

OSLOMET

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Nurses' occupational turnover in the Nordics

A mixed method, systematized review

**Master's thesis in International Social Welfare and Health Policy
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Oslo Metropolitan University, Faculty of Social Science
Oslo 2022, May 16th

Abstract

Title: Nurses' occupational turnover in the Nordics: a mixed method, systematized review.

Aim: This thesis aims to explore the reasons behind nurses' occupational turnover in the Nordics to construct an overview of what is known on the subject, identify possible gaps in the knowledge on nurses' occupational turnover and to identify possible areas for policy action in the Nordic context.

Background: The nurse shortage presents a challenge for public health policy that is found both internationally and in high-income countries. A shortage in nurses has also been identified in the Nordics and is expected to increase in the coming years. Context specific research is needed to develop appropriate policy recommendations to alleviate this issue.

Method: This thesis conducted a mixed method, systematized review of primary studies in the Nordics exploring nurses' occupational turnover. Searches were performed in: Academic Search Ultimate, Cinahl, Embase, Medline, Oria, Psycinfo and SocIndex. Studies were synthesized with an aggregative thematic analysis.

Results: The systematic search and screening process resulted in 19 studies. This thesis found that research on nurses' occupational turnover is highly varying in relation to population selection and methods, deeming it difficult to synthesize the studies across findings. However, the thematic analysis in this systematized review identified three main themes connected to nurses' occupation turnover in the Nordics: nurse characteristics, work-related factors, and personal factors. Of characteristics, findings indicated that young, male, and less experienced nurses have an increased risk of occupational turnover. Work-related aspects of the profession that may play a role in nurses' occupational turnover were work-family conflict, poor workplace relations, low wage, shift work, low possibilities for development and high job strain (comprising of high job demands and low job control). Personal reasons indicated to play a role in nurses' occupational turnover was burnout.

Discussion: The findings of possible reasons for occupational turnover may be considered superficial. More research is needed on nurses' occupational turnover in the Nordic context to provide specific policy recommendations. However, by considering findings through the job-demand control and job demand control support models the argument may be made that nursing falls into the high job strain category.

Keywords: occupational turnover, intention to leave, nurse shortage, nurse turnover, review

Acknowledgements

This thesis marks the end of a challenging yet rewarding experience in the MIS program. The MIS program has endowed me with new insights, knowledge, and perspectives for which I am grateful to bear with me moving forward.

Firstly, I would like to thank my advisor, Simon Innvær. Your academic guidance has pushed me to grow and do better, and your support has pushed me through even when I didn't believe I could do it. I am deeply grateful to you.

Thank you to my friends; Vegard for supporting me each step of the way and reminding me that nobody really knows what they are doing to calm my nerves. Ina, Azeb and Ane, for being a supportive and motivating group each step of the way in the MIS program. But also, for reminding me of my strengths when I have forgotten, allowing me to watch you also grow immensely during this study and keeping life fun during this process. These years would not have been the same without you. And last but not least, thank you to Vibeke both as a librarian and as a friend. Your support and assistance have been unmatched.

Additionally, I would like to thank my family; To my dad Dean and sister Naomi for reminding me to take a chill pill. And to my brother-in-law Keith, mom Lydia and sister Carina, for support and assistance when the chill pill didn't work. To my mormor, our Babi, Eva, thank you for keeping your promise and staying with us till after I finished my masters. I look forward to having the time to stop and smell the flowers with you now.

And finally, I would like to thank my amazing boyfriend and best friend Frans for supporting me every step of the way. I'm so glad you are a more skilled debater than me every time I wanted to quit and for reminding me that life together will be great no matter what happens.

Millie Girardeau

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List of abbreviations

ITLP – Intention to leave profession

JD-C – Job demand control

JDCS – Job demand control support

OT – Occupational turnover

SR – Systematic Review

WFC – Work-family conflict

In appendix

HR – Hazard Rate

OR – Odds Ratio

WAI – Work Ability Index

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1. Introduction

The global nurse shortage was an estimated 5.9 million in 2018. The global nurse shortage is mainly focused to low-income countries. However, high income countries such as the Nordics also face nurse shortages that are expected to increase in the future (Buchan et al., 2015; Word Health Organization, 2020). Shortages in health care workers present a threat to the ability of healthcare systems to combat illness and ensure public health (Flinkman et al., 2010). The World Health Organization (WHO) (2020) contends that strengthening the national nursing workforce is a part of health policy, should be a part of the policy dialogue and should lead to evidence-informed decision-making on strategies to invest in nursing. However, the heterogeneity of nurses and labor market policies affecting nurses around the globe make it difficult to identify factors and associated policy-actions to alleviate the nurse shortage that apply in each specific context. It is therefore fruitful when addressing the nurse shortage and associated policies-actions to explore factors relevant in the policy setting of interest (Flinkman et al., 2010; Word Health Organization, 2020). Therefor each country should actively work to predict challenges related to the nurse shortage, identify preventive measure and enact policy-actions relevant to their local context (Word Health Organization, 2020).

There are multiple policy approaches to ensure a sufficient nursing workforce such as increasing input, increasing nurse retention, and re-recruiting nurses no longer in nursing. Identifying reasons for occupational turnover (OT), leaving the profession altogether, may lend insight on methods to retain nurses (Zurn & Stilwell, 2005). Despite this, policy efforts to reduce nurses' occupational turnover are still proportionally undeveloped in a number of OECD countries, such as the Nordics (Flinkman et al., 2010). This thesis focuses on exploring reasons for nurse turnover, to identify possible areas for policy actions for nurse retention.

Reviews on nurse turnover describe existing research on nurses' occupational turnover to be highly inconsistent deeming it difficult to synthesize (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). In line with suggestions for context specific research by the Word Health Organization (2020), researchers on the subject recommend further

research on nurses' occupational turnover to be conducted in more homogenous contexts to alleviate this issue (Chan et al., 2013; Hayes et al., 2012). However, reviews identifying reasons why nurses leave the profession in the Nordics seem to be lacking.

1.1 Thesis aim

This thesis explores the reasons behind nurses' occupational turnover (OT) in the Nordics, using a mixed method, systematized review. The aim of this thesis was to construct an overview of what is known, identify knowledge gaps and identify possible areas for policy action in the Nordic context.

Research question: Why do nurses leave the nursing profession in Nordic countries?

1.2 Thesis outline

This thesis is organized in five chapters, the current introduction chapter, background, methods, results, and discussion. Firstly, in the background, the topic relevance is presented. Further, to grant an overview of previous knowledge on the subject, knowledge from previous international reviews on nurses' OT is presented. Additionally reasoning for the geographic selection and theories used for analysis are presented.

Subsequently, the methods chapter presents different review approaches and types to provide a foundation for the methods used in this review before placing the thesis within an aggregative, mixed methods, systematized review approach. Further the search strategy and process as well as the process of analysis will be thoroughly presented to ensure transparency and reliability. The results chapter starts by presenting, in short, the characteristics and methodology of the included studies to grant an overview of the data. Lastly the results present the aggregated, thematic findings on why nurses leave the profession in a descriptive manner to showcase the state of knowledge on the topic.

In the discussion, findings related to demands, control, burnout, and workplace relations are discussed in relation to the job-demand control and job-demand control support models.

Thereafter, indications and shortcomings of the remaining findings are subsequently discussed. Finally, the strengths and limitations of the thesis and concluding remarks are presented.

Appendixes: This thesis includes four appendixes to ensure transparency. The first appendix exhibits a description of the search strategy by providing an overview on attempted and excluded search terms, a replicable search strategy, and a description of contact with corresponding authors. Appendix 2 presents' outtakes from the coding process to showcase how the coding process was executed in the qualitative and quantitative studies. The third appendix presents a table of characteristics of the included studies. Lastly, Appendix 4 presents a table of the results, relevant to the research question of this thesis, of the included studies.

2. Background

The background of this thesis aims to clarify the importance of the topic as well as provide an overview of previous literature and an introduction to theories used. Firstly, the topic and policy relevance of the is presented. Subsequently, knowledge from international reviews on nurses' OT is described to grant an overview of the knowledge on the subject. Penultimately, reasoning for the geographic selection is provided. Ultimately, the theoretical frameworks used to analyze and understand the results are presented.

2.1 Topic and policy relevance

Changes in epidemiology, demographics and health policy indicate an increased need for nurses in high-income countries. High income-countries, such as the European regions, have a substantially older nursing workforce, nearing retirement and are expected to meet future challenges in preserving the nursing workforce. Additionally, high-income countries have come to rely on the recruitment of nurses internationally to fulfill their need for nurses. As such, high-income countries have their own health policy challenges threatening their ability to fulfill the national requirements of a nursing workforce and must both increase graduate numbers and strengthen nurse retention to ensure sufficient access to health care in the near future (Buchan et al., 2015; World Health Organization, 2020).

In the Nordics the nurse workforce supply is already too low in relation to health service needs (Buchan et al., 2015; Hjemås et al., 2019; Reppen, 2021; Statistics Sweden, 2020). Additionally, the Nordic nursing workforce is aging, which is expected to contribute to an increase in nurse shortages (Buchan et al., 2015). Seeing as nurses constitute one of the largest groups of health care professionals for most countries, the issue is vast on a purely numerary level (Buchan et al., 2015; Hjemås et al., 2019). Nurse shortages present a major issue for healthcare systems, in relation to capacity to provide necessary care, quality of care and increased health care expenditure (Flinkman et al., 2010; Hayes et al., 2012; World Health Organization, 2020).

There are multiple policy approaches to ensure a sufficient nursing workforce such as increasing input, retention, and re-recruiting nurses who have left (Zurn & Stilwell, 2005). In the Nordics multiple policy actions, intending to increase the quantity of nurses, exist. As the

nursing profession is a female dominated industry, one policy measure aimed to tap into unused work sources is implementing gender quotations in nursing school to increase the amount of male nurses (Nordfjell & Nielsen, 2019). Additionally, increasing education of new nurses is a common policy proposal (Buchan et al., 2015). However, an increase in newly educated nurses in and of itself will not suffice to relieve the expected increase in demand for nurses (Hjemås et al., 2019). The vast extent of the problem of the nurse shortage exhibits the importance of policy development to improve nurse retention as well as increase input. Within the policy approaches, multiple policy options may be considered to retain and grow the nursing workforce. Some retention strategies exist, for example fiscal incentives are one of the most commonly promoted policy approaches to ensure nurse retention (Zurn & Stilwell, 2005). However, research is needed to ascertain context specific reasons nurses leave the profession in order to construct specific policy recommendations to retain nurses (World Health Organization, 2020).

2.2 Nurse turnover: international reviews

Nurse turnover has been internationally researched and reviewed in depth. However, most of the research on nurse turnover has focused on leaving the workplace, while far fewer studies have focused on leaving the profession (Hayes et al., 2012; Hayes et al., 2006). However, some reviews have been conducted internationally on nurses' occupational turnover (OT). A common trait in existing international reviews on the subject, is the broad variety of turnover definitions, inconsistent measurement instruments, variation in nurse roles, settings, and reporting strategies making it difficult to synthesize, compare and generalize data on nurses' OT (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). Despite these challenges, nurse's turnover has been linked to a multitude of factors.

2.2.1 Individual factors

Multiple reviews indicate that younger nurses seem to have a higher risk of OT (Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). While Chan et al. (2013) indicated that findings on age effect were inconsistent. Less seniority also seemed to increase turnover, though some contrasting findings were also found here (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). Additionally, the effect of family responsibilities was inconsistent across reviews (Chan et al., 2013; Hayes et al., 2012; Hayes

et al., 2006). Gender seems to affect turnover in that male nurses had greater risk of OT (Chan et al., 2013; Flinkman et al., 2010). Additionally educational level deemed contrasting findings (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012).

2.2.2 Work related factors

Low job satisfaction was indicative of OT across reviews (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). Additionally, Hayes et al. (2006) linked job satisfaction to good leadership and opportunities for development. In line with this, multiple reviews found that a lack of opportunities for development increased OT (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). Further, the importance of good management to prevent nurse turnover was supported across reviews (Chan et al., 2013; Hayes et al., 2012; Hayes et al., 2006). In addition to relationship with management, good collegial relationships, social work environment and teamwork was important for nurse retention (Chan et al., 2013; Hayes et al., 2012; Hayes et al., 2006).

Inconsistent findings were reported in relation to work schedule and shift work (Chan et al., 2013; Hayes et al., 2006). Fiscal motivations for OT were indicated such as unsatisfactory salary and lack of dependence on nurses' income (Chan et al., 2013; Flinkman et al., 2010). This was supported by Hayes et al. (2012) who additionally found multiple studies pointing to the higher importance of salary for men than woman. On the other hand Hayes et al (2006) found findings on economic factors to be inconsistent.

Multiple reviews indicated that heavy workload and high work demands increased turnover (Chan et al., 2013; Hayes et al., 2012; Hayes et al., 2006). Other work-related factors related to higher risk of OT were low commitment (Chan et al., 2013; Flinkman et al., 2010); poor working conditions (Chan et al., 2013; Flinkman et al., 2010); higher patient to nurse ratio (Chan et al., 2013; Hayes et al., 2006); lack of autonomy (Chan et al., 2013; Hayes et al., 2006); low quality of care (Hayes et al., 2012; Hayes et al., 2006); and burnout, stress or exhaustion (Chan et al., 2013; Hayes et al., 2006).

Many parallels can be found across international reviews on nurse turnover; however, findings were often inconsistent within and across reviews. Chan et al. (2013) maintain that

international reviews on the subject do not sufficiently consider the vast differences among healthcare systems when including studies representing both mainly private and mainly public healthcare sectors. As such, they assert that inclusion of highly differing countries may result in a more incomplete analyses of the reasons for nurses' OT (Chan et al., 2013). Further, Hayes et al. (2012) argue that by increasing the homogeneity of the sample of nurses, a more in-depth analyses may be possible to identify the specific needs and characteristics of that group. This thesis narrows the sample to nurses in Nordic countries, possibly mitigating the abovementioned issues.

2.3 Focusing on the Nordics

Nordic countries were selected as the geographic criteria. The Nordic countries consist of a group of countries in northern Europe: Sweden, Denmark, Norway, Finland, and Iceland. In an international perspective, the Nordic countries are considered comparable. A shared history has driven the evolution of similar political, economic, social, and cultural institutions. Additionally, the Nordics share similar approaches to social welfare and health policies, such as the central characteristics of universal access to health care, low costs in health and welfare due to high tax based financing of these systems and public ownership of healthcare institutions (Magnussen et al., 2009). The Nordic model is often referred to in social welfare and health policy. According to the welfare regime typology by Esping-Andersen (1990), Nordic countries are categorized into the social democratic welfare typology. This typology is characterized by universal and de commodified health-and social rights, where the welfare state provides health-and social services to their citizens (Esping-Andersen, 1990). This structure of the Nordic healthcare system makes nurse shortages in the Nordics specifically public policy relevant because nurses are public employees and healthcare is provided by the state.

Another common feature across Nordic welfare state is the emphasis on facilitating the ability to combine paid work with childcare. The goal of the Nordic family welfare model is to facilitate work participation and family responsibilities for both parents and is considered to be a sustainable model providing women with high levels of labor market participation while maintaining a relatively high birth rate (Skrede & Rønsen, 2006). If systematically compared, substantial differences can be found between the Nordic countries in policy design. Therefore,

although it is possible to categorize a Nordic model of health care, one must recognize differences in policies and programs between these countries throughout history (Magnussen et al., 2009). This thesis does not claim these countries are irrevocably similar, simply that the commonalities within their social welfare and health policies and system deem them comparable in relation to the intent of this thesis.

2.4 Job demand-control models

To analyze and interpret the data on nurses' OT in the Nordics this thesis used the job demand-control (JD-C) and job demand control support (JDCS) models. The JD-C model was also used in one of the included studies and provided insights and inspiration for its use in this thesis (Hasselhorn et al., 2008). The following sections firstly presents the JD-C model and subsequently presents the additional hypothesis of the expanded JDCS model.

The job demand-control model (JD-C) is a stress-management model focusing on work environment and is often used to understand the relationship between work characteristics and well-being (Ariza-Montes et al., 2018; Karasek, 1979). The JD-C model hypothesizes that mental strain does not stem from one aspect of the work environment, but from the combined effect of work demands and the autonomy (control) the worker is allowed. These two dimensions, demands and control, are thought to create action. Job demands lead to an activated state of stress while autonomy can release the activated state of stress into constructive action. Further the JD-C model hypothesizes that different combinations of demands and control can lead to four job strain outcomes (Karasek, 1979).

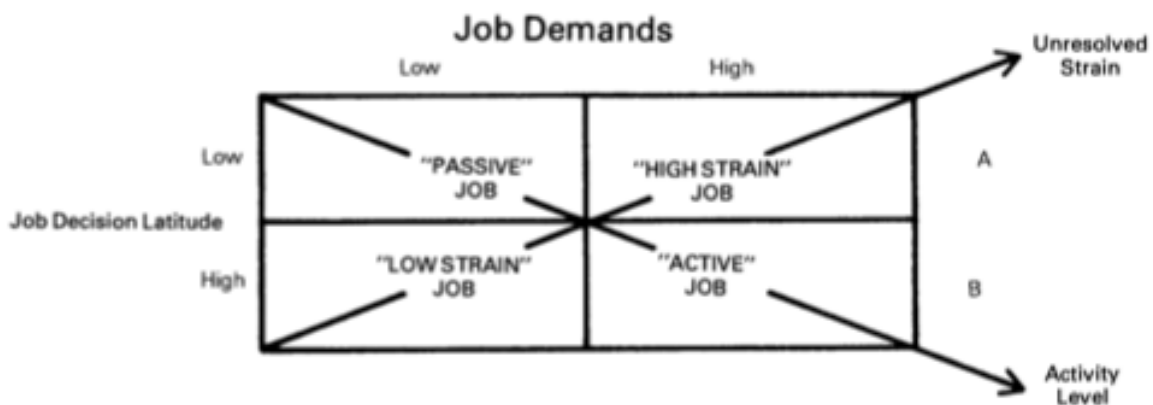
Figure 2.1 The 4 job strain outcomes

- Low autonomy and low demands → passive jobs
- Low demands and high autonomy → low strain jobs
- High demands and high autonomy → active jobs
- High demands and low autonomy → high strain jobs

Each job strain outcome is predicted to lead to different employee outcomes. The passive job may lead to a decline in a worker's skills, abilities, motivation, and productivity. Low strain

jobs are predicted to be create happier and healthier employees. The active job is hypothesized to create productive workers, whom also have positive outcomes such as learning and growth. In a high strain job situation, the stress energy caused from demands can become detrimental when autonomy is restricted. This results in strain, a situation in which unwanted consequences such as burnout or breakdown may occur (Karasek & Theorell, 1990).

Figure 2.2: Job strain model



(Karasek, 1979, p. 288).

However, the JD-C model does not address all the findings in this thesis. Upon further exploration of the JD-C model, a further expansion of the model incorporating social relationships with management and colleagues was identified. This has been coined the Demand-Control-Support (JDCS) model. The JDCS model adds an additional hypothesis, that strain may be mediated by social support. Social support refers to all positive social interactions at work with management and colleagues. The term iso-strain in the JDCS model describes jobs with high demands, low control, and low support. Jobs that fall within the iso-strain category are predicted to be at even higher risk of strain with expected negative consequences for employees (Johnson & Hall, 1988; Karasek & Theorell, 1990).

3. Method

The methods of this thesis are based on preemptive work in the course SIW4500. In the process of choosing the method, one should choose elements best fit for the research questions and study (Xiao & Watson, 2019). This thesis utilizes elements from a systematic review, without claiming to be a full systematic review, in such it can be deemed a systematized review. This is due to the lack of following the stringent guidelines of a systematic review. Though, for the review to be considered a legitimate research methodology, as any research must, appropriate steps should be followed to assure that the review is credible and valid. As with any research, the review's value lies on what is done, found and the clearness and transparency of the review (Snyder, 2019).

In the following chapter, choice of review type and approach will be elucidated and justified. Further, the steps taken in the literature search and inclusion process will be reported to ensure a clear and transparent process. Finally, the process of the synthesis and thematic analysis of the data will be described.

3.1 Reviews and their relevance

To carry out a review is to investigate existing literature anew and map out the research field (Grant & Booth, 2009; Sutton et al., 2019). Collecting and analyzing what is known from previous research is an important aspect of research. If previous knowledge is not assessed, how does one claim to fathom what is already known or plan what knowledge gaps should be studied further (Gough et al., 2017)? In line with the aim of this thesis, reviewing as a research methodology is often done to map and assess the “state of knowledge” on a subject.

A review can be used to put an issue on the research or policy agenda, find lacks in existing research or to merely analyze an issue (Snyder, 2019). Additionally, reviews are often used to inform policy (Gough et al., 2017). As such, a review is a fitting method regarding the aim of this thesis: to identify what is known, knowledge gaps and areas relevant for policy action. An advantage of a review is that by synthesizing the viewpoints and findings from many different empirical studies, a review can possibly investigate the research question with more substance than one single primary study. Further a review can give insight into an area where the research is diverse and multidisciplinary, as is the area of focus in this thesis (Snyder, 2019).

3.1.1 Review approaches

There are two main review approaches, the interpretative approach and the aggregative approach (Dixon-Woods et al., 2005; Gough et al., 2017).

An interpretative approach aims to develop concepts and theories that incorporate these concepts and often results in a product providing theory, rather than a summary of the data. On the other hand, to aggregate is to combine or add up several separate elements. An aggregative approach therefore tends to sum up the data (Dixon-Woods et al., 2005). Hence, an aggregative approach summarizes findings from a collection of studies on the same topic and is often used to answer more precise or narrow research questions (Gough et al., 2017).

Despite this conceptual divide, most reviews comprise of some elements of aggregation and interpretation of the data (Dixon-Woods et al., 2005; Gough et al., 2017). This thesis places itself as primarily aggregative with the main aim of summarizing main findings pertaining to reasons behind nurse's occupational turnover in the Nordics. However, interpretive elements can be found in the discussion of the findings, especially in the use of the JD-C and JD-CS models.

3.1.2 Review types

Selecting a fitting method for a review is contingent on the nature of the research question and the intended use of the review (Gough et al., 2017). The field of literature review methodology is wide and fathoms a plethora of differing review methods. Of which the exact number the review community has no definitive agreement upon, spanning from 14 up to 48 (Booth, 2016; Grant & Booth, 2009; Sutton et al., 2019; Xiao & Watson, 2019). This thesis solely describes review types used in this thesis (systematic reviews and systematized reviews), their suitability, and associated methods.

3.1.2.1 Systematic reviews

A systematic review (SR) seeks to synthesize all available empirical data that adheres to pre-determined inclusion criteria in relation to a specified research question (Lasserson et al., 2021). The method aims to be transparent, stringent and systematic, so as to minimize bias

when choosing and interpreting studies, and therefore provide reliable results that may inform decision making (Booth, 2016; Gough et al., 2017; Lasserson et al., 2021; Sutton et al., 2019). This method can be useful to recognize gaps in the knowledge on a subject to illuminate areas in the field in need of further research and has come to be accepted as a main provider of information in evidence-informed decision making (Booth, 2016; Gough et al., 2017). Considering that this thesis aims to construct an overview of what is known, identify knowledge gaps and possible areas for policy recommendations, a systematic review aligns well with the goals of this thesis.

Krnic et al. (2019) has provided a thorough summary of how a SR can be achieved. Firstly, a systematic review comprises of a clear research question and transparent exhibition of all sources used to identify the included materials. This thesis has provided a clear research question (section 1.1) and a transparent report of sources searched (section 3.2.2). Secondly, a SR should provide clear information on the search strategy so that it may be replicated, such as providing information on databases or any other search platform used, date of the search and a complete copy of the search strategy used. For complete and replicable search strategy see Appendix 1.2 and 1.3. Thirdly, inclusion and exclusion criteria should be provided, as well as the methods of which materials were screened for inclusion or exclusion (for this see tables 3.1 and 3.3). Penultimately, a SR contains a critical appraisal of the quality of the included materials. Although this thesis has included a quality appraisal aspect, implementing peer review as an inclusion criterion, this does not substitute a full quality appraisal. As such, this review cannot contend to be a full SR (for elaboration see section 3.2.1). Lastly, a SR should provide a clear description of how data was analyzed and synthesized (section 3.3) (Krnic et al., 2019). As demonstrated, this thesis has taken measures to align with the methodology of a SR, however, cannot fully claim to be a systematic review. As such this thesis may be considered a systematized review.

3.1.2.2 Systematized reviews

A systematized review aims to include components of a systematic review, whilst not asserting that the outcome can be deemed a full systematic review. This review method is often utilized in postgraduate student work in appreciation of how the systematic review

requirements, such as two or more researchers or a full quality appraisal, cannot be fulfilled. The outcome of this process generally models that of a systematic review and grants the researcher to showcase understanding of the process and ability to carry out the components. Nonetheless, this method cannot claim to be fully comprehensive, a central part of the systematic review and therefore has a larger probability of bias than rigorous systematic reviews (Grant & Booth, 2009).

3.1.3 Mixed methods

A mixed method review, is a review that either includes mixed methods studies or aims to combine different types of data (qualitative and quantitative data) (Sutton et al., 2019). The majority of relevant studies on the subject were quantitative. These studies provide possibly more generalizable results. However, the quantitative data was considered to be quite superficial. Contrastingly, the qualitative research provides more in-depth descriptions, though representativeness may be questioned. Therefore, it was deemed fruitful to conduct a mixed method review in the latter sense, including both qualitative and quantitative studies. In this way, the qualitative studies are used to provide thicker descriptions of the issues identified in the quantitative studies which may be considered more generalizable. To incorporate different study designs can be considered a strength, as excluding relevant research on the topic due to method can limit the relevance of the study as well as hinder in answering complex inquiries, such as why-questions (Grant & Booth, 2009). Sceptics of mixed methods express concern for the researchers skills in analyzing both methods of research adequately (Teddlie & Tashakkori, 2012). However, mixed method reviews supply a possibly more full picture of the available research on the topic (Grant & Booth, 2009). In sum this thesis may be described as a mixed method, systematized review.

3.2 Search strategy

In this section the steps provided by Krnic et al. (2019) are followed to describe the search process in order to present a transparent description of how the included studies were identified.

3.2.1 Inclusion and exclusion criterion

In accordance with Krnic et al. (2019)'s requirements for a SR, inclusion and exclusion criteria have been constructed. *Table 3.1 Table of inclusion and exclusion criteria* provides an overview of criteria for this thesis.

Table 3.1 Table of inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
Studies exploring factors affecting nurses' occupational turnover	Studies not exploring factors affecting nurses' occupational turnover
Nordic countries	Not Nordic countries
Primary empirical research studies (qualitative or quantitative)	Reviews
English, Swedish, Danish, Norwegian language	Non-English or Scandinavian language publications
Peer Review	Not peer-reviewed
Published 2000-2021	Published 1999 or before

Common inclusion and exclusion criteria include stating the aim and methodology of the studies and criteria pertaining to the research quality (Gough et al., 2017).

As nurses' occupational turnover (OT) was the topic of interest for this thesis, the first criteria prescribed was to include studies exploring factors affecting nurses' OT. This included studies exploring intention to leave profession (ITLP), planning to leave the profession, leaving the profession, and having left the profession. Including intentions was deemed appropriate as there is empirical support of turnover intentions acting as precursors to the actual decision to leave. As such, the literature on the topic supports the use of intentions to forecast actual leaving (Sousa-Poza & Henneberger, 2004). However, this may constitute a limitation of this thesis, as there is no follow-up research on intention studies to assess how many of the nurses actually left.

The term nurse fathoms a wide variety of nurse professionals. Registered nurses were the main subject of interest, as such studies were eligible for inclusion where the population was registered nurses. Therefore, studies only focusing on a single group of higher educated nurses, such as midwives or intensive care nurses were excluded. However, the majority of empirical studies on the topic include a wide variety of nurse professionals. Due to the nature of the available research, studies including both registered and specialized nurses were included. Studies assessing registered nurses as well as assistant nurses were only included if specification of differences between populations were provided, or satisfactory information was given on the similarity between data sets. Studies including only nurse managers or nurses in healthcare leadership positions were also excluded, though studies including managers as well as registered nurses were included due to the nature of available studies. These criteria were constructed to ensure comparability and combinability of the population, while still having sufficient data for analysis. However, this may constitute a limitation of the thesis as the selection of nurses do not constitute a fully homogenous group and therefor may have differing reasons to leave the profession.

Secondly, geographic criteria were utilized to ensure that the studies identified were in line with the focus of the thesis, therefor the geographical context was set to Nordic countries. However, studies containing multiple countries, among them a Nordic country, with sufficient country specific data were included, while those without sufficient country specific data were excluded.

In relation to study design and methodology, a tertiary criterion was constructed to ensure that the studies were comparable and only primary research studies were included. Fourthly, non-English or Scandinavian language studies were excluded, as procuring translations was not attainable within the one semester time frame. As a result, relevant data may have been excluded.

Penultimately peer-reviewal was set as a criterion. Despite recommendations by Krnic et al. (2019) a quality appraisal was not carried out, due to the time and size limitations of the thesis. However, the peer reviewal process is considered an essential mechanism for quality

control in publishing academic work (Wicherts, 2016). Therefore peer review was set as a criterion to include a quality appraising factor. Despite the recognition of the quality controlling aspect of the peer review process, peer reviewing does not replace a quality appraisal of each study in a systematic review. This may constitute a limitation of this thesis, as all included studies are treated as equal, which may weaken the trustworthiness of the findings. Lastly, a time limit of excluding publications predating 2000 was constructed to ensure the relevance of the data to the current situation.

3.2.2 Search process

Krnic et al. (2019) further recommends transparent reporting of the search strategy. Preliminary searches were done to become acquainted with the literature and to identify additional relevant search terms (see Appendix 1.1, Table 1.1 for all attempted search terms). A large variation of search terms for occupational turnover were attempted as well as variations of relevant search terms in Norwegian. This process led to the selection of search terms that produced results considered to be most relevant to the research question. Search terms were excluded when they led the search in a different direction than intended. Norwegian search terms were also excluded as they deemed no relevant results. After the preliminary test searches, the search terms selected were intention to leave profession or leaving profession, nurse and Nordic countries, or variations of this and a search string was determined (see Appendix 1.1, Table 1.2 for included search terms).

The intended review approach, an aggregative approach, calls for a comprehensive search in a high number of databases as well as supplementary sources. This contrasts the interpretive review, of which theoretical sampling may be fitting (Sutton et al., 2019). Therefore a variation of databases were included, see table 3.2 *Table of included databases* for a report of all databases used as recommended by Krnic et al. (2019).

Table 3.2 Table of included databases

Academic search ultimate (ASU)	ASU encompasses almost all academic fields. ASU was included to ensure a broad search was done and reduce the risk of missing relevant studies.
Cinahl	To include the nursing factor.
Embase Medline	These databases constitute the two largest medical databases and were included to ensure the research within the medical fields were found.
Oria	To include the Nordic factor.
Psycinfo	To include psychological factors, such as experiences.
SocIndex	To include the social science factor.

The literature search processes began 31.08.21 and ended 31.12.21. Thesaurus terms for professional turnover were used in databases with a thesaurus with fitting terms. A small number of searches resulted in hits above 1000 using the pre-decided search string, due to differences in databases. This amount of hits was deemed non-feasible considering the time restraints of the thesis, therefore adjustments were made to these select searches to arrive at a feasible amount of hits for screening (see Appendix 1.2 for a replicable specification of each search). However, this may constitute a limitation of this thesis, as relevant data may have been undiscovered.

3.2.2.1 Selection process

Additionally, Krnic et al. (2019) calls for specification of how studies were screened for inclusion and exclusion. The search resulted in 933 hits. After screening for duplicates, the title and abstract of 635 studies were screened. Most studies were excluded for focus, as many studies focused solely on nurses' intention to leave workplace, not profession. The second highest cause for exclusion was geographic context. As such, 508 studies were excluded after

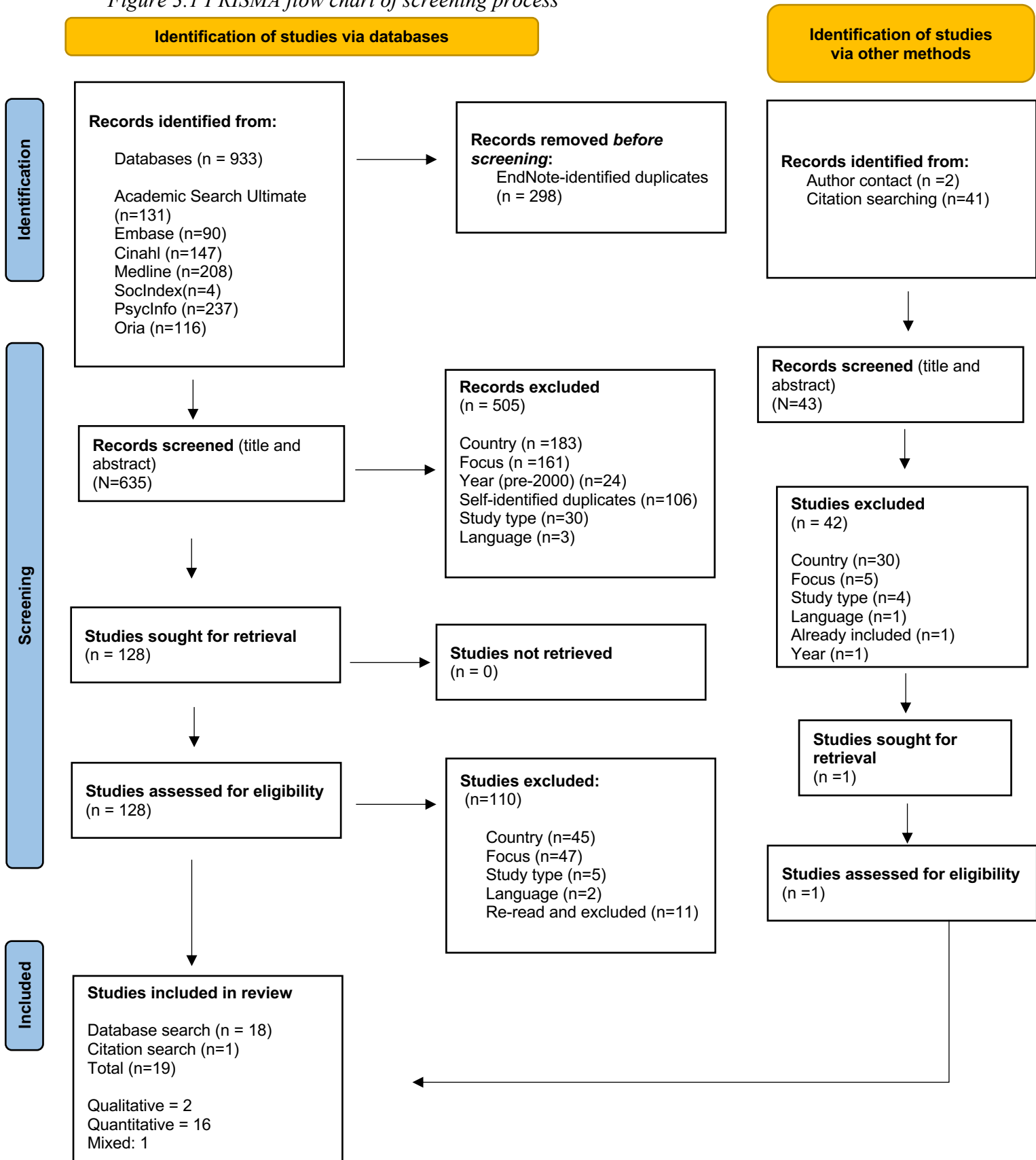
screening title and abstract. Further, 127 studies were skimmed in full text, as a result 29 studies were considered to fit the inclusion criteria.

To ensure a triangulated search method, backward searches, an assessment of the references of all included studies, was also utilized to identify possible relevant studies not found in database searching (Xiao & Watson, 2019). A total of 41 possibly relevant studies were identified from title, due to backward searching, that were not identified in the original search strategy. Of these, after screening abstract, one study was considered relevant while 40 were excluded; 30 of which were excluded for geographic criteria, five for focus, four for study type and one for language. Additionally, two studies were identified through backward searches that had been identified yet excluded through the primary screening process. These studies were re-screened in full text for reconsideration and were considered to fit the inclusion criteria for the study. This demonstrates the importance of triangulation in ensuring possibly relevant literature is not lost. Finally, corresponding authors of all the included studies were contacted to assess and double check the integrity of the search (for further information on contact with corresponding authors see Appendix 1.3) (Xiao & Watson, 2019). No studies were included as a result of author contact.

32 studies were considered as included in the thesis, and the process moved to synthesizing the data. Subsequently, the 32 studies were re-read in depth. This process identified 13 studies that did not adhere to the criteria as first considered. Thus these 13 studies were excluded, exclusion was based on thin descriptions, such as only one sentence, or no description pertaining to the research interest of this thesis or lack of division between leaving workplace or profession in the results.

This resulted in the final total of 19 included studies (see *Figure 3.1 PRISMA flow chart of screening process*). The included studies consist of one study identified through bibliographic search, not identified in database searching, and 18 studies identified through database searches, one of which was originally excluded but reconsidered for inclusion after re-identifying it through the bibliographic search.

Figure 3.1 PRISMA flow chart of screening process



(Page et al., 2021)

3.3 Thematic analysis

Finally, Krnic et al. (2019) calls for descriptions of data analysis and synthesis. For the analysis, the main framework of Braun & Clark's (2006) six stages of thematic analyses was used. Combining and summarizing qualitative and quantitative research can be done in two ways; either analyzing qualitative data first to construct a theory which is subsequently used to "*explain variance in the quantitative findings*" or synthesizing quantitative findings first which are then explored in the qualitative data (Thomas et al., 2017, pp. 203-204). This thesis utilized the latter mentioned method. The entire six stage process was executed first on only the quantitative studies, and secondly for the qualitative studies. In this way, findings in the qualitative studies were used to provide fuller descriptions of themes identified in the quantitative studies. This was done upon the aforementioned consideration of the quantitative study's ability to provide more generalizable results, and qualitative studies ability to provide thicker descriptions.

The first step of the data syntheses, becoming familiar with the data, was done by identifying and extracting all information from each study with relevance to the topic of interest (Braun & Clarke, 2006). This data was organized in evidence tables comprised of the categories: study aim, context, results, methodology as well as variables or determinants considered in the studies (for the quantitative studies), or question asked (in qualitative studies). This resulted in 133 pages and is not included. Engaging in the literature in this way before analysis, can submit to pitfalls such as narrowing the analytical vision to certain aspects of the data. The choice to engage with the data in this way, was based on the intention to become sensitive to more subtle aspects of the data and to reduce the vastness of information used in the analyses process, as a multitude of studies also included countries outside the Nordics or additional research questions outside the topic of interest (Braun & Clarke, 2006). During this process the information was transferred in the words of the original studies.

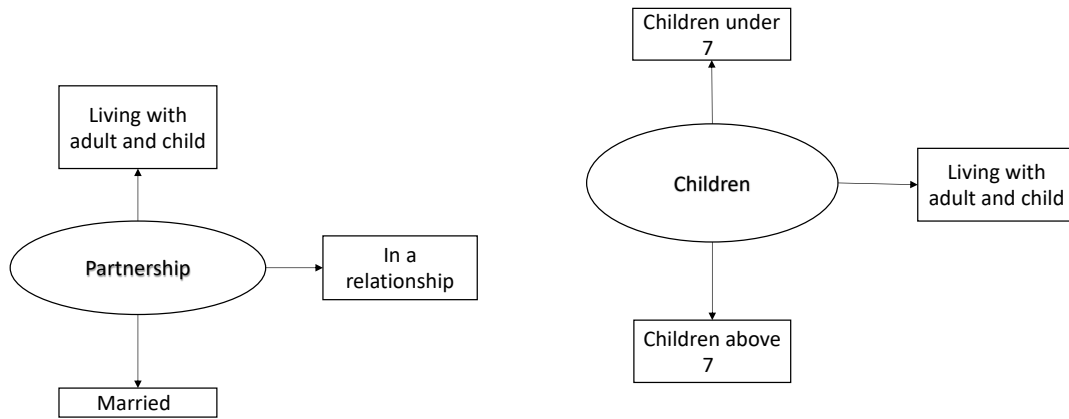
This process was executed three times for each study, to ensure all relevant information was identified and transferred. This resulted in a synthesized version of each study, including solely information relevant for further analysis for the thesis, though still in the words of the original studies. A multitude of studies contained statistical information relevant to the topic of interest, however lacked written descriptions of the results due to their focus being on a

summation of countries not within the interest of this thesis; such as the studies by Camerino et al. (2006), Estryn-Behar et al. (2007), Hasselhorn et al. (2008), Heinen et al. (2013), Hinno et al. (2012) and Laine et al. (2009). For these studies, descriptions of statistical information were written by me. Where statistical information led in the same direction as the findings described in the original studies, wording of the primary study was used to describe statistical information.

The second step of data syntheses, generating initial codes, was performed by reading through the synthesized results and coding each result with a shorter explanatory code. The codes were at this point, still majorly in the words of the original studies, though compressed to be more readily suitable to construct overarching themes (for outtakes to illustrate the coding process, see Appendix 2). This process was semantic, data driven, and codes were extracted from the data and further constituted the construction of themes (Braun & Clarke, 2006).

The third step of the analysis, searching for themes, was started by finding the strongly similar or same codes across studies, these similar codes were combined to form an overarching theme (Braun & Clarke, 2006). In line with an aggregative approach this process aimed to combine the information from the included studies and further snowball the information, to construct accurate and trustworthy knowledge about the phenomenon of interest (Thomas et al., 2017). This process proved difficult as the original coding process resulted in a vast number of differing codes due to differences in variables used in the quantitative studies. This process involved moving back and forth between studies to identify different definitions of original authors, to ensure that a concept was not moved into a different area of understanding than originally intended and to avoid lack of internal coherence within themes (Braun & Clarke, 2006). For an illustration of step 3, how themes were constructed from codes in this thesis, see *Figure 3.2 Thematic map 1*, where the construction of two themes from their subordinate codes is illustrated.

Figure 3.2 Thematic map 1

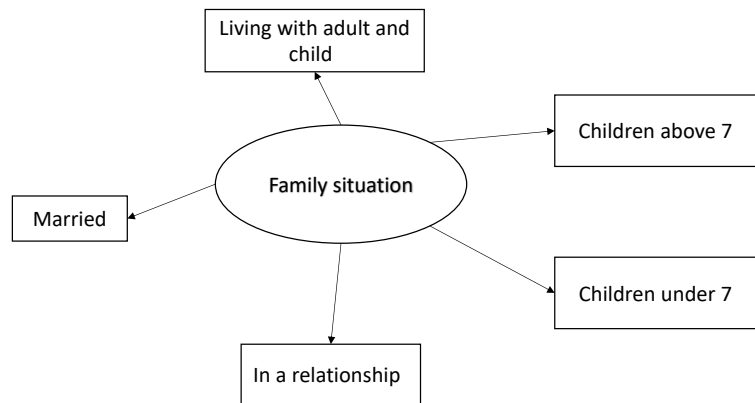


The fourth step of the analysis, reviewing themes, took place after initial themes were constructed. The data set, coded data and themes were re-read to ensure the alignment between the data in each theme. During this process, new higher arching themes were constructed with sub-themes to better match the data (Braun & Clarke, 2006). For an illustration of steps 4 and 5, how themes were reviewed and refined, see *Figure 3.3 Thematic map 2*, where the construction of one theme based on the two themes originally showcased in *Figure 3.2* is illustrated.

The fifth step of analysis, defining and naming themes refers to the process of refining the themes presented in the analysis and analyzing the data constructing the themes. This was done by writing up the analysis under each chosen theme. During this processes, further refinement was done such as merging themes where possible and writing up the analysis of what constructs each theme. When refining themes, it is important to avoid attempting to make a theme too complicated and wide. This was important to consider regarding this review. Originally, construction of as few themes as possible was attempted. This was not feasible due to the complex and highly varying data. Therefor three major themes were constructed: nurse characteristics, work-related factors and personal reasons for turnover. However, these themes do little to explain turnover in and of themselves. Therefor a multitude

of subthemes were constructed, in which the terrain of diverse reasons are given more light (Braun & Clarke, 2006). For step 6, the report of findings, see results section 4.2.

Figure 3.3 Thematic map 2



4. Results

Firstly, in results section 4.1, information on the included studies is provided to grant an overview over included studies. Subsequently, in section 4.2 findings are reported.

4.1 Characteristics and methodology of included studies

4.1.1 Country of origin

The studies included were from Finland, Norway or Sweden and therefore lacked information on the remaining Nordic countries. Twelve of the studies included participants from Finland, making this population the most frequent in this thesis. Six of the studies included participants from Norway, while five of the studies included participants from Sweden. This could indicate multiple potential limitations of this thesis. Firstly, the lack of findings from all Nordic countries may indicate a weakness in the search process, such as lack of identification of search terms used in research on the subject in the Danish or Icelandic context. Secondly, the issue of transferability to all Nordic countries may be questioned, as all Nordic countries have not been represented in this study and as such a total overview of the Nordics has not been constructed. Thirdly, with most studies pertaining to Finland, this may have skewed the results to best represent the issue in a Finnish context. Lastly, results between the Nordic countries have not been compared between themselves. This was due to too few and differing data sets between countries to construct a functional comparison. This may also reduce the reliability of the thesis, as possible contradictions and differences between countries are not identified (for specific country information see Appendix 3, *Table 3.1 Descriptive characteristics and demographics of included studies*).

4.1.2 Population, settings, and methodology in the studies

As in the international reviews, the studies included in this thesis comprised of a broad variety of turnover definitions, variables, measurement instruments, nurse roles, institutional settings, methodologies, and reporting strategies. This deemed it challenging to synthesize, compare and generalize the data (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). Below, some of the differences across studies are pointed out. For in-depth information see Appendix 3, *Table 3.1 Descriptive characteristics and demographics of*

included studies and Appendix 4: *Table 4.1 Overview of identified reasons for leaving the profession in included studies.*

Most studies ($n=15$) assessed nurses' intention to leave the profession, while four studies assessed nurses who had left the profession. Five of the studies had a longitudinal design. Two studies examined solely young nurses, while two studies examined only newly graduated nurses and two studies excluded older nurses. Health care institution types varied across studies; eight studies included only nurses working in hospitals while the remaining studies included a wide variety of institutions such as homecare, hospital, outpatient care and nursing homes. In studies with a variety of institutions hospitals were in majority. As such, this study may primarily lend insight on nurses working in hospitals. 13 studies included solely registered nurses, however the remaining 6 included a wide variety of nurses such as specialized nurses and nurse managers.

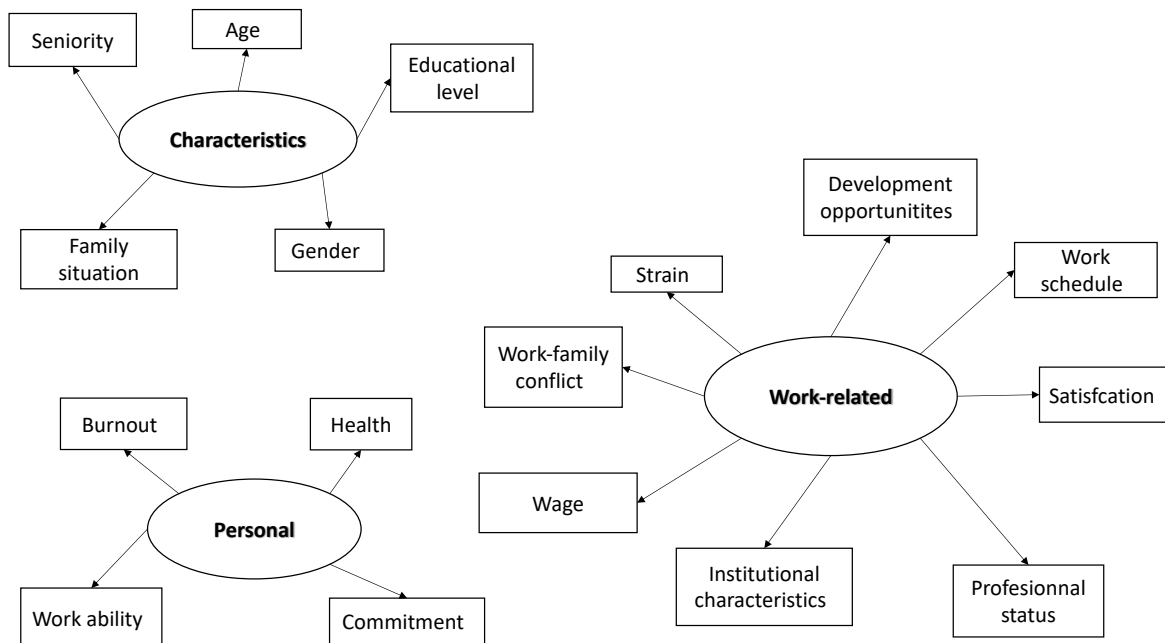
The 19 included studies were highly varying in their methodology. Quantitative methods made up the absolute majority with 17 quantitative studies, one of which being a mixed methods with both a quantitative and a qualitative section. However, the quantitative studies used a large variety of methods of analysis. Two studies were qualitative studies. One of which was a longitudinal interpretive interview study, the other a manifest content analysis of two open ended questions in a questionnaire. Additionally, the qualitative section in the mixed methods study included an open-ended question in the questionnaire.

4.2 Findings

In this section, limitations of the report are presented prior to the report of the findings. Subsequently, the aggregated findings are presented. The included studies explored a multitude of factors with highly varying results. In the report, solely factors that were congruent across studies are presented, therefore indications in a single study are not reported. Findings were highly varied across studies even among the most congruent factors. Therefore, the report of the results is highly descriptive to showcase the variation across studies and ensure transparency.

The findings are arranged in three main themes: nurse characteristics, work-related factors, and personal reasons for OT. Within each theme, multiple subthemes are reported on. *Figure 4.1: Thematic map of findings* illustrates all identified themes and subthemes.

Figure 4.1: Thematic map of findings



4.2.1 Limitations of reporting

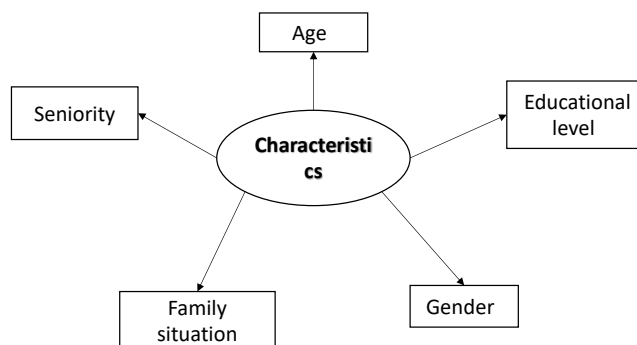
Vote counting, solely tallying up studies that report statistically significant results and using this to answer the research question, is a common pitfall in reviews analyzing quantitative research. To avoid vote counting size of effects were also considered in the summation of studies to increase the reviews reliability, though effect size vastly varied between studies (Thomas et al., 2017). This was originally done by writing strength of associations for each finding. However, due to word limitations it was not feasible to keep descriptions of each individual finding. This presents a limitation of the study, as it will thus not be as transparent as it could be. Due to differences in methods of analysis, it was not possible to summarize the overall effect in studies combined. Therefore, the strength of correlations of findings are reported in relation to effect size within each respective study (for description of results with strength of effect, see Appendix 4).

A further important aspect to be aware of is that all results from Kankaanranta and Rissanen (2008) are indirect effects on intention to leave profession (ITLP) apart from satisfaction and dissatisfaction, and as such should not be weighted as much as direct effects from other studies. The terms correlation, association and effect are used interchangeably to describe significant findings, as studies vary immensely in methodology, this reflects reporting of odds ratio, hazard ratio, correlation coefficients and more. Studies measured both intention to leave profession, intention to leave nursing care and having left profession, in the results this thesis refers to correlations with occupational turnover when referring to multiple studies.

4.2.2 Characteristics

Certain nurse characteristics were found to be associated with a higher risk of OT; these findings will be further reported here. First, *Figure 4.2: Thematic map of characteristics* provides an overview of the identified characteristics.

Figure 4.2: Thematic map of characteristics



4.2.2.1 Age

A significant correlation was found between young age and OT in three of quantitative studies though effect sizes were amongst the weakest in all studies (Estryn-Behar et al., 2007; Holmås, 2002; Salminen, 2012). However, age had no significant effect on OT in five of the

included studies (Estryn-Behar et al., 2007; Heinen et al., 2013; Pennbrant & Dåderman, 2021; Rudman et al., 2014; Søbstad et al., 2020). One of the studies found indications that dissatisfaction with low salary was more important for young nurses when considering OT, and was the strongest contributor to ITLP (Fochsen et al., 2005). Additionally, Flinkman et al. (2008) included only young nurses (under 30) in their study. In this study the reasons for leaving (from strongest to weakest) were weak affective professional commitment, low job satisfaction, experienced personal burnout, work-family conflict, high quantitative work demands and poor opportunities for development (Flinkman et al., 2008).

4.2.2.2 Seniority

Two of the quantitative studies found an association between OT and less seniority (Estryn-Behar et al., 2007; Holmås, 2002). However, one study tested seniority with a bivariate analysis, thus constituting a possibly less trustworthy result while the effect size of the other was quite weak (Estryn-Behar et al., 2007). Additionally, Kankaanranta and Rissanen (2008) found that experience (seniority) had no indirect effect on ITLP.

4.2.2.3 Gender

Two quantitative studies found a significant correlation between being male and OT (Estryn-Behar et al., 2007; Heinen et al., 2013). Effect sizes varied between both lowest and highest in each study. However, no significant relationship was found between gender and OT in three studies (Rudman et al., 2014; Salminen, 2012; Søbstad et al., 2020).

4.2.2.4 Family situation

Two studies found indications of decreased OT for nurses with families (married, with children or live with partner and child) (Estryn-Behar et al., 2007; Holmås, 2002). However, another study found that marriage increased OT (Søbstad et al., 2020). Effect sizes were medium to strong in all studies. Additionally, five studies found no significant correlation between family situation (such as having or living with children) and OT (Estryn-Behar et al., 2007; Kankaanranta & Rissanen, 2008; Pennbrant & Dåderman, 2021; Salminen, 2012; Søbstad et al., 2020).

4.2.2.5 Educational level

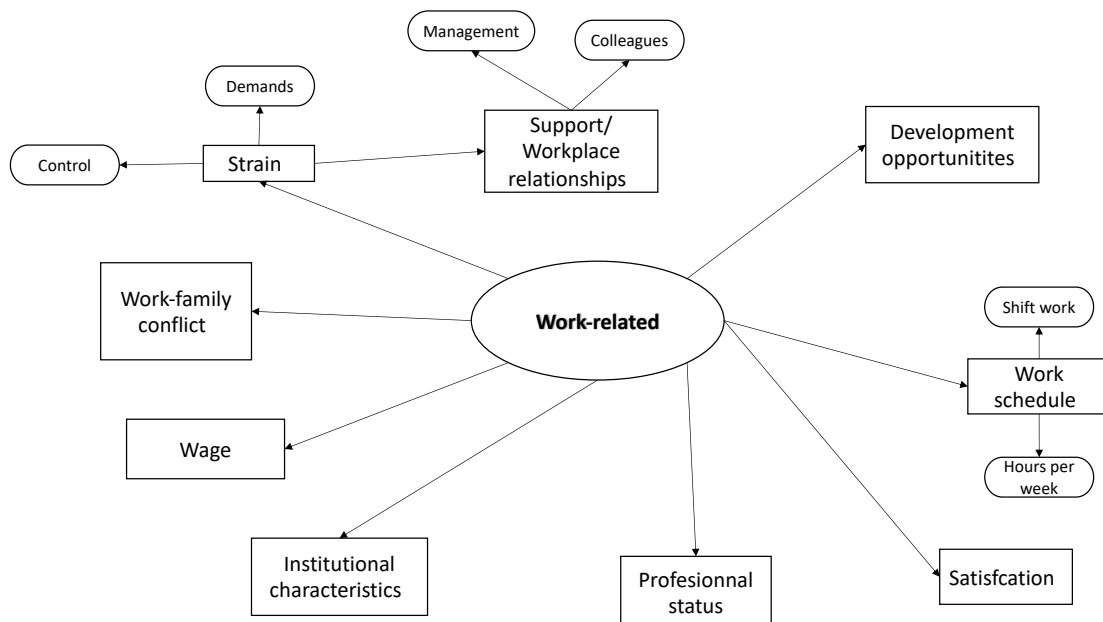
Specialized nurses had higher ITLP in Finland (Estryn-Behar et al., 2007). However, Kankaanranta and Rissanen (2008) found that occupational level had no indirect effect on ITLP.

None of the characteristics in the included studies indicate a strong correlation between characteristics and OT, though findings do indicate that male, young and less experienced nurses may have a higher risk of leaving the profession. However, findings were too weak and inconsistent to provide preliminary indications of effect of family situation and educational level on OT.

4.2.3 Work-related

A multitude of work-related factors were found to be associated with a higher risk of OT; these findings will be further reported here. First, *Figure 4.3: Thematic map of work-related factors* provides an overview of the identified factors.

Figure 4.3: Thematic map of work-related factors



4.2.3.1 Work-family conflict

A work-family conflict (WFC) arises when work gets in the way of family responsibilities and was a measure in multiple studies. Experiencing WFC was associated with OT in four of the quantitative studies with correlations in the middle to high range in all studies (measured as WFC and imbalance between work and childcare) (Estryn-Behar et al., 2007; Flinkman et al., 2008; Fochsen et al., 2005; Pennbrant & Dåderman, 2021). However, Estryn-Behar et al. (2007) found no association between WFC and ITLP for Norway.

4.2.3.2 Wage

Three quantitative studies found significant correlations between dissatisfaction with salary and OT (Fochsen et al., 2005; Holmås, 2002; Kankaanranta & Rissanen, 2008). Effect sizes varied immensely between studies. Two of the studies addressed wages in two separate ways, as wage and as share of income by shift work. Reasoning for this was that when working shift work, income is based partly on the compensation for shift work. When measuring it in this way, high income may be the result of compensation not high wage. When wage was measured by share of income by shift work, the effect sizes on OT doubled (Holmås, 2002; Kankaanranta & Rissanen, 2008). However, three quantitative studies found no association between salary and OT (Estryn-Behar et al., 2007; Flinkman et al., 2008; Salminen, 2012).

Descriptions from qualitative studies give further insight on why nurses may be dissatisfied with wages and how this affects OT. Nurses' feelings that wage did not match the demands, workload and responsibilities were repeated across studies (Flinkman et al., 2013; Flinkman et al., 2008; Sjögren et al., 2005). Nurses also felt they could find better wages in other professions (Flinkman et al., 2013; Flinkman et al., 2008). Additionally, the need to earn a living was mentioned indicating nurses experience the wage as not sufficing for life expenses (Flinkman et al., 2008).

Quote: *“The main reason for me to return to nursing care would be if I were given a salary that’s in proportion to the responsible work I do”* (Sjögren et al., 2005, p. 755).

4.2.3.3 Work schedule

Five of the quantitative studies found associations between work schedule and OT. These findings can be further divided into two categories, shift work and hours per week.

Work schedule - Shift work

Two studies indicate that dissatisfaction with work schedules or work schedules that do not suit them was significantly correlated with increased ITLP, though effect strength varied between a 13% and 100% increased risk of OT (Flinkman et al., 2008; Laine et al., 2009). However, Salminen (2012) found no significant association between shift work and ITLP. Additionally, work schedule elements: no work after normal hours, tight inflexible work schedule and inconvenient work schedule had no indirect effect on ITLP (Kankaanranta & Rissanen, 2008).

In the qualitative studies nurses expressed particularly shift work as the aspect of the work schedule that played a role in their OT. In relation to shift work nurses did not like the unfavorable working hours (weekends, evenings, and nights) or the irregularity of it, and expressed that these aspects of nursing work made them tired (Flinkman et al., 2013; Flinkman et al., 2008; Sjögren et al., 2005). Nurses wanted a regular day job (Flinkman et al., 2008; Sjögren et al., 2005). They expressed that recovering from night shifts was difficult, as it made it hard to reverse their circadian rhythm. One nurse explained that the lack of sleep due to night shifts could cause migraines (Flinkman et al., 2013). Additionally, nurses emphasized difficulty planning their private life around irregular shift work (Flinkman et al., 2013; Sjögren et al., 2005). Work schedule was important especially for nurses with a family and nurses expressed the need for more flexibility and influence over their working hours (Sjögren et al., 2005).

Quote: *“I would like to have working hours that can be adjusted to my social life and not only to the conditions of the management”* (Sjögren et al., 2005, p. 755).

Work schedule - Hours per week

Nurses working full-time had less ITLP in Heinen et al. (2013), though effect size highly differed between Norway and Finland. Aligning with this Holmås (2002) found that nurses working less than 50% had higher exit rates (than fulltime). However, Holmås (2002) also found that nurses working between 50% and 75% had lower exit rates (than fulltime). Additionally, Estryn-Behar et al. (2007) found that in Norway nurses with longer work weeks had higher leaving intentions while in Finland nurses with shorter work weeks had higher leaving intentions, though this was only tested in bivariate analysis. Furthermore fulltime/parttime position had no significant indirect effect on ITLP (Kankaanranta & Rissanen, 2008).

4.2.3.4 Development opportunities

Low opportunities to develop professionally (including possibilities for specialization) was associated with OT in four quantitative studies (Estryn-Behar et al., 2007; Flinkman et al., 2008; Fochsen et al., 2005; Kankaanranta & Rissanen, 2008). Effect sizes were quite strong, though it was weakest in one study, while effect was only found through bivariate analysis in another study. Additionally, Salminen (2012) found that nurses with skills in balance with current work demands and nurses who thought they had the potential to handle more challenging tasks had an increased likeliness of ITLP, with strong effect sizes. However, perceived development opportunities had no significant effect on leaving intentions in Salminen (2012). Additionally, possibility of career progression had no indirect effect on ITLP (Kankaanranta & Rissanen, 2008).

In the qualitative studies, nurses also raised the issue of lack of development opportunities. Nurses who had left the profession felt that they had had no future career opportunities, or opportunities to try new things and wanted opportunities for further education (Sjögren et al., 2005).

Quote: *“There was no development in my career, even though I did courses in my free time, took initiatives of my own on the ward and so on”* (Sjögren et al., 2005, p. 754).

Additionally in interviews, nurses described themselves as skilled and ambitious employees aiming for career advancement. However, they felt that nursing did not provide career development opportunities or the intellectual challenges they could find in other careers. All three had sought opportunities for development in nursing such as climbing the career ladder or getting further education, yet non availed. Subsequently, all three nurses had continued their professional development outside nursing with new university educations and jobs (Flinkman et al., 2013).

Quote:

I find it kind of terrible to think that you graduate as a nurse and then you will be a nurse for the rest of your life. That maybe you move from one ward to another ward or from place to place but the work is always the same everywhere.

(Flinkman et al., 2013, p. 6)

4.2.3.5 Institutional characteristics

Holmås (2002) found that certain institutional characteristics were associated with a decreased exit rate, such as hospitals where patients stay for longer time periods (20% decrease) and local hospitals (45% decrease). However, Heinen et al. (2013) and Kankaanranta and Rissanen (2008) found no association between institutional characteristics, such as hospital size, public/private institutions, hospital districts or work unit, and OT.

4.2.3.6 Strain

Using the job demand-control (JD-C) model, Hasselhorn et al. (2008) assessed the longitudinal effect, over one year, of job strain (high demands, and low control) on leaving intentions. Job strain at both assessments significantly increased ITLP with 320%. Also, for nurses transitioning from no strain to strain, ITLP increased with 170%. However, no significant association was found between the transition from strain to no strain and ITLP (Hasselhorn et al., 2008).

The JD-C model maintains high strain is a result of low control and high demands. Additionally, the expanded JDCS model maintains high strain jobs with low support from management and colleagues are at even higher risk of strain (Johnson & Hall, 1988; Karasek

& Theorell, 1990). Findings related to demands, control, and relationships with management and colleagues (support) across studies are further presented below.

Strain - Demands

A significant association between high work demands and OT was found in six of the quantitative studies. Items thematized as demands were physical and psychological demands, quantitative work demands, quantitative workload, demanding work, patient-oriented workload, high occupancy rates and high number of beds per nurse, excessive duties, and numbers of nurse per unit. Strength of effect varied between lowest, middle range and highest between studies (Camerino et al., 2006; Flinkman et al., 2008; Fochsen et al., 2005; Holmås, 2002; Kankaanranta & Rissanen, 2008; Pennbrant & Dåderman, 2021). However, Flinkman et al. (2008) found no significant effect of emotional demands on ITLP. Additionally, nurse-patient staffing ratio and (combined item) quality of care and staffing adequacy had no significant association with ITLP (Heinen et al., 2013).

Experiences of high work demands were mentioned in all the qualitative studies and provide more in- depth information on what constitutes nurses' perception of high demands. In one study, nurses related the physical demands to heavy lifts and exacting patients as well as the physical environment, such as smaller spaces that could make the physical workload heavier (Sjögren et al., 2005). While in another study the nurses experienced the work to be both physically and mentally demanding (Flinkman et al., 2008). In all three of the qualitative studies, nurses connected the high demands to insufficient staffing (Flinkman et al., 2013; Flinkman et al., 2008; Sjögren et al., 2005).

Quote:

That hospital, it was a place like, it was really something like eight people in the same room and some of those people were screaming all night long. That's also when I thought that this is not making any sense! And there's two of us nurses and over forty patients on the wards. That was totally insane.

(Flinkman et al., 2013, pp. 5-6)

Nurses expressed experiencing high responsibility, sometimes being the only nurse on shift (Flinkman et al., 2013).

Quote:

We had some really difficult patient cases and that summer for some reason there happened to be some really, really inexperienced doctors at the beginning of their careers, candidates of medical science, and all the time you had to be kind of mentoring their actions. It felt like you had to watch out all the time, and that besides your own work you kind of had to also take care of how everything else runs there.

(Flinkman et al., 2013, p. 6)

Nurses explained that work demands were so high, and nurses were so busy that it caused feelings of stress and inadequacy (Flinkman et al., 2008; Sjögren et al., 2005).

Quote: *“There was too much stress. I didn’t have time for patient-oriented work, which was the reason I was working in the health care sector”* (Sjögren et al., 2005, p. 753).

Nurses expressed not being able to give quality of care because of the high demands at work in all the qualitative studies (Flinkman et al., 2013; Flinkman et al., 2008; Sjögren et al., 2005). One study provided an in-depth explanation of how high workload led to rushed work which again led to lack of time to provide quality care, which in turn led to feelings of guilt (Flinkman et al., 2008). One nurse even went so far as to say being productive was considered more important than quality patient care (Flinkman et al., 2013).

Quote: *“And then my husband came to pick me up from work and then I started to cry that I cannot take this anymore, this is terrible, I cannot. I cannot, I feel like nobody takes good care of these patients”* (Flinkman et al., 2013, p. 6).

Strain - Control

Low control significantly contributed to nurses’ OT in four of the quantitative studies. Items categorized as low control were low influence at work, restricted professional autonomy, perception of participation in hospital affairs and not being able to make own decisions. Effect

sizes varied between lowest, middle range and highest between studies (Estryn-Behar et al., 2007; Fochsen et al., 2005; Heinen et al., 2013; Kankaanranta & Rissanen, 2008).

Additionally, qualitative job insecurity was associated with ITLP and was made up of questions that reflect low control; worried about being transferred to another unwanted work unit and worried about receiving a new work schedule that doesn't suit them (Laine et al., 2009). On the other hand, participation in hospital affairs had no significant association with ITLP in Finland in Heinen et al. (2013). Moreover, Salminen (2012) found no significant association between job control and leaving intentions.

Nurses experiencing low control can be found implicitly throughout the qualitative studies. In Flinkman et al. (2013) nurses described the feeling of having no autonomy. In relation to work schedule nurses emphasized lack of control in planning work schedule to their own social life, and that schedule was only based on conditions of management (Sjögren et al., 2005). In relation to workplace relations, nurses expressing disappointment in the workplace hierarchy also emphasized their lack of ability (control) to change the situation (Flinkman et al., 2013). In relation to nurses' disappointment in wages, they also pointed out how they felt they had no chance (control) of getting a raise. Nurses who had left nursing, emphasized the need for work schedule to be more flexible and that they wanted more influence (control) over working hours. In relation to nurses' lack of development opportunities, nurses felt this was something they had had no possibility to affect (control) (Sjögren et al., 2005). Nurses lack of ability to provide quality care due to being too busy, also indicates a lack of control over work tasks (Flinkman et al., 2013).

Additionally, 8 nurses who had left the profession specifically listed influence (control) as the most important reason for them to consider returning to the profession. These nurses wanted more opportunities to influence the organization, increased participation in decision-making and to be able to change their work tasks (Sjögren et al., 2005).

Quote: *"I couldn't influence my work situation. I felt like an unimportant cog in big wheel"* (Sjögren et al., 2005, p. 753).

Strain - Support/ Workplace relationships

Seven of the quantitative studies found associations between workplace relationships and OT. These relationships can be further divided into two categories, relations with management and relations with colleagues.

Management

Four quantitative studies found significant correlations between poor relations with management and increased risk of OT (or vice versa) (Fochsen et al., 2005; Heinen et al., 2013; Hinno et al., 2012; van der Heijden et al., 2010). Correlation and effect strength varied between weakest, middle range and strong between studies. However, Heinen et al. (2013) found no significant relationship between management and ITLP for Norway. Additionally, Kankaanranta and Rissanen (2008) found that employee/supervisor relations had no indirect effect on ITLP.

In relation to leadership the qualitative studies provide thick descriptions as to what may constitute negative relationships with management. Experiences such as lack of feedback, appreciation and support for nurses was mentioned (Flinkman et al., 2013; Sjögren et al., 2005). Additionally, nurses experienced a lack of understanding of nursing work and work demands from management (Flinkman et al., 2013). Further nurses expressed experiencing impersonal management with hierarchy creating a large gap between management and staff (Sjögren et al., 2005).

Quote: “*Nobody saw me or was interested in what I could contribute*” (Sjögren et al., 2005, p. 753).

Colleagues

Five quantitative studies found associations between negative collegial relationships and OT. Collegial relationships include factors relating to teamwork, nurse-doctor relationships, respect from colleagues, and conflicts with colleagues (Estryn-Behar et al., 2007; Fochsen et al., 2005; Heinen et al., 2013; Kankaanranta & Rissanen, 2008; Pennbrant & Dåderman, 2021). Correlation strength varied between studies, from strongest in some studies to weakest in others. However, Heinen et al. (2013) found no significant relationship between nurse-

doctor relationship and ITLP for Finland. Additionally, four quantitative studies found no significant relationship between collegial factors and OT (Heinen et al., 2013; Kankaanranta & Rissanen, 2008; Søbstad et al., 2020; van der Heijden et al., 2010).

In the qualitative studies nurses expressed intrigues and conflict between co-workers, disappointing hierarchy in the workplace and power struggles within the hierarchy as problematic aspects of collegial relationships affecting their OT (Flinkman et al., 2013; Sjögren et al., 2005).

4.2.3.7 Professional status

Kankaanranta and Rissanen (2008) found a significant indirect effect between prestigious career and decreased ITLP, indicating that experiencing the career as prestigious decreased ITP (Kankaanranta & Rissanen, 2008). However, this had not been considered by the other quantitative studies in this review but shows up in the qualitative studies. 6 participants said they left because of low professional status. The nurses felt they had lost previous authority and tasks belonging to them, especially to other healthcare workers. Some also expressed they felt the profession had been impoverished (Sjögren et al., 2005).

Quote: *“The Swedish registered nurse is becoming more like an assistant nurse in other countries. Nursing care for me means a good knowledge of pharmacology, anatomy and physiology and an enormous human interest”* (Sjögren et al., 2005, p. 754).

Additionally, 7 participants required increased professional status to return to the profession. They felt as if they had lost their original authority and they wanted it back (Sjögren et al., 2005).

Quote: *“I’m a trained nurse, not a cleaner, a laundress or a chef”* (Sjögren et al., 2005, p. 755).

Additionally, nurses in Flinkman et al. (2013) also felt that nurses had low professional status, and were dissatisfied with this.

4.2.3.8 Job satisfaction

Job satisfaction was found to decrease OT or vice versa in four quantitative studies (Flinkman et al., 2008; Kankaanranta & Rissanen, 2008; Salminen, 2012; van der Heijden et al., 2010). In their study Kankaanranta and Rissanen (2008) found that income, career prestige (professional status), opportunity for specialization (development), workplace relations (support), opportunities to make own decisions (control) and excessive duties (demands) directly affected satisfaction/dissatisfaction. No other study tested what aspects were and were not associated with satisfaction/dissatisfaction.

In sum, a multitude of work-related factors were found to be possible reasons for nurses' OT. However, findings related to work schedule (hours per week), institutional characteristics and professional status were too divergent, weak, or unclear to provide preliminary indications. Therefore, this thesis maintains that the aggregated synthesis indicates that the most relevant factors are WFC, wage, work schedule (shift work), development opportunities, demands, control and support/workplace relations.

4.2.3.9 Not associated

Additionally, a small group of work-related items were identified as not associated with OT across the studies.

Not associated - Secure living

Secure living had no indirect effect on leaving intentions (Kankaanranta & Rissanen, 2008). In line with this, quantitative job security had no significant effect on ITLP in either Finland or Norway (Laine et al., 2009). Additionally, Salminen (2012) found no significant effect of employment form (permanent or temporary) on leaving intentions.

Not associated - Quality of care

Several items considered to be indicators of quality of care were found to have no significant association with OT across studies. No significant effect was found between perceived patient safety and leaving intentions in Finland and Norway, as was the case for perceived care quality. Further a combined measurement of quality of care and staffing adequacy had no significant association with ITLP in Finland and Norway (Heinen et al., 2013). Additionally,

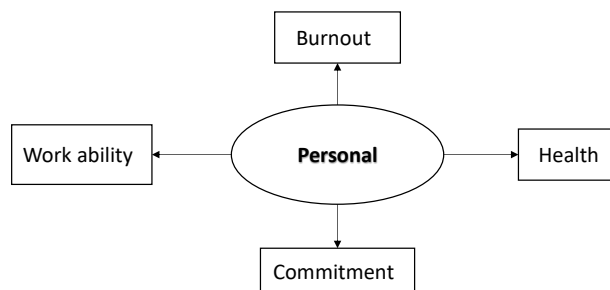
Numminen et al. (2015) tested for but reported no correlation between hospital ethical climate or professional competence and nurse’s turnover intentions. Lastly, a combined measure, assurance of care quality via collaborative relationships, was found to have no significant relationship with ITLP. This measure contained items relating to clinical competence, quality of medical care, expectations of high nursing standards though it also included factors possibly more related to teamwork (Hinno et al., 2012). Despite the lack of specificity of this finding, this may support the lack of importance of quality of care in nurses’ consideration of leaving the profession.

However, as showcased in all factors, lack of association may not mean that it is not associated. Therefore, this must be interpreted with care and therefor the implications of these findings will not be discussed individually.

4.2.4 Personal

Lastly a selection of personal factors were found to be associated with a higher risk of OT, these findings will be further reported here. First, *Figure 4.4: Thematic map of personal factors* provides an overview of the identified factors.

Figure 4.4: Thematic map of personal factors



4.2.4.1 Burnout

Experiencing burnout was found to be associated with OT in six of the quantitative studies (term fatigue used in one study) (Estryn-Behar et al., 2007; Flinkman et al., 2008; Heinen et al., 2013; Rudman & Gustavsson, 2011; Rudman et al., 2014; Søbstad et al., 2020). Strength of effect was quite strong for most studies, however low in Søbstad et al. (2020), though here fatigue was measured at baseline and OT at follow up (3-4 years later). Lastly, when measuring burnout and ITLP both concurrently and longitudinally for 5 years, Rudman et al. (2014) found that ITLP was significantly higher with concurrent burnout. As such, ITLP was lower already one year after experienced burnout (Rudman et al., 2014).

4.2.4.2 Work ability

A significant correlation was found between perceived low work ability and ITLP (and opposite) in two of the quantitative studies (Camerino et al., 2006; Salminen, 2012). However, strength size strongly varied. Additionally, Laine et al. (2009) found that the concern about becoming unable to work was associated with ITLP for Finland but was insignificant for Norway.

4.2.4.3 Health

Health challenges were found to increase OT in two of the included quantitative studies. Sickness absenteeism and subjective estimation of working impairment because of ill health increased ITLP in Finland and Norway. While number of diseases with a medical diagnosis was significantly associated with ITLP for Finland, although not for Norway (Camerino et al., 2006). Effect strength varied between low and medium. Further, nurses with a medically diagnosed musculoskeletal disorder had increased leaving intentions (Estryn-Behar et al., 2007). Additionally, mental health was considered by (Estryn-Behar et al., 2007) though the findings here were more ambiguous, indicating that nurses with physician diagnosed mental disorders had higher ITLP than self-diagnosed in Norway but the opposite in Finland. However, health aspects were only tested in a bivariate analysis in Estryn-Behar et al. (2007). Additionally, Flinkman et al. (2008) found no significant effect of general health on leaving intentions.

Health only came up in one qualitative study, where 19% said they left the profession for health reasons. These health reasons were predominantly musculoskeletal such as back and shoulder pain, though mental health was also mentioned. However, the participants in this study were nurses recruited from participation in previous studies about musculoskeletal disorders and work-related back injuries, indicating a possibly biased group in relation to health (Sjögren et al., 2005).

4.2.4.4 Commitment

Professional, organizational and job commitment was, one of few subthemes with no conflicting findings across the quantitative studies with four studies finding a significant correlation between low commitment and increased OT (Flinkman et al., 2008; Numminen et al., 2015; Pennbrant & Dåderman, 2021; Salminen, 2012).

In sum, a selection of personal factors were found to be possible reasons for nurses' OT. However, findings related to work ability, health and commitment were too unclear or weak to provide preliminary indications. Therefore this thesis maintains that the aggregated synthesis indicates burnout to be the most relevant personal factor. The JD-C model hypothesizes that burnout is a result of strain and therefore burnout will be discussed in relation to strain in the discussion section of this thesis (Karasek & Theorell, 1990).

5. Discussion

In line with an aggregative approach, this thesis has summarized findings from primary research exploring possible reasons for nurses' OT in the Nordics. As showcased in the results, the findings were highly varied across studies. Despite attempts to avoid vote counting, strength of correlations were so diverse across studies that they lend little indications on what are the most important reason to leave the profession. However, certain findings were more supported across studies than others or provided more clear indications. Based on the aggregation of studies, the findings indicated to be most relevant for nurses' OT will be further discussed.

High demands, low control and burnout were three of the clearest findings in relation to nurses' OT. The JD-C model maintains high strain is a result of low control and high demands and may result in burnout (Karasek & Theorell, 1990). Therefore, findings on demand, control and burnout will be discussed first, in relation to the JD-C model.

Additionally, the expanded JDCS model maintains that strain may be mediated by social support and that high strain-low support jobs may be categorized as iso-strain jobs. Iso-strain jobs are predicted to be at an increased risk of strain (Johnson & Hall, 1988; Karasek & Theorell, 1990). Therefore, findings related to workplace relations will be discussed in relation to the JDCS model. However, these models do not provide means to understand all findings. Further indications and shortcomings of the remaining individual findings will be subsequently discussed.

Lastly, a case is made for further research to consider how factors may interact with each other, as a single antecedent to nurses' OT has not been identified, but rather a plethora of factors of which it would be interesting to consider if instead of being single reason to leave the profession that there is a more complex relationship between them leading to OT.

5.1 Strain

The JD-C model maintains that jobs with both high levels of work demands and low levels of autonomy in the workplace may be categorized as high strain jobs (Karasek & Theorell,

1990). The findings of this study support a hypothesis of the nursing profession constituting a high strain job.

Quantitative work demands seemed to be one of the clearer findings in relation to OT in this thesis (Camerino et al., 2006; Flinkman et al., 2008; Fochsen et al., 2005; Holmås, 2002; Kankaanranta & Rissanen, 2008; Pennbrant & Dåderman, 2021). In line with the JD-C model, one may hypothesize based on these findings that nurses experience the profession to be a high demand job. In relation to demands the qualitative studies provided insight on how nurses especially related work demands to the lack of sufficient staffing (Flinkman et al., 2013; Flinkman et al., 2008; Sjögren et al., 2005). This provides an insight into a possible policy recommendation to reduce demands. Another interesting finding among nurses' reflection on demands in the qualitative studies, is how they related this to reduced quality of care (Flinkman et al., 2013; Flinkman et al., 2008; Sjögren et al., 2005). However, quantitative studies measuring correlation between quality of care and OT do not support the issue of quality of care to be associated with OT (Heinen et al., 2013; Hinno et al., 2012; Numminen et al., 2015). It would be interesting to consider this in more depth, as it is difficult to ascertain whether these opinions reflect the accepted discourse for nurses or their own personal opinions.

Also in line with the job strain category of the JD-C model, low control seemed to be one of the more strongly associated factors in relation to OT in this review (Estryn-Behar et al., 2007; Fochsen et al., 2005; Heinen et al., 2013; Kankaanranta & Rissanen, 2008). In line with the JD-C model, one may hypothesize based on these findings that nurses experience low control in the profession. Relating to control, an interesting aspect identified in the qualitative studies, was how job control was mentioned in relation to a plethora of different areas in the profession such as: work schedule, workplace relations, wage, and development (Flinkman et al., 2013; Sjögren et al., 2005). These findings indicate that the experience of low control is saturated throughout a multitude of areas within the nursing profession, providing insight to a plethora of areas in which measures to increase control may be considered.

The job demand control theory maintains that high strain jobs manifest as mental strain which may present itself as burnout (Karasek & Theorell, 1990). In line with this the findings of this

study have also indicated a strong association between burnout and OT (Estryn-Behar et al., 2007; Flinkman et al., 2008; Heinen et al., 2013; Rudman & Gustavsson, 2011; Rudman et al., 2014; Søbstad et al., 2020). In line with the JD-C model of stress, one can interpret burnout as a possible outcome of the experienced high demands and low control in the profession. The international reviews also found that high demands, low control, and burnout increased OT (Chan et al., 2013; Hayes et al., 2012; Hayes et al., 2006). However, these reviews did not consider these items through the lens of the JD-C model. By considering these items with the JD-C model one may hypothesize that burnout is not a reason for occupational turnover in and of itself, but rather a symptom or manifestation of high job strain (Karasek & Theorell, 1990). In this case, it can be argued that occupational turnover is a self-protection mechanism nurses take as a measure to alleviate the strain and subsequent burnout experienced in this high strain profession. In line with this, policy actions directed toward job strain may also alleviate burnout and subsequent OT.

The JD-C model provides interesting insight to consider the issue in relation to possible policy measures. Considering both demand and control aspects of work, policy makers may consider which aspects there are opportunities to alleviate as well as what kind of job outcomes are desirable. If demand aspects are unchangeable, measures may be taken to increase control. In such a case the nursing profession may fall into the category of an active job. The active job is hypothesized to have more positive outcomes as well as highly productive workers. This may be considered a desirable outcome. Alternatively, by reducing demands, and not changing control, the nursing profession may submit to categorization as a passive job which may have negative outcomes for the nurses' motivation and productivity and is arguably an unwanted outcome. Additionally, by both increasing control and decreasing demands the profession would fall into the low strain category possibly increasing nurse job satisfaction (Karasek & Theorell, 1990).

One may question whether a low demands healthcare system may be less productive, and as such may not be the preferred route within nursing. Further, one may argue the preferred route in relation to the nurse profession may rather be to take measures to move the profession towards the active job category, as the shortage of nurses itself is based on the high ongoing and future expected demands on the healthcare system (Buchan et al., 2015; World Health

Organization, 2020). As such, through the JD-C model recommendations can be made to policy makers to take action to increase nurses' control in the nursing profession. However, this is not to say that by reducing some demands, the profession will succumb to the negatively hypothesized fate of the passive jobs.

Additionally, findings on burnout indicate that intention to leave the profession was lower already the following years after experienced burnout (Rudman et al., 2014; Søbstad et al., 2020). This aligns with findings from Hasselhorn et al. (2008) when assessing effect of strain on OT longitudinally. No association was found with ITLP for nurses originally experiencing strain but who at follow up indicated no strain (Hasselhorn et al., 2008). This may indicate the opportunity for preventive actions, such as increasing control, to decrease burnout (strain) and thus hinder occupational turnover even in nurses already experiencing burnout (job strain). Further research may gain interesting knowledge by using the job demand control model in further exploration of nurses' OT.

The expanded JDCS model further maintains that strain may be mediated by social support and that jobs with high demands, low control and low support may be categorized as iso-strain jobs. Iso-strain jobs are predicted to be at an increased risk of strain (Johnson & Hall, 1988; Karasek & Theorell, 1990). The findings of this thesis indicates that negative relationships with both leadership and colleagues may play a role in nurses' OT (Estryng-Behar et al., 2007; Fochsen et al., 2005; Heinen et al., 2013; Hinno et al., 2012; Kankaanranta & Rissanen, 2008; Pennbrant & Dåderman, 2021; van der Heijden et al., 2010). This is also in concurrence with the international reviews (Chan et al., 2013; Hayes et al., 2012; Hayes et al., 2006). Although the qualitative studies provide some perspective on what about management and colleague relationships that are challenging, the information was thin and did not provide sufficient insights to provide recommendations for specific areas of improvement. Due to the nature of this review, this thesis cannot speak on the moderating effect of support. However, the findings may indicate that the nursing profession in the Nordics could fall into the category of iso-strain with high demands, low control, and low support from both colleagues and management.

Interpretations of the finding with these models in this thesis are speculative. However, the JD-C and JDCS model could provide interesting ways for future research to assess how the relationship between these factors affects nurses' OT. A recommendation for further research could be to assess the hypothesis of both direct effects and moderating effects of these factors as hypothesized by the JD-C and JDCS models.

However, the JD-C or JDCS models do not cover all findings. Further indications and shortcomings of the remaining individual findings will be discussed below.

5.2 Characteristics

5.2.1 Age, seniority, and gender

The findings of the aggregative synthesis weakly indicated that young and less experienced nurses are more likely to leave the profession (Estryn-Behar et al., 2007; Holmås, 2002; Salminen, 2012). This aligns with the findings of the international reviews (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). One study in this thesis indicated that dissatisfaction with low salary was more important for young nurses when considering OT, while another indicated that weak affective professional commitment, low job satisfaction, experienced personal burnout, WFC, high quantitative work demands and poor opportunities for development was more important (Flinkman et al., 2013; Fochsen et al., 2005). These findings align with the general findings of this thesis. Though too little insight is provided to make definitive claims, this may indicate young nurses have the same reasons for OT as the general findings of this study.

An interesting aspect to consider here is the possible parallel between age and experience. It is natural to assume that younger nurses are also less experienced nurses, and vice versa. One common policy measure to alleviate the nurse shortage is by increasing the capacity in nursing education as has been attempted in Norway (Buchan et al., 2015; Kunnskapsdepartementet & Helse-og-omsorgsdepartementet, 2021). This is likely to increase the number of young, inexperienced nurses. However, increasing the amount of young, inexperienced nurses will not solve the problem that these same nurses have a higher likeliness of leaving the profession (Buchan et al., 2015).

Additionally, there was a weak indication that male nurses may have a higher risk of OT (Estryn-Behar et al., 2007; Heinen et al., 2013). Findings here are also in concurrence with the international reviews (Chan et al., 2013; Flinkman et al., 2010). As the nursing profession is a predominantly female dominated industry in the Nordics the loss of more men would further deplete an already low number of men from the profession. One policy method to alleviate lack of gender diversity in gender dominated industries is by implementing gender quotations to increase uptake of the minority gender. This method has been attempted in Norway to increase male nurses in nursing and appears to be promising (Nordfjell & Nielsen, 2019). However, this does not solve the issue that male nurses are more likely leave.

A challenge with the findings of this review is the lack of clear identification of why men have a higher risk of leaving the nursing profession. Yet, one of the international reviews found that salary was more important for male nurses than female nurses (Hayes et al., 2012). Though this finding pertains to nurses outside of the Nordics, similarities between the Nordic and international reviews indicate the possible relevance of this. Additionally, low wage is an identified challenge in this review in general.

In relation to characteristics preliminary findings indicate that male, young and less experienced nurses may have a higher risk of leaving the profession. Identification of which groups may have an increased risk of OT provide insight on what groups researchers and policy makers may aim their focus on in the future. However, the included studies provide little insight as to why these groups may be more likely to leave the profession, and as such contribute little to answering the research question. Further research is needed to provide policy indications for retention strategies of young, inexperienced, and male nurses.

5.3 Work-related

5.3.1 Work-family conflict

The findings indicate that occupational turnover may increase with experiences of WFC (Estryn-Behar et al., 2007; Flinkman et al., 2008; Fochsen et al., 2005; Pennbrant & Dåderman, 2021). This is an interesting finding in relation to the ambiguous findings of having a family, as one would expect these items to be interrelated (Estryn-Behar et al., 2007; Holmås, 2002; Søbstad et al., 2020). It is especially interesting that WFC plays a role in nurse

turnover in the Nordic context. A common feature across Nordic welfare states is the emphasis on facilitating the ability to combine paid work with childcare. The goal of the Nordic family welfare model is to facilitate work participation and family responsibilities for both parents and is considered to be a sustainable model providing women with high levels of labor market participation while maintaining a relatively high birth rate (Skrede & Rønsen, 2006). However, findings in this thesis indicate nursing may not meet the Nordic expectations of a sustainable model in relation to balancing family and work life.

The findings within WFC provide little insight as to what creates the experienced WFC. This provides an aspect to consider in further research. Such as, what about nursing creates a WFC and what changes may alleviate this? One hypothesis may be that WFC may arise from shift work due its unfavorable working hours, as findings in this thesis also indicate work schedule as an aspect of the profession that may play a role in OT (Flinkman et al., 2013; Flinkman et al., 2008; Laine et al., 2009; Sjögren et al., 2005). Here nurses specifically expressed difficulty planning private life around shift work and that schedule was especially important to nurses with families (Flinkman et al., 2013; Sjögren et al., 2005). However, more research is needed to explore nurses' WFC in order to provide concrete policy suggestions.

5.3.2 Wage

The synthesized results indicate that low wage may play a part in nurses' OT (Fochsen et al., 2005; Holmås, 2002; Kankaanranta & Rissanen, 2008). This finding is in concurrence with the international reviews (Chan et al., 2013; Flinkman et al., 2010). Further, despite the weak effects of low wage across studies, an interesting aspect should be considered; when using degree of wage from shift work to consider wage, the effect of wage doubled (Holmås, 2002; Kankaanranta & Rissanen, 2008). As many nurses work shift work, a large amount of their wage is compensation for these unfavorable working hours. The studies that found no significant relation between wage and OT did not calculate wage in a way including shift work, possibly underestimating the effect on turnover by up to 50%. This may indicate wage to be more important for OT than indicated in studies not considering wage from shift work.

Further, nurses in the qualitative studies related wage to the demands of the job (Flinkman et al., 2013; Flinkman et al., 2008; Sjögren et al., 2005). This is an interesting aspect to consider

in future research. Could certain work demands be allocated an additional bonus and as such reduce the dissatisfaction with wage? Fiscal incentives are one of the most commonly promoted policy approaches to promote nurse retention (Zurn & Stilwell, 2005). A multitude of fiscal areas contain opportunities for improvement other than just wage, such as bonuses, pension, allowances or loans and tuition reimbursement (Zurn & Stilwell, 2005). Findings of this thesis support the implementation of fiscal actions to reduce OT. However, further research is needed to ascertain what fiscal actions, other than a general wage increase, may reduce dissatisfaction with income.

5.3.3 Work schedule – shift work

The findings in this study indicate that work schedule may be a factor that increases nurses' OT (Flinkman et al., 2008; Laine et al., 2009). The qualitative studies provided insight that dissatisfaction with work schedule may be largely due to the shift work, due to the unfavorable working hours and schedule irregularity (Flinkman et al., 2013; Flinkman et al., 2008; Sjögren et al., 2005). This finding differs from the international reviews where results were highly inconsistent (2013; Hayes et al., 2006). It is interesting that both work schedule and WFC do not coincide with the international reviews. Does this indicate that the Nordic nursing profession is worse at constructing a work schedule that works in relation to private life responsibilities, or does it indicate that Nordic nurses have higher expectations of the ability to be in the work market and balance life?

Since healthcare must be provided at all hours, it is not possible to resolve the issue itself (shiftwork). It is therefore imperative instead to identify policy measures to alleviate the challenges shift work may represent (Kleiven, 2018). Some of the insights from this thesis provide an understanding that by increasing nurses' control over their work schedule their satisfaction with their work schedule may increase possibly decreasing ITLP (Flinkman et al., 2013; Sjögren et al., 2005). Additionally, the reflections on the difficulty of reversing sleep rhythms and how this could cause health issues indicates support to use research on how to best set up shift work for nurse health (Flinkman et al., 2013). Further research is needed to assess what aspects of work schedule may be improved in order to construct concrete policy suggestions.

5.3.4 Development opportunities

The findings indicate that low possibilities to develop professionally may play a role in nurses' occupational turnover (Estry-Behar et al., 2007; Flinkman et al., 2013; Flinkman et al., 2008; Fochsen et al., 2005; Kankaanranta & Rissanen, 2008; Sjögren et al., 2005). This finding aligned with the international reviews (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). Policy wise, the perceived lack of opportunities to develop open an array of possible policy implications for further consideration. Could nurses be given the right to paid further education/specialization after a certain amount of tenure in the profession? Could a clinical advancement program be constructed to provide more experienced nurses with more responsibilities and wages to match? However, the studies did not provide information on what preferred development would look like. Further research is needed to provide more specific policy indications. Additionally, the qualitative studies indicated that nurses who left the profession moved on to taking new university educations (Flinkman et al., 2013). Why then did they not further educate themselves within nursing? This would be interesting to address in further research, though a primary hypothesis may be that perceived negative aspects of the profession work in complex relation with other and thus one cannot argue merely one issue causes OT, but that the constellation of a multitude of the factors affect each other in nurses' occupational turnover.

5.3.5 Satisfaction

The findings in this review indicate that nurses with low job satisfaction have a higher risk of leaving the profession (Flinkman et al., 2008; Kankaanranta & Rissanen, 2008; Salminen, 2012; van der Heijden et al., 2010). This also aligns with the findings in the international reviews (Chan et al., 2013; Flinkman et al., 2010; Hayes et al., 2012; Hayes et al., 2006). Of studies in this thesis, Kankaanranta and Rissanen (2008) found that income, career prestige (professional status), opportunity for specialization (development), workplace relations, opportunities to make own decisions (control) and excessive duties (demands) directly affected satisfaction/dissatisfaction. No other study tested what aspects were associated with satisfaction/dissatisfaction. All aspects related to satisfaction/dissatisfaction, apart from professional status, have been found to be associated with occupational turnover in this review. Findings regarding low satisfaction provide little further information regarding why nurses really leave the profession, however the findings of what may play a role in

satisfaction/dissatisfaction support the general findings of this study in relation to what may play a role in nurses' occupational turnover.

5.4 Strengths and limitations of the thesis

A strength of this thesis is that it is, to my knowledge, the first review of primary research on nurses' OT in the Nordic context. The current lack of nurses expected to increase in the coming years highlights the importance of context specific research to provide indications for policy makers. This thesis has provided an overview of the research on the subject and highlighted the vast differences in results across studies. Thus, this thesis provides knowledge a single study may not. A limitation of this thesis is that it has not provided hands on proposals for policy makers due to the superficial and ambiguous nature of the results, however a wide array of future research implications is provided.

Additionally, the quantitative studies included in this thesis have measured the effect of certain variables on the variables intention to leave profession or left profession. As such the results measure the statistical correlations, not a causal effect. Therefore variables may have statistical effects without being the cause of intention to leave profession or having left profession. Therefore, when considering the correlations found between the explored variables causality cannot be claimed, one may merely maintain that the variables are associated with each other in some way (Almquist et al., 2014). Therefore the findings of this study cannot be claimed to cause nurses' professional turnover. However, the findings provide indications of certain aspects that may be correlated with turnover.

Further limitations of the thesis have been elucidated throughout the thesis.

5.5 Conclusion

The nurse shortage in the Nordics is expected to grow in the coming years (Buchan et al., 2015; Hjemås et al., 2019; Reppen, 2021; Statistics Sweden, 2020). Context specific research is needed to develop appropriate policy recommendations to alleviate this issue (Flinkman et al., 2010; World Health Organization, 2020). There are multiple policy approaches to ensure a sufficient nursing workforce such as increasing input, decreasing nurse occupational turnover, and re-recruiting nurses no longer in nursing (Zurn & Stilwell, 2005). This thesis focused on

nurse turnover in the Nordics by conducting an aggregated, mixed methods, systematized review of all identified primary research exploring reasons for nurses' OT in the Nordics with the aim to summarize the knowledge on the field in the Nordic context. The results from this review provide insight on common themes nurses provide for why they consider leaving or have left the profession.

The aggregative thematic analysis identified three main themes indicated to play a role in nurses' OT in the Nordics: nurse characteristics, work-related factors, and personal factors. Of nurse characteristics findings indicated that male, young and less experienced nurses have an increased risk of OT. Although this lends insight on which groups researchers and policy makers may aim their focus on in the future, little insight was provided as to why these groups may be more likely to leave the profession. Further research is needed to provide policy indications for retention strategies of young, inexperienced, and male nurses.

Work-related aspects of the profession that may play a role in nurses' occupational turnover were work-family conflict, low wage, shift work, low possibilities of development and high job strain (comprising of high job demands and low job control and low support (poor workplace relations with both leadership and colleagues)). Among personal reasons for leaving the profession, the aggregated synthesis indicated burnout to be the most relevant personal factor.

This thesis has shown a plethora of factors that may affect nurses' OT. However, as demonstrated, the research on the subject had highly varying results. This has showcased that a single main reason for nurses' OT cannot be identified. Additionally, this review has shown that many of the factors provide superficial information at best. The nurse shortage in the Nordics is a vast issue expected to grow. As such, it is interesting to note that in-depth research on the subject is so lacking. However, the JD-C and JDCS models provide a way to consider how multiple factors, demands, control, support (relations with colleagues and management), may work in complex relation with each other and lead to strain (burnout) which may lead to OT. A preliminary hypothesis of this thesis is that the JD-C and JDCS models provide an interesting lens to consider how factors may be interdependent in nurses' OT in future research.

However, these models do not incorporate all identified factors, such as WFC, financial, work schedule and development opportunities. Further research is needed to provide more in-depth insight on each factor and to assess how more of the factors may work together to affect nurses' OT.

Additionally, the findings of this thesis were highly aligned with the international reviews. Does this indicate that there is little difference between Nordic nurses and nurses around the world? Or does it indicate that the research is so superficial that context specific reasons have not been sufficiently identified? To ascertain this, in-depth research is needed, as well as comparative studies.

References

- Almquist, Y. B., Ashir, S., & Bännström, L. (2014). *A guide to quantitative methods*. Chess.
- Ariza-Montes, A., Arjona-Fuentes, J. M., Han, H., & Law, R. (2018). Work environment and well-being of different occupational groups in hospitality: Job Demand–Control–Support model. *International journal of hospitality management*, 73, 1-11.
<https://doi.org/10.1016/j.ijhm.2018.01.010>
- Booth, A. (2016). *EVIDENT Guidance for Reviewing the Evidence: a compendium of methodological literature and websites*. <https://doi.org/10.13140/RG.2.1.1562.9842>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Buchan, J., Duffield, C., & Jordan, A. (2015). 'Solving' nursing shortages: do we need a New Agenda? *Journal of Nursing Management*, 23(5), 543-545.
<https://doi.org/10.1111/jonm.12315>
- Camerino, D., Conway, P. M., Van der Heijden, B. I. J. M., Estry-Behar, M., Consonni, D., Gould, D., & Hasselhorn, H.-M. (2006). Low-perceived work ability, ageing and intention to leave nursing: A comparison among 10 European countries. *Journal of advanced nursing*, 56(5), 542-552. <https://doi.org/http://dx.doi.org/10.1111/j.1365-2648.2006.04046.x>
- Chan, Z. C. Y., Tam, W. S., Lung, M. K. Y., Wong, W. Y., & Chau, C. W. (2013). A systematic literature review of nurse shortage and the intention to leave. *Journal of nursing management*, 21(4), 605-613. <https://doi.org/10.1111/j.1365-2834.2012.01437.x>
- Dixon-Woods, M., Agarwal, S., Jones, D., Young, B., & Sutton, A. (2005). Synthesising qualitative and quantitative evidence: A review of possible methods. *Journal of health services research & policy*, 10(1), 45-53. <https://doi.org/10.1258/1355819052801804>
- Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Polity Press.
- Estry-Behar, M., Van der Heijden, B. I. J. M., Oginska, H., Camerino, D., Le Nezet, O., Conway, P. M., Fry, C., & Hasselhorn, H.-M. (2007). The impact of social work environment, teamwork characteristics, burnout, and personal factors upon intent to leave among European nurses. *Medical Care*, 45(10), 939-950.
<https://doi.org/http://dx.doi.org/10.1097/MLR.0b013e31806728d8>

- Flinkman, M., Isopahkala-Bouret, U., & Salanterä, S. (2013). Young Registered Nurses' Intention to Leave the Profession and Professional Turnover in Early Career: A Qualitative Case Study. *ISRN Nurs*, 2013, 916061-916012.
<https://doi.org/10.1155/2013/916061>
- Flinkman, M., Laine, M., Leino-Kilpi, H., Hasselhorn, H., & Salanterä, S. (2008). Explaining young registered Finnish nurses' intention to leave the profession: a questionnaire survey. *International Journal of Nursing Studies*, 45(5), 727-739.
<https://doi.org/10.1016/j.ijnurstu.2006.12.006>
- Flinkman, M., Leino-Kilpi, H., & Salanter, S. (2010). Nurses' intention to leave the profession: integrative review. *Journal of advanced nursing*, 66(7), 1422-1434.
<https://doi.org/10.1111/j.1365-2648.2010.05322.x>
- Fochsen, G., Sjögren, K., Josephson, M., & Lagerström, M. (2005). Factors contributing to the decision to leave nursing care: a study among Swedish nursing personnel. *Journal of Nursing Management* 13(4), 338-344. <https://doi.org/10.1111/j.1365-2934.2005.00546.x>
- Gough, D., Oliver, S., & Thomas, J. (Eds.). (2017). *An introduction to systematic reviews* (2nd ed.). SAGE.
- Grant, M. J., & Booth, A. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information and Libraries Journal*, 26(2), 91-108.
<https://doi.org/10.1111/j.1471-1842.2009.00848.x>
- Hasselhorn, H. M., Camerino, D., Widerszal-Bazyl, M., Simon, M., Tackenberg, P., Schmid, S., Muller, B. H., & Conway, P. M. (2008). Contribution of job strain to nurses' consideration of leaving the profession - Results from the longitudinal European nurses' early exit study. *Scandinavian Journal of Work, Environment and Health*(6), 75-82.
<http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed10&NEWS=N&AN=352311539>
- Hayes, L. J., O'Brien-Pallas, L., Duffield, C., Shamian, J., Buchan, J., Hughes, F., Laschinger, H. K. S., & North, N. (2012). Nurse turnover: A literature review - An update. *International Journal of Nursing Studies*, 49(7), 887-905.
<https://doi.org/http://dx.doi.org/10.1016/j.ijnurstu.2011.10.001>

- Hayes, L. J., O'Brien-Pallas, L., Duffield, C., Shamian, J., Buchan, J., Hughes, F., Spence Laschinger, H. K., North, N., & Stone, P. W. (2006). Nurse turnover: A literature review. *International Journal of Nursing Studies*, 43(2), 237-263.
<https://doi.org/10.1016/j.ijnurstu.2005.02.007>
- Heinen, M. M., van Achterberg, T., Schwendimann, R., Zander, B., Matthews, A., Kózka, M., Ensio, A., Sjetne, I. S., Casbas, T. M., Ball, J., & Schoonhoven, L. (2013). Nurses' intention to leave their profession: A cross sectional observational study in 10 European countries [Article]. *International Journal of Nursing Studies*, 50(2), 174-184. <https://doi.org/10.1016/j.ijnurstu.2012.09.019>
- Hinno, S., Partanen, P., & Vehvilainen-Julkunen, K. (2012). The professional nursing practice environment and nurse-reported job outcomes in two European countries: A survey of nurses in Finland and the Netherlands. *Scandinavian Journal of Caring Sciences*, 26(1), 133-143. <https://doi.org/http://dx.doi.org/10.1111/j.1471-6712.2011.00920.x>
- Hjemås, G., Zhiyang, J., Kornstad, T., & Stølen, N. M. (2019). *Arbeidsmarkedet for helsepersonell fram mot 2035*.
- Holmås, T. H. (2002). Keeping nurses at work: a duration analysis. *Health economics*, 11(6), 493-503. <https://doi.org/10.1002/hec.747>
- Johnson, J. V., & Hall, E. M. (1988). Job strain, work place social support, and cardiovascular disease: a cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health*, 78(10), 1336-1342.
<https://doi.org/10.2105/AJPH.78.10.1336>
- Kankaanranta, T., & Rissanen, P. (2008). Nurses' intentions to leave nursing in Finland. *European Journal of Health Economics*, 9(4), 333-342.
<https://doi.org/10.1007/s10198-007-0080-3>
- Karasek, R., & Theorell, T. (1990). *Healthy work : stress, productivity, and the reconstruction of working life*. Basic Books.
- Karasek, R. A. (1979). Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign. *Administrative science quarterly*, 24(2), 285-308.
<https://doi.org/10.2307/2392498>
- Kleiven, M. (2018). *Tåler vi turnus? : erfaringer og anbefalinger om turnus og helse* (2. ed.). Norsk sykepleierforbund.

- Krnic, M. M., Pieper, D., Glatt, A., & Puljak, L. (2019). Definition of a systematic review used in overviews of systematic reviews, meta-epidemiological studies and textbooks. *BMC medical research methodology*, *19*(1), 203-203. <https://doi.org/10.1186/s12874-019-0855-0>
- Kunnskapsdepartementet, & Helse-og-omsorgsdepartementet. (2021, 18. December). *Økt opptak med 500 studieplasser i sykepleie*. Regjeringen. <https://www.regjeringen.no/no/aktuelt/okt-opptak-med-500-studieplasser-i-sykepleie/id2892839/>
- Laine, M., van der Heijden, B., Wickstrom, G., Hasselhorn, H. M., & Tackenberg, P. (2009). Job insecurity and intent to leave from the nursing profession in Europe: A cross-cultural comparison on the impact of job insecurity upon intent to leave. *International Journal of Human Resource Management*, *20*(2), 420-438.
- Lasserson, T. J., Thomas, J., & Higgins, J. P. T. (2021). Chapter 1: Starting a review. In J. P. T. Higgins, J. Thomas, J. Chandler, M. Cumpston, T. Li, M. J. Page, & V. A. Welch (Eds.), *Cochrane Handbook for Systematic Reviews of Interventions version 6.2* Cochrane. www.training.cochrane.org/handbook
- Magnussen, J., Vrangbæk, K., Saltman, R. B., & Martinussen, P. E. (2009). Introduction: the Nordic model of health care. In J. Magnussen, K. Vrangbaek, & R. Saltman (Eds.), *Nordic health care systems. Recent reforms and current policy challenges* (pp. 3-20). Open University Press.
- Nordfjell, O. B., & Nielsen, S. B. (Eds.). (2019). *Men in Nursing Education. Mapping Educational Practices and Student Experiences in Iceland, Denmark and Norway*. Reform - Ressource Centre for Men,. chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Freform.no%2Fwp-content%2Fuploads%2F2021%2F03%2F2021.03.19-Men-in-nursing.pdf&clen=1742534&chunk=true.
- Numminen, O., Leino-Kilpi, H., Isoaho, H., & Meretoja, R. (2015). Newly Graduated Nurses' Competence and Individual and Organizational Factors: A Multivariate Analysis. *Journal of Nursing Scholarship*, *47*(5), 446-457. <https://doi.org/http://dx.doi.org/10.1111/jnu.12153>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J.,

- Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *International Journal of Surgery*, 88, 105906-105906. <https://doi.org/10.1016/j.ijisu.2021.105906>
- Pennbrant, S., & Dåderman, A. (2021). Job demands, work engagement and job turnover intentions among registered nurses: Explained by work-family private life inference. *Work*, 1-13. <https://doi.org/10.3233/wor-213445>
- Reppen, N. K. (2021). Nav: Norge mangler 7000 sykepleiere. *Sykepleien*. <https://sykepleien.no/2021/05/nav-norge-mangler-7000-sykepleiere>
- Rudman, A., & Gustavsson, J. P. (2011). Early-career burnout among new graduate nurses: A prospective observational study of intra-individual change trajectories. *International Journal of Nursing Studies*, 48(3), 292-306. <https://doi.org/10.1016/j.ijnurstu.2010.07.012>
- Rudman, A., Gustavsson, P., & Hultell, D. (2014). A prospective study of nurses' intentions to leave the profession during their first five years of practice in Sweden. *International Journal of Nursing Studies*, 51(4), 612-624. <https://doi.org/10.1016/j.ijnurstu.2013.09.012>
- Salminen, H. M. (2012). Turning the tide: Registered nurses' job withdrawal intentions in a Finnish university hospital. *SA Journal of Human Resource Management*, 10(2), 1-e11. <https://doi.org/10.4102/sajhrm.v10i2.410>
- Sjögren, K., Fochsen, G., Josephson, M., & Lagerström, M. (2005). Reasons for leaving nursing care and improvements needed for considering a return: a study among Swedish nursing personnel. *International Journal of Nursing Studies*, 42(7), 751-758. <https://doi.org/10.1016/j.ijnurstu.2004.11.001>
- Skrede, K., & Rønsen, M. (2006, 18. May). *Likestilling og fruktbarhet. Hvor bærekraftig er den nordiske familiepolitiske modellen?* Statistics Norway. <https://www.ssb.no/befolkning/artikler-og-publikasjoner/hvor-baerekraftig-er-den-nordiske-familiepolitiske-modellen>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of business research*, 104, 333-339. <https://doi.org/10.1016/j.jbusres.2019.07.039>

- Søbstad, J. H., Pallesen, S., Bjorvatn, B., Costa, G., & Hystad, S. W. (2020). Predictors of turnover intention among Norwegian nurses: A cohort study. *Health care management review*(4), 367-374. <https://doi.org/10.1097/HMR.0000000000000277>
- Sousa-Poza, A., & Henneberger, F. (2004). Analyzing Job Mobility with Job Turnover Intentions: An International Comparative Study. *Journal of economic issues*, 38(1), 113-137. <https://doi.org/10.1080/00213624.2004.11506667>
- Statistics Sweden. (2020). *Labour Market Tendency Survey 2020: Major shortage of district nurses*. Statistics Sweden. <https://www.scb.se/en/finding-statistics/statistics-by-subject-area/education-and-research/analysis-trends-and-forecasts-in-education-and-the-labour-market/labour-market-tendency-survey/pong/statistical-news/labour-market-tendency-survey-2020/>
- Sutton, A., Clowes, M., Preston, L., & Booth, A. (2019). Meeting the review family : exploring review types and associated information retrieval requirements. *Health information and librarians journal*, 36(3), 202-222. <https://doi.org/10.1111/hir.12276>
- Teddle, C., & Tashakkori, A. (2012). Common “Core” Characteristics of Mixed Methods Research: A Review of Critical Issues and Call for Greater Convergence. *The American behavioral scientist*, 56(6), 774-788. <https://doi.org/10.1177/0002764211433795>
- Thomas, J., O’Mara-Eves, A., Harden, A., & Newman, M. (2017). Synthesis methods for combining and configuring textual or mixed methods data. In D. Gough, S. Oliver, & J. Thomas (Eds.), *An Introduction to Systematic Reviews* (2nd ed., pp. 181-210). SAGE Publications.
- van der Heijden, B. I. J., Kümmerling, A., van Dam, K., van der Schoot, E., Estry-Béhar, M., & Hasselhorn, H. M. (2010). The impact of social support upon intention to leave among female nurses in Europe: secondary analysis of data from the NEXT survey. *International Journal of Nursing Studies*, 47(4), 434-445. <https://doi.org/10.1016/j.ijnurstu.2009.10.004>
- Wicherts, J. M. (2016). Peer review quality and transparency of the peer-review process in open access and subscription journals. *PLoS ONE*, 11(1), e0147913-e0147913. <https://doi.org/10.1371/journal.pone.0147913>
- World Health Organization. (2020). *STATE OF THE WORLD'S NURSING 2020*

investing in education, jobs and leadership. World Health Organization.

<http://www.jstor.org/stable/resrep27836>

Xiao, Y., & Watson, M. (2019). Guidance on Conducting a Systematic Literature Review.

Journal of planning education and research, 39(1), 93-112.

<https://doi.org/10.1177/0739456X17723971>

Zurn, P. D., Carmen, & Stilwell, B. (2005). Nurse Retention and Recruitment: Developing a Motivated Workforce. *The global nursing review initiative. International Council of Nurses*(4).

https://www.researchgate.net/publication/253159418_Nurse_Retention_and_Recruitment_Developing_a_Motivated_Workforce

Appendix

Appendix 1: Description of search strategy

1.1 Process of including and excluding search terms

Table 1.1 Keywords considered for search

Population	AND	Phenomenon of Interest	AND	Context
Nurs*		(intent* to quit) OR (intent* to leave) OR (turnover intent*) OR (leaving intent*) OR (early exit) OR (professional turnover) OR (intention* to leave the profession) OR (intention* to leave the nurs* profession) OR (intention* to leave nurs* profession) OR (leav* profession) OR (leav* nurs*) OR turnover OR (Shortage*) OR (attrition) OR (Leav*) OR (Abandonment) OR (Turnover) OR (Quit*) OR (Dropout) OR (employment termination) OR (absenteeism) OR (lack) OR (burnout) OR OR (career change) OR (chang* career*) OR (switch		norway OR norwegian OR sweden OR swedish OR danish OR denmark OR iceland OR icelandic OR finland OR finnish OR scandinavia OR scandinavian OR Nordic

		career*) OR (job dissatisfaction) OR (job satisfaction) OR (turnover intention) OR retention OR retain OR retainment OR stay OR (Career mobility) OR personnel turnover		
Sykepleie*		Bytte yrke OR skifte yrke OR forlate OR forlot OR karrierebytt* OR karriereskifte* OR bytte karriere OR bytte av karriere OR skifte karriere OR bytte profesjon OR skifte profesjon OR Utbrent		
		Sykepleiemangel OR sykepleiermangel		

Table 1.2 Keywords applied in search

population	AND	Phenomenon of Interest	AND	Context
Nurs*		(intent* to quit) OR (intent* to leave) OR (turnover intent*) OR (leaving intent*) OR (early exit) OR (professional turnover) OR (intention* to leave the profession) OR (intention* to leave the nurs* profession) OR (intention* to leave nurs* profession) OR (leav* profession) OR (leav* nurs*) OR turnover		norway OR norwegian OR sweden OR swedish OR danish OR denmark OR iceland OR icelandic OR finland OR finnish OR scandinavia OR scandinavian OR Nordic
Sykepleie*		Bytte yrke OR skifte yrke OR forlate OR forlot OR karrierebytt* OR karriereskifte* OR bytte karriere OR bytte av karriere OR skifte karriere		

1.2 The process of hand searches to collect empirical studies

Date of search 09.09.21

ORIA: Norwegian language

(All Fields) (Sykepleie*) **AND** (All Fields) ("bytte yrke*" **OR** "skifte yrke*" **OR** forlate **OR** forlot **OR** karrierebytte* **OR** karriereskifte* **OR** "bytte karriere" **OR** "bytte av karriere" **OR** "skifte karriere") = **125 hits** → limited to peer reviewed → 52 hits → All excluded for relevance in abstract/title.

Date of search 08.10.21

Academic Search Ultimate

(All Fields) (nurs*) **AND** (All Fields) ((intent* to quit) **OR** (intent* to leave) **OR** (turnover intent*) **OR** (leaving intent*) **OR** (early exit) **OR** (professional turnover) **OR** (intention* to leave the profession) **OR** (intention* to leave the nurs* profession) **OR** (intention* to leave nurs* profession) **OR** (quit profession) **OR** (leav* profession) **OR** (leav* nurs*)) **AND** (All Fields) (norway **OR** norwegian **OR** sweden **OR** swedish **OR** danish **OR** denmark **OR** iceland **OR** icelandic **OR** finland **OR** finnish **OR** scandinavia **OR** scandinavian **OR** Nordic) = **131 HITS**

CINNAHL

“Professional turnover” was searched in database thesaurus. This resulted in included thesaurus terms "personnel turnover” **OR** “career mobility”. Thesaurus terms were included in search strand.

(All Fields) (“personnel turnover” **OR** “career mobility”) **OR** (All Fields) ((intent* to quit) **OR** (intent* to leave) **OR** (turnover intent*) **OR** (leaving intent*) **OR** (early exit) **OR** (professional turnover) **OR** (intention* to leave the profession) **OR** (intention* to leave the nurs* profession) **OR** (intention* to leave nurs* profession) **OR** (quit profession) **OR** (leav* profession) **OR** (leav* nurs*)) **AND** (All Fields) (Nurs*) **AND** (All Fields) (norway **OR** norwegian **OR** sweden **OR** swedish **OR** danish **OR** denmark **OR** iceland **OR** icelandic **OR** finland **OR** finnish **OR** scandinavia **OR** scandinavian **OR** Nordic) = **147 HITS**

EMBASE

(All Fields) (nurs*) **AND** (All Fields) ((intent* to quit) **OR** (intent* to leave) **OR** (turnover intent*) **OR** (leaving intent*) **OR** (early exit) **OR** (professional turnover) **OR** (intention* to leave the profession) **OR** (intention* to leave the nurs* profession) **OR** (intention* to leave nurs* profession) **OR** (quit profession) **OR** (leav* profession) **OR** (leav* nurs*)) **AND** (All Fields) (norway **OR** norwegian **OR** sweden **OR** swedish **OR** danish **OR** denmark **OR** iceland **OR** icelandic **OR** finland **OR** finnish **OR** scandinavia **OR** scandinavian **OR** Nordic) = **90 HITS**

MEDLINE

“Professional turnover” was searched in database thesaurus. This resulted in included thesaurus terms "personnel turnover". Thesaurus term was included in search strand.

(All Fields) (“personnel turnover») **OR** (All Fields) ((intent* to quit) **OR** (intent* to leave) **OR** (turnover intent*) **OR** (leaving intent*) **OR** (early exit) **OR** (professional turnover) **OR** (intention* to leave the profession) **OR** (intention* to leave the nurs* profession) **OR** (intention* to leave nurs* profession) **OR** (quit profession) **OR** (leav* profession) **OR** (leav* nurs*)) **AND** (All Fields) (Nurs*) **AND** (All fields) (norway **OR** norwegian **OR** sweden **OR** swedish **OR** danish **OR** denmark **OR** iceland **OR** icelandic **OR** finland **OR** finnish **OR** scandinavia **OR** scandinavian **OR** Nordic) = **208 HITS**

ORIA

(title) (Nurs*) **AND** (title) (“intention to quit” **OR** “intention to leave” **OR** “turnover intention” **OR** “intent to leave” **OR** “leaving intention” **OR** “leaving intentions” **OR** “early exit” **OR** “professional turnover” **OR** “intention* to leave the profession” **OR** “intention* to leave the nursing profession” **OR** “intention* to leave nurse profession” **OR** “quit profession” **OR** “leav* profession” **OR** “leav* nursing”) **AND** (All Fields) (norway **OR** norwegian **OR** sweden **OR** swedish **OR** danish **OR** denmark **OR** iceland **OR** icelandic **OR** finland **OR** finnish **OR** scandinavia **OR** scandinavian **OR** Nordic) = **116 HITS**

PsycInfo

(Abstract) (nurs*) **AND** (Abstract) ((intent* to quit) **OR** (intent* to leave) **OR** (turnover intent*) **OR** (leaving intent*) **OR** (early exit) **OR** (professional turnover) **OR** (intention* to leave the profession) **OR** (intention* to leave the nurs* profession) **OR** (intention* to leave nurs* profession) **OR** (quit profession) **OR** (leav* profession) **OR** (leav* nurs*)) **AND** (All Fields) (norway **OR** norwegian **OR** sweden **OR** swedish **OR** danish **OR** denmark **OR** iceland **OR** icelandic **OR** finland **OR** finnish **OR** scandinavia **OR** scandinavian **OR** Nordic) = **237 HITS**

SocIndex

(All Fields) (Nurs*) **AND** (All Fields) ((intent* to quit) **OR** (intent* to leave) **OR** (turnover intent*) **OR** (leaving intent*) **OR** (early exit) **OR** (professional turnover) **OR** (intention* to leave the profession) **OR** (intention* to leave the nurs* profession) **OR** (intention* to leave nurs* profession) **OR** (quit profession) **OR** (leav* profession) **OR** (leav* nurs*)) **AND** (All Fields) (norway **OR** norwegian **OR** sweden **OR** swedish **OR** danish **OR** denmark **OR** iceland **OR** icelandic **OR** finland **OR** finnish **OR** scandinavia **OR** scandinavian **OR** Nordic) = **4 HITS**

1.3 Contact with corresponding authors

Table 1.3 Overview contact with corresponding authors

Study	Sent date	Response date
(Camerino et al., 2006)	10.12.21	No answer
(Estryn-Behar et al., 2007)	10.12.21	No answer
(Flinkman et al., 2008)	10.11.21	No answer
(Flinkman et al., 2013)	Same corresponding author	-
(Fochsen et al., 2005)	10.12.21	Rejected
(Hasselhorn et al., 2008)	10.12.21	Rejected
(Heinen et al., 2013)	10.11.21	No answer
(Hinno et al., 2012)	10.11.21	No answer
(Holmås, 2002)	10.12.21	No answer
(Kankaanranta & Rissanen, 2008)	10.12.21	Rejected
(Laine et al., 2009)	10.12.21	Rejected
(Numminen et al., 2015)	10.11.21	10.11.21
(Pennbrant & Dåderman, 2021)	10.11.21	No answer
(Rudman & Gustavsson, 2011)	10.11.21	10.11.21
(Rudman et al., 2014)	Same corresponding author	-
(Salminen, 2012)	11.11.21	Rejected
(Sjögren et al., 2005)	10.12.21	Rejected
(Søbstad et al., 2020)	No available contact information	-
(van der Heijden et al., 2010)	10.12.21	No answer

To ensure all relevant studies were retrieved on nurses' intention to leave profession, an email was constructed to send to the corresponding authors of the 19 included studies (see table 1.2). One study did not provide contact information and two authors were the corresponding author of two studies each. The following email was sent to the 16 corresponding authors of the 19 studies throughout November and December 2021. 4 weeks was set at as the date for inclusion of material from corresponding authors, to provide them with ample time to reply.

However, 6 emails were rejected. Of the remaining 15 corresponding authors, 2 replied. Numminen recommended contact with Flinkman, which had already been done. Rudman recommended 2 studies, both already retrieved through literature search, one already included in review, and one excluded for year.

Figure 1.1 Email to corresponding authors

“Hello,

My name is Millie A. Girardeau, and I am a master student of International Social Welfare and Health Policy in the faculty of social sciences at Oslo Metropolitan University. The aim of my master thesis is to conduct a review on primary research regarding the topic: nurses’ intention to leave the profession within Nordic/Scandinavian countries. I am therefore in the process of searching for primary research on the subject. Studies you have conducted fit the criteria of my research. I am therefor contacting you to request if you would have the possibility to assist me in retrieving additional studies on the topic nurses’ intention to leave the profession in the Scandinavian/Nordic region?

Thank you for your time,

Best regards.

Millie A. Girardeau”

Appendix 2: Coding examples

2.1 Qualitative

Figure 2.1: Outtake to illustrate coding in qualitative study

inexperienced nurse. (p. 6).|

Cecilia:

liked nursing work related to the patients and their care and enjoyed both the atmosphere of the workplace and her coworkers. The nursing job was demanding but also rewarding. At the same time as relating how much she liked her job, Cecilia also verbalized feelings of guilt and of being burdened because she thought that she was unable to provide the level of care that she considered adequate. |

She told a story of her last summer in the hospital when there were many inexperienced doctors on the ward. She had subsequently thought that she had to supervise and look after those doctors. She recalls (p. 6).|

Quote Cecilia|

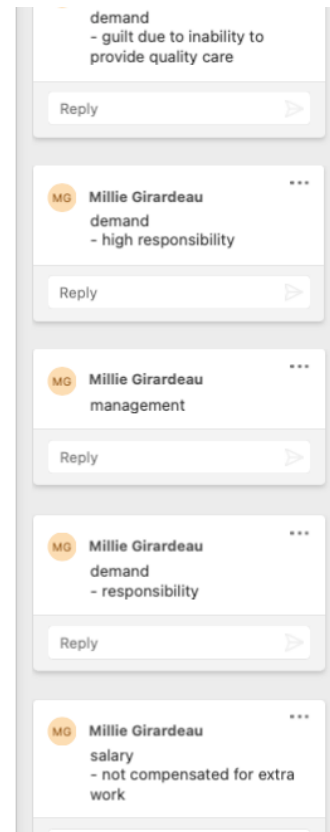
We had had some really difficult patient cases and that summer for some reason there happened to be some really, really inexperienced doctors at the beginning of their careers, candidates of medical science, and all the time you had to be kind of mentoring their actions. It felt like you had to watch out all the time, and that besides your own work you kind of had to also take care of how everything else runs there. (p. 6).|

Cecilia Often recounted her experiences of poor management in the hospital. For example, she had supervised students, often using her own leisure time to do so, but these efforts were not compensated, also she had lacked feedback about what she was good at, and what she needed to do in order to develop. She had wanted to participate in further education, but as a temporary worker she was not offered this possibility. Cecilia felt that managers in the hospital did not actually understand how demanding the nurses' work was, and that they had very unrealistic proposals about how to develop patient care. She also confronted ethical problems in the ward; she felt that nurses in the ward were not able to provide humane and proper care. (p. 6). |

Quote Cecilia

And then, like I told you, my husband came to pick me up from work and then I started to cry that I cannot take this anymore, this is terrible, I cannot. I cannot, I feel like nobody takes good care of these patients. (p. 6).|

Cecilia also started with temporary work contracts, working in many different hospitals. She had the possibility to apply for a permanent contract but never did so; she did not want a permanent job because she was sure that she was not going to work for the next forty years as a nurse. (p. 6).|



2.2 Quantitative

Figure 2.2: Outtake to illustrate coding in quantitative study

<p>positions, working in a fixed department versus moving, and occupational level (p. 940)</p>	<p>specified – OR 1. Yes – OR 1.32 (CI 0.91-1.91).</p> <p>Personal situation: had no significant effect on ITLP (With adult – OR 1, Alone – OR 1.22 (CI 0.78-1.89), Alone with child – OR 1.03 (CI 0.56-1.87), With adult and child – OR 0.90 (CI 0.63-1.30).</p>	<p>Millie Girardeau NORWAY</p> <p>NOT ASSOCIATED age.</p> <p>Reply</p>
<p>Table 2: ITL vs Quality of teamwork, possibilities of development, quality of interpersonal relations, uncertainty regarding treatment, influence at work, fixed department, vacant nursing assignments (p. 943)</p>	<p>Norway</p> <p>Norway no information was provided on vacant nursing assignments. Further age and work conflicting family had no significant effect on ITLP (at any level).</p> <p>Data</p> <p>Age had no significant effect on ITLP (< 30 – OR 1, 30-44 OR 1.17 (CI 0.79-1.73), 45+ - OR 0.80 (CI 0.52-1.25).</p> <p>Work conflicting family had no significant effect on ITLP at any level (Low – OR 1, Medium – OR 1.31 (CI 0.91-1.88), High – OR 1.04 (CI 0.65-1.65).</p>	<p>Millie Girardeau NORWAY</p> <p>NOT ASSOCIATED work conflicting family</p> <p>Reply</p>
<p>Personal characteristics (p. 944)</p> <p>ONLY quality of teamwork was included in multivariate analysis (p. 945)</p>	<p>EFFECT</p> <p>Both</p> <p>Quality of teamwork seems to be the highest risk factor for ITL across both countries with odds ratios for low (FINLAND OR 5.97, NORWAY OR 10.88) as well as medium QOT ((FINLAND OR 2.25, NORWAY OR 2.57), with highest influence found for Norway.</p> <p>Data</p> <p>Low quality of teamwork had a strong, significant effect on ITLP (FINLAND (OR 5.97 (CI 3.94-9.03), NORWAY (OR 10.88 (CI 6.88-17.19).</p> <p>Medium quality of teamwork had a significant effect (FINLAND (OR 2.25 (CI 1.51-3.36), NORWAY effect (OR 2.57 (CI 1.80-3.65).</p> <p>No significant effect of high-quality teamwork.</p> <p>A high prevalence of burnout was a second major risk factor for ITL in both countries. The influence of high burnout on ITL was greatest in (Norway OR 3.42 - Finland OR 2.33. Further, medium burnout score had a significant effect on ITLP for Norway (OR 1.96) while it had no significant effect for Finland (OR 1.27).</p> <p>Data</p> <p>High burnout score had a significant effect on ITLP (FINLAND OR 2.33 (CI 1.56-3.49), NORWAY (OR 3.42 (CI 2.19-5.34).</p> <p>Medium burnout score (OR 1.96 (CI 1.35-2.83) had a significant effect on ITLP for Norway.</p> <p>While medium score had no significant effect for Finland (Medium – OR OR 1.27 (CI 0.86-1.87).</p> <p>Male nurses seemed to have a significantly higher ITL compared with female ones. Finland (OR = 1.92) and Norway (OR = 1.81).</p>	<p>Millie Girardeau NORWAY & FINLAND</p> <p>Quality of teamwork</p> <p>Reply</p> <p>Millie Girardeau NORWAY & FINLAND</p> <p>burnout</p> <p>Reply</p> <p>Millie Girardeau NORWAY & FINLAND</p> <p>Gender: Male</p>

Appendix 3: Table of characteristics of included studies

This table provides information on the characteristics of the included studies. Text in this table is mainly in the words of the original study. This table is not constructed as a part of the thesis, purely as extra material containing important extractions from included studies to ensure transparency.

Table 3.1 Descriptive characteristics and demographics of included studies

Study	Aim	Country, nurse type, participant information, institution types, specific study criteria	Method	Measures/Variables
(Camerino et al., 2006)	Is work ability associated with ITLP? If so, which aspects of work ability are more associated with ITLP (p. 544)?	<p><u>Country:</u> Norway, Finland</p> <p>(And Belgium, Germany, France, England, Italy, Netherlands, Poland, Slovakia)</p> <p><u>Nurse type:</u> Registered Nurses including specialist nurses (p. 544).</p> <p><i>Finland:</i> staff nurses, nurse managers and ward sisters</p> <p><i>Norway:</i> nurse managers and staff nurses</p> <p><u>Participants:</u> <i>Finland</i> 2298</p> <p><i>Norway</i> 1542</p> <p><u>Institution type:</u> <i>Finland:</i> Hospital and nursing home.</p> <p><i>Norway:</i> Hospital (p. 547).</p> <p><u>Criteria</u> -</p>	<p><u>Method and design:</u> Cross-sectional study design (p. 543). Data collection by questionnaires (p. 544).</p> <p><u>Analysis:</u> Multiple logistic regression analyses, adjusted for socio-demographic factors, to test in each country the association between ‘intention to leave’ and the total WAI score and WAI items (p. 545).</p>	<p>Intention to leave nursing (p. 545).</p> <p><i>Work ability index</i> Perceived work ability was measured by the Work Ability Index (WAI) with 7 items: (1) subjective estimation of current work ability compared with optimal lifetime performance. (2) subjective work ability in relation to physical and mental demand of work. (3) number of diseases for which a medical diagnosis has been given. (4) subjective estimation of working impairment because of ill health. (5) sickness absenteeism during the past year. (6) own prognosis of work ability after 2 years. (7) psychological resources (enjoying daily tasks, activity, and life spirit, optimistic about the future). Total WAI score is calculated by summing the item scores (p. 544).</p>
(Estryn-Behar et al., 2007)	Aims to clarify whether and	<p><u>Country:</u> Norway, Finland.</p>	<p><u>Method and design:</u> Quantitative study. Data collection by survey (p. 940).</p>	<p><u>Dependent variable</u> Intention to leave nursing (p. 940).</p>

	how social work environment, teamwork characteristics, burnout, and personal factors are associated with nurses' ITLP (p. 939).	<p><u>Nurse type:</u> Registered nurses, specialized nurses, head nurses, nursing aides and ancillary staff (p. 940).</p> <p><u>Participants:</u> -</p> <p><u>Institution type:</u> Hospitals and private clinics were included (p. 940).</p> <p><u>Criteria</u> -</p>	<p><u>Analysis:</u> For the statistical analyses first, a bivariate analysis, using Pearson's X2 test was conducted, to determine the association of predictors with ITLP. Second, a multivariate analysis using SPSS 12.0 was conducted separately for each of the countries (p. 940).</p>	<p><u>Predictor variables</u> Burnout, Work-family conflict, Satisfaction with pay, Quality of teamwork, Interpersonal relations, Possibilities for development, Influence at work (pp. 941-942).</p> <p><u>Confounding factors</u> <i>Personal factors:</i> age, seniority, gender, and family situation. <i>Organizational factors:</i> existence of free nursing positions, working in a fixed department versus moving, and occupational level (p. 940).</p>
(Flinkman et al., 2008)	The aim was to discover what the reasons behind young nurses ITLP in Finland are (p. 727).	<p><u>Country:</u> Finland</p> <p><u>Nurse type:</u> Registered nurses – staff nurses (p. 727).</p> <p><u>Participants:</u> 66% response rate of original sample. A subsample of 147 participants used in this study (p. 730).</p> <p><u>Institution type:</u> Hospital, Old home and Primary outpatient care (p. 734).</p> <p><u>Criteria</u> Young nurses (under age 30) (p. 727).</p>	<p>Quantitative section: <u>Method and design:</u> Quantitative study. Data collection by survey (p. 727).</p> <p><u>Analysis:</u> Quantitative data analyzed using X2, the Fisher exact-test and Mann–Whitney U-test,. (p. 727).</p> <p>Qualitative section: <u>Method and design:</u> Questionnaire contained qualitative open-ended questions regarding the three main reasons for nurses' wanting to leave their occupation (p. 730).</p> <p><u>Analysis</u> Qualitative data were analyzed using quasi-statistics which involve the tabulation of the frequency with which certain themes or coding categories exist in qualitative data (p. 733).</p>	<p>Quantitative section: Health, Burnout, Job satisfaction, Satisfaction with salary, Emotional demands, Quantitative demands, Developmental opportunities, Work–family conflicts, Professional commitment, Intention to leave the profession (p. 731).</p> <p>Qualitative section: Open ended question If you are thinking of leaving nursing profession, what are the three most important reasons that have made you to consider this (p. 735)?</p>
(Flinkman et al., 2013)	To investigate why young nurses leave the nursing profession and reeducate themselves for a new career (p. 1).	<p><u>Country:</u> Finland</p> <p><u>Nurse type:</u> Registered nurses.</p> <p><u>Participants:</u> Three participants (p. 1).</p> <p><u>Institution type</u></p>	<p><u>Method and design:</u> Interpretative qualitative case study. Data collection by longitudinal interviews before and after career transition (pp. 1-2).</p> <p><u>Analysis:</u> Interpretative narrative approach (p. 2).</p>	<p><u>First interview:</u> An open question was posed: “I would like you to tell me, freely and with your own words, your story as a nurse. You can start your story at any point of your life that you have felt to be significant for you becoming a nurse. You can end your story at any point in your life that you want” (p. 3).</p> <p><u>Second interview:</u></p>

		- <u>Criteria</u> Young nurses whose intention to leave the profession has started before the age of 30 years (p. 2). 29-32 years old for first interview (p. 3).		The participants were asked to continue their story of being a nurse from any point in their life that they chose (p. 4).
(Fochsen et al., 2005)	The aim was to examine factors contributing to the decision to leave nursing care with special reference to work conditions (p. 338).	<u>Country:</u> Sweden <u>Nurse type:</u> Registered nurse, assistant nurses (p. 339) <u>Participants:</u> Nursing personnel who were employed at various county hospitals in Sweden from 1992 to 1995 (n=1507) reporting they left nursing care voluntarily (n=158) (p. 339). According to definition of nursing care used in this study, 34% were still in health care sector (in administrative positions), 66% employed outside health care (p. 339). Response rate was 73% (p. 339) <u>Institution type:</u> Hospital <u>Criteria:</u> Had left nursing voluntarily	<u>Method and design:</u> Quantitative study, cross-sectional design (p. 343). Data collection by questionnaire, nurses asked to indicate to what extent the statements contributed to their decision to leave nursing care (p. 339). <u>Analysis:</u> In order to identify conceptually meaningful factors, an exploratory factor analysis was performed on 42 items concerning reasons for leaving nursing care (p. 340). Based on the factor analysis, nine summated scales were constructed for further analysis. Reasons for leaving nursing care were then examined by calculating the mean value and 95% confidence interval for each of the accepted factors. High mean values indicated that the factors contributed to a considerable extent to the decision to leave. Differences in mean values between groups with regard to age, sex and educational level were tested with one-way ANOVA (p. 340).	Had left nursing Age, sex, educational level. <i>Factors</i> Patient-oriented workload, unsatisfactory salary, poor organization and management, poor collegial climate, lack of professional opportunities, imbalance between work and childcare, restricted professional autonomy, demanding work content and private reasons (p. 340).
(Hasselhorn et al., 2008)	The aim was to assess the contribution of	<u>Country:</u> Finland	<u>Method and design:</u>	<i>Job strain:</i> Job-demands, Influence at work Consideration of leaving the nursing profession

	<p>job strain to nurses' consideration of leaving the profession (p. 75).</p>	<p>(And Finland, Belgium, Germany, France, Italy, Netherlands, Poland, Slovakia)</p> <p><u>Nurse type:</u> Registered nurses (p. 77).</p> <p><u>Participants:</u> 1578 participants total (p. 78).</p> <p>Response rate 1st assessment 76,9% 2nd assessment 66.3% Proportion taking part in both assessment 66.7% (p. 78).</p> <p><u>Institution type:</u> hospitals, nursing homes, and home care (pp. 76-77)</p> <p><u>Criteria</u> -</p>	<p>Quantitative, longitudinal analysis. Data collection by questionnaire (pp. 75-76).</p> <p><u>Analysis:</u> Chi-square tests were used to assess changes in the prevalence of ITLP from the baseline to the follow-up assessment, and paired t-tests were used for testing the significance of changes in the mean scores for work demands and influence at work. A multivariate logistic regression analysis was performed to test the association between a change in job strain from baseline to follow-up and ITLP (p. 77).</p>	<p><i>Potential confounders:</i> age, gender, weekly workhours, work schedule, type of health care institution, occupational position, and family situation (p. 77).</p>
<p>(Heinen et al., 2013)</p>	<p>Which characteristics of nurses and their work environment are associated with nurses' intention to leave the profession? (p. 176)</p>	<p><u>Country:</u> Finland, Norway</p> <p>(And Belgium, Germany, Ireland, the Netherlands, Poland, Spain, Switzerland and UK)</p> <p><u>Nurse type:</u> Educated nurses defined as either bachelor or diploma training level (p. 176).</p> <p><u>Participants</u> Finland 1131 nurses - 46% response rate</p> <p>Norway 3752 nurses - 57% response rate (p. 177).</p> <p><u>Institution type:</u></p>	<p><u>Method and design:</u> Quantitative, cross-sectional analysis of survey data (p. 174)</p> <p><u>Analysis:</u> Multilevel regression analyses with intention to leave the profession due to job dissatisfaction as dependent variable (p. 177)</p>	<p>Dependent variable Intention to leave the profession due to job dissatisfaction</p> <p>Fixed factors <u>Key variables</u> Nurse work environment</p> <p>The patient to nurse staffing ratio</p> <p>Nurse burnout</p> <p>Perception of Quality of Care</p> <p>Perception of Patient Safety</p> <p><u>Binary variables</u> age, gender, educational level, working full-time or part-time, educational level and hospital size (p. 176).</p>

		<p>Surgical and medical units/wards in hospitals for adult patients included, excluding units with highly specialized care such as critical care or emergency care units (p. 176).</p> <p><u>Criteria</u> -</p>		
(Hinno et al., 2012)	<p>What is the relationship between RNs' evaluations of their working environment characteristics and their intentions to leave their profession?(p. 135)</p>	<p><u>Country:</u> Finland (and the Netherlands)</p> <p><u>Nurse type:</u> Registered nurses (p. 133).</p> <p><u>Participants:</u> A random sample for this study was drawn (n = 535) from the total responses of a membership survey (Finnish nurses association) (n = 1192) (p. 135). Response rate 44.9% (p. 133).</p> <p><u>Institution type:</u> Hospital (p. 133).</p> <p><u>Criteria:</u> -</p>	<p><u>Method and design:</u> Quantitative, cross-sectional analysis of survey data (p. 133)</p> <p><u>Analysis:</u> Logistic regression analysis was used to investigate relationships between the independent variables and ITLP. The multivariate analysis included statistical controls for nurse characteristics (age, working experience in nursing and employment: full-/part-time) (p. 136).</p>	<p>Dependent variables <i>ITLP</i> (p. 137).</p> <p>Independent variables Adequacy of resources, Supportiveness of management, Assurance of care quality via collaborative relationships (p. 138).</p> <p><i>Characteristics</i> Age, gender, years of nursing experience, type of hospital employed in, working full- or part-time and the numbers of patient for whom the RN was directly responsible (p. 135).</p>
(Holmås, 2002)	<p>The aim of the study was to, by studying nurses who left, assess the effect of wages and working conditions on nurses' probability of leaving the public health sector (tracked for 5 years) (pp. 494-495).</p>	<p><u>Country:</u> Norway</p> <p><u>Nurse type:</u> Nursing specialists, leading nurses and staff nurses (p. 497)</p> <p><u>Participants:</u> 5284 female nurses registered as working in 34 hospitals on 1 January 1993 (pp. 494-495).</p>	<p><u>Method, design and analysis:</u> A semi-parametric hazard rate model was used to describe the exit rate from the health care sector using public data on nurses who had quit between 1993-1997 (p. 493).</p> <p><u>Data set:</u> Data set consists of administrative data from different sources. Information on wages, occupation and working time is taken from the Norwegian Association of Local and Regional Authorities (NALRA)</p>	<p>Variables</p> <p><i>Wage, Share bonuses, Position, Centrality, years of experience, age, part time/full time, capital income, spouse income, children > 7, children <7, Married, hospital type, number of beds, length of stay, occupancy rate and beds per nurse</i> (p. 496)</p>

		<p><u>Institution type:</u> Hospital</p> <p><u>Criteria:</u> Nurses older than 57 excluded. Data from 1993-1997.</p> <p>Two types of events are defined as transitions out of the public health sector. Firstly, a nurse is registered as leaving the health sector if the spell ends in a transition out of the labor force, and she stays out of the labor force for at least 1 year.</p> <p>Secondly, if the nurse is registered as starting a job outside the public health sector, a transition out of nursing is recorded. (p. 495)</p>	<p>personnel register (p. 494). Information about children and spouse characteristics, or on hospitals or place of residence from Statistics Norway (p. 496)</p>	
(Kankaa nranta & Rissanen, 2008)	<p>Examined how factors related to wage, work, job satisfaction/dissatisfaction, and workplace or demographic factors were associated with nurses' intentions to switch from health care to non-health-care roles (in the next 5 years) (p. 333).</p>	<p><u>Country:</u> Finland</p> <p><u>Nurse type:</u> Registered and specialized nurses Nurse, Midwife, immediate superior, manager in highest position/assistant manager.</p> <p><u>Participants:</u> Questionnaire sent to 5000 nurses, response rate 68,14%.</p> <p><u>Institution type:</u> hospital/health center, outpatient department, intensive care unit/ observation ward,</p>	<p><u>Method and design:</u> Quantitative study of survey data (p. 335)</p> <p><u>Analysis:</u> Preliminary analysis of the data was performed using a logistic regression analysis to uncover factors associated with nurses' ITLP. Further a confirmatory factor analysis was conducted through structural equation modelling techniques (SEMs) (p. 336).</p>	<p><i>Intention to leave profession</i> (p. 335)</p> <p><i>Work-and wage-related characteristics</i> Full-time or part-time job, Job status, Number of nurses in current work unit, Hospital district, Work unit, Current working organization, Wage, Shift work (p. 337).</p> <p><i>Job satisfaction</i> 'How well are the following aspects of job satisfaction realized in your present work?' (p. 336)</p> <p>Secure living, satisfying income, prestigious career, independent position, no work after normal work hours, well-defined responsibilities and job description, possibility of progressing in one's career, possibility for specialization, good work community (p. 337).</p> <p><i>Job dissatisfaction</i> 'How inconvenient are the following possible elements of dissatisfaction in your present work (p. 336)?</p>

		<p>operating ward, home care unit (p. 337).</p> <p><u>Criteria:</u> Excluded unemployed 2005, retired or not in healthcare 2005, retired 2010. Final study sample n=2866 (p. 335).</p>		<p>Monotonous work, tight, inflexible work schedule, Inconvenient work schedule, poor relations between employee and supervisor, tense atmosphere in workplace, excessive duties, ungrateful patients, much paperwork, workload, not possible to make own decisions, physicians do not respect nurses as equals</p> <p><i>Sociodemographics:</i> Gender, age, marital status (single, has family, divorced/widowed), experience, children (p. 338).</p>
(Laine et al., 2009)	<p>The aim was to investigate the relationship between job insecurity and intent to leave nursing, and more specifically, to study whether the relationship differs according to gender, age, and employment contract within the national samples (p. 423).</p>	<p><u>Country:</u> Finland and Norway (p. 423)</p> <p><u>Nurse type:</u> Registered nurses with or without a specialization (p. 423)</p> <p>Participants: <i>Finland</i> Questionnaires sent = 5161 Total response rate 76.9%</p> <p><i>Norway</i> Questionnaires sent = 7779 Total response rate 35,1% (p. 424).</p> <p><u>Institution type:</u> hospitals, nursing homes, home care, and out-patient care institutions (p. 423).</p> <p><u>Criteria:</u> -</p>	<p><u>Method and design:</u> Quantitative, cross-sectional study of questionnaire data (p. 434).</p> <p><u>Analysis:</u> Data analysis conducted using SPSS 11.5. Binary logistic regression models used to calculate adjusted odds ratios (ORs) for intent to leave, and their 95% confidence intervals according to experiences of job insecurity. Analyses adjusted for potential confounders: gender, age, and general health (p. 425)</p>	<p><i>Intention to leave profession.</i></p> <p>Job insecurity <i>Quantitative job insecurity</i></p> <p>1) Are you worried about becoming unemployed? 3) Are you worried about difficulties finding another job if you become unemployed?</p> <p><i>Qualitative job insecurity</i></p> <p>4) Are you worried about being transferred to another job/place of work that you do not want? (5) Are you worried about receiving a new work schedule which does not suit you?</p> <p><i>Concern about becoming unable to work</i> Item two has been used as a single item. 2) Are you worried about being unable to work?</p> <p><i>Control variables</i></p> <p>Gender, age, and general health.</p> <p><i>Interactors</i> 'level of health care training' (specialized versus non-specialized registered nurses) and 'employment contract' (pp. 423-424).</p>
(Numminen et al., 2015)	<p>The objective of this study was to explore the combined effect of NGNs' perceptions of their professional competence and</p>	<p><u>Country:</u> Finland</p> <p><u>Nurse type:</u> Registered nurses</p> <p><u>Participants:</u> Survey sent to 1050 NGNs (p. 448). 318</p>	<p><u>Method and design:</u> A multivariate, quantitative, descriptive, correlation design using surveys (p. 446).</p> <p><u>Analysis:</u> Descriptive statistics summarized the demographic data, and inferential statistics</p>	<p>Nurse Competence, Occupational Commitment, Practice Environment, Hospital Ethical Climate, Empowerment (pp. 449-450).</p> <p>Turnover intentions, job satisfaction and demographic data (p. 451).</p>

	<p>individual factors (i.e., occupational commitment and personal empowerment) and organizational factors (i.e., practice environment and its ethical climate), and what is the strength and direction of these effects. In addition, this study explored relationships of the above-mentioned variables with NGNs' turnover intentions (p. 448).</p>	<p>NGNs responded (30.3% response rate) (p. 451).</p> <p><u>Institution type:</u> Representing all main healthcare settings in Finland (p. 446).</p> <p><u>Criteria:</u> Newly graduated nurses (NGNs): (a) registration as a nurse had taken place between November 2011 and October 2012 and (b) work experience as a registered nurse was not more than 12 months (p. 448).</p>	<p>multivariate path analysis modeling estimated the relationships between the variables (p. 446).</p>	
<p>(Pennbrant & Dåderman, 2021)</p>	<p>The objective was to examine the extent to which perceived job demands (interpersonal conflicts at work and quantitative workload), work engagement, work-family conflict (WFC) and family-work conflict (FWC) are associated with turnover intentions, (p. 1157).</p>	<p><u>Country:</u> Sweden</p> <p><u>Nurse type:</u> Registered and specialized nurses (p. 1159).</p> <p><u>Participants:</u> 1,450 RNs were asked to respond to a questionnaire; 939 of the RNs responded (64.8% response rate. End study sample 807 RNs (p. 1159).</p> <p><u>Institution type:</u> Hospital and primary healthcare (p. 1159).</p> <p><u>Criteria:</u> Excluded RNs who did not have children at home or a partner (p. 1159).</p>	<p><u>Method and design:</u> Cross-sectional quantitative study design (p. 1157).</p> <p><u>Analysis:</u> Data was summarized using standard descriptive statistics (p. 1161). Regression analysis was used to test if job demands, work engagement and WFC (but not FWC) are significant predictors of turnover intention (p. 1162).</p>	<p><i>Outcome variables</i></p> <p>Intention to leave profession (p. 1160)</p> <p><i>Explanatory variables</i> Sociodemographic variables were used as control variables (p. 1160)</p> <p><i>Independent variables</i></p> <p>WFC, FWC (p. 1160) quantitative workload, workplace conflicts, work engagement (p. 1161).</p>

<p>(Rudman & Gustavsson, 2011)</p>	<p>Beyond correlational and mean-level stability at group level, what common growth trajectories of professional burnout can be identified over the first years after graduation (i.e. one, two and three years after graduation)? And finally, how are these growth trajectories (b) related to development of turnover intentions (p. 294)?</p>	<p><u>Country:</u> Sweden</p> <p><u>Nurse type:</u> Newly graduated nurses</p> <p><u>Participants:</u> 1700 students from the final semester of nursing school, from all 26 nursing universities in Sweden were invited to participate in the study (p. 294). Response rates varied between 81% and 92% and declined somewhat over time. 38 participants dropped out entirely after the first assessment. (p. 294). After imputation, 997 participants were included in the longitudinal analysis (p. 296).</p> <p><u>Institution type:</u> -</p> <p><u>Criteria:</u> -</p>	<p><u>Method and design:</u> Prospective longitudinal study. New graduate nurses were assessed four times annually (in their final year of nursing education and three times post-graduation (after 1, 2 and 3 years). (p. 292)</p> <p><u>Analysis:</u> Within-group changes in burnout levels were analyzed using a repeated- measures analysis of variance, and cluster analytic techniques were used to identify typical trajectories of burnout (p. 292). A two-way repeated- measures ANOVA was performed to test whether the differential development patterns in burnout also reflect concomitant changes in intention to leave the profession across the three time points (the trajectory by time interaction effect) (pp. 296-298).</p>	<p>Burnout: exhaustion and disengagement (p. 296).</p> <p>Concurrent variables measured 1, 2, and 3 years after education</p> <p>Intention to quit profession (p. 297).</p>
<p>(Rudman et al., 2014)</p>	<p>The objectives was to study the impact of sex, age, occupational preparedness and burnout (i.e. exhaustion and disengagement) on the development of ITLP (during the first five years of professional life) (pp. 612,614).</p>	<p><u>Country:</u> Sweden</p> <p><u>Nurse type:</u> Newly graduated nurses</p> <p><u>Participants:</u> 2331 student nurses, from 26 universities in Sweden were invited to participate. 1702 (73%) gave informed consent. 1417 constituted the sample of this study (pp. 612,614-615).</p>	<p><u>Method and design:</u> Longitudinal observational study (p. 612). Participants were prospectively followed yearly. For this study data were used from the final year of nursing education (late autumn 2004) and during the first five years of employment (T1–T5, spring 2006–2010) (p. 615)</p> <p><u>Analysis:</u> Data were analyzed using latent growth curve modelling (p. 612). In the first step of model testing, the aim was to identify the latent growth curve that best characterized</p>	<p><i>Outcome variable</i> intention to leave the nursing profession (p. 612).</p> <p><i>The independent variables</i> sex, age, burnout during nursing education, occupational preparedness during nursing education and burnout during employment (p. 616)</p> <p><i>Burnout during employment:</i> Exhaustion and Disengagement. (p. 616)</p>

		<p>505 nurses participated in all five waves of measurement during employment and had completed the intention-to-leave scale on each occasion (p. 618)</p> <p><u>Institution type:</u> -</p> <p><u>Criteria:</u> -</p>	<p>change in intention to leave over time. The second step of model testing addressed the effect of sex, age, occupational preparedness, and burnout on the development of intention to leave (p. 617)</p>	
(Salminen, 2012)	<p>This study investigates how younger and ageing nurses' perceptions of their development opportunities and job control, together with other work-related and personal factors, are associated with the intentions to leave the nursing profession (p. 4).</p>	<p><u>Country:</u> Finland</p> <p><u>Nurse type:</u> Registered nurses</p> <p><u>Participants:</u> Original population sample 896 – 747 after systematic sampling. Response rate 46.1% (N = 343) (pp. 4-5).</p> <p><u>Institution types:</u> Hospital</p> <p><u>Criteria:</u> Nurses holding a managerial position were excluded from the study. (p. 4)</p>	<p><u>Method and design:</u> Cross-sectional study of questionnaire data (p. 4).</p> <p><u>Analysis:</u> Logistic regression analyses were performed to estimate the strength of the association between independent variables (personal and work-related variables) and dependent variables (job withdrawal intentions). (p. 6).</p>	<p><i>Personal</i> age, gender, marital status, education, pay, form of employment, shift work, number of children, field of patient care (p. 5)</p> <p><i>Work-related</i> Job satisfaction, organizational commitment, estimation of work ability, development opportunities, job control, perceived competence level</p> <p><i>Dependent variable</i> Intention to leave the nursing profession (p. 5)</p>
(Sjögren et al., 2005).	<p>The aim of this study was to identify former nursing personnel's main reasons for leaving nursing care, and to find out under what circumstances they would consider returning (p. 751).</p>	<p><u>Country:</u> Sweden</p> <p><u>Nurse type:</u> registered nurses and assistant nurses.</p> <p><u>Participants:</u> Questionnaire sent to 1507 persons. Response rate was 73% (n= 1098). The study sample includes the 288 respondents who reported that they had left nursing care.</p>	<p><u>Method, design and analysis:</u> Qualitative manifest content analysis of two open-ended questionnaire questions of nurses who had left nursing (pp. 751-752).</p>	<p>Open ended questions: What do you consider your main reason for leaving nursing care''? ''What would make you consider a return to nursing care''? (p. 752).</p>

		<p>The question concerning reasons for leaving nursing care was answered by 228 of the 288 leavers. Of the 288 leavers, 133 responded to what could make them consider returning.</p> <p><u>Institution type:</u> -</p> <p><u>Criteria:</u> Excluded subjects aged 65 and older (p. 752).</p>		
(Søbstad et al., 2020)	<p>The aim of this study was to investigate whether symptoms of psychological distress, age, gender, workplace bullying, job satisfaction, and hardiness could predict turnover longitudinally (p. 368).</p>	<p><u>Country:</u> Norway</p> <p><u>Nurse type:</u> Registered nurses, member of Norwegian Nurses Union (p. 368).</p> <p><u>Participants</u> Response rate 35,7% at T1 and 75,1% of T1 participants at T2 (p. 368). This amounted to 1,147 participants. The analysis of turnover (from the nursing profession) comprised of 99 nurses (p. 368).</p> <p><u>Institution type:</u> -</p> <p><u>Criteria:</u> -</p>	<p><u>Method and design:</u> Quantitative longitudinal study. Survey in 2008/2009 (T1) and again in 2012 (T2) (p. 368).</p> <p><u>Analysis:</u> Adjusted logistic regression analysis assessed the impact of the independent variables on the likelihood that respondents had stopped working as a nurse at T2 (p. 370)</p>	<p><i>Dependent variable</i> Turnover (actual turnover): Assessed by a single question at T2: Do you now work as a nurse (yes/no)?" Participants replying "no" could provide various reasons. Those reporting other reasons than maternity leave were regarded as having left the profession (p. 368).</p> <p><i>Independent variables</i> Age, Gender, Living with children, cohabitation, workplace bullying, hardiness, insomnia, daytime sleepiness, anxiety, depression, fatigue, harmful alcohol use (p. 373)</p>
(van der Heijden et al., 2010)	<p>The objective was to investigate whether social work environment factors, i.e. social support from one's direct supervisor and from one's close colleagues, influence</p>	<p><u>Country:</u> Finland (And Belgium, Germany, France, Italy, the Netherlands, Poland and Slovakia)</p> <p><u>Nurse type:</u> Registered nurses</p> <p><u>Participants:</u></p>	<p><u>Method, design and analysis:</u> Quantitative, cross-sectional correlation analysis from survey data.</p>	<p><i>Predictor variables</i> Social support from direct supervisor and social support from close colleagues</p> <p><i>Dependent variable</i> Intention to leave the profession.</p> <p><i>Controlled for:</i> Job satisfaction, age, organizational tenure, and professional tenure, (p. 438)</p>

	<p>nurses' intention to leave their profession, over and above job satisfaction and nurses' age (p. 435).</p>	<p>1724 Finnish participants (p. 438)</p> <p><u>Institution type:</u> Hospitals</p> <p><u>Criteria:</u> Excluded male nurses</p>		
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Appendix 4: Table of results of included studies

This table provides information on the findings of the included studies relating to the research question of this thesis. Text in this table is mainly in the words of the original study. This table is not constructed as a part of the thesis, purely as extra material containing important extractions from included studies to ensure transparency.

Table 4.1 Overview of identified reasons for leaving the profession in included studies

Study	Result
(Camerino et al., 2006)	<p>Total WAI scores In the logistic regression analysis for ITLP and total WAI score (adjusted for gender, age, occupational position, and type of institution) the associations for low WAI and high ITLP were statistically significant for both countries, though effect sizes differed. Indicating increasingly high ITLP for nurses with low total WAI. The effect sizes of low WAI on ITLP were higher for Finland (Odds Ratio/OR 5.99) than Norway (OR 4.50) (p. 548).</p> <p>Individual WAI scores Logistic regression analysis for ITLP and individual WAI items (adjusted for age, gender, occupational status, and type of institution). Medium WAI was only examined in items 1, 2, 3 and 7.</p> <p>NORWAY For Norway high ITLP was significantly related to all low WAI items, except for WAI item number 3 which was not significantly related to ITLP. Indicating increasingly high ITLP for nurses in the low categories of individual WAI items.</p> <p>Norway from strongest to weakest associations between high ITLP and low individual WAI items:</p> <p>OR above 3: Items 2 (OR 3.89), 6 (OR 3.70) & 7 (OR 3.04)</p> <p>OR above 2: Items 5 OR (2.79) & 1 (OR 2.33)</p> <p>OR below 2: Item 4 (OR 1.89)</p> <p>FINLAND For Finland high ITLP was significantly related to all low WAI items. Indicating increasingly high ITLP for nurses in the low categories of individual WAI items.</p> <p>Finland from strongest to weakest associations between high ITLP and low individual WAI items:</p> <p>OR above 4: Items 1 (OR 4.40), 7 (OR 4.34), 6 (OR 4.16) & 4 (OR 4)</p> <p>OR above 3: Item 2 (OR 3.07)</p> <p>OR above 2: Item 3 (OR 2.03)</p> <p>OR below 2: Item 5 (OR 1.96)</p> <p>Norway had weaker associations for high ITLP for most WAI items except for low WAI 2 (Norway OR 3.89– Finland OR 3.07) and low WAI-5 (Norway OR 2.79 – Finland OR 1.96).</p> <p>Individual WAI items nr 6 and 7 had the strongest associations for both countries (p. 549).</p>
(Estryn-Behar et al., 2007)	<p>Bivariate analysis: Perception of social work environment, teamwork characteristics and ITLP Possibilities for development, quality of interpersonal relations, uncertainty regarding treatment and influence at work were not included in multivariate analysis to prevent multicollinearity (p. 945). Bivariate analysis indicates items may be associated with an increase in ITLP for both countries (p. 943).</p>

Norway: (Items x ITLP)

Low possibilities of development (28.6%), low quality of interpersonal relations (24,8%), high uncertainty regarding treatment (22.2%), low influence at work (15.3%).

For comparison quality of teamwork 51.7%

Finland: (Items x ITLP)

Low possibilities for development (23.9%), low quality of interpersonal relations (22.7%), high uncertainty regarding treatment (21.6%), low influence at work (20.2%).

For comparison quality of teamwork 36.2%

$p < 0.001$ for all, except high quality of teamwork $p < 0.01$. Indicating items may influence ITLP, although not controlled for other items and effect strength lacking (p. 943).

Bivariate analysis: Personal characteristics and ITLP

Seniority, work week duration, mental disorders and musculoskeletal disorders were not included in the multivariate analysis (pp. 946-947).

Both

The less seniority, the greater the ITLP

(Norway <5 yr.: 16% w/ high ITLP x 6-14 yr: 13.6% w/ high ITLP, 15-24 yr.: 9.5% w/ high ITLP, >24 yr.: 6.8% w/ high ITLP)

Finland <5 yr.: 19.1% w/ high ITLP, 6-14 yr.: 19.2% w/ high ITLP 15-24 yr.: 15.3% w/ high ITLP, >24 yr.: 9.1% w/ high ITLP)

Those with medically diagnosed musculoskeletal disorders had a higher ITLP (than self-diagnosed and no diagnosis). (Norway: No: 11% w/ high ITLP. Yes (own diagnosis): 13% w/ high ITLP, Yes (physicians diagnosis): 15.3% w/ high ITLP)

Finland: No: 14.4% w/ high ITLP. Yes (own diagnosis): 15.8 % w/ high ITLP. Yes (physicians diagnosis): 17.8% w/ high ITLP)

Norway

Physician diagnosed mental disorders had a higher ITLP (than self-diagnosed)

(Yes (own diagnosis): 19.1% w/ high ITLP)

Yes (physician diagnosis): 22.8% w/ high ITLP)

Longer work weeks have higher ITLP

(>35 hr.: 13.2% w/ high ITLP)

<35 hr.: 10.7% w/ high ITLP).

Finland

Shorter work week have higher ITLP.

(>35 h – 14,8% w/ high ITLP)

<35 h – 19.4% w/ high ITLP).

Self-diagnosed mental disorders had an incrementally higher ITLP (than physician diagnosed)

(Yes (own diagnosis): 25.3% w/ high ITLP x

Yes (physician diagnosis): 24.1% w/ high ITLP).

Items statistically significant ($p < 0.001$ for all) indicating these items may influence ITLP, although not controlled for other items and effect strength lacking (p. 944).

Multivariate analysis of factors linked with intent to leave nursing

Significant

Both countries

For both countries low quality of teamwork had the strongest association with ITLP (Finland OR 5.97 – Norway OR 10.88), followed by burnout (Finland OR 2.33 – Norway OR 3.42) and higher risk of ITLP for male nurses (Finland OR 1.92 – Norway OR = 1.81)

	<p>Finland For Finland high levels of work-family conflict was a risk factor related to ITLP (OR =1.60). Additionally, older age seemed to decrease risk of ITLP (30-44 OR 0.63, 45+ OR 0.37). Occupational category was also a predictor of higher ITLP for Finnish specialized nurses (OR 1.47) (p. 946).</p> <p>Norway For Norway family situation: living with another adult and child, seemed to decrease risk of ITLP (OR = 0.64). Occupational level: nursing aid, increased ITLP (OR 2.06). No data on specialized nurses in Norway (p. 947).</p> <p>Not significant Both countries Additionally fixed department and satisfaction with pay seemed to have no effect on ITLP for either country (at any level). Nor vacant nursing assignments Finland (no data Norway) (Significance 95% confidence interval) (pp. 946-947).</p>
<p>(Flinkman et al., 2008)</p>	<p>Quantitative section: Mann-Whitney U-test: (Median in group with high ITLP compared to those with low ITLP) Associated ITLP was significantly associated with weak affective professional commitment (3.5**/difference .75), low job satisfaction (2.25**/diff .50), experienced personal burnout (2.5**/diff .42), had work–family conflicts (3.4*/diff .4), high quantitative work demands (3.7*/diff .3) and poor opportunities for development (3.75*/diff .25). **$p < 0.001$ *$p < 0.05$</p> <p>Additionally, nurses dissatisfied with how work schedules affected their wellbeing had higher ITLP (42% vs. 29%, $p = 0.004$).</p> <p>Not associated General health, emotional demands deemed no difference between low and high ITLP as well as were insignificant, additionally satisfaction with salary was insignificant ($p = 0.059$) (p. 735).</p> <p>Qualitative section: Open ended question <i>Dissatisfaction with salary</i> (107 of 147) Main reasons given were low salary, better salary in another career, earning a living (p. 736). Nurses expressed a perceived imbalance between salary and responsibility and compared salary with nursing work demands (p. 735). <i>Demands of the work</i> (62 of 147) Main reasons given were high workload, constant rush, physical and psychological demand, and job strain. Nurses that they were so busy that they could not provide good quality care. Nurses felt that one reason for this lack of time is that there is not enough nursing staff in the wards (pp. 735-736). <i>Shift work and working hours</i> (45 of 147) Main reasons given was rotating shifts including working a three-shift system (days, evenings, and nights), weekends, and inconsistency of shifts. Nurses expressed feeling tired because of irregular working hours and working a three-shift system. Many of the nurses wrote that they would like to have a regular day job (p. 736). <i>Uncertain work status</i> (18 of 147) Main reasons given were temporary work status, uncertainty of continuance of the work, not having permanent work (p. 736).</p>
<p>(Flinkman et al., 2013)</p>	<p>Nursing as a Second Career Choice Single incidents did not trigger the decision to leave nursing. None of the nurses had planned to be a nurse; becoming a nurse happened more by chance (p. 8). Despite nursing being a second career choice, they all graduated from nursing</p>

	<p>school with good grades and received positive feedback from both school and clinical practices. They all expressed positive their memories from nursing school (p. 5).</p> <p>Demanding Work Content and Poor Practice Environment The participants described the work content as demanding, and less than ideal practice environments relating to nurse-patient ratios, rush, shift hours, working contracts, salary, and appreciation by management (p. 8). They also expressed a strong hierarchy in the hospitals, with nursing students lowest and graduate nurses or new nurses in the ward as also low down. Strong hierarchy was a disappointment though they felt that they could not change the situation. All three were dissatisfied with salary. All three expressed combining private life with shift work as demanding. Recovering from night shifts was also difficult (p. 6). Nurses felt tired because they could not provide the quality of care that they wanted and expressed not being able to do one’s best and not being able to influence working conditions (p. 8).</p> <p>The Inability to Identify with the Stereotypical Images of Nurses All three described the expected image of nurses as nurturing, altruistic, and willing to serve. However, they did not identify with this. In their stories, these they speak of nursing as a profession, not a calling. They further describe themselves as talented and ambitious and striving for career advancement (p. 7) And finally, nursing did not provide development possibilities and intellectual challenges they could gain by applying to university studies and by starting a new career (p. 8).</p>
<p>(Fochsen et al., 2005)</p>	<p>Mean value for factors on decision to leave (High mean value indicates that the factor contributed to the decision to leave, to a considerable extent).</p> <p>Unsatisfactory salary (mean 3.9) lack of professional opportunities (mean 3.3) restricted professional autonomy (mean 2.8) Poor organization and management (mean 2.6) Imbalance between work and childcare (mean 2.3) Patient-oriented workload (mean nurses only 2.2) Demanding work content (mean 1.5) Poor collegial climate (mean 1.4) Private reasons (mean 1.2) (p. 342).</p> <p>Mean value for factors, stratified by sex, age groups and education (High mean value indicates that the factor contributed to the decision to leave to a considerable extent)</p> <p>For age groups significant differences were found for unsatisfactory salary (<45 mean 4.1 and >45 mean 3.4) and patient-oriented workload (<45 mean 2.8 and >45 mean 2.1). Indicating younger personnel evaluated salary and patient-oriented workload as more important for decision to leave than older personnel (pp. 340, 342).</p> <p>Differences between nurses (mean 2.2) and assistant nurses (mean 2.8) were statistically significant for patient-oriented workload, which was considered more important to assistant nurses. Only mean for registered nurses reported. No other significant difference between nurses and nursing aides (pp. 340, 342).</p>
<p>(Hasselhorn et al., 2008)</p>	<p>Multivariate analysis: the incidence of ITLP in relation to changes in job strain over a year (Adjusted for age, gender, weekly workhours, work schedule, type of health care institution, occupational position, and family situation)</p> <p>Significant Significant influence on ITLP for the transition from “no strain” to “strain” (OR 2.7*). Significant influence on and highest predictor of ITLP, nurses in the strain category at both assessments (OR 4.2**).</p> <p>Compared with an absence of strain over 1 year, both cumulative and new exposure to work-related strain can increase the risk of ITLP.</p> <p>Not significant Nurses who passed from the “strain” to the “no strain” condition.</p>

	<p>*$p < 0.01$ **$p < 0.001$ (p. 80).</p>
(Heinen et al., 2013)	<p>Correlates of ITLP multilevel regression analyses</p> <p>Significantly associated with ITLP:</p> <p>Both countries: Burnout (OR: Finland 1.56, Norway 2.50) (p. 180). Indicating that the odds of ITLP are 1.5-2.5 times higher in nurses with a high score on burnout (p. 178).</p> <p>Hours/week fulltime (OR: Finland 0.34, Norway 0.70) (p. 180). Indicating nurses who work full-time are less likely to have ITLP (p. 178).</p> <p>Finland: Leadership OR 0.56 (p. 180). Indicating nurses who valued leadership on their ward had lower ITLP (p. 178)</p> <p><i>*Gender not included for Finland.</i></p> <p>Norway: Nurse-physician relationship OR 0.87(p. 180). Indicating that a positive Nurse-Physician Relationship is associated with lower risk of ITLP (p. 178).</p> <p>Participation in hospital affairs OR 0.67 (p. 180). Indicating a more positive perception of nurse participation in hospital affairs is associated with lower risk of ITLP (p. 178).</p> <p>Gender: female OR 0.35 (p. 180). Indicating that female nurses have lower risk of ITLP (p. 178).</p> <p>Not significantly associated for both countries: Hospital size, perceived safety, perceived care quality, training level (not included for Norway), age, nurse-patient staffing ratio, nurse foundation for quality of care and perceived staffing adequacy (pp. 180-181).</p> <p>Practice environment (as a single measure) is significantly associated with intention to leave the profession for the countries together, as well as separately. A positive perception of work environment is associated with less intention to leave the profession (p. 178).</p>
(Hinno et al., 2012)	<p>Multivariate logistic regression analysis (p. 139). Controlled for characteristics (age, working experience in nursing and employment: full-/part-time) (p. 136).</p> <p>Significant Supportiveness of management (OR 0.426) and adequacy of resources (OR 0.426) made statistically significant contributions to the model related to ITLP. Indicating supportiveness of management and adequacy of resources reduce the risk of ITLP.</p> <p>Not significant Assurance of care quality via collaborative relationships made no statistically significant contribution to ITLP (confidence interval contains 1) (pp. 138-139).</p>
(Holmås, 2002)	<p>Hazard based duration model</p> <p>Wage The exit rate decreased with increases in wages (Hazard Ratio (HR) 0.9658***) (p. 499). This effect was strongest for staff nurses, and weaker for specialist and leading nurses (numbers not provided) (p. 500). The exit rate increased in the degree of shift work ('Share bonuses') (HR 1.0620***) (p. 500). Failing to correct for shift work led to an underestimated wage effect of more than 50% (p. 502). Indicating that failing to correct for the fact that nurses' income partly consists of compensation for inconvenient working hours results in a considerable downward bias of the wage effect (p. 493)</p> <p>Experience Years of experience decreased the hazard rate out of nursing (HR 0.9032***) (p. 500).</p>

	<p>Age The exit rate initially increased with age (<41 HR 1.2880***) until age 41 where probability of exit decreases with age (>41 0.9970***) (p. 500).</p> <p>Part time/full time/Working hours Compared to nurses in full time positions nurses working 50% or less have higher exit rates (HR 1.4554***). Nurses working 50-75% (HR 0.7217***) and 75-99% (not significant) had lower exit rates than those working full time (p. 500).</p> <p>Children Nurses with children younger than 7 did not have a significantly higher hazard rate out of nursing than others. Nurses with children older than 7 years had lower exit rates than nurses without older children (HR 0.6317***). Indicating that having children act as a stabilizing influence on nurses' job mobility (p. 501).</p> <p>Married Married nurses had a lower exit rate out of nursing than unmarried nurses (HR 1.2604*) (p. 502).</p> <p>Non labor income Non-labor income increased the exit rate. Both capital income (HR 1.0005**) and spouse's income (1.0008***) increase the exit rate, but the effect of these variables are rather small in magnitude (p. 502).</p> <p>Working conditions Working conditions are measured by hospital specific variables indicating nurses' workload. Nurses working at hospitals with a high occupancy rate (HR 1.0438***) or a relatively large number of hospital beds per nurse (HR 2.4792***) have higher exit rates than other nurses. In hospitals where patients stay for a relatively long period (HR 0.7953***), the exit rates are lower than elsewhere. Nurses working in local hospitals (least central insignificant, medium central HR 0.5443***, medium/high centrality insignificant) had a significantly lower exit rate than those working in a university/ regional hospital (HR 2.1959***) or a county hospital (1.7885***). After controlling for type of hospital, nurses working in large hospitals (p. 500) (measured as number of beds) (HR 0.8674***) left nursing at a higher rate than nurses working in smaller hospitals (p. 501).</p>
<p>(Kankaanranta & Rissanen, 2008)</p>	<p>Estimated structural coefficients from SEMs (structural equation modelling) for ITLP</p> <p>Direct effects SATISFACTION (-0.47) was negatively and statistically significantly related to ITLP, indicating that as satisfaction increases ITLP decreases.</p> <p>DISSATISFACTION (0.23) had a statistically significant but positive association to ITLP, indicating that as dissatisfaction increases ITLP increases ITLP</p> <p>SOCIODEM (sociodemographics) (-0.20) was negatively and statistically significantly related to ITLP, for indication, see SOCIODEM indirect effects.</p> <p>WORK (work and wage related characteristics) (0.24) had a statistically significant but positive association to ITLP, for indication, see WORK indirect effects. (p. 339).</p> <p>Indirect effects</p> <p>SOCIODEM "Demographic factors had statistically significant indirect effects on intention to leave through their impact on factors related to work, job satisfaction, and job dissatisfaction". Further descriptions were not provided (p. 339).</p> <p>Factors related to WORK "Both wage-related factors, Wage (-0.21) and share of income from shift work (-0.50), were negatively and statistically significantly related to latent variable WORK. Thus, by increasing wage and share of income from shiftwork it could be possible to decrease nurses' ITLP." (p. 339).</p>

	<p>Number of nurses in work unit (-0.50): “Increasing the number of nurses in a work unit decreases the value of latent variable WORK and thereby possibly also nurses’ ITLP” (pp. 339-340).</p> <p>Factors related to job satisfaction Satisfying income in comparison to workload (0.63) and Generally prestigious career (0.60) had the greatest positive standardized structural coefficients, indicating these responses to be good predictors of job satisfaction. Therefore, increased values here indicate increased job satisfaction and possibly decreased ITLP (p. 340).</p> <p>Possibility for Specialization (0.39) gained a positive, statistically significant association with job satisfaction, and thereby decreased ITLP (p. 341).</p> <p>Good community (0.45) was positively associated with job satisfaction thus decreasing ITLP (p. 341).</p> <p>Factors related to job dissatisfaction Not possible to make own decisions (0.52), Excessive duties (0.83), and Physicians do not respect nurses as equals (0.76) variables had the highest estimate values, being the best indicators of job dissatisfaction. The more often nurses felt it was not possible to make their own decisions or felt they had excessive duties, the more dissatisfied they were and the more often they were planning to leave the health care sector. Also, the variable Physicians do not respect nurses as equals had a high estimate value and gained statistical significance, but the proportion of nurses who held that view was quite low, at only 14.5% (p. 340).</p> <p>Another factor related to job dissatisfaction, monotonous work (0.26), was also positively statistically significantly related to ITLP (p. 341).</p> <p>Not significant</p> <p>Satisfaction <i>Secure</i> (Secure living), <i>Independent</i> (Independent position) <i>Normal hours</i>, <i>Job description and Progress</i></p> <p>Dissatisfaction <i>Tight, inflexible work schedule</i>, <i>Inconvenient work schedule</i>, <i>Relations</i>, <i>Atmosphere</i>, <i>Patients</i>, <i>Much paperwork and Workload</i></p> <p>Work <i>Job status (nurse type)</i>, <i>Employment</i> (Full-time or part-time job), <i>Hospital</i>, <i>Work unit</i>, <i>Organization</i> (Current working organization),</p> <p>Sociodemographic <i>Experience (yrs.)</i>, <i>Children (nr)</i></p>
<p>(Laine et al., 2009)</p>	<p><i>The association of job insecurity with ITLP (adjusted for age, gender and health, Norwegian sample not adjusted for health)</i></p> <p>A significant positive correlation was found between <i>qualitative job insecurity</i> and ITLP for Norway (OR 2*) and Finland (OR 2*). Indicating experiences of qualitative job insecurity (concern about being transferred or being given an unsuitable schedule) increased ITLP.</p> <p>A significant positive correlation was found between <i>concern about becoming unable to work</i> for Finland (OR 1.72*)(p. 430). Indicating the nurses who were concerned about being unable to work more often considered leaving the profession (p. 433).</p> <p>No significant correlation was found between <i>quantitative job insecurity</i> and ITLP for Norway or Finland.</p>

	<p>No significant correlation was found between <i>concern about becoming unable to work</i> for Norway. (*p < 0.001) (p. 430).</p>
<p>(Numminen et al., 2015)</p>	<p>Multivariate analysis <i>Correlations</i> NGNs who had higher ITLP were less occupationally committed and perceived their practice environment less positively. Relationships were statistically significant; correlations were from moderate to weak (pearsons correlation .482 to 0.169) (p. 453).</p> <p><i>No correlations</i> No correlation between ITLP and professional competence, empowerment or hospital ethical climate was reported.</p>
<p>(Pennbrant & Dåderman, 2021)</p>	<p>Descriptive statistics (bivariate analysis) Positively correlated with ITLP (From strongest to weakest correlation)</p> <p>Intention to leave the current workplace (0.61*) WFC (0.48*) Quantitative workload (0.36*) Interpersonal conflicts at work (0.30*) FWC (0.17*)</p> <p>Indicating nurses with high levels ITL workplace, WFC, quantitative workload, interpersonal conflicts at work and FWC have higher ITLP.</p> <p>Negatively correlated with ITLP</p> <p>Work engagement Vigor (-0.49*) Dedication (-0.50*) Absorption (-0.44*) Total Work engagement scale (-0.52*)</p> <p>Indicating nurses with low work engagement have higher ITLP.</p> <p>(*p<0.05) (pp. 1161-1162).</p> <p>Regression model (of independent variables as potential antecedents of ITLP)</p> <p>The contribution of the control variables (age, nr of children, partner employed) to ITLP was non-significant.</p> <p>Adjusted R2 value (0.38) indicated that over 1/3 of the variability in ITLP was explained by WFC, FWC, job demands and work engagement</p> <p><i>Significant</i> (Unstandardized coefficient – p: significance)</p> <p>WFC (0.03 – p 0.001) Quantitative workload (0.03 – p 0.008) Interpersonal conflicts at work (0.05 – p 0.002)</p>

	<p>Indicating nurses with high WFC, job demands (quantitative workload and interpersonal conflicts at work have higher ITLP.</p> <p>Work engagement (-0.48 – p 0.001) Indicating nurses with low work engagement have higher ITLP.</p> <p><i>Not significant</i> FWC Indicating FWC does not significantly contribute to ITLP.</p> <p>(pp. 1163-1164).</p>
<p>(Rudman & Gustavsson, 2011)</p>	<p>Eight change trajectories of burnout were identified. Changes in burnout levels were accompanied by concurrent changes in ITLP for most trajectories (p. 292). Indicating ITLP is associated with burnout patterns (p. 302).</p> <p>Analysis of variance: Development patterns across time ITLP x burnout</p> <p>(Significance at $p < 0.05$) Significant trajectories Significant across all 3 waves (and from 1st to 2nd wave): C, E, F, H (p. 300).</p> <p><i>C: low to moderate levels of burnout</i> Development from low to moderate levels of burnout with concurrent levels of low but increasing levels of ITLP (p. 301).</p> <p><i>E: increasing burnout, followed by recovery</i> Initial moderate levels of burnout that substantially increased in year 2. Followed by a dramatic decrease, approaching low burnout levels, three years after graduation. These dramatic changes were mirrored by concurrent changes in ITLP (p. 301).</p> <p><i>F: moderate burnout levels, becoming higher across time</i> Burnout increased from moderate levels between the first and second years in working life and then stabilized at rather high levels of burnout, which was reflected in concurrent changes in levels ITLP (p. 302).</p> <p><i>H: High and increasing burnout</i> Development from initial high to even higher levels of burnout reflected in concurrent increasing levels of ITLP (p. 302).</p> <p>Significant from 2nd to 3rd wave: D (p. 300).</p> <p><i>D: moderate and stable levels of burnout</i> The moderate (but significantly varying) levels of burnout characterizing this trajectory across time were also reflected in concurrent levels of changing levels of ITLP (p. 301).</p> <p>Not significant at any point: A, B, G.</p> <p><i>A: unaffected individuals</i> Consistently low levels of burnout with concurrent levels of low and non-significantly changing levels of ITLP (p. 300).</p> <p><i>B: changing from moderate to low levels of burnout</i> Moderate levels of burnout that become low over time. With concurrent levels of low and non-significantly changing levels of ITLP (pp. 300-301).</p> <p><i>G: initially high burnout, decreasing across time</i> Pattern of highest but substantially decreasing levels of burnout. However, the rather high levels of intention to leave the profession did not change across time (p. 302).</p>

<p>(Rudman et al., 2014)</p>	<p>Impact of sex, age, occupational preparedness, and burnout on levels of ITLP</p> <p>Age, sex, and occupational preparedness were not significantly related to ITLP (p. 619).</p> <p>(T1: first year of employment, T2: second year of employment, etc. for T3, T4, T5)</p> <p>T1 Job exhaustion x T1 ITLP = 0.117*** T1 Job disengagement x T1 ITLP = 0.256***</p> <p>T1 Job exhaustion x T2 ITLP = not significant T1 Job disengagement x T2 ITLP = 0.067* T2 Job exhaustion x T2 ITLP = 0.116*** T2 Job disengagement x T2 ITLP = 0.235***</p> <p>T2 Job exhaustion x T3 ITLP = not significant T2 Job disengagement x T3 ITLP = not significant T3 Job exhaustion x T3 ITLP = 0.178*** T3 Job disengagement x T3 ITLP = 0.279***</p> <p>T3 Job exhaustion x T4 ITLP = not significant T3 Job disengagement x T4 ITLP = 0.077** T4 Job exhaustion x T4 ITLP = 0.120*** T4 Job disengagement x T4 ITLP = 0.304***</p> <p>T4 Job exhaustion x T5 ITLP = not significant T4 Job disengagement x T5 ITLP = 0.121*** T5 Job exhaustion x T5 ITLP = 0.143*** T5 Job disengagement x T5 ITLP = 0.259***</p> <p>*$p < 0.05$ **$p < 0.01$ ***$p < 0.001$ (p. 620)</p> <p>Burnout during employment influenced concurrent levels of ITLP. Of the two job burnout dimensions, ITLP was more strongly related to disengagement than exhaustion. Disengagement significantly affected ITLP the following year, in all but one year. Exhaustion had no significant effect on ITLP the following year (p. 620).</p>
<p>(Salminen, 2012)</p>	<p>Bivariate correlations x ITLP</p> <p>The ITLP and ITER were positively and significantly correlated ($r = .407, p < 0.01$) (p. 7).</p> <p>Logistic regression analysis ITLP</p> <p><u>Significantly associated with ITLP</u></p> <p><i>Personal variables</i> Older age decreased the odds ratio for the intentions to leave the profession (OR = 0.926).</p> <p><i>Work related variables</i> Good work ability (OR = 0.657), high job satisfaction (OR = 0.459) and high organizational commitment (OR = 0.376) decreased the likelihood of ITLP. In addition, those who had skills that were balanced with their present work demands (OR = 7.277), or who judged that they had the potential to carry out more challenging tasks (OR = 13.176), had an increased likelihood of ITLP (p. 7).</p> <p>Meaning: Factors that increased ITLP were young age, low job satisfaction, low organizational commitment, low work ability and skills in balance with or above present work demands (p. 1).</p>

	<p><i>Not significantly associated with ITLP</i> Gender, education, form of employment, shift work, number of children, pay, perceived development opportunities, job control. (p. 8).</p>
	<p>Reasons for leaving nursing care</p> <p><i>Working conditions (26%)</i></p> <p><u>Subgroups under working conditions</u></p> <p><u>1.Workload (n=26)</u>. The respondents expressed the situation as precarious. There were too many heavy lifts, and too high physical strain caused by personnel reductions, as well as older and more exacting patients. This caused constant feelings of inadequacy, leading to a high degree of stress. They also felt it was difficult to give quality care (p. 753)</p> <p><u>2.Working schedule (n=15)</u>. Irregular working hours, weekend duty and overtime work, especially for those with a family (p. 753).</p> <p><u>3.Management and social climate (n=7)</u>. Impersonal management and large hierarchal gaps between the management and staff. Felt they received little notice, appreciation, or feedback from the organization. They also expressed problems with co-workers such as intrigues and conflicts (p. 753).</p> <p><u>4.Professional status (n=6)</u>. Nurses felt that their authority and tasks were taken away and given to the other healthcare workers, resulting in conflicts between the groups (nursing aids and nurses). Some of the registered nurses felt that their profession was becoming impoverished (pp. 753-754).</p> <p><i>Employment conditions (21%)</i> 34 participants had been given their notice, due to staff reduction, scarcity of work and reorganizations or had never got a permanent post and left due to insecurity. 13 of the respondents had received a new role such as head nurse or a research position and had left nursing care because of this (p. 754).</p> <p><i>Health status (19%)</i> Musculoskeletal problems, mainly back and shoulder pain were the most common health problem (p. 754).</p> <p><i>Development (16%)</i> Lack of professional development, few career opportunities and not being able to affect the organization. They felt that there were no prospects and no opportunities to try new things in the organization (p. 754)</p> <p><i>Salary (10%)</i> Salary not in proportion to the effort, with no chance of getting a raise (p. 754).</p> <p><i>Personal factors (8%)</i> Such as moving to another district, family reasons, pregnancy, or childcare (p. 754).</p> <p>Improvements need to consider returning</p> <p><i>Working conditions (38%)</i></p> <p><u>Subgroups under working conditions</u></p> <p><u>1.More staff (n=14)</u>. More staff, and thus less workload and more time for patients (p. 755).</p> <p><u>2.Working schedule (n=14)</u>. More flexible working hours and the majority wanted to work only daytime Monday–Friday, and no holidays (p. 755).</p> <p><u>3.Influence (n=8)</u>. More opportunities to influence the organization and participate in the decision-making. They also wanted to be able to change their work tasks and develop in their profession (p. 755).</p>

	<p><u>4. Status of profession</u> ($n=7$). Much higher professional status was demanded. Leavers felt that their original authority had been taken away and wanted to have it back (p. 755).</p> <p><u>5. Management and social climate</u> ($n=6$) Need for competent and clear management. Another expressed reason for returning was if the struggle for power and quarrels between different professions disappeared (p. 755).</p> <p><i>Salary (29%)</i> A considerably higher salary and a positive wage trend (p. 755).</p> <p><i>Personal factors (11%)</i> Changed family circumstances and need for money could be reasons to return. There were also leavers who expressed that they missed nursing care and the contact with the patients (p. 755).</p> <p><i>Development (5%)</i> Leavers mentioned opportunities for development and further education as a reason for returning to nursing care (p. 755).</p> <p><i>Do not want to return (16%)</i> Sixteen per cent of the leavers considered their choice as permanent and were satisfied with their new work situation (pp. 755-756).</p>
(Søbstad et al., 2020)	<p>Adjusted logistic regression analysis assessed the impact of the 13 independent variables on the likelihood that respondents had stopped working as a nurse at T2 (not due to maternity leave). The model was near statistically significant ($p 0.077$), and explained as a whole between 1.7%-3.9% of the variance (p. 370).</p> <p>Significantly related to having stopped working as a nurse: Being in a relationship at T2 (OR = 0.52) Being in a relationship at T2 increased the odds of having left the nurse profession compared to not being in a relationship (p. 370).</p> <p>Fatigue at T1 (OR = 1.08) Having fatigue at T1 increased the odds of having left the nursing profession at T2 (p. 371). ($p < 0.05$)</p> <p>Not significantly related to having stopped working as a nurse: At T1 Age, gender, , work-bullying experiences, job satisfaction, hardiness, symptoms of insomnia, daytime sleepiness, anxiety, depression or harmful alcohol use or at T2 living with children (p. 373).</p>
(van der Heijden et al., 2010)	<p>Pearson's correlations between variables <i>Job satisfaction x ITLP</i> Correlations between variables indicates job satisfaction is significantly and negatively related to ITLP. Higher job satisfaction = lower ITLP (p. 439).</p> <p>Job satisfaction x intention to leave -.43*** (***) $p > .001$ (p. 439).</p> <p>Further the effect size of social support reduced drastically when controlling for job satisfaction further indicating the importance of job satisfaction on ITLP (p. 442).</p> <p><i>The relationship between supervisory support and ITLP, controlling for job satisfaction and age</i> ITLP x supervisor support -.22** Controlled for job satisfaction -.09*** Controlled for job satisfaction and age -.07** (*** $p = < 0.001$, ** $p = < 0.01$) (p. 441).</p>

Hypothesis 3 was supported; supervisory support significantly contributed to ITLP, beyond the effect of job satisfaction and age. Indicating nurses who experience social support from their direct supervisor have less ITLP.

Job satisfaction and age served as mediating variables; the correlation coefficients declined substantially after their inclusion.

The relationship between colleague support and ITLP, controlling for job satisfaction and age

ITLP x social support from colleagues $-.09^{**}$

Controlled job satisfaction

$-.01$

Controlled for job satisfaction and age

$-.04$ ($**p < 0.01$).

Hypothesis 4 was not supported. For the impact of social support from close colleagues upon ITLP, the correlation coefficient for did not remain significant after controlling for job satisfaction and age (pp. 441-442).