten years, had blown the whistle more than those with less than ten years. Furthermore, the females performed the whistleblowing acts more than the males. Those health care professionals working at management

position performed the whistleblowing act more than those working as staff. (Table 6; Paper I.)

The mean level of the whistle-blowers' overall moral courage measured with the VAS 1–10, was 8.55 and the mean level of whistle-blowers' total moral courage was 4.34. on a 5-point Likert scale. The dimension of *Compassion and true presence* was evaluated as the highest of the sum-variables while *Commitment to good care* was assessed the lowest. (Table 3; Paper IV.) Whistle-blowers' background variables – socio-demographics, education, work, social responsibility and personality related variables – were statistically significantly associated or correlated with their self-assessed levels of moral courage (Tables 1, 4 and 5; Paper IV).

The whistle-blowers' background variables, present work role and personality type were associated with all the variables of moral courage. Those who were working as managers or considered their personality more extrovert than an introvert assessed their levels of moral courage as higher than others. Those whistle-blowers having some other profession (such as a specially trained nurse or a Master of Administrative Sciences) assessed their moral integrity higher than registered nurses. Moreover, those with higher degrees assessed their levels of moral responsibility and overall moral courage higher than students. (Table 4; Paper IV.)

The highest positive correlation was between total moral courage and personality related variables such as respecting one's own profession. Additionally, as regards the variables related to social responsibility, the highest positive correlations were between well-being of the work community and moral integrity and total moral courage. The highest negative correlation was between allowing others to influence one's own opinions and total moral courage. (Table 5; Paper IV.)

6.4 Summary of the main results

The results of this study are summarised according to the research questions (see Chapter 4) and their contribution to the model development. Overall, this study produced knowledge about the phenomenon of whistleblowing for wrongdoing in health care in the following areas: wrongdoing, the whistleblowing process, reasoning for whistleblowing and the whistle-blower in health care. Both **Phases I** and **II** and each of the four **Sub-studies I-IV** contributed to the development of a conceptual model of reasoning for whistleblowing (Figure 9). The first two **Sub-studies I** and **II** provided knowledge about the manifestation of wrongdoing and the whistleblowing process in health care. These results confirmed that the phenomenon of whistleblowing for wrongdoing exists and manifests as an organised process. These two Sub-studies contributed to the development of the model by confirming wrongdoing as the starting point for reasoning and whistleblowing. In addition, the nature of the proceeding process was identified for the model. **Phase I** also

confirmed the preliminary suggestion about the need for the conceptualisation of reasoning for whistleblowing between wrongdoing and whistleblowing. Therefore, a theoretical construct of reasoning for whistleblowing was created in **Phase II** of this study.

In **Phase II**, **Sub-study III** a theoretical construct was created including three dimensions and three patterns of reasoning and the core category: *"The formation of morally courageous intervening"*. This had a major contribution to the development for a conceptual model of reasoning for whistleblowing. A theoretical construct made visible the multidimensionality of reasoning for whistleblowing. In addition, the results supported the preliminary thought about reasoning situating between wrongdoing and whistleblowing. Moreover, the results made it evident that a theoretical construct of reasoning for whistleblowing was needed to understand how health care professionals reason for whistleblowing and why whistleblowing happens. In **Sub-study IV**, the whistle-blower was identified by their background variables and moral courage and these variables could be relevant for the manifestation of the phenomenon of whistleblowing for wrongdoing and reasoning for whistleblowing. The results show that the whistle-blower is an initiative and essential actor. Even though, the whistle-blower is a key actor, the concept was not considered to be relevant enough to be made visible in the model as such. However, the whistle-blower is visible in the dimension of the reasoning actors in the conceptual model.

The results that were considered to be relevant to achieve the overall goal of the model to prevent and decrease wrongdoing were integrated into a conceptual model. These were a theoretical construct of reasoning for whistleblowing including the dimensions and patterns, internal and external whistleblowing, and wrongdoing as both, an initiative phase of suspicion or an observation of wrongdoing and as a goal of preventing and decreasing wrongdoing. In addition, the relationships between the concepts and the proceeding process are present in the model (6.5).

6.5 Conceptual model of reasoning for whistleblowing in health care

A conceptual model of reasoning for whistleblowing in health care was developed, as an overall goal of this study, according to the steps of the integrative approach: ***exploring the phenomenon through multiple sources*** and ***theorising***. A conceptual model of reasoning for whistleblowing consists of the following concepts: **wrongdoing, reasoning** and **whistleblowing** and **their relationships** with each other. The model presents **reasoning** leading from a suspicion or an observation of **wrongdoing** through individual, collaborative or collective **reasoning** into an

internal or external **whistleblowing**, aiming to decrease and prevent **wrongdoing**. (Figure 9.)

In a conceptual model, **wrongdoing** is both, an initiative phase of a suspicion or an observation of wrongdoing and as a goal of preventing and decreasing wrongdoing. Wrongdoing occurs usually in an organisation and can be suspected or observed by a health care professional, as a member of the organisation where wrongdoing occurs. The perceptions of wrongdoings are individual. However, as wrongdoing harms others in the form of physical, psychological or mental abuse, or omissions, they are fundamentally wrong, unethical and sometimes juridical offences. Wrongdoings are often a question of misusing power over others. The ethical aspect of the wrongdoing situation is sometimes challenging to identify and it requires the health care professional's ability to reason. (Papers I-IV.) Change is a typical goal for practice theories (Jacox, 1974; Kim, 1994) and therefore, as a goal to decrease and prevent wrongdoing it is suitable and relevant to be involved in a conceptual model of reasoning for whistleblowing. As an initiative phase, a suspicion or an observation of wrongdoing leads to reasoning for whistleblowing. (Figure 9.)

In the conceptual model, **reasoning for whistleblowing** is the central construct with the patterns and dimensions of reasoning and the core category: *"The formation of morally courageous intervening"* which is about health care professional's awareness of values and the value-base of the profession. It means protecting the fundamental core of professional caring, the good of others against the violations of human dignity and rights. Reasoning for whistleblowing is conscious deliberation. According to a theoretical construct, reasoning is being aware of wrongdoing, the situation, the effect on the self and others as well as responsibilities.

Reasoning Actors, Reasoning Justifications and Reasoning Activities are the dimensions of reasoning for whistleblowing. The dimension of *Reasoning Actors* refers to who health care professionals are as actors when they reason for whistleblowing that is whether they reason alone, in collaboration with others or rely their reasoning on collectivism. The dimension of *Reasoning Justifications* refers to the motivations of why health care professionals would blow the whistle, which is mainly for the benefit of others or themselves. Health care professionals aim to benefit others on various levels from the micro level to the macro level. This dimension describes the virtuous nature of health care professionals and their desire to do the right thing as well as to be reliable and accountable health care professionals. The dimension of *Reasoning Activities* refers to what health care professionals reason. This dimension makes visible the negative nature of the phenomenon of whistleblowing for wrongdoing indicating the prevailing fear, uncertainty, struggling and consequences. However, these activities indicate the need for health care professionals to overcome possible obstacles.

The patterns of reasoning are *Individual, Collaborative* and *Collective Reasoning* which refer to how health care professionals reason for whistleblowing. These patterns can each lead from wrongdoing to whistleblowing. The patterns describe the similarities and differences in health care professionals' responses to wrongdoing. The similarities are the sense and awareness of responsibility, moral courage, the good of others or oneself and judgment. The differences between the patterns concern: responsibility – whether it is personal, shared or collective; moral courage forming through one's inner, outer or collective voices; and relying on one's own or others' judgments or collective cohesiveness. (Paper III.)

In the conceptual model, **whistleblowing** can be internal or external referring to whether the whistleblowing is performed inside or outside the organisation. Whistleblowing is a value-based action aimed at change in order to end wrongdoing but involves a risk of negative reprisals for health care professionals. Whistleblowing involves the recipient, the party or a person to whom the whistleblowing is addressed and their responses, responsibilities and power to change the situation to end the wrongdoing and to prevent and decrease future wrongdoing. (Paper II.)

In a conceptual model of reasoning for whistleblowing (Figure 9), **the relationships** between the concepts are described as follows:

- **Wrongdoing** is an initiative phase **to reasoning**.
- The prevention and decrease of **wrongdoings** are the goals of a conceptual model, aiming at change, which is reached through **reasoning** and **whistleblowing**.
- **Reasoning** manifests before **whistleblowing**.
- The **patterns of reasoning** connect the **reasoning dimensions** with each other pointing that reasoning proceeds through **reasoning justifications.** Each **pattern of reasoning** comprises of each of the three **dimensions of reasoning,** pointing that the dimensions manifest at the same time. Each **pattern of reasoning** can manifest independently of each other, but not without the **dimensions of reasoning**. All the **patterns** can lead from **wrongdoing** to **whistleblowing.**
- The goal of preventing and decreasing **wrongdoing** could be reached with **whistleblowing**.
- A conceptual model of reasoning for whistleblowing proceeds as a **process**.

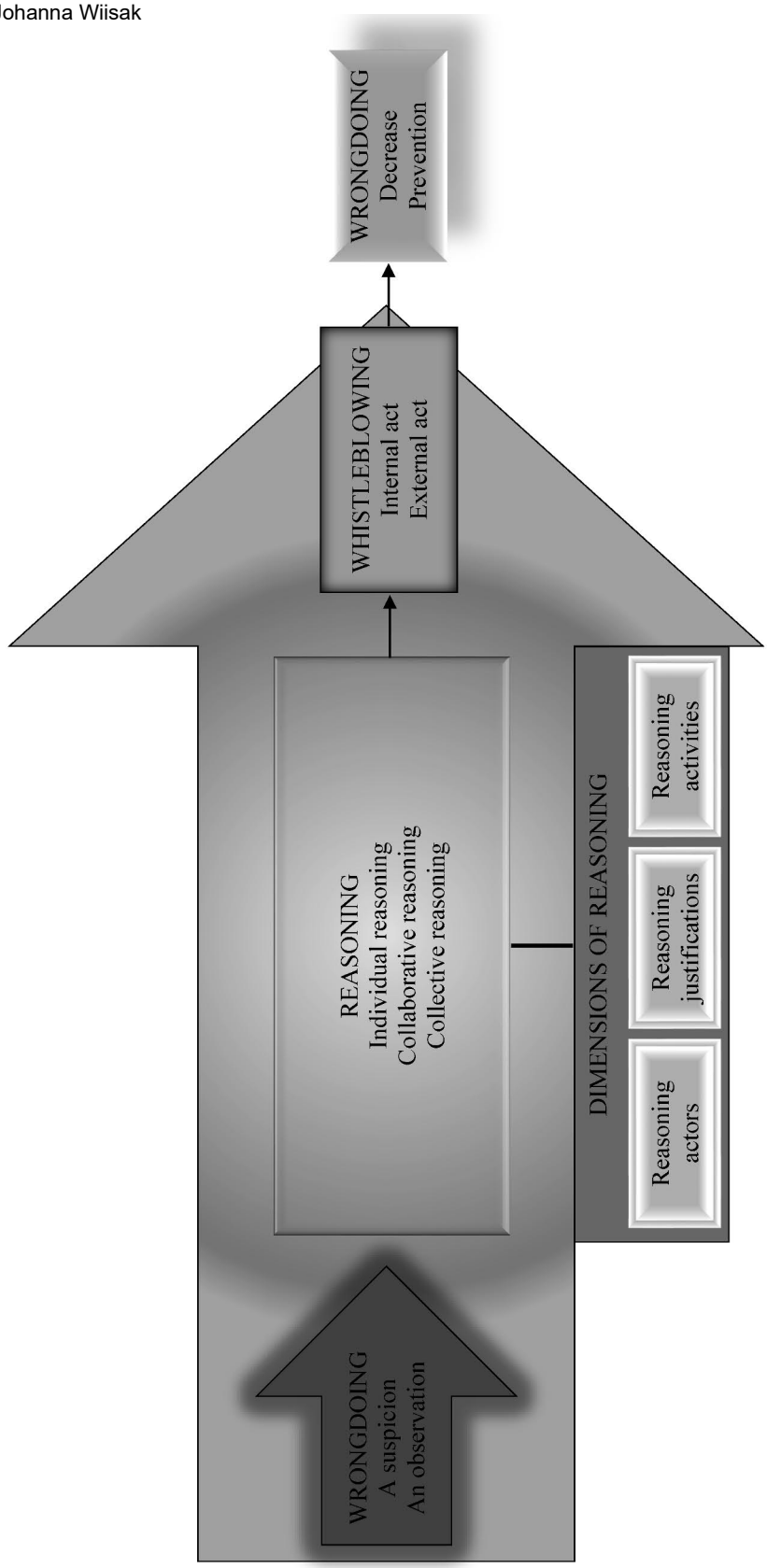

Figure 9. A Conceptual model of reasoning for whistleblowing in health care. Reasoning for whistleblowing leads from a suspicion or an observation of wrongdoing through individual, collaborative or collective reasoning into an internal or external whistleblowing and aiming to decrease and prevent wrongdoing. The darkness of the wrongdoing arrow refers to wrongdoing being fundamentally wrong and unacceptable. The fuzzy circle around the reasoning refers to the centrality of the concept. The arrow in the back describes the direction of the proceeding. Wrongdoing on the left, inside the arrow describes the starting point and wrongdoing on the right describes the goal. The small horizontal arrows describe the relationships between the concepts and the straight vertical line connects the dimensions of reasoning with the patterns of reasoning.

7 Discussion

In this chapter, the main results (7.1), and validity and reliability (7.2) of this study are discussed. Furthermore, suggestions for stakeholders and researchers (7.3) are presented. Discussions are presented in more details within the original publications (Papers I-IV).

7.1 Discussion of the results

This study provided novel evidence in the field of health sciences and professional ethics by analysing whistleblowing for wrongdoing in health care as perceived by health care professionals. This was done in order to develop a conceptual model of reasoning for whistleblowing, which was the overall goal of this study. The model was developed following the steps of the integrative approach (Meleis, 1997): ***exploring the phenomenon through multiple sources*** and ***theorising*****.** The results from the literature and both study Phases (I and II) and four Sub-studies (I-IV) contributed to the development of the conceptual model; although not all the results are included in the model. In this section, the following are discussed: the main results, which are the manifestation of wrongdoing and the whistleblowing process in health care, reasoning for whistleblowing, the whistle-blower as well as the developed conceptual model. The results of the study can be implemented both in nursing and health care practices, management and education. The results also produced a new theoretical understanding of the phenomenon of whistleblowing for wrongdoing.

Wrongdoing

The results indicate that wrongdoing is the initiative phase and without wrongdoing, reasoning for whistleblowing or whistleblowing for wrongdoing would not be needed. Wrongdoings that are either illegal or unethical, challenge professional ethics. According to the results, health care professionals observe and identify various wrongdoings quite frequently in health care. However, the frequencies of wrongdoing observations varied in previous studies with some being consistent

(Malmedal, et al., 2009b; Moore & McAuliffe, 2010; Moore & McAuliffe, 2012) and others being contradictory (King & Scudder, 2013) to the results of this study.

Wrongdoings observed in health care were related to patients, health care professionals, health care managers and organisation. In this study, wrongdoings related to organisations were the most frequently observed and more specifically, particularly those related to human resources. Somewhat consistent findings are presented in the previous literature (Hunt & Shailer, 1995; McDonald & Ahern, 2000; Moore & McAuliffe, 2010). This may be the result of the ever growing shortage of health care professionals (World Health Organization (WHO), 2016; Organisation for Economic Co-operation and Development (OECD), 2022). Furthermore, the results indicate that wrongdoings violate the mental or physical integrity and human rights and the dignity of the patients, health care professionals or other members of the organisation and these are consistent with the findings presented in previous literature (Ahern & McDonald, 2002; Walshe & Shortell, 2004; Ohnishi, et al., 2008; Malmedal, et al., 2009a; Malmedal, et al., 2009b; Jones & Kelly, 2014; Monrouxe, et al., 2014; Francis, 2015; Jack, et al., 2021). In addition, the results indicate that the observed wrongdoings are ethically problematic with some of them also being classified as juridical offences; these results are compatible with findings identified in the earlier literature (Walshe & Shortell, 2004; Ohnishi, et al., 2008; Francis, 2015).

Whistleblowing process

Whistleblowing for wrongdoing was described as a process based on the literature. However, instead of one process, the results presented two separate processes in health care SUSP and OBSE. These kind of process descriptions was not identified from the literature as such, even though there are studies exploring the whistleblowing processes which show some consistencies and inconsistencies with the results of this study. The earlier literature consistently agrees that the processes, whether they concern whistleblowing i.e. (Dozier & Miceli, 1985; Beckstead, 2005; Ohnishi, et al., 2008; Jones & Kelly, 2014) or ethical decision making i.e. (Rest, 1986; Treviño, 1986), begin with a wrongdoing that concerns inappropriate behaviour or illegal or unethical activities. Even though the whistleblowing process is described as an individual whistle-blower's process, it does not exist in a vacuum, but in a social context, which indicates the need to take a broader stance on whistleblowing for wrongdoing at the level of society, for example, through the development of whistle-blower protection. The multiple paths between wrongdoings and whistleblowing indicates the complexity of whistleblowing for wrongdoing, which is supported by the literature i.e. (Ohnishi, et al., 2008; Grube, et al., 2010; Jones & Kelly, 2014), even though these sorts of paths were not identified. Even

though, these paths are not present in a conceptual model of reasoning for whistleblowing as they were insufficient to describe what actually happens between wrongdoing observation and the whistleblowing act, they played a major role in the selection of the grounded theory method for the development of a theoretical construct of reasoning for whistleblowing.

The whistleblowing act was performed more often inside rather than outside the organisation and the majority had or would blow the whistle internally, indicating that health care professionals follow the ordinary procedures and the hierarchy of the organisation. The preference of an internal whistleblowing act over an external may also indicate the fear of the whistle-blower for a greater risk of negative consequences and retaliation. Previous research supports these findings (Jackson, et al., 2014).

The results present that the whistleblowing act did not always terminate wrongdoings and some health care professionals had blown the whistle on several occasions; this result questions whether the internal or external processes and operating models of the organisation are functional and adequate. This is also supported by the results of some blowing the whistle to the media, which is an employee's extreme solution and before going to media, wrongdoings have usually been exposed inside the organisation repeatedly. Furthermore, the supervisor authorities may have been involved in the solving process without achieving the desired change. These findings are supported by the international reports which also suggest that wrongdoings may increase during health care structure changes (Kennedy, 2001; Francis, 2013; Francis, 2015; Kirkup, 2015).

Reasoning for whistleblowing

A theoretical construct of reasoning for whistleblowing was created as it was considered to have a role in understanding the phenomenon of whistleblowing and health care professionals individual responses regarding their suspicions or observations of wrongdoing. This was supported by the literature suggesting that whistleblowing requires critical thinking (Beckstead, 2005; Ion, et al., 2019). In order to understand highly abstract concepts which are not necessarily directly observable, there is sometimes a need to construct them from other concepts (Reynolds, 1971; Chinn & Kramer, 2011). As reasoning is considered such an abstract concept, a theoretical construct was created. The results suggest that a theoretical construct of reasoning for whistleblowing is situated in the whistleblowing process between wrongdoing and the whistleblowing act providing an understanding of how health care professionals reason for whistleblowing and why whistleblowing happens.

Several models have been developed or used to explore whistleblowing: a prosocial organisational behaviour model (Dozier & Miceli, 1985); an ethical decision making model (Rest, 1986); an interactionist model of ethical decision making (Treviño, 1986); a dual-processing model (Watts & Buckley, 2017), and theories i.e. a theory of cognitive development (Piaget, 1932, reprint 1966); a theory of moral development (Kohlberg, 1969). Of these, models and theories of Piaget (1932, 1966), Kohlberg (1969), Rest (1986), and Treviño (1986) focus on the stages of moral development or moral judgment. These have been used for example to explore the changes in moral judgments during education (Auvinen, et al., 2004) and to measure the influence of moral reasoning on perceptions of whistleblowing (Arnold & Ponemon, 1991). In addition, Treviño's (1986) model based on Kohlberg's cognitive development stages interacting with specific situational and individual elements when making ethical decisions. Dozier & Miceli (1985), consider whistleblowing as a prosocial organisational behaviour that differs from the premise of this study which is based on professional ethics. In addition, their model begins with an individual labelling the questionable activity as wrong which is contradictory to the results of this study suggesting wrongdoing is harmful to third parties and fundamentally wrong without the observer's judgment. Watts and Buckley (2017) propose a dual-pathway element to their dual-processing model in which moral intuition and deliberative reasoning interact to influence reporting activity. The dual-processing element was considered as a somewhat narrow perspective to describe how individual reason for whistleblowing which was the main interest in this study. Therefore, the overall structures and purposes of the identified models and theories were considered to provide a somewhat inappropriate framework for the purpose of this study, although they strengthened the thoughts and hunches of the researcher about reasoning having a role in the phenomenon of whistleblowing for wrongdoing and why it happens.

A theoretical construct provides an understanding of the phenomenon of whistleblowing and helped in developing a conceptual model of reasoning for whistleblowing, as reasoning is a highly abstract concept. It is suggested in the literature, that highly abstract concepts may require a construction from other concepts (Reynolds, 1971; Jacox, 1974). The study results suggest that reasoning is multidimensional as it composes of the core category, three dimensions and three patterns of reasoning for whistleblowing. The identified patterns connect the dimensions with each other. The core category which was discovered to be "The formation of morally courageous intervening", responds to the main problem of those involved, that is, health care professionals overcoming their fear of the potential negative consequences to themselves after whistleblowing. The core category and the dimensions and patterns of reasoning are supported by the previous literature indicating that whistleblowing requires moral courage to act i.e. (Faunce,

et al., 2004; Lachman, 2008; Bickhoff, et al., 2016; Watts & Buckley, 2017; Mannion, et al., 2018; Blenkinsopp, et al., 2019). Furthermore, the core category was discovered to be formed mentally as an integration of an individual's cognition and emotion which is supported by the models developed and used by other researchers (Gundlach, et al., 2003; Blenkinsopp & Edwards, 2008; Jones, et al., 2014; Watts & Buckley, 2017). The results suggest that the decision to blow the whistle is not simple to make and reasoning requires an individual to be active. Therefore, it can be assumed that merely intuition does not lead to whistleblowing, which is also supported by the works of other researchers (Watts & Buckley, 2017; Zollo, 2021).

A theoretical construct suggests that health care professionals have a desire to act according to professional ethics for the benefit of others. This emphasises the dimension of reasoning justifications and is supported by the dimensions of reasoning actors and reasoning activities. These results are supported by the ideology and values of the health care profession, the literature as well as the ethical guidelines advocating for the patient and doing good to others such as their colleagues, the work community, the organisation, their profession, health care and society (Jackson, et al., 2014; Simola, 2015; Simola, 2018; International Council of Nurses (ICN), 2021).

Whistle-blower

The whistle-blower, who is the actor in the whistleblowing process was identified and described by their background variables and moral courage. Results suggest that the whistle-blower is central and essential in order to whistleblowing for wrongdoing to happen. The results indicate that the whistle-blowers reason as different actors: as an individual, as collaboratives or collectives, suggesting that they are not merely individual entities, but are potentially sharing the responsibility about whistleblowing for wrongdoing. This is supported by Kenny's (2019) re-conceptualisation of the whistle-blower as a collective self. In addition, health care professionals do not create the grounds for their moral action just by themselves, as there are professional codes of conduct developed by the professional associations to which a person can rely on for their ethical deliberation (Nursing & Midwifery Council (NMC), 2018; International Council of Nurses (ICN), 2021).

The results suggest that health care professional's moral courage could be a driving force for their whistleblowing and to recognise the moral aspect in the situation where wrongdoing occurs, whistle-blowers need to be ethically sensitive. In addition, health care professionals are considered to be capable of reasoning and according to their reasoning, capable of blowing the whistle. These results are supported by the literature about moral courage (Gastmans, 2002; Jormsri, et al., 2005; Weaver, et al., 2008; Simola, 2015; Huang & Huang, 2016; Milliken, 2016).

Whistle-blowers self-assessed their level of moral courage at a rather high level, slightly higher than in previous studies among nurses (Numminen, et al., 2019; Hauhio, et al., 2021; Numminen, et al., 2021). The result is not surprising as health care professionals are assumed to be morally courageous as they encounter ethically conflicting situations daily at all levels of health care, these situations should be solved for the ultimate good of health care, and for the good of the patients (Gastmans, 2002; Numminen, et al., 2019).

Previous studies show that health care professionals' personal qualities promote moral courage (Thorup, et al., 2012; Dahl, et al., 2014; Ko, et al., 2020). This supports the results of this study about the associations between the background variables of the whistle-blowers and their level of moral courage, indicating that they may possess certain personality traits and a sense of social responsibility. These results suggest that individuals who have pursued a career in the health care profession are generally willing to advocate for the patients and act in a morally courageously way, thus putting themselves at risk when protecting others. In addition, health care professionals who have internalised the values and principles of the profession are more likely to act according to them (Husted & Husted, 2008). The results indicate that moral courage was also associated with education and the hierarchical position in the organisation as those with higher positions and higher degrees assessed their level of moral courage higher. Furthermore, those health care professionals working in a management position were more likely to blow the whistle than staff. These results may indicate that societal status achieved through education and hierarchical power structures are associated with moral courage and whistleblowing (Gallagher, 2011; Moore & McAuliffe, 2012; Rathert, et al., 2016; Blenkinsopp, et al., 2019). However, the results of this study are related to a sample with a relatively low response rate (31%), which may be a limitation on the results and conclusions drawn from them (Waltz, et al., 2010).

Conceptual model of reasoning for whistleblowing

A conceptual model was developed from the literature and research results. The model refers to reasoning for whistleblowing leading from a suspicion or an observation of wrongdoing through individual, collaborative or collective reasoning into internal or external whistleblowing, aiming to decrease and prevent wrongdoing in health care. The need to develop this model emerged from practice, as whistleblowing involves a considerable risk of negative consequences for health care professionals (Kenny, 2019). In addition, the phenomenon of whistleblowing for wrongdoing have been acknowledged as occurring globally, not only in health care organisations but also in other organisations, the implication being that every organisation is exposed to wrongdoing. In addition, the whistleblowing phenomenon

is multifaceted affecting all levels of society. Another aspect suggesting that the model was needed is the whistle-blower's risk of retaliation, even when their aims are virtuous and aimed at ending wrongdoing and protecting others from harm. (Dasgupta & Kesharwani, 2010; Heumann, et al., 2013; Jackson, et al., 2014.)

A conceptual model of reasoning for whistleblowing was developed as whistleblowing for wrongdoing is a phenomenon described as a complex process that has great professional ethical importance in health care. In addition, there is an inconsistency in the usage and definition of the concept in health care and interdisciplinary research (Beckstead, 2005; Ohnishi, et al., 2008). Results of this study, theorised into a model, significantly add to the body of knowledge regarding the health sciences, providing a new insight into understanding the phenomenon of whistleblowing for wrongdoing as well as knowledge that can be used in practice (Chinn & Kramer, 2011).

A conceptual model of reasoning for whistleblowing contributes to professional ethics as whistleblowing was defined in the existing literature as an activity of professionals (Near & Miceli, 1985; Jackson, et al., 2014). Furthermore, the model and all the concepts in the model refer to the ultimate good of the patient which points to the moral end of professional caring (Gastmans, 2002). The model suggests that reasoning for whistleblowing is individual, which refers to thinking according to one's own values and as health care professionals, according to the values and principles of the profession. Health care professionals have a key role in whistleblowing and along with the profession and professional ethics, they are morally (International Council of Nurses (ICN), 2021; Nursing & Midwifery Council (NMC), 2018) and legally (Government of Ontario US, 1991; Legislation Government UK, 1999) expected and required to blow the whistle when they observe wrongdoing that falls below the ethical standards. Health care professionals are in a key role to uphold the ideals of the profession and standards of care (Ion, et al., 2016). However, not everyone who observes wrongdoing becomes a whistle-blower (Jackson, et al., 2014) and the model provides an understanding of why others do so. The model can be used by health care managers to challenge individual’s thinking and professional ethics.

A conceptual model of reasoning for whistleblowing has significant benefits for the patient and patient care as whistleblowing attempts to change and correct wrongdoing (Miethe & Rothschild, 1994; Bjørkelo & Madsen, 2013). In addition, conceptualising the phenomena in the health care context ultimately benefit patients and their health and health care practices. Therefore, it can be considered that by using the model, the quality of care and patients’ overall safety could be enhanced. (Meleis, 2012; McEwen & Wills 2014.)

A conceptual model of reasoning for whistleblowing aims to benefit society. As wrongdoing has been a persistent subject in reports during the last few decades

(Hunt, 1995; Walshe & Shortell, 2004; Francis, 2013; Francis, 2015; Kirkup, 2015) and there is an increasing interest in developing legislation to protect the whistle-blowers (European Union, EU, 2019). In addition, wrongdoing and the inability to blow the whistle have effects on health policy and labour policy as they increase health care professional's moral distress and decrease work well-being. Both these aspects may increase turn over (Lachman, 2009; Goethals, et al., 2010) and thereby, exacerbate the work force shortage (Organisation for Economic Co-operation and Development (OECD), 2022). Health care professionals have an important role in society and they are responsible and accountable for patients and the public in general (International Council of Nurses (ICN), 2021). For these reasons, the model is considered benefiting public and society at large.

A model or theory of reasoning for whistleblowing was not identified for the purposes of this study. However, the previous literature revealed justice theories (Adams, 1965; Near, et al., 1993) suggesting the perceptions of injustice as motivating employees to blow the whistle (Gundlach, et al., 2003); whereas power theories aim to explain whistleblowing as a consequence of power relations in the organisation (e.g. between the wrongdoer and whistle-blower) (Near, et al., 1993; Near & Miceli, 1995). Several studies have been conducted to explore associations between whistleblowing and factors considered to be related to prosocial beharviour such as the level of cognitive or moral development (Kohlberg, 1969; Rest, 1986; Treviño, 1986; Arnold & Ponemon, 1991) and organisational commitment (Mowday, et al., 1979). These are the traditional, rational models which have been criticised (Watts & Buckley, 2017) suggesting that their main focus for making whistleblowing decisions lies in the cost-benefit analysis (Near & Miceli, 1985; Miceli, et al., 2012) failing to account for the emotional aspect of whistleblowing (Gundlach, et al., 2003; Jones, et al., 2014). Later on, these theories and models have been integrated with the perspectives of emotion and intuition (Gundlach, et al., 2003; Jones, et al., 2014; Watts & Buckley, 2017). All the models and theories identified from the literature provided various perspectives for understanding the phenomenon of whistleblowing for wrongdoing and reasoning for whistleblowing.

7.2 Validity and reliability of the study

The validity and reliability of this study were considered throughout the research process. The strengths, limitations and methodological considerations of the individual sub-studies are reported in more detail within the original publications (Papers I-IV). In the following section, first, the validity and reliability of the methods and data collection are discussed, followed by a discussion about the validity and reliability of the results. Then, the evaluation of the conceptual model is presented and finally, the limitations and strengths of the study are briefly discussed.

The validity and reliability of the sub-studies I and IV, the surveys (Papers I and IV), were evaluated from the perspective of *internal validity* as *content, construct* and *criterion validity*, *external validity* and *reliability*. The rigour and trustworthiness of the sub-studies II and III (Papers II and III), were evaluated with the criteria of *dependability, conformability*, *transferability* (Sub-study II), *fit, work*, *relevance* (Sub-study III; Paper III) and *credibility* (Sub-studies II and III) (Glaser & Strauss, 1967; Glaser, 1978; Lincoln & Guba, 1985; Graneheim & Lundman, 2004). Overall, the strength of the study and its results are demonstrated by all the Papers I-IV having been peer-reviewed and published in international, high-level journals.

Validity and reliability of the methods

Data collection

The data for the literature review (Summary) was selected from electronic databases. The search strategy and search terms were discussed with a library informatics expert to enhance the likelihood of discovering all the relevant empirical research articles about whistleblowing for wrongdoing. To enhance the reliability of the data, literature searches were conducted following a systematic search protocol (Figure 2) in three scientific databases, which are essential for health care research. In addition, manual searches were conducted to increase the probability of finding all the relevant scientific literature. As suggested in the model development literature (Norris, 1982; Chinn & Kramer, 2011; Walker & Avant, 2014), the manifestation of the phenomenon and use of the whistleblowing concept in other disciplines was constantly considered. Therefore, for the definition of the concepts (see Chapter 2) and for the four sub-studies (Papers I-IV), interdisciplinary literature searches were conducted. The searches were conducted using the search term whistleblowing with different combinations. One of the limitations may be that the terms used interchangeably as synonymous with whistleblowing such as raising concerns or speak up, were not used as search terms. However, the conducted literature searches produced articles in which these terms were used interchangeably as synonyms for whistleblowing.

In both two **Phases (I and II)** of the study, the data were collected electronically via email from health care professionals on a national level. **Phase I** comprised Sub-data I and II and **Phase II** comprised Sub-data III and IV. In **Phase II,** the data collection focused on nurses as health care professionals as they represent the largest group of health care professionals (Finnish Nurses Association (Sairaanhoitajat), 2022) with a consistent education and who share similar ideologies and values globally with other health care professionals (International Council of Nurses (ICN), 2021; Nursing & Midwifery Council (NMC), 2018). Both of the electronic data

collections were conducted using the trade unions; this method was chosen as whistleblowing is characterised as a sensitive and emotional research topic (Jackson, et al., 2011).

In **Phase I** (Papers I and II), the validity of the study and data collection was enhanced by pre testing the WIHC instrument, which was developed for this study based on previous literature. Pre testing increased the trustworthiness as it verified that the questions were clear and appropriate as a means of answering the research questions (Waltz, et al., 2010).

In **Phase II** of the study, the data collection included the video vignette method, which was used instead of observation (Papers III and IV). This was because whistleblowing for wrongdoing and reasoning for whistleblowing are difficult to observe in real life. Responding to the vignettes may predict similar responses in real life and they enable the participants to distance themselves from sensitive and emotional research topics such as whistleblowing (Alexander & Becker, 1978; Hughes & Huby, 2002). Both, the script and the video vignette, which was developed for this study, were pre tested to enhance the validity and reliability of the study (Hillen, et al., 2013; Ulrich & Ratcliffe, 2008). Moreover, the validity and reliability of the NMCS© (Numminen, et al., 2019), used for data collection, has been proven in previous studies (Numminen, et al., 2019; Numminen, et al., 2021).

Data analysis

The validity and reliability of the data analysis was evaluated from the perspectives of internal validity, reliability and credibility. *Internal validity* (*credibility*) refers to whether the researcher is measuring or observing what they intended to measure or observe (Waltz, et al., 2010). In this study, internal validity was enhanced using multiple research methods to describe and analyse whistleblowing for wrongdoing and reasoning for whistleblowing in health care.

Reliability of the instrument often refers to the reliability of the data collection instrument and whether it records the same phenomenon (Waltz, et al., 2010). The internal consistency reliability of the WIHC instrument was not measured as it was newly developed but also because of the nature of the instrument which included one open and several open-ended questions. However, it was pretested, which enhance the validity of the instrument. The internal consistency of NMCS© (Numminen, et al., 2019) was estimated using Cronbach's alpha coefficients and described as high, demonstrating the good reliability of the instrument (Numminen, et al., 2019; Numminen, et al., 2021).

The measurement of health care professional's moral courage based on self-assessment and the results of video vignette were used, both of which involve a risk of socially desirable response biases (Fisher & Katz, 2000; Liyanapathirana, et al., 2016). However, the vignette method has also been suggested to reduce socially

desirable responses. (Hughes & Huby, 2002). In addition, achieving reliable self-assessment about moral courage, requires health care professionals to have an understanding of the complexity of the concept of moral courage. This was enhanced providing a detailed description about moral courage when recruiting potential participants.

The researcher conducted the statistical tests and data analysis for the Sub-study I. The validity and reliability were enhanced as the statistical tests were checked by the statistician. In addition, to ensure the validity and reliability of Sub-study IV, the statistical tests were conducted by the statistician and analysed by the researcher.

Credibility of the study was evaluated for Sub-studies II and III. Credibility refers to whether the data and the results reflect the perspectives and experiences of the participants or the context in a believable way (Lincoln & Guba, 1985; Graneheim & Lundman, 2004). In this study, the credibility was ensured in multiple ways; firstly, by selecting appropriate methods for data collection and analysis; secondly, by including representative quotations from the participants; thirdly, by describing the process of participant recruitment, data collection and data analysis (Papers II and III); fourthly, by constantly comparing the similarities and differences in the data; and finally, writing theoretical memos that served as an audit trail for coding and categorising (Paper III). Furthermore, the researcher's biases were minimised by writing memos and consciously reflecting and recognising the researcher's own personal perceptions and experiences; thereby, also enhancing the validity and reliability of the results of this study.

Validity and reliability of the results

Literature review

In the literature review, a critical quality appraisal of the included empirical research articles was not conducted, which may be a limitation as regard the relevance of the results. However, one of the inclusion criteria was that the articles were peer-reviewed, which may mitigate this limitation to some degree. The synthesis of the literature on whistleblowing for wrongdoing was an interpretation of a single researcher, which may be a limitation in this study (Sandelowski, 2008). However, a consensus about this synthesis was reached by discussions among the research team.

Sub-studies I and IV, surveys

External validity refers to the generalisability of the results and the representativeness of the sample. In both cross-sectional surveys, the response rate was relatively low (31%). For Sub-study I, the data were collected during the summer holidays, which could reduce the number of participants. However, low

response activity is a typical limitation when using electronic instruments (Jones, et al., 2008; McPeake, et al., 2014; Ebert, et al., 2018). In Sub-study I, the sample size remained smaller than was calculated with the NQuery4 software which may be a limitation to the generalisability of the results. In Sub-study IV, according to the statistical power analysis, the sample size was adequate. However, as the samples were representative of the national level (Finnish Nurses Association (Sairaanhoitajat), 2022; The Union of Health and Social Care Professionals in Finland (Tehy), 2022) and the populations were heterogenous with variation in experiences, professional expertise and geographical locations in both surveys these factors may allow the generalisation of the results to other similar groups.

Content validity refers to the extent to which the questionnaire or an assessment instrument measures all aspects of the research topic or construct it is designed to measure, usually by expert judgments (Lynn, 1986; Polit & Beck, 2010). The content validity of the WIHC instrument was enhanced by pre testing it among health care professionals. The *Face validity* of the NMCS© (Numminen, et al., 2019) was assessed by PhD students with a background in health care practice. Thereafter, an expert panel with expertise in philosophy, ethics and nursing practice, assessed the scale. Furthermore, the content validity of the NMCS© (Numminen, et al., 2019) was analysed statistically using the item content validity index (I-CVI). Therefore, it can be assumed that the content validity of the NMCS© (Numminen, et al., 2019) is adequate.

Construct validity refers to whether the instrument measures the construct of the study it is intended to measure (Polit & Beck, 2017), in this study, at first whistleblowing for wrongdoing was measured using the WIHC instrument, followed by moral courage using NMCS© (Numminen, et al., 2019). The concept of whistleblowing was operationalised according to previous literature with the search conducted systematically (Chapter 3). This paved the way for developing the WIHC instrument, which was used for the first time in this study. To ensure whether the questions represented the phenomenon of whistleblowing the questions were formulated as multiple choice and open-ended questions. The construct validity of the NMCS© (Numminen, et al., 2019), was evaluated statistically with a principal component analysis (PCA), Promax and Kaiser normalisation rotation, confirmatory factor analysis (CFA). As pre tested and validated instruments were used, it can be assumed that the WIHC instrument measures whistleblowing for wrongdoing to some extent and NMCS© (Numminen, et al., 2019) is satisfactory for measuring moral courage, thereby enhancing the validity of the results of this study.

Sub-studies II and III, narratives

The *fit* and *conformability* of the study refers to the objectivity of the researcher and the environment during data collection and analysis (Glaser & Strauss, 1967; Lincoln

& Guba, 1985; Holloway & Galvin, 2017). The data were collected and analysed by the researcher and the researcher's bias prevails as with all qualitative studies. The researcher had been practising previously as a registered nurse and was familiar with the health context, which may have affected the interpretation of the results. In this study the fit and the conformability were ensured through regular meetings and discussions among the research team about the results: emerging codes, themes, categories, dimensions and a theoretical construct. Furthermore, discussions about the results among other researchers were conducted as an external peer-checking. (Glaser, 1978).

Transferability refers to whether the results of the study are transferable to other settings or groups and to what extent (Lincoln & Guba, 1985; Polit & Beck, 2017). Transferability was enhanced by providing accurate and detailed descriptions of the context, recruitment and characteristics of the participants, the data collection and the data analysis process (Papers II and III), to enable the reader to determine the transferability of the results of this study to another context (Graneheim & Lundman, 2004). Although the nature of the written narratives varied in depth, from superficial and narrow to extensive and detailed descriptions of whistleblowing for wrongdoing and reasoning for whistleblowing (Papers II and III), enough rich and diverse data were collected to ensure the theoretical saturation (Glaser, 2001).

Dependability refers to the degree of the documentation of the research process and the consistency of the results (Holloway & Galvin, 2017). The data collection and analysis were described with sufficient accuracy (Tables 3-6; Paper II, Table 2 and Figures 1-2; Paper III) to enable readers to follow the research process. The quotations of the participants were translated into English by a professional translator to maintain the accuracy of the data.

Workability of a theoretical construct refers to its capability to explain and interpret what is happening in the data and how well it accounts for the way the participants solved their main concern, in this study reasoning for whistleblowing (Glaser, 1998). Workability was ensured by constantly setting questions to the data (Figure 1; Paper III). *Relevance* of a theoretical construct was ensured using a method of constant comparison which allowed codes, categories, dimensions and patterns of reasoning for whistleblowing to emerge from the data, instead of forcing them (Glaser, 1978; Glaser, 1998; Glaser, 2001).

Evaluation of the conceptual model

A conceptual model of reasoning for whistleblowing was modelled from a part of the whistleblowing process. The model is evaluated with the following criteria: ***clarity, simplicity/complexity, generality, accessibility, and importance*** (Chinn & Kramer, 2011; Fawcett & DeSanto-Madeya, 2013; Walker & Avant, 2014). ***Clarity***

of a conceptual model of reasoning for whistleblowing is evaluated with *semantic clarity, semantic consistency, structural clarity*, and *structural consistency*. *Semantic clarity* is considered when the concepts of the conceptual model are clearly defined. (Chinn & Kramer, 2011). Whistleblowing is a symbolic term with multiple meanings; the expression is borrowed from other disciplines and there are many other concepts used interchangeably as synonyms with it in the health care literature which obscure its clarity. However, to enhance the clarity of the whistleblowing concept, it is clearly and precisely defined using interdisciplinary literature and placed in a health care context and the definition is consistent with a common meaning of the concept in the interdisciplinary use. Furthermore, the definitions of the concepts 1) wrongdoing, 2) theoretical construct of reasoning for whistleblowing, 3) whistleblowing, are both specific and generally provide accurate guidance and contextual sense. This study aimed at a consistent use of the concepts and their definitions throughout the research process to enhance the *semantic consistency* of the model. *Structural clarity* refers to the interconnection of the concepts which are identifiable and evident and organised into a coherent whole in this study (See Figure 9), with all the relationships included in the conceptual model. *Structural consistency* is enhanced by using the structure of a linear process of whistleblowing for wrongdoing throughout the study.

Simplicity/complexity of the model refers to the number of concepts and their relationships. Main concepts 1) wrongdoing, 2) reasoning and 3) whistleblowing differ in the levels of abstraction with 1 and 3 being concrete concepts and 2 being abstract. However, creating a theoretical construct of reasoning for whistleblowing provided an understanding about the concept of reasoning, its dimensions and patterns. The model suggests about the relationships that wrongdoing is both an initiative for reasoning and a goal after whistleblowing in the model. In addition, there must be wrongdoing and reasoning for whistleblowing to occur and even though the whistle-blower is an individual health care professional who exists, this person does not become a whistle-blower without all the three other main concepts. Therefore, it can be considered that the structure of the model is quite simple. However, the three dimensions and the three patterns of reasoning somewhat increases the complexity of the model.

Generality refers to the breadth of the purpose and scope of the model. A general model is applicable to various situations. (Chinn & Kramer, 2011). A conceptual model of reasoning for whistleblowing is considered to be practical and it can be implemented in nursing and health care practice as well as management and education for preventing and decreasing wrongdoing. In addition, it can be used internationally as health care professionals generally share a similar universal value-base and codes of conduct (Nursing & Midwifery Council (NMC), 2018;

International Council of Nurses (ICN), 2021). The model also produced a new theoretical understanding of the phenomenon of whistleblowing for wrongdoing.

Accessibility refers to the empirical accessibility of the model. Abstract concepts such as reasoning require selected dimensions to be empirically accessible, as without a definition the concept of reasoning can assume many dimensions of meaning (Chinn & Kramer, 2011). Empiric accessibility can be increased by increasing the complexity of the model. However, in this study, the dimensions and patterns of reasoning increases the complexity of the model and have a more precise empiric bases than the broader and abstract concept of reasoning. In addition, the other concepts in the model of wrongdoing and whistleblowing are concrete concepts which enhance the empiric accessibility. The empiric accessibility of the concepts and the model are both needed in order to develop practices and a theoretical understanding of the phenomenon of whistleblowing for wrongdoing.

The ***importance*** of a conceptual model of reasoning for whistleblowing is evaluated. The model is considered useful as it provides a new perspective and increases an understanding about whistleblowing to prevent and decrease wrongdoing in practice. In addition, as a consensus over the use of the concept in health care context is lacking (Attree, 2007; Francis, 2015; Mannion, et al., 2018) the model provides some clarification. Furthermore, presenting suggestions for stakeholders and researchers advance the usefulness of the conceptual model. However, as the conceptual model is newly developed, its usefulness has not been demonstrated with empirical research and therefore, further research is needed. Furthermore, the conceptual model is ***important*** to advances in health sciences and developing health care practice as it enhances an understanding about the phenomenon of whistleblowing for wrongdoing in health care. In addition, the concepts and their relationships are described explicitly making the model usable. The conceptual model also offers a focus on which to advance theoretical and practical significance through interventions and research programmes. (Chinn & Kramer 2011.)

Limitations and strengths of the study

The limitations and strengths of the study have been considered throughout the research process and these are summarised in Table 12 according to Sub-studies I-V and the Summary. In this section, the limitations and strengths about the use of the video vignette method will be discussed in more detail. Although the limitations and strengths of the instruments, samples and data are summarised in Table 12, they will also be discussed in the following sections about the validity and reliability of the methods and results. The use of the video vignette for data collection has both limitations and strengths.

One of the limitations in this study was the difficulty of observing and capturing whistleblowing for wrongdoing and reasoning in real life as reasoning is a highly abstract concept. Furthermore, the responsibility of the researcher to intervene when observing wrongdoing is an ethically problematic situation. As a strength, these difficulties were dealt with by using the video vignette which was successfully used in this study.

The vignettes have been widely used and acknowledged as a suitable method to explore ethical values, norms (Finch, 1987) and decision or judgement making (Alexander & Becker, 1978). Though vignettes can never completely mirror reality, they are useful for overcoming the ethical and practical limitations associated with alternative methods such as observation. Furthermore, vignettes are less expensive and time-consuming than observation and may yield more uniform data. (Hughes & Huby, 2002; Liyanapathirana, et al., 2016.) The use of vignettes can be traced back to the 1950s (Herskovits, 1950) and they have been widely used as a research method by various disciplines (Liyanapathirana, et al., 2016), including health and nursing sciences (Hughes & Huby, 2002). (Table 12.)

Another limitation to the use of vignettes is the gap between the vignette and social reality. Vignettes are thoroughly planned and scripted short narratives of hypothetical or actual cases (Alexander & Becker, 1978; Hillen, et al., 2013) with specific circumstances, simulating the research topic (Finch, 1987; Hughes & Huby, 2002). Vignettes may be written narratives, audio-recorded or videotaped scripted stories (Heverly, et al., 1984). Video vignettes are considered as more realistic (Liyanapathirana, et al., 2016), allowing an effective manipulation of the situation being studied (Hillen, et al., 2013). They enable participants to respond to the same wrongdoing in the same situation and under the similar conditions to decrease the social processes and situational factors in order to identify the most typical patterns of action (Hughes & Huby, 2002; Hillen, et al., 2013). As a strength, the video vignette was scripted and filmed for this study and both the script and video were pre tested among health care professionals. Finally, as a limitation, vignettes may provide socially desirable responses (Hughes & Huby, 2002) or as a strength, may reduce such responses (Liyanapathirana, et al., 2016). (Table 12.)

Table 12. Sub-studies/Summary, issues, limitations and strengths of the study.

SUB-STUDY/ SUMMARY	ISSUE	LIMITATIONS	STRENGTHS
SUB-STUDY I	**Data collection** WIHC instrument	New, developed for this study Response format varied	Development based on literature review, pre testing Provided the information needed to describe the phenomenon of whistleblowing for wrongdoing
	Data analysis	Statistical tests were conducted by the researcher	Statistical tests were checked by the statistician
	Results	Sample size smaller than estimated Relatively low response rate (31%)	Required sample size was estimated with NQuery4 software Representative on a national level
SUB-STUDY II	**Data collection**	Nursing and allied health professionals excluding others such as physicians	Nurses and allied health professionals spend the most of their working time with patients
	Data analysis	Analysis was conducted by a single researcher	A consensus about interpretations was reached among research team
	Results	Data varied in depth, some being narrow or superficial	Data varied in depth, extensive
SUB-STUDY III	**Data collection** Video vignette	The difficulty of observing and capturing whistleblowing and reasoning in real life May yield to socially desirable response bias Gap between social reality and the vignette	Suitable method instead of observation Decrease situational factors Enable responding to same wrongdoing under same conditions May reduce socially desirable responses May predict individuals responding similarly in real life as to vignette Distancing participants from difficult and sensitive research topic More realistic than written vignettes Script and vignette were pre tested
		Registered nurses, excluding other health care professionals	Share similar ideology and values with other health care professionals
	Data analysis/ results	Data varied in depth, others being superficial Analysis was conducted by the researcher	Data varied in depth, others being rich and diverse A consensus among the research team was reached Peer-checking with other researchers
SUB-STUDY IV	**Data collection** NMCS© (Numminen et al. 2019)	Self-assessment instrument may yield to socially desirable response bias	Validated instrument

SUB-STUDY/ SUMMARY	ISSUE	LIMITATIONS	STRENGTHS
	Data analysis		Statistical tests were conducted by the statistician
	Results	Relatively low response rate (31%)	Representative on a national level Adequate sample size according to calculated power analysis
SUMMARY	**Data collection and analysis** Literature	Quality appraisal of the included articles missing Synthesis base on the interpretations of a single researcher	Search terms discussed with a library informatics expert A systematic search protocol was used Peer reviewed articles were included A consensus about synthesis was reached among research team
	Data collection and analysis		The synthesis based on data collected from multiple sources and analysed with various methods (literature and Sub-studies I-IV)
	Results		Papers I-IV peer reviewed and published in the international journals

7.3 Suggestions for stakeholders

Based on the results of this study, suggestions can be presented to stakeholders for policymaking, to health care management and education. Firstly, suggestions could be presented to policy makers concerning labour and health policies. Policy makers can use the results to acknowledge that wrongdoings in health care decrease the quality of care and work well-being. In addition, according to the results, both wrongdoing and whistleblowing potentially increase employees' moral distress and escalate their turnover. Therefore, the results can be used for decision making concerning labour policy to help retain people in the career they have chosen and to make health care professions more valued, respected and desirable. Some measures that could be taken would be, for example, investments and nation-wide programmes to improve healthier work environments and conditions. Health policy makers can use the results for developing innovative ethics strategies to secure ethically high quality and safe health care services for example by establishing health care ethics advisory boards or ethics expert positions when planning strategies for Health and social services reform. Considering this aspect, the National Advisory Board on Social Welfare and Health Care Ethics recommended in 2010 the establishing of clinical ethics committees in health care organisations (National Advisory Board on Social Welfare and Health Care Ethics (ETENE), 2010). The results indicate the need for developing legislation to protect whistle-blowers from retaliation and this requirement has already been defined in an EU directive (2019). According to the directive, legislation should have been in place by the end of December 2021 in all the EU countries. (European Union, EU, 2019). However, Transparency International (2021) reported that by February 2021, eighteen of the twenty-seven EU countries had made minimal progress or had not started preparing the legislation (Transparency International, 2021).

Secondly, suggestions are presented for health care education and the educators. Ethics curricula can be advanced in both basic and continuing education for better the recognition of ethical problems and improving responses to observed wrongdoing. In addition, the video vignette filmed for the data collection in the second phase of this study, could be used in ethics education to foster ethical discussion. These various creative methods have potential to increase health care professionals' moral courage and its manifestation as according to Aristotle, moral courage as a virtue, can be developed through education (Aristotle, 2004).

Thirdly, suggestions can be presented for health care managers. Health care managers can use the results to acknowledge the multidimensionality and complexity of reasoning for whistleblowing and the conceptual model developed here, provides an understanding of the subject. By knowing and understanding reasoning for whistleblowing, processes, operation models and management can be developed. In addition, the results could be implemented in practice and managers

could use the model as a basis for discussions with employees during recruitment and performance reviews. Whistleblowing is not a desirable situation and it would be unnecessary if the wrongdoings were effectively prevented or other alternative processes existed. However, there is a lack of such processes, therefore the results can be used by health care managers to support health care professionals in their whistleblowing and prevent the possible negative consequences of whistleblowing. The managers could act as examples making the values and principles of the organisation and profession visible in their action as well as demonstrating what kind of behaviour is acceptable in the work community. One of the means of managers to support and encourage health care professionals is reducing the professional and organisational hierarchy using various management styles such as transformational or participative management, instead of authoritative (Gemeda & Lee, 2020). In addition, health care managers could develop and manage ethics using various mechanisms and strategies such as ethical problem workshops to enhance their own and their employees reasoning. Managers could also encourage and enable regular ethical discussions with employees and thereby enhance an ethically sustainable, open and transparent workplace culture. Various ethics instruments can be developed for managers use such as an ethics check list. When receiving whistleblowing complaints, health care managers could handle them adequately in order to end such practices and prevent further wrongdoing. For example, they could do this by doing an ethical dilemma and risk analysis thereby maintaining and enhancing ethical standards and enabling employees to provide high quality care. Coherent internal and external operation models and processes could be developed to address and prevent wrongdoing.

7.4 Suggestions for researchers

Suggestions are presented for researchers. The results of this study produced a theoretical understanding of the phenomenon of whistleblowing for wrongdoing which also provides various possibilities for further research. Firstly, the whistleblowing process could be further explored. As this study focused on the beginning of the process, there is a possibility to explore the consequences of the whistleblowing act, aiming to understand what happens after the act and why the consequences occur. In addition, researchers could examine the responses of the party or person to whom the whistleblowing act is addressed to and their contribution for ending, preventing and decreasing wrongdoing. In addition, receiving and solving wrongdoing complaints could be explored and reasoning for solving them at various levels of management from the perspective of interprofessional and governance ethics.

The results of the study can be implemented in nursing and health care practices, management, and education. Therefore, implementation research could be conducted. In addition, there is a need for health managers to evaluate and manage ethics. Therefore, instruments to evaluate the implementation and the effectiveness of ethics could be developed.

As the video vignette method was successfully used in this study providing rich and diverse data, researchers could use this kind of method to explore abstract non observable concepts in health care. The video vignette could be used to further develop the whistleblowing process or a conceptual model of reasoning for whistleblowing. This study could be replicated in a few years to explore whether the reasoning changes over time. In addition, comparative research could be conducted by exploring reasoning among other groups of health care professionals such as physicians or health care managers or health care students who have quite different responsibilities to the majority of the health care professionals in this study.

Furthermore, reasoning could be explored among those who have real life experiences to verify and possibly to increase the content of a conceptual model of reasoning for whistleblowing or the whistleblowing process; this could be conducted using different methods than in this study such as interviews. In addition, collaborative reasoning could be explored using the video vignette, for example, by conducting focus group interviews or by placing a small group of participants in a room to watch the video vignette and observe their reasoning.

Based on the results of this study, interventions could be developed for ethics management or education, in which the video vignette could be used as a part of an intervention or as a programme for advancing students, health care professionals and managers reasoning and the manifestation of moral courage in different ways. Furthermore, the results can be used to develop interventions for ethics management in order to decrease and prevent wrongdoing in health care.

8 Conclusions

This study provided novel evidence about the phenomenon of whistleblowing for wrongdoing. The results of the study can be implemented in nursing and health care practice, management, education and policy making to prevent and decrease wrongdoing in health care. In addition, the results produced a new perspective for the theoretical understanding of the phenomenon of whistleblowing for wrongdoing. The successful use of the video vignette method, providing rich and diverse data, could encourage the future use of this method to explore abstract, non observable concepts in health care.

This study provided evidence about: 1) definitions of the phenomenon of whistleblowing for wrongdoing and the whistleblowing process, 2) a theoretical construct about reasoning for whistleblowing, 3) the whistle-blower, and 4) a conceptual model of reasoning for whistleblowing. Whistleblowing is widely used concept in the interdisciplinary literature, however, in a health care context there is a lack of a consensus about the concept and its use. The concepts identified as describing whistleblowing, were organised into a whistleblowing process and according to the study results, two separate whistleblowing processes manifest in health care. The results suggest that further research about the whistleblowing process could, for example, include the consequences of whistleblowing and what happens between whistleblowing and the consequences.

Reasoning seemed to be missing from the process and as it is a highly abstract concept, it needed to be constructed from other concepts. Therefore, a theoretical construct of reasoning for whistleblowing was created. The construct was identified as the most relevant part for providing an understanding of how health care professionals reason and why whistleblowing happens. Reasoning could also be studied from various perspectives, for example, collective reasoning by combining the use of the video vignette and observe the reasoning of a small group.

The whistle-blower is an actor and essential for the manifestation of the phenomenon of whistleblowing for wrongdoing. The whistle-blower was identified by certain of their background variables and their moral courage which may be significant for the manifestation of the phenomenon. In addition, identifying the

whistle-blower offers opportunities to develop practices, education, management and interventions to support health care professionals in their whistleblowing.

A part of the whistleblowing process that was theorised into a conceptual model of reasoning for whistleblowing was developed by integrating the literature and research results. The model presents reasoning leading from a suspicion or an observation of wrongdoing through individual, collaborative or collective reasoning to either internal or external whistleblowing; the aim being to decrease and prevent wrongdoing. The results and the model of reasoning for whistleblowing can be used by the policy makers for planning ethically high quality health care services, by health care educators for developing ethics curricula and by managers for developing processes and strategies or as a practical tool in employees' recruitment and performance reviews. Researchers have various opportunities to use the results, for instance, through implementing the model into practice and conduct implementation research. Overall, the results indicate that there is a need for supportive ethics structures to efficiently decrease and prevent wrongdoing in health care.

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Appendix

Appendix 1. Empirical studies (n=35) included in the literature review about whistleblowing in health care.

FIRST LITERATURE SEARCH 2014 **Author, year, country**	**Purpose**	**Design, setting, sample**	**Method, analysis**	**Main results about whistleblowing**
Ahern & Mcdonald, 2002, Australia	Explore the beliefs of nurses involved in whistleblowing events	A descriptive survey Health care n=95 nurses	Questionnaire Statistical analysis	Whistle-blowers believed nurses' primary role as patient advocate, protecting patients from unethical or incompetent people while non-whistle-blowers believed in the traditional role of nursing as obliged to follow physician's orders and their equal responsibility to the patient, physician and the employer.
Attree, 2007, UK	Explore factors influencing nurses' decisions to raise concerns about care quality	Grounded theory Acute NHS Trusts n=142 nurses	Semi-structured interviews Grounded theory	Nurses' described barriers to raising concerns as a fear of negative consequences for one-self and predictions that nothing would be done even if raising concerns. Reporting was considered as a high-risk:low-benefit action and lack of confidence in reporting systems and management were identified.
Beckstead, 2005, USA	Analyse the thinking processes that nurses use when they make decisions of reporting peer wrongdoing	Experimental study Hypothetical scenarios n=120 nurses	Questionnaire Statistical analysis	Nurses considered working under the influence of any substance as very serious wrongdoing. They combined substance abuse and incompetence cues in complex ways.
Black, 2011, USA	Examine nurses' attitudes about patient advocacy	A descriptive survey Health care n=564 nurses	Questionnaire Statistical analysis	Altogether 34% of nurses hadn't reported potentially harmful care conditions. The most common reasons to nonreporting were fear of retaliation 44% and belief nothing would come out of the reports 38%.

FIRST LITERATURE SEARCH 2014 Author, year, country	Purpose	Design, setting, sample	Method, analysis	Main results about whistleblowing
Davis & Konishi, 2007, Japan	Explore nurses' experiences and meaning of whistleblowing	A descriptive survey Health care and hypothetical question n=24 nurses	Questionnaire Statistical analysis	Nurses would rather report wrongdoing committed by the physician than their colleague and believed they would be supported by their colleagues when reporting. Nurses would first confront the wrongdoer and then the manager.
Jackson et al., 2010a, Australia	Present and describe whistleblowing episodes and their effects on nurses' workplace relationships	A qualitative narrative inquiry Health care n=18 nurses	Semi-structured interviews Thematic analysis	Whistle-blowers and subjects of whistleblowing complaints experienced negative consequences in different forms. Four main themes were identified: "Leaving and returning to work"; "Spoiled collegial relationships"; Bullying and excluding; and "Damaged inter-professional relationships".
Jackson et al., 2010b, Australia	Explore nurses given reasons for their whistleblowing decision and their experiences of being whistle-blowers	A qualitative narrative inquiry Health care n=11 nurses	Semi-structured interviews Categorical content analysis	Nurses experienced whistleblowing as highly stressful. Three main themes were identified: "Reasons for whistleblowing: *I just couldn't advocate"*; "Feeling silenced: *Nobody speaks out";* and "Climate of fear: *You are just not safe"*.
Jackson et al., 2011, Australia	Explore experiences of confidentiality in the context of whistleblowing	A qualitative narrative inquiry Health care n=18 nurses	Semi-structured interviews Thematic analysis	Four themes relating to confidentiality were identified, confidentiality as: "Enforced silence; "Isolating and marginalizing"; "Creating a rumour mill"; and "Confidentiality in the context of publics' right to know".
Jackson et al., 2013, Australia	Describe avoidant leadership in clinical settings	A qualitative narrative inquiry, two data sets Health care n=18 nurses n=26 nurses	Semi-structured interviews Secondary analysis of two data sets Thematic analysis	Three forms of avoidant leader responses were identified: "Placating avoidance": positive reaction, but no action; "Equivocal avoidance": ambivalent and ambiguous response; and "Hostile avoidance: hostile and aggressive response".

FIRST LITERATURE SEARCH 2014 **Author, year, country**	**Purpose**	**Design, setting, sample**	**Method, analysis**	**Main results about whistleblowing**
Jones & Kelly, 2014, UK	Explore perceptions of whistleblowing in older people's care	A qualitative narrative inquiry Elderly care n=12 nurses n=5 nurse managers n=23 care assistants n=16 nurse students n=4 regulators/police	Individual and focus group semi-structured interviews Thematic analysis	Whistleblowing was considered as risky, leading staff to create informal channels to raise concerns. Personal ethics shaped individual responses rather than regulations. Managers described promoting open workplace culture.
King, 2001, USA	Explore the differences in perceptions of wrongdoing and their potential affect to the disclosure of unethical behaviour	A descriptive survey Hypothetical scenarios n=372 nurses	Questionnaire Statistical analysis	Nurses were more likely to discuss about the unintentional wrongdoing with the wrongdoer than officially reporting it to the managers. The severity of the wrongdoing played a key role in deciding whether to report the incident or not.
King & Scudder, 2013, USA	Explore reasons a nurse would report wrongdoing	A descriptive survey Public teaching hospital n=68 nurses	Survey Statistical analysis	Various reasons potentially leading a nurse to report wrongdoing were described. The main reasons why nurses would report wrongdoing were professional ethics or the well-being of the patients.
Malmedal et al., 2009a, Norway	Describe nurses' attitudes about reporting colleague's inadequate care and explore if their attitudes depend on their background variables	A descriptive survey Nursing homes n=616 nurses	Questionnaire Statistical analysis	Attitudes towards reporting inadequate care were positive. Older staff were more reluctant to report than younger staff and felt less brave, more afraid of negative consequences and agreed that it was best to report incidents internally. Those with higher level of education had more positive attitude towards reporting and feared less of negative consequences.

FIRST LITERATURE SEARCH 2014 Author, year, country	Purpose	Design, setting, sample	Method, analysis	Main results about whistleblowing
Malmedal et al., 2009b, Norway	Describe inadequate care committed by nursing staff and explore if the staff reported differently depend on their background variables	A descriptive survey Nursing homes n=616 nurses	Questionnaire Statistical analysis	Altogether 91% of the nursing staff had observed and 87% had committed inadequate care. Negligence and acts of emotional character were most frequently observed and committed. Those with higher level of education had observed or committed more acts of all types and those with older age and longer work experience described more observed and committed acts of physical character.
Mansbach & Bachner, 2010, Israel	Explore nurses' willingness to blow the whistle on observed wrongdoing, whether internally or externally	Observational survey Hypothetical scenarios n=83 nurses	Questionnaire Statistical analysis	Nurses considered both scenarios about colleague's and manager's harmful misconducts as very serious. Nurses desired to correct the wrongdoing and expressed their willingness to act and were more likely to blow the whistle rather internally than externally.
Mansbach et al., 2010, Israel	Examine physio-therapy students' willingness to reporting misconduct, whether internally or externally	Observational survey Hypothetical scenarios n=112 physiotherapy students	Questionnaire Statistical analysis	Physiotherapy students considered the acts in both scenarios as very serious and expressed their willingness to correct the wrongdoing and to report rather internally than externally.
Mansbach et al., 2012, Israel	Compare willingness of physiotherapists and physiotherapy students to report wrongdoing, whether internally or externally and willingness to report wrongdoing committed	Observational survey Hypothetical scenarios n=126 physiotherapy students n=101 physiotherapist	Questionnaire Statistical analysis	Both groups were willing to blow the whistle to correct the wrongdoing. Physiotherapists considered colleague's misconduct while students perceived manager's misconduct more serious. Physiotherapists were more willing to blow the whistle internally and students externally.

FIRST LITERATURE SEARCH 2014 Author, year, country	Purpose	Design, setting, sample	Method, analysis	Main results about whistleblowing
	by a manager or colleague			
Mansbach et al., 2013, Israel	Explore willingness of nursing students to blow the whistle, whether internally or externally and willingness to report colleague's wrongdoing as well as the manager	Observational survey Hypothetical scenarios n=82 nursing students	Questionnaire Statistical analysis	Students considered the acts in both scenarios very serious and were willing to take action internally rather than externally to change the situation.
Mansbach et al., 2014, Israel	Compare willingness of nurses and nursing students to blow the whistle	Observational survey Hypothetical scenarios n=82 nursing students n=83 nurses	Questionnaire Statistical analysis	Nursing students considered the severity of the misconduct lower than nurses but were more willing to blow the whistle both internally and externally than nurses.
McDonald & Ahern, 1999, Australia	Examine the coping responses of whistleblowing	A descriptive survey Health care n=95 nurses	Survey Statistical analysis	Four effective coping strategies used by the whistle-blowers were identified: talking to someone capable of doing something about the problem (36.5.%), standing behind what one believes is the right thing to do (42.6%), asking advice and support from a friend or relative (40.6), drawing on past experiences (48.7.%).
McDonald & Ahern, 2000, Australia	Examine the professional consequences of whistleblowing	A descriptive survey Health care n=95 nurses	Survey Statistical analysis	Nurses reported various severe professional reprisals when reporting misconduct and a few if they remained silent. Threats (16%) were most common negative and being privately praised (39%) positive consequences. Most frequently poor quality of patient care (24%) was observed and telling the manager (60%) was most common action taken.

FIRST LITERATURE SEARCH 2014 Author, year, country	Purpose	Design, setting, sample	Method, analysis	Main results about whistleblowing
McDonald & Ahern, 2002, Australia	Examine the physical and emotional health effects of whistle-blowers and non-whistle-blowers	A descriptive survey Health care n=70 nurse whistle-blowers n=25 non-whistle-blower nurses	Questionnaire Statistical analysis	Of the whistle-blowers 70% and 64% of non-whistle-blowers experienced stress-induced physical problems. Over 90% of both groups suffered stress-related emotional problems.
Monrouxe et al., 2014, UK	Explore students' narratives of the professional dilemmas	A qualitative narrative inquiry Health care n=29 dental students n=13 nursing students n=12 pharmacy students n=15 physiotherapy students	Individual and group interviews Framework analysis	Nine main themes were identified of which the second theme "Professionalism dilemmas" described challenging seniors and dilemmas of whistleblowing. Reasons for not challenging seniors were a concern of one-self, fear of being marked, feeling is not their place to do so, concern they might be wrong with their impressions, fear and belief that nothing would be done to correct the wrongdoing.
Moore & McAuliffe, 2010, Ireland	Explore experiences of observing poor care and whistleblowing on it	Exploratory quantitative research Hospitals across Health Service Executive regions n=152 nurses	Questionnaire Statistical analysis	Altogether 88% of the nurses had observed an incident of poor care in the past six months and 70% reported their observations. Managers were more likely to report than staff nurses (88% and 65% respectively). Minority of reporting nurses were satisfied with the way their concerns were handled in the organisation.
Moore & McAuliffe, 2012, Ireland	Explore the differences in reporting behaviour between whistle-blowers and non-whistle-blowers	Exploratory quantitative research Hospitals across Health Service Executive regions	Questionnaire Statistical analysis	Fear of retribution was the main reason of non-whistle-blowers for their reluctance to report. Whistle-blowers and non-whistle-blowers differs in their statements concerning: "would not want to

FIRST LITERATURE SEARCH 2014 **Author, year, country**	**Purpose**	**Design, setting, sample**	**Method, analysis**	**Main results about whistleblowing**
		n=152 nurses		cause troubles", "not sure if the right thing to do" and "fear of retribution".
Ohnishi et al. 2008, Japan	Describe the process of whistleblowing	Grounded theory Psychiatric hospital n=1 nurse n=1 nurse's aide	Semi-structured interview Modified grounded theory	Three chronological phases were demonstrated that evolved during the whistleblowing process: suspicion of wrongdoing, awareness of wrongdoing and conviction of wrongdoing. Driving force to continue to work hindered whistleblowing. Wavering emotions were experienced immediately after whistleblowing and some years after stable emotions.
Orbe & King, 2000, USA	Explore the communication ways about organizational wrongdoing	Phenomenology Health care n=202 nurses	Survey Phenomenological approach	Five themes, central to nurses' responses emerged: "perceptions of wrongdoing"; upholding the ideals of the profession; "clarity and evidence of wrongdoing"; "consequences of reporting"; and "workplace dynamics".
Peters et al., 2011, Australia	Explore the emotional consequences of whistleblowing events to the whistle-blowers and the subjects of whistleblowing complaints	A qualitative narrative inquiry Health care n=18 nurses	Semi-structured interview Thematic analysis	Nurses' emotional health was compromised as a result of whistleblowing. Three main themes were categorised: "overwhelming and persistent distress", "acute anxiety" and "nightmares, flashbacks and intrusive thoughts"
Wilkes et al., 2011, Australia	Explore whistleblowing and its effects to family life	A qualitative narrative inquiry Health care n=18 nurses	Semi-structured interview Thematic analysis	Whistleblowing caused harm for all those involved and echoed in the family life as well. Three main themes were identified: "strained relationships with family members", "dislocation of family life" and "exposing family to public scrutiny"

FIRST LITERATURE SEARCH 2014 Author, year, country	Purpose	Design, setting, sample	Method, analysis	Main results about whistleblowing
UPDATED LITERATURE SEARCH 2022 **Author, year, country**	**Purpose**	**Setting, sample**	**Method, analysis**	**Main results about whistleblowing**
Brown et al. 2020, UK	Explore the perceptions and experiences of students and mentors about raising concerns and potential influence of their relationship	A qualitative narrative inquiry Health care n=16 student nurses n=14 nurse mentors	Semi-structured interview Secondary analysis Thematic analysis	Three themes were identified: “developing a mentor-student relationship”; “keeping your mentor sweet”; and “the mentor role in the raising concerns process”.
Cole et al., 2019, USA	Explore workplace factors influencing patient advocacy and willingness to report unsafe practices	A descriptive survey Acute care hospitals n=362 nurses	Questionnaire Statistical analysis	Altogether 71.5% nurses had reported unsafe care, with the majority 68.2% to manager or supervisor. Nurses’ experiences and working environment are the main factors in their willingness to report patient care issues. The most important reasons for not reporting were a concern about experiencing retaliation afterwards and nothing would come out of the report.
Ion et al., 2015, UK	Explore the factors influencing decisions whether or not to report poor clinical practice	A qualitative narrative inquiry Health care n=13 student nurses	Semi-structured interview Content analysis	Four themes were identified by the researchers: “I had no choice” personal and ethical issues drive to report; “consequences for self”; “living with ambiguity” students’ weren’t quite sure if they’d witnessed poor care or were they exaggerating; “being prepared” being assure about having protection when reporting wrongdoing.

FIRST LITERATURE SEARCH 2014 **Author, year, country**	**Purpose**	**Design, setting, sample**	**Method, analysis**	**Main results about whistleblowing**
Ion et al., 2016, UK	Explore student nurses accounting their decisions whether to report or not poor care	A qualitative narrative inquiry Health care n=13 student nurses	Semi-structured interview Discourse analysis	Students considered their decisions to report as their moral and professional duty or their personal qualities such as strength and confidence. Justifications for not reporting were described as the hopelessness of the situation, negative personal impact, theory practice gap and displacement of responsibility.
Jack et al., 2020, UK & Australia	Explore student nurses' experiences of the care delivery to describe poor care	A qualitative/quantitative survey Health care n=265 student nurses	Survey Statistical and thematic analysis	Student described various examples of poor care related to lack of compassion, poor communication, unkind and indifferent provision of care and patient safety. Reporting poor care was described as difficult with potential negative consequences.
Jack et al., 2021, UK & Australia	Explore student nurses' experiences of reporting poor care and examine the process of raising concerns	A qualitative narrative inquiry Health care n=14 student nurses	Semi-structured interview Constant comparison	Four themes were identified: "bullying"; "patient advocacy"; "lack of empathy"; and "poor care". Ethical imperative was the driving force to report poor care regardless of the difficulties of doing so.

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