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FROM A NURSING STUDENT TO A REGISTERED NURSE

Final clinical practicum facilitating
the transition

Anu-Marja Kaihlanen



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To my family

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Final clinical practicum facilitating the transition

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ABSTRACT

The purpose of this two-phased study was to define the elements in the final clinical practicum (FCP) of nursing education that could facilitate the transition from a nursing student to a registered nurse, and to test the associations between the FCP experience, transition experience and turnover intentions of newly graduated nurses. The ultimate goal of this study was to produce new knowledge about the significance of FCP as part of nursing education that could be utilised in the development of the curriculum, teaching and clinical learning environments, and in enhancing the retention of newly graduated nurses.

In Phase I the transition facilitating elements in FCP were defined by conducting a scoping literature review ($n=17$ empirical studies) and two qualitative studies that utilised narratives of graduating nursing students ($n=16$) and individual interviews of newly graduated nurses ($n=20$). The methods of analysis included content analysis, modulated narrative analysis and the framework method. In Phase II a cross-sectional correlational design was applied to examine the association between the FCP experience, transition experience and turnover intentions of nurses who had graduated within the past two years ($n=712$). The FCP experience and the emotional, physical, socio-developmental and intellectual domains of transition experience were measured using five instruments. The turnover intentions from job and from profession were addressed using two questions, and multiple potential confounders were considered. The methods of analysis included descriptive statistics and structural equation modelling.

Five main elements were identified that could facilitate the transition from a student to a nurse in FCP: (1) Preparing for the demands of a nurse's work, (2) being part of a professional team (3) the systematicness of the practicum, (4) teacher involvement and (5) the quality of the supervision. The FCP experience was statistically significantly associated with all four domains of the transition experience as well as the turnover intentions. The association between the FCP experience and turnover intentions was partly mediated by the emotional and socio-developmental domains of the transition.

This study suggests that the FCP of nursing education has several elements, the fulfilment of which can facilitate the transition from nursing student to nurse. Moreover, it seems that having a good FCP experience can promote nurses' willingness to remain in their jobs and the nursing profession in their early career.

KEYWORDS: Final clinical practicum, graduating nursing student, transition from nursing student to nurse, newly graduated nurse, turnover intention from job and profession

TURUN YLIOPISTO

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TIIVISTELMÄ

Tämän kaksivaiheisen tutkimuksen tarkoituksena oli määritellä mitkä tekijät sairaanhoitajakoulutuksen viimeisessä ohjatussa harjoittelussa voivat edistää siirtymää opiskelijasta sairaanhoitajaksi, ja testata vastavalmistuneiden sairaanhoitajien viimeisen harjoittelun kokemusten, siirtymäkokemuksen sekä työpaikasta ja ammatista lähtemisaikeiden väliä yhteyksiä. Tutkimuksen tavoitteena oli tuottaa uutta tietoa viimeisen harjoittelun merkityksestä sairaanhoitajakoulutuksessa, jonka avulla voitaisiin kehittää opetusta ja harjoitteluympäristöjä sekä edistää uusien sairaanhoitajien työssäpysymistä.

Tutkimuksen I vaiheessa siirtymää edistävät tekijät määriteltiin kartoittavan kirjallisuuskatsauksen ($n=17$ empiiristä tutkimusta), valmistumisvaiheen sairaanhoitajaopiskelijoiden essee-kirjoitelmien ($n=16$) sekä vastavalmistuneiden sairaanhoitajien yksilöhaastatteluiden ($n=20$) avulla. Analyysimenetelminä käytettiin sisällönanalyysiä, mukailta narratiivista analyysia sekä framework menetelmää. Tutkimuksen II vaiheessa toteutettiin poikkileikkaustutkimus, jossa tutkittiin vastavalmistuneiden sairaanhoitajien ($n=712$) viimeisen harjoittelun kokemusten, siirtymäkokemusten ja työpaikassa ja ammatissa pystymisaikeiden väliä yhteyksiä. Harjoittelukokemuksen sekä siirtymän emotionaalisen, fyysisen, sosiaalisen ja tiedollisen ulottuvuuden mittaan käytettiin viittä mittaria. Työpaikasta ja ammatista lähtemisaikeita mitattiin kahdella kysymyksellä ja lisäksi huomioitiin mahdolliset sekoittavat tekijät. Aineiston analyysimenetelmänä käytettiin kuvailevia tilastomenetelmiä ja rakenneyhtälömallinnusta.

Tutkimuksessa tunnistettiin viisi päätekijää, jotka voivat edistää siirtymää opiskelijasta sairaanhoitajaksi viimeisessä harjoittelussa: (1) valmistautuminen sairaanhoitajan työn vaatimuksiin, (2) työyhteisön jäsenenä oleminen, (3) harjoittelun suunnitelmallisuus, (4) opettajan osallistuminen sekä (5) ohjauksen laatu. Harjoittelukokemus oli tilastollisesti merkitsevästi yhteydessä siirtymän kaikkiin neljään ulottuvuuteen sekä työpaikasta ja ammatista lähtemisaikeisiin. Siirtymäkokemuksen emotionaalinen ja sosiaalinen ulottuvuus välittivät harjoittelukokemuksen ja työpaikasta ja ammatista lähtemisaikeiden välistä yhteyttä.

Tämä tutkimus osoittaa, että sairaanhoitajakoulutuksen viimeisessä harjoittelussa on useita tekijöitä, joiden toteutumisella voidaan edistää siirtymää opiskelijasta sairaanhoitajaksi. Lisäksi, hyvä harjoittelukokemus saattaa edistää vastavalmistuneiden sairaanhoitajien halukkuutta pysyä työpaikoillaan sekä sairaanhoitajan ammatissa ensimmäisten työvuosien aikana.

AVAINSANAT: viimeinen ohjattu harjoittelutu, valmistuva sairaanhoitajaopiskelija, siirtymä opiskelijasta sairaanhoitajaksi, vastavalmistunut sairaanhoitaja, aikomus lähteä työpaikasta ja ammatista

Table of Contents

| | |
|------------------------------------------------------------------------------------------------------|-----------|
| List of Figures and Tables | 8 |
| Abbreviations | 9 |
| List of Original Publications | 10 |
| 1 Introduction | 11 |
| 2 Review of the Literature | 15 |
| 2.1 Literature search | 15 |
| 2.2 Final clinical practicum in nursing education..... | 16 |
| 2.2.1 Nursing education | 16 |
| 2.2.2 Final clinical practicum | 17 |
| 2.3 Transition from a nursing student to a registered nurse..... | 19 |
| 2.3.1 Transition models and theories utilised in nursing context | 19 |
| 2.3.2 Transition experience from a student to a registered nurse | 22 |
| 2.3.3 Methods used to facilitate transition | 25 |
| 2.4 Gaps in the current literature | 27 |
| 3 Purpose of the Study and Research Questions | 29 |
| 4 Materials and Methods | 31 |
| 4.1 Study design, setting and sampling | 32 |
| 4.2 Data collection and instruments | 33 |
| 4.3 Data analysis | 39 |
| 4.4 Ethical considerations | 40 |
| 5 Results | 43 |
| 5.1 Elements facilitating transition from a student to a nurse in the FCP..... | 43 |
| 5.2 Associations between the FCP experience, transition experience and turnover intentions | 48 |
| 5.3 Summary of the main results | 52 |
| 6 Discussion..... | 55 |
| 6.1 Discussion of the results | 55 |
| 6.1.1 Elements facilitating transition in FCP | 55 |

| | | |
|-------|-------------------------------------------------------------------------------------------------|-----------|
| 6.1.2 | Associations between the FCP experience, transition experience and turnover intentions | 58 |
| 6.2 | Validity and reliability of the study..... | 61 |
| 6.2.1 | Validity and reliability of the data collection..... | 61 |
| 6.2.2 | Validity and reliability of the instruments | 62 |
| 6.2.3 | Validity of the results | 67 |
| 6.3 | Practical implications | 69 |
| 6.4 | Suggestions for further research | 70 |
| 7 | Summary/Conclusions | 72 |
| 8 | Acknowledgements..... | 73 |
| | References | 75 |
| | Original Publications | 89 |

List of Figures and Tables

Figures

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Figure 1. Study Phases I–II | 30 |
| Figure 2. Nurses' turnover intentions from job | 50 |
| Figure 3. Nurses' turnover intentions from profession | 50 |
| Figure 4. Main elements facilitating transition in FCP | 53 |
| Figure 5. Associations between the FCP experience, transition experience and turnover intentions and the detected mediating effects | 54 |
| Figure 6. The one-factor model | 65 |
| Figure 7. The five-factor model | 66 |

Tables

| | |
|------------------------------------------------------------------------------------------------------------------------|----|
| Table 1. Study phases, sample, setting, time, design, data collection and analysis | 31 |
| Table 2. Instruments used to measure the FCP experience, transition experience and turnover intentions | 35 |
| Table 3. The sub-scales and items of the FCPE instrument | 38 |
| Table 4. The elements facilitating the transition in FCP according to Phase I | 48 |
| Table 5. The results of the associations in unadjusted and adjusted models | 51 |
| Table 6. Fit indices of the mediator models | 52 |
| Table 7. Indirect, direct and total effects in the mediator models | 52 |
| Table 8. Factor loadings of the FCPE instrument | 64 |
| Table 9. Fit indices of confirmatory factor analysis | 66 |
| Table 10. Internal consistency of the used instruments | 67 |

Abbreviations

| | |
|-----------|----------------------------------------------------------------------|
| ALLEA | All European Academies |
| CFI | Comparative fit index |
| CINAHL | Cumulative Index to Nursing and Allied Health Literature |
| CVI | Content validity index |
| FCP | Final clinical practicum |
| ECTS | European Credit Transfer and Accumulation system |
| EHEA | European Higher Education Area |
| ERIC | Education Resources Information Center |
| ETENE | The National Advisory Board on Social Welfare and Health Care Ethics |
| EU | European Union |
| GDPR | General Data Protection Regulation |
| GHQ | General Health Questionnaire |
| I-CVI | Item-level content validity index |
| MEDLINE | Medical Literature Analysis and Retrieval System Online |
| NEXT | Nurses' early exit study |
| NFI | Normed fit index |
| NGN | Newly graduated nurse |
| NSI | Nursing Solutions Inc. |
| RMSEA | Root mean square error of approximation |
| S-CVI/Ave | Scale-level content validity index average |
| SD | Standard deviation |
| SEM | Structural equation modelling |
| SPSS | Statistical package for the social sciences |
| SRMR | Standardized root mean-squared residual |
| TENK | Finnish National Board on Research Integrity |
| THL | Finnish Institute for Health and Welfare |
| TLI | Tucker-Lewis Index |
| UAS | University of applied sciences |
| USA | United States of America |
| WHO | World Health Organization |

List of Original Publications

This doctoral thesis is based on the following original publications, which are referred to in the text by the Roman numerals I–IV:

- I Kaihlanen, A-M., Haavisto, E., Strandell-Laine, C., & Salminen, L. (2018). Facilitating the transition from a nursing student to a registered nurse in the final clinical practicum – A scoping literature review. *Scandinavian Journal of Caring Sciences*, 32(2), 466–477.
- II Kaihlanen, A-M., Lakanmaa, R., & Salminen, L. (2013). The transition from nursing student to registered nurse: The mentor's possibilities to act as a supporter. *Nurse Education in Practice*, 13(5), 418–422.
- III Kaihlanen, A-M., Salminen, L., Flinkman, M., & Haavisto, E. (2019). Newly graduated nurses' perceptions of a final clinical practicum facilitating transition: A qualitative descriptive study. *Collegian*, 26(1), 55–61.
- IV Kaihlanen, A. M., Elovaario, M., Haavisto, E., Salminen, L., & Sinervo, T. (2020). Final clinical practicum, transition experience and turnover intentions among newly graduated nurses: A cross sectional study. *Nurse Education Today*, 84, 104245.

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1 Introduction

Registered nurses make up the largest section of healthcare professionals working in the healthcare industry. The World Health Organization (WHO) has estimated that of the 43.5 million healthcare workers in the world, close to 21 million are nurses and midwives (WHO, 2016). In the EU member states there are approximately 3.5 million practising nursing professionals (European Union statistics, 2016) and in Finland, close to 90,000 nurses had the right to practise in 2015 (Virtanen, 2018). Despite the seemingly high numbers, there is a serious global shortage of nurses (Liu et al., 2017). In 2013, WHO reported a shortage of nine million nurses, a figure that has been predicted to remain high, or in some countries even worsen by 2030 (WHO, 2013; WHO, 2016). The RN4CAST study – one of the largest studies conducted concerning nursing workforce in Europe – estimated that by 2020, the shortage of nurses at the European level will be close to 600,000 (Sermeus & Bruyneel, 2010). The European Commission has also expressed growing concerns about the shortage of nurses and other healthcare professionals in the EU, given that the capacity of delivering services to the population, with changing care demands, is dependent on the availability of a skilled and competent workforce (European Commission Directorate-General for Health and Food Safety, 2015). According to nursing workforce researchers, the lack of qualified nursing staff is a serious threat to the provision of safe and high-quality healthcare (Aiken et al., 2013; Aiken et al., 2014; Ball et al., 2018; Ensio et al., 2016).

In 2016, European Union statistics reported that each year approximately 120,000 new registered nurses join the healthcare workforce in the European Union area, and since 2011, the number has been increasing in the majority of EU member states (European Union statistics, 2016). In Finland, there has also been an increase in the annual number of nurses graduating from the universities of applied sciences during the current decade; in 2010 there were 2,355 new nursing graduates, whereas in 2018 this number was 3,507 (Ministry of Education and Culture, 2018). For 2020, the Ministry of Education and Culture (2019) granted extra funding that allows for an increase of 180 new nursing students. Due to the workforce shortages, there is increased pressure on newly graduated nurses (NGN) to be fully functional and to take on responsibilities of more experienced nurses soon after graduation (Doody et

al., 2012). NGNs are expected to be independent, competent and function effectively in the new practice settings (Doody et al., 2012; Halpin et al., 2017; Romyn et al., 2009), even though the professional development and the building of self-concept and confidence about one's own skills is known to require time, practice and guidance (Cowin & Hengstberger-Sims, 2006; Gerrish, 2000).

In recent decades, there has been an ongoing global discussion and concern about NGNs' practice and work readiness (El Haddad et al., 2017; Halcomb et al., 2012; Heslop et al., 2001; Usher et al., 2015; Watt & Pascoe, 2013; Whitehead & Holmes, 2011; Wolff et al., 2010). It is evident that graduating nursing students need to be sufficiently work- and practice-ready in order to transition smoothly into the nurse's role (Edward et al., 2017; Mirza et al., 2019). The transition from a nursing student to a nurse, and especially the challenges related to this journey, were acknowledged as early as in 1974 when Marlene Kramer introduced the concept of 'Reality Shock'. She described reality shock as an extreme emotional, social and physical response to an unexpected conflict that NGNs experience between what they have learned in academia and real nursing practice (Kramer, 1974). Judy Duchscher (2009) described the phenomenon as a 'Transition Shock', which is seen as a consequence of the incongruence between the undergraduate experiences and the reality of working life (Dames, 2019; Duchscher, 2009; Newton & McKenna, 2009). It is stated that nursing students may be put in observational roles and are being 'sheltered' and protected from the full responsibilities of a nurse during their studies (Evans et al., 2008; Mooney, 2007; Usher et al., 2015). Therefore, despite the completed education, many NGNs feel insufficiently prepared to manage the whole professional nurse role (O'Shea & Kelly, 2007; Read & Laschinger, 2017; Teoh et al., 2013). Having congruence between nursing students' clinical experiences and real nursing practice is of importance, because pre-graduate experiences provide grounding on which nursing students build their professional identity and prepare themselves to transition into nurses (Dames, 2019).

The first year in nursing practice, referred as the transition year (Duchscher, 2008), is a critical phase of NGNs' entry to the nursing profession. The quality of the transition may determine how willing nurses are to remain in their jobs and the nursing profession (Parker et al., 2014; Regan, 2017). Transition difficulties, high job demands, stress, burnout (Boamah & Laschinger, 2016; Flinkman et al., 2014; Rudman et al., 2014; Tastan et al., 2013) and weak professional identity (Zhang et al., 2017) are noted to contribute to NGNs' high intentions to leave their jobs and nursing at an early career stage; in some countries from 25 to 35 (Kovner et al., 2014; NSI, 2019; Read & Laschinger, 2017) and up to 44 per cent of NGNs end up leaving their jobs within the first year of practice (Brewer et al., 2012) and one third have strong intentions of leaving the profession (Rudman et al., 2014). Nurses' early turnover from the profession is not a new phenomenon. The Nurses' Early Exit Study

(NEXT), which was conducted in 10 European countries between 2002 and 2005, is one of the largest efforts made to examine the reasons why nurses leave their profession (Hasselhorn et al., 2003). In the Finnish sample, 14 per cent of the nurses had frequent thoughts of leaving the profession completely, young nurses being most inclined to leave (Laine et al., 2003). Similarly, in the RN4CAST study, 18 per cent of Finnish nurses expressed intentions to leave the profession, and those nurses with fewer years of work experience had significantly higher odds of intending to leave than more experienced nurses (Leineweber et al., 2016). The turnover of nurses in their early career not only increases the nursing shortage and causes a risk patient care, but also causes a considerable financial burden on healthcare organisations (Hayes et al., 2012). The estimated costs of nurse turnover vary, but in the USA and Australia, for example, it has ranged from 40,000 to 64,000 US dollars per nurse (NSI, 2019; Roche et al., 2015).

Sufficient orientation and preceptorships in the first work environments are known to have a significant impact on the transition process from a student to a nurse (Pasila et al., 2017). In order to improve the transition experience, promote retention and reduce turnover of NGNs, various postgraduate transition and residency programmes have been developed (Brook et al., 2019; Edwards et al., 2015; Rush et al., 2019). Despite the effort and the gained benefits, the transition from a student to a nurse has remained problematic and requires action from nurse educators, managers and leaders (Murray et al., 2019). Educational institutions are seen as responsible for providing nursing students with sufficient learning opportunities, academic knowledge and clinical practice skills that would promote their preparedness for the realities of nursing (Newton & McKenna, 2007; Walker et al., 2017; Zamanzadeh et al., 2015). Pre-graduate clinical training is seen as a particularly key issue contributing to nursing students' practice readiness and their transition into nurses (Chang & Daly, 2016; Järvinen et al., 2018; Milton-Wildey et al., 2014). As regulated in EU directives 2005/36/EC and 2013/55/EU, clinical training covers 90 ECTS credits (European Credit Transfer and Accumulation System) from the whole nursing degree (required minimum of 180 ECTS) and it is mostly accomplished as clinical practicum periods in real clinical practice settings in a variety of healthcare environments. Clinical practicums are essential for the development of nursing students' professional identities and allows them to experience the future professional reality, having professional interactions with other nurses and learning to perform clinical skills (Marañón & Pera, 2015; Neishabouri et al., 2017; Saarikoski & Leino-Kilpi, 2002).

The final clinical practicum (FCP), typically completed in the final semester of studies, is seen as particularly essential for the development of nursing students' professional identity (Neishabouri et al., 2017) and for achieving sufficient preparedness to transition into qualified nurses (Casey et al., 2011). Because of the

diminishing time as a student and the closeness of graduation, the period around FCP can be both exciting and challenging (Doody et al., 2012). Graduating nursing students feel happy and proud about completing their studies (Kumaran & Carney, 2014) but simultaneously can be stressed about the lack of preparedness and the anticipation of the potential difficulties regarding their upcoming transition (Saber et al., 2016; Wang et al., 2019). As the graduating nursing students' last clinical learning opportunity for developing the needed competence and confidence to step into the nurse's role, the FCP has the potential to either facilitate or complicate the transition (Casey et al., 2011; Wu et al., 2015). FCP has also shown to play a role in nursing students' career pathway by affecting their decision-making about the preferable clinical areas of first employment (Boyd-Turner et al., 2016; Wareing et al., 2018).

Despite the suggested importance of FCPs in nursing students' upcoming transition and career plans, the existing guidelines on how to ease the transition from a student to a nurse have mainly focused on postgraduate work environments (van Rooyen et al., 2018). The quality of clinical learning environments is a widely studied topic in the field of nursing education research (Forber et al., 2016; Warne et al., 2010). However, studies have often focused on examining different aspects, such as different clinical education models (Jayasekara et al., 2018) or students' experiences and learning in clinical learning environments (Antohe et al., 2016; Henderson et al., 2012) at a general level, regardless of the phase of the studies, or in some cases, with a specified focus on the first clinical practicums (Grealish & Ranse, 2009; Jonsén et al., 2013; Reljić et al., 2019; Sun et al., 2016). There is an acknowledged need to know more about FCPs and especially about their significance to the transition experience from a student to a nurse (Phillips et al., 2014).

This study focuses on FCP as a method to facilitate the transition from a nursing student to a registered nurse. The purpose of this two-phased study was to define the elements in the FCP that could facilitate the transition from a nursing student to a nurse, and to test the associations between the FCP experience, transition experience and turnover intentions of NGNs. The ultimate goal of this study was to produce new knowledge about the significance of FCP as part of nursing education that could be utilised in the development of the curriculum, teaching and clinical learning environments and in enhancing the retention of NGNs. There is an urgent need to know more about the possibilities of pre-graduate clinical practicums in promoting good transition experiences for NGNs, and to identify new strategies that could help retain them in the nursing profession.

2 Review of the Literature

This literature review chapter is divided into two parts:

First, the final clinical practicum of nursing education is described based on previous studies and other literature.

Second, a description of the transition from a nursing student to a registered nurse is provided, based on existing transition theories/models, previous studies and other literature. The aim of this review is to provide a comprehensive picture of what it is to transition from a student to a nurse, thus providing a theoretical background to the study. Additionally, a summary of the methods that have been used to facilitate the transition is provided.

2.1 Literature search

The literature searches, used to describe the main concepts, *final clinical practicum* (Section 2.1.2) and *the transition experience from a student to a nurse* (Section 2.2.2), were conducted using four electronic databases: MEDLINE/PubMed, CINAHL, ERIC and PsycINFO in July 2019. Searches were supplemented by screening the reference lists of the articles, making searches in nursing education journals, and conducting searches on Google Scholar. The searches were limited to the English language, and the period 2000–2019 because this time frame took into account both the Bologna agreement regarding the harmonising of higher education in Europe (European Ministers of Education, 1999) and the EU directives regarding the recognition of professional qualifications (European Commission 2005/36/EC; European Parliament and Council 2013/55/EU). The main search terms used throughout the databases were:

- Transition, transformation
- Experience, perception, view
- Nurse students, nursing student(s), students nurses, nurse, nursing
- Final clinical practicum, final clinical placement, senior practicum, clinical training

These terms were applied to titles and abstracts of the citations, and Boolean operators (AND, OR) were utilised.

2.2 Final clinical practicum in nursing education

In this section, nursing education in Finland is first described and then the literature regarding the final clinical practicum of nursing education is analysed and summarised.

2.2.1 Nursing education

In Finland, nursing education consists of 210 ECTS (European Credit Transfer and Accumulation System), takes 3.5 years to complete and leads to the qualification of Bachelor of Health Care. The required education, training and professional qualification to practise in the nursing profession is defined in the Health Care Professionals Act (Ministry of Social Affairs and Health 559/1994) and is based on the updated EU directive (2013/55/EU) amending Directive (2005/36/EC) on the recognition of professional qualifications. In 2015, the national requirements of minimum ECTS credits and professional competence of a nurse responsible for general care were defined (Eriksson et al., 2015). As in other EU countries, the implementation of nursing education has been strongly influenced by the European Higher Education Area (EHEA) started by the Bologna Process in 1999, which aimed to harmonise higher education in Europe (European Ministers of Education, 1999; Öhlén et al., 2011; Råholm et al., 2010). In Finland, nursing education is currently provided in 21 universities of applied sciences (UAS, also called polytechnics) (Ministry of Education and Culture, 2018) that have the autonomy and freedom to make independent decisions on education and to conduct applied research and development activities (Ministry of Education and Culture, 2014; Wennberg et al., 2018). In other European countries, nursing education is also arranged at college and university level and some variation exists between countries in both theoretical and clinical studies (Lahtinen et al., 2014; Salminen et al., 2010).

According to the EU requirements, clinical practice covers at least 90 ECTS of the nursing degree, of which the majority is performed in supervised clinical practicums in a variety of healthcare environments (Ministry of Education, 2006; The Council of the European Communities 77/453/EEC). The main purpose of clinical practicums is to prepare nursing students for their future work by providing them with opportunities to apply knowledge and skills into practice while caring for real-life clients (European Commission 2005/36/EC; Flott & Linden, 2016; Hartigan-Rogers et al., 2007; Mannix et al., 2006; Saarikoski, 2018).

In clinical practicums, students are most often supervised individually by nurse supervisors (also referred to as mentors, preceptors or instructors), whose role is to support student learning in the clinical environment, assess their clinical competence, and give feedback on the students' progress to facilitate learning (Bourbonnais & Kerr, 2007; Cassidy et al., 2012; Forber et al., 2016; Jokelainen et al., 2011; Saarikoski et al., 2007; Warne et al., 2010; Wu et al., 2015). The role of the nurse teacher is to coordinate the practicum, support the supervisory relationship, help students integrate theory and practice and participate in the assessment together with the supervisor (Gustafsson et al., 2015; Papastavrou et al., 2016; Saarikoski et al., 2009). In some countries students are also supervised in groups by nursing faculty members (Antohe et al., 2016; Udlis, 2008).

2.2.2 Final clinical practicum

The final clinical practicum (FCP) of nursing education (also referred to as 'syventävä harjoittelu' (in Finnish), senior practicum, senior internship, senior immersion, final preceptorship, 'TTP' transition to practice, final placement, pre-graduate clinical placement, pre-licensure externship, capstone) is described as a culminating clinical experience providing graduating nursing students (also referred to as final year/final semester nursing students, senior nursing students, undergraduate nursing students) with an opportunity to develop skills and professional relationships and gain professional competencies that assist in the transition to practise as independent professionals (Casey et al., 2011; Chung et al., 2008; Golightly et al., 2017; Kim, 2007; Kumm et al., 2016; Rebeschi & Aronson, 2009; Thomson et al., 2017; Udlis, 2008; Wieland et al., 2007; Wu et al., 2015). The importance of FCP lies in its closeness with the transition: the greatest transitions in professional identity are noted to occur in clinical practicums close to graduation (Marañón & Pera, 2015; Neishabouri et al., 2017) and the FCP is the last clinical learning opportunity for students to achieve sufficient confidence and the competence required for functioning as novice nurses (Chung et al., 2008; Hartigan-Rogers et al., 2007; Kilpatrick & Frunchak, 2006; Wu et al., 2015). Perceived unpreparedness to transition into the nurse's role can produce anxiety for graduating nursing students in FCP (Wang et al., 2019).

In order to improve the practice readiness of graduating nursing students, considerable amounts of literature have discussed the ideal educational preparation. Not all studies have focused solely on the FCP, but more on what should be taken into account in clinical practicums close to graduation. According to the recommendations, graduating nursing students should be able to create realistic expectations about a registered nurse's role and preparation for work life (Casey et al., 2011; Chung et al., 2008; Evans et al., 2008; Harrison et al., 2007; Lott et al.,

2011; Milton-Wildey et al., 2014; Usher et al., 2015), have a good hands-on experience with opportunities to refine and learn advanced clinical skills and knowledge (Casey et al., 2011; Chung et al., 2008; Haleem et al., 2011; Harrison et al., 2007; Hickey, 2010; Löfmark & Wikblad, 2001; Suresh et al., 2013), gain experience of leadership, prioritising, organising and managing care (Casey et al., 2011; Demeh & Rosengren, 2015; Haleem et al., 2011; Harrison et al., 2007; Hatzenbuhler & Klein, 2019; Hickey, 2010) and increase their confidence to provide care (Harrison et al., 2007; Lott et al., 2011).

Experiencing supportive relationships and positive role models in the FCP with the supervisor and unit staff have been emphasised in the literature because of their benefits in promoting nursing students' role socialisation, performance and work readiness (Edwards et al., 2015; Haleem et al., 2011; Hartigan-Rogers et al., 2007; Hickey, 2010; Lavoie-Tremblay et al., 2018; Löfmark & Wikblad, 2001; Milton-Wildey et al., 2014; Nash et al., 2009; Ong, 2013; Rebeschi & Aronson, 2009; Udlis, 2008). Typically, FCP includes a close one-to-one supervisory relationship and with students being assigned to work the same shifts alongside an experienced nurse who acts as a role model and provides support, guidance and feedback (Bourbonnais & Kerr, 2007; Budgen & Gamroth, 2008; Callaghan et al., 2009; Casey et al., 2011; Chung et al., 2008; Golightly et al., 2017; Haleem et al., 2011; Kim, 2007; Penprase, 2012; Rebeschi & Aronson, 2009; Wieland et al., 2007).

The role of nurse teacher in the FCP is discussed less in the literature, but educators are noted to have an important role in graduating students' career planning (Read & Laschinger, 2017) and in supporting both students and supervisors during the practicum, fostering their educational relationship and providing guidance (Bourbonnais & Kerr, 2007; Zawaduk et al., 2014).

Getting employed in the unit of FCP has shown to be a preferable option for graduating nursing students, and students are most likely to seek positions from placements with supportive supervisors and staff (Lea et al., 2008; Rebeschi & Aronson, 2009; Tuckett et al., 2017; Wareing et al., 2017). Overall, FCPs have been shown to have an impact on graduating nursing students' career planning and the gained clinical experiences, whether positive or negative, can shape decisions regarding future employment positions (Boyd-Turner et al., 2016; Goh & Watt, 2003; Halcomb et al., 2012; McKenna et al., 2010; Wareing et al., 2017). Being employed in a familiar clinical area can ease the transition, enhance organisational commitment, improve retention and decrease orientation time (Harrison et al., 2007; Hussein et al., 2016; Kilpatrick & Frunchak, 2006; Lott et al., 2011; Steen et al., 2011). Therefore, FCP placements should be chosen with the student's potential future employment area and its requirements in mind (Dames, 2019; Hartigan-Rogers et al., 2007; Penprase, 2012; Romyn et al., 2009).

In this study, FCP is defined as the final clinical practicum period that graduating nursing students accomplish in a clinical learning environment (not in the school environment) before they graduate as registered nurses. A graduating nursing student is defined as a nursing student who is in their final semester of studies.

2.3 Transition from a nursing student to a registered nurse

This section initially focuses on presenting the transition theories and models previously used in the context of nursing. Secondly, the literature regarding the transition experience from a nursing student to a registered nurse is critically reviewed and described, and the methods used to facilitate the transition are summarised.

2.3.1 Transition models and theories utilised in nursing context

The transition from a nursing student to a nurse is the first of the many professional transitions that nurses experience during their career (Arrowsmith et al., 2016; Chang et al., 2006; Klingbeil et al., 2016). Although the transitions are considered significant at any stage, the transition of novice nurses is seen as the most critical: more experienced nurses who are changing nursing speciality or advancing in their career already have more skills and pre-existing mechanism to deal with the stress caused by the new role, whereas novice nurses' transitions are often affected by the reality and transition shock, which is an extreme aspect of transition making them a vulnerable group (Arrowsmith et al., 2016). This has engendered a need for developing theories that provide a framework for understanding the transition of NGNs that can guide education, practice and research.

Benner's influential novice to expert theory (1982), based on the skill acquisition theory developed by Dreyfus (1979), proposed that transitioning from novice nurse to expert nurse happens through five levels of proficiency. At the 'novice' level, the lack of situational experience causes beginners an inability to use discretionary judgement and learning happens through guidance and by following rules. The novice moves to the role of 'advanced beginner' after gaining a great amount of situational experiences. At this level, a good deal of time and effort is still spent on remembering the rules, aspect recognition and formulating their own guidelines for different actions. At the 'competent' level, nurses are already able to organise and see their own actions over a longer perspective and have a sense of mastery and coping. Moving to this level from being a novice requires between two and three years of work experience. A competent nurse's actions are still planned consciously

and analytically without the speed and flexibility of a ‘proficient’ nurse that can already recognise whole situations and make decision with less effort. Nurses at the final ‘expert’ level have a high level of analytical ability and are able to act intuitively without relying on analytical principles. It takes up to five years for a newly graduated nurse to achieve the level of an expert (Benner, 1982).

Duchscher’s (2008, 2009) theory of transition and ‘transition shock’ is based on Kramer’s (1974) work around NGN’s ‘reality shock’ that occurs at the early stage of a nurse’s career. Duchscher defines transition as a 12-month process where NGNs encounter changes in emotional, physical, socio-developmental and intellectual levels. During the process, the NGN moves through stages of ‘doing, being and knowing’. The first stage of ‘doing’ starts the demanding professional adjustment, with increased clinical responsibility and new requirements, which often induces the feeling of ‘transition shock’. At this stage, NGNs are required to make clinical decisions with minimum experience and they experience deficiencies in fulfilling the requirements while pursuing acceptance in the team. The second stage of ‘being’ occurs after five and eight months and is characterised as a time of rapid advancement in NGN thinking and level of knowledge and skills. Due to weak trust in the self, NGNs tend to seek reassurance from others for their thoughts and actions, but at the same time struggle with a desire to manage by themselves. In the final ‘knowing’ stage, the NGN starts to achieve comfort and confidence in the role and feel less stressed about their own capability to manage the nursing requirements. There are still complex situations to handle, but the nurse’s ability to cope with these situations has improved (Duchscher, 2008; Duchscher, 2009).

Meleis’ transition theory has also been widely acknowledged in studies regarding NGN transition (Kumaran & Carney, 2014; Lea & Cruickshank, 2015; Wildermuth et al., 2019). Meleis (2010) defines transition as a multidimensional and complex experience, including properties of awareness, engagement, change and difference, time span and critical points. Awareness relates to the recognition of the occurring change, which is affected by the person’s expectations about their transition. Awareness is a requisite for a person’s engagement in the transition process, which shows in how actively and proactively one gets prepared, modifies their own actions and utilises role models, for example. Change and experienced difference, for example in how the person perceives themselves and how they are perceived by others, are essential in the transition experience. Transition happens in the movement of time starting from the first anticipation, then moving to a period of confusion and distress and finally ending with stability or a new beginning. This journey involves critical events and turning points (Meleis et al., 2000).

Schlossberg (2005) defines transition as a process that occurs in stages, evolves over time and includes moving out and disengaging oneself from an old role, routines and relationships while moving into new ones. Schlossberg divides the transition

process in three main parts: (1) Approaching transition, (2) taking stock of coping resources and (3) taking charge. Firstly, approaching transition requires the person to identify the upcoming change and the degree of how much it will change one's life. Secondly, taking stock of coping resources involves the identification of four main individual factors that influence how well the person is able to cope with transition: situational factors (e.g. previous experiences and timing), self factors (e.g. personal characteristics and psychological resources), social support (e.g. networks and family) and strategies (e.g. information seeking and coping strategies). Thirdly, taking charge demonstrates the ability of a person to take control in managing the transition by strengthening one's coping resources and developing new strategies (Anderson et al., 2011; Schlossberg & Goodman, 2005). Schlossberg's transition theory has been utilised in the context of NGN transition (Cruz et al., 2013; Schlossberg & Goodman, 2005; Wall et al., 2018).

Nicholson's (1984) theory of work role transitions, also acknowledged in the nursing context (Barnes, 2015; Cubit & Lopez, 2012; Glen & Waddington, 1998), focuses on describing the individual determinants of change that predict the adjustment modes that the person uses when entering a new work role. The theory suggests the occurring change and modes of adjustment to be predicted by (1) the requirements of the new role, (2) the person's psychological disposition and motivation, (3) prior occupational socialisation, and (4) the induction and socialisation practices of the organisation that shape the new role adjustment. From these four predictors, formal socialisation and what kind of feedback a person receives are seen as potential mediators shaping the new role adjustment. Motivation and prior occupational socialisation in turn are described to have a powerful independent influence on role adjustment (Nicholson, 1984). Nicholson and West (1988) have further suggested that transition is a cycle moving through stages of preparation, encounter, adjustment and stabilisation. The preparation stage includes the person's psychological readiness and anticipatory socialisation to the new role, which are shaped by previous educational or employment experiences. The encounter stage represents the person's first weeks in the new role when the appropriateness of the preparation and psychological readiness determines the degree of 'reality shock' that person experiences. The final stages of adjustment and stabilisation are important in terms of organisational outcomes, such as satisfaction and commitment, thus the adjustment is often enhanced by supervision or mentoring, for example (Nicholson & West, 1988).

The overview of the different transition theories shows that the transition is commonly viewed as a process that evolves over time. Some differences are seen in the linearity of the progress, and some theories tend to be more focused on describing the stages of the process, whereas others describe the different properties of the transition. In this study the transition from a student to a nurse was viewed from the

perspectives of Duchscher's (2008, 2009) and Nicholson's (1984) transition theories. Duchscher's theories, as the newest available, were seen as the most suitable to take into account the current demands of the nursing profession, whereas Nicholson's theory considers the prior occupational socialisation as an essential predictor in the new role adjustment, thus it was considered suitable for a study examining the FCP that happens prior to graduation.

2.3.2 Transition experience from a student to a registered nurse

There are a large number of studies that help to gain an insight into the transition experience from a student to a nurse. Most commonly, transitions have been examined by using qualitative methods, such as interviews (Kumaran & Carney, 2014; Clare & van Loon, 2003; Labrague et al., 2019; Mangone et al., 2005; O'Shea & Kelly, 2007; Roziers et al., 2014; Thomas et al., 2012; Zamanzadeh et al., 2015), field observations (Darvill et al., 2014) and reflective journals (Leong & Crossman, 2016), but quantitative surveys have also been used (Deasy et al., 2011; Doody et al., 2012; Halpin et al., 2017; Klingbeil et al., 2016; Rainbow & Steege, 2019; Read & Laschinger, 2017; Tastan et al., 2013; Usher et al., 2015).

Some studies have utilised the views of graduating nursing students (Deasy et al., 2011; Doody et al., 2012; Guner, 2015; Rainbow & Steege, 2019; Saber et al., 2016; Usher et al., 2015; Watson et al., 2009) or other key stakeholders, such as academic staff, employers and professional nursing organisations (Clare & van Loon, 2003; Johnstone et al., 2008; Romyn et al., 2009) when examining the transition period. Yet, most often studies examining the transition period have included NGNs (also referred to as new nurses, new graduate nurses, graduate nurses, newly qualified nurses) with work experience of between three and twelve months (Kumaran & Carney, 2014; Clare & van Loon, 2003; Darvill et al., 2014; Goh & Watt, 2003; Halpin et al., 2017; Labrague et al., 2019; Leong & Crossman, 2016; Mangone et al., 2005; O'Shea & Kelly, 2007; Roziers et al., 2014; Yeh & Yu, 2009; Zamanzadeh et al., 2015) but also from 18 months (Klingbeil et al., 2016; Schoessler & Waldo, 2006) up to three years (Watson et al., 2009). In this study, an NGN was defined as a registered nurse who has graduated within the past two years.

Based on the reviewed studies, the transition experience from a student to a nurse comprises highs and lows, and the findings are presented under four themes adapted from the Nicholson's (1984) new role adjustment predictors: (1) the requirements of the nurse's role, (2) motivation for being a nurse (3) prior educational preparation, and (4) socialisation to the work environment.

The requirements of the nurse's role

After graduation, NGNs face high and sometimes even unrealistic expectations related to their new professional role, which they often feel unable to respond to (Goh & Watt, 2003; Halpin et al., 2017; Hussein et al., 2017; Labrague et al., 2019; Romyn et al., 2009; Roziers et al., 2014; Teoh et al., 2013; Tingleff & Gildberg, 2014). The sudden increase in responsibility and accountability causes feelings of self-doubt, stress, anxiety and vulnerability (Kumaran & Carney, 2014; Mangone et al., 2005; Rainbow & Steege, 2019; Walker et al., 2017) but can also be perceived as exciting (Roziers et al., 2014) and less demanding than anticipated (Deasy et al., 2011). NGNs can experience confusion, ambiguity and discrepancy about their new role (Teoh et al., 2013; Tingleff & Gildberg, 2014; Walker et al., 2017) and feel surprised and frustrated about how little time they have to care for patients (Goh & Watt, 2003; Kumaran & Carney, 2014; Tingleff & Gildberg, 2014).

Poor self-assurance, lack of confidence and doubt about one's own knowledge and skills to manage the role's demands and responsibilities are common, especially in the early stages of the transition (Clare & van Loon, 2003; Halpin et al., 2017; Klingbeil et al., 2016; Kumaran & Carney, 2014; Mangone et al., 2005; Walker et al., 2017; Zamanzadeh et al., 2015). Confidence to manage the workload and responsibility in the professional role grows gradually (Clare & van Loon, 2003) within the first three to eighteen months in practice (Klingbeil et al., 2016; Walker et al., 2017). Graduation itself can increase NGNs' confidence when they leave the student role and feel they are on their own (Darvill et al., 2014; Kumaran & Carney, 2014). NGNs experience stress, which can increase during the first year in practice (Halpin et al., 2017; Rainbow & Steege, 2019) while simultaneously the sense of coping may decrease (Rainbow & Steege, 2019). Distress has been shown to remain high for the first two years in practice (Watson et al., 2009) and distress seems to exist among graduating nursing students who anticipate transition-related difficulties (Doody et al., 2012; Saber et al., 2016). In addition to the emotional reactions, transition experience often includes physical exhaustion because of sleep difficulties and tiredness related to stress and shift work (Clare & van Loon, 2003; O'Shea & Kelly, 2007; Tastan et al., 2013; Walker et al., 2017; Zamanzadeh et al., 2015).

Motivation for being a nurse

Simultaneously with the experience of challenges and stressors, transition is also characterised as a positive experience (Clare & van Loon, 2003; Goh & Watt, 2003; Kumaran & Carney, 2014; Labrague et al., 2019; O'Shea & Kelly, 2007; Roziers et al., 2014; Tastan et al., 2013; Thomas et al., 2012). NGNs feel relieved about finishing their education, experience a sense of achievement about their graduation and feel proud to be nurses (Kumaran & Carney, 2014; Roziers et al., 2014). The

transition experience includes enthusiasm and excitement about learning the new role and the nurse's work (Doody et al., 2012; Labrague et al., 2019; Tastan et al., 2013; Thomas et al., 2012). Receiving respect for the nurse's role and being viewed as a healthcare professional among patients, friends and family members improves the transition experience (O'Shea & Kelly, 2007).

Educational preparation

Insufficient educational preparation for the reality of nurse's work and multiple role demands is a common theme that negatively affects the transition experience (Evans et al., 2008; Halpin et al., 2017; Thomas et al., 2012; Walker et al., 2017). Graduating nursing students' perceptions about their preparedness to work as a nurse can be high (Casey et al., 2011; Doody et al., 2012; Guner, 2015; Jamieson et al., 2019; Usher et al., 2015), but it has been noted that there is a mismatch between these perceptions and what is experienced by NGNs (Casey et al., 2011; Romyn et al., 2009). The reported deficiencies have included: lack of experience of the current employment area (Clare & van Loon, 2003; Kumaran & Carney, 2014; Tingleff & Gildberg, 2014) and working as a part of the team (Thomas et al., 2012), limited practical (Zamanzadeh et al., 2015) communication (Klingbeil et al., 2016; Zamanzadeh et al., 2015), managerial (O'Shea & Kelly, 2007), leadership (Guner, 2015), time management (Goh & Watt, 2003; Saber et al., 2016) and care organising skills (Kumaran & Carney, 2014; Tingleff & Gildberg, 2014). NGNs are also reported to have poor preparation to manage conflicts (Read & Laschinger, 2017) and nurses' normal work and patient load (Clare & van Loon, 2003; Goh & Watt, 2003; Halpin et al., 2017; Klingbeil et al., 2016; Labrague et al., 2019; Saber et al., 2016; Thomas et al., 2012) and lack of exposure to sudden situations and complex care with high acuity patients (Clare & van Loon, 2003; Guner, 2015; O'Shea & Kelly, 2007; Roziers et al., 2014). NGNs may know the tasks but not always why they are doing them (Evans et al., 2008; Regan, 2017). These deficiencies and the incongruence between what has been learned in education and the reality of nursing causes frustration (Goh & Watt, 2003), stress and anxiety (Clare & van Loon, 2003; Goh & Watt, 2003; Kumaran & Carney, 2014) and transition shock (Goh & Watt, 2003; Labrague et al., 2019).

Socialisation to the work environment

NGNs making the transition have an overwhelming need to make a good impression, gain feedback and professional acceptance from colleagues, and feel included in the team (Darvill et al., 2014; Evans et al., 2008; Goh & Watt, 2003; Hussein et al., 2017; Tingleff & Gildberg, 2014). Being welcomed, having positive relationships

and interactions with team members and being supported in the new work environment are crucial for the transition experience (Clare & van Loon, 2003; Darvill et al., 2014; Doody et al., 2012; Halpin et al., 2017; Hussein et al., 2016; Klingbeil et al., 2016; Kumaran & Carney, 2014; Labrague et al., 2019; Regan, 2017; Romyn et al., 2009; Tastan et al., 2013; Thomas et al., 2012; Tingleff & Gildberg, 2014; Walker et al., 2017). After losing the constant support provided for them as students, NGNs often struggle between the need to cope (Clare & van Loon, 2003) and feel independent and getting assurance from others for their actions (Darvill et al., 2014; Zamanzadeh et al., 2015). Having peer support (Clare & van Loon, 2003; Mangone et al., 2005) and guidance increases their confidence, and helps NGNs to feel part of their team and make the step from the student role to a nurse (Darvill et al., 2014; Goh & Watt, 2003; Halpin et al., 2017; Mangone et al., 2005; Tingleff & Gildberg, 2014) and not to feel thrown in at the ‘deep end’ (Darvill et al., 2014).

The transition experience is negatively affected by NGN’s feelings of being unsupported (Hussein et al., 2017; Thomas et al., 2012), ignored (Roziers et al., 2014), socially excluded and isolated (Evans et al., 2008; Halpin et al., 2017; Mangone et al., 2005; Walker et al., 2017; Zamanzadeh et al., 2015), and unequal with other team members (Darvill et al., 2014). NGNs have described being unprepared, stressed and shocked by unwelcoming negative attitudes and unprofessional behaviours (e.g. bullying, nastiness, criticism) in the work environments (Clare & van Loon, 2003; Evans et al., 2008; Labrague et al., 2019; Leong & Crossman, 2016; Regan, 2017; Saber et al., 2016; Tingleff & Gildberg, 2014; Walker et al., 2017). Moreover, staff shortages and heavy workloads may not allow the team members to provide sufficient guidance and support for NGNs during the transition (Evans et al., 2008; Regan, 2017; Romyn et al., 2009; Roziers et al., 2014; Walker et al., 2017).

2.3.3 Methods used to facilitate transition

The literature searches (described at the beginning of this chapter) revealed that multiple literature reviews, covering studies published between 1980 and 2019, have been conducted on the methods and strategies aiming to facilitate the transition from a student to a nurse (Anderson et al., 2012; Edwards et al., 2015; Hoffart et al., 2011; Letourneau & Fater, 2015; Missen et al., 2014; Rush et al., 2013; Rush et al., 2019; van Rooyen et al., 2018). The reviews have aimed to explore the available guidelines related to transition (van Rooyen et al., 2018), determine the effectiveness of the main transition support strategies and their individual and organisational outcomes (Edwards et al., 2015), and identify the best practices of postgraduate transition programmes (Rush et al., 2013; Rush et al., 2019). Some reviews have also aimed to describe and evaluate the evidence about the process, outcomes and effectiveness of NGN residency (Anderson et al., 2012; Letourneau & Fater, 2015) and transition-to-

practice programmes (Hoffart et al., 2011; Missen et al., 2014). Most of the reviews have focused on different postgraduate strategies and less on strategies implemented in the pre-graduate phase.

Postgraduate strategies

According to the reviews, the postgraduate strategies aiming to facilitate the transition have four main components: (1) qualified nursing staff are assigned to support and work alongside the NGNs (e.g. preceptor and mentorships), (2) NGNs are provided structured didactic-style teaching periods (e.g. in residency, internship and orientation programmes), (3) NGNs attend simulations to develop their knowledge and skills required in the relevant clinical area, and (4) NGNs are provided an opportunity to meet each other for peer support. Postgraduate transition programmes may include one or combine several of these components, and overall there seems to be a great variation in the length, content and form of the programmes (Anderson et al., 2012; Edwards et al., 2015; Letourneau & Fater, 2015; Rush et al., 2013; Rush et al., 2019).

There is also a great variety in the outcomes that have been used to evaluate the efficacy and effectiveness of the postgraduate strategies, which complicates their comparison. The used outcomes can be divided into three broad categories: (1) outcomes related to the NGN's self-image (e.g. professional identity, self-concept, self-confidence, control over practice, sense of belonging, role conflict and ambiguity, anxiety, job satisfaction), (2) outcomes related to nursing performance (e.g. critical thinking, clinical knowledge, collaboration and communication skills, overall clinical competence), and (3) outcomes related to the organisation (e.g. retention rates, organisational commitment, turnover, cost benefit). Regardless of the type of postgraduate strategy, studies have commonly reported an increase in student competence and confidence, changing satisfaction levels during the first year in practice, increased retention, reduced turnover and cost savings. Most reviews note the weak methodological quality of the studies as a limitation for making firm conclusions about the effectiveness of the strategies and what the essential components are. The strongest evidence has been shown in the association between the sufficient length and quality of the provided support and the positive individual and organisational outcomes (Anderson et al., 2012; Edwards et al., 2015; Missen et al., 2014; Rush et al., 2013; Rush et al., 2019).

Pre-graduate strategies

Pre-graduate strategies aiming to facilitate the transition have only been addressed in one review (Hoffart et al., 2011), although the importance of providing sufficient

pre-graduate educational preparation and support for graduating nursing students for the upcoming transition have also been emphasised in others (Rush et al., 2013; Rush et al., 2019; van Rooyen et al., 2018).

The three main types of pre-graduate transition-facilitating strategies include (1) the one-on-one supervised clinical practicum period that is arranged in the final semester of studies, (2) paid summer externships provided by the hospital, and (3) programmes that integrate academic education and paid work experiences. The types of outcomes that have been used to evaluate the effectiveness of the pre-graduate strategies are similar to the ones used in the evaluation of postgraduate strategies. However, the small number of conducted studies, with weak study designs, provide only limited, if any, evidence on the effects of the pre-graduate strategies on graduating nursing students' professionalism, role socialisation, competence, confidence, skills, job satisfaction, retention or turnover (Hoffart et al., 2011). It is suggested that elements such as experiencing adequate support, welcoming clinical environment, socialisation and sense of belonging are equally important for graduating nursing students than for NGNs in their first work environments (van Rooyen et al., 2018).

2.4 Gaps in the current literature

Based on the reviewed studies, the literature related to the transition from a nursing student to a registered nurse is mainly focused on the experiences of NGNs during their first year of practice. Limited studies have examined the topic from the perspective of graduating nursing students or NGNs after the first 12 months in practice. Also, the available studies regarding transition have typically focused on describing the phenomenon but have rarely explored or confirmed the findings and potential relationships between different aspects with quantitative methods.

There is a strong body of literature about the different postgraduate strategies aiming to facilitate the transition in the first work environments and increase the retention rates of NGNs. However, these studies have mainly focused on looking at the outcomes of a postgraduate strategy without considering the contribution of pre-graduate preparation and clinical practicums as a student. The existing studies have rarely crossed the pre- and postgraduation boundary.

Overall, only a small number of studies have been conducted around the pre-graduate transition-facilitating strategies compared to postgraduate strategies. The FCP before graduation has been acknowledged as a culminating clinical experience that can assist graduating nursing students to transition into independent professionals. However, research conducted around the FCP as a transition-facilitating method is limited, is mostly descriptive in nature, and has not investigated the potential association between the FCP and transition.

There is a lack of evidence and guidelines, both nationally and internationally, on how the FCP should and could be implemented in order to facilitate the transition. There is a gap in the research examining the implementation of FCPs and whether the FCP actually can have an impact on NGNs' first years in practice. More knowledge is needed to gain a better understanding of how both graduating nursing students and NGNs perceive their FCPs and what the essential elements to be considered in the planning and implementation of FCP are.

3 Purpose of the Study and Research Questions

The purpose of this two-phased study (Figure 1, page 28) was first to define the elements in the final clinical practicum (FCP) of nursing education that could facilitate the transition from a nursing student to a registered nurse, and second, to test the associations between the FCP experience, transition experience and turnover intentions of NGNs. The ultimate goal of this study was to produce new knowledge about the significance of FCP as a part of nursing education that could be utilised in the development of the curriculum, teaching and clinical learning environments and in enhancing the retention of NGNs.

The research questions addressed were as follows:

Phase I Defining the elements in the FCP of nursing education that can facilitate the transition from a nursing student to a registered nurse:

1. What elements of previous intervention studies have been found to be connected to facilitated transition in FCP? (Paper I)
2. What kind of supervision in FCP can facilitate the transition according to graduating nursing students? (Paper II)
3. What elements constitute an FCP that can facilitate the transition according to NGNs? (Paper III)

Phase II Testing the associations between the FCP experience, transition experience and turnover intentions of NGNs:

4. Is the FCP experience associated with the transition experience and turnover intentions of NGNs? (Paper IV, summary)
5. Does the transition experience mediate the potential association between the FCP experience and turnover intentions? (Paper IV, summary)

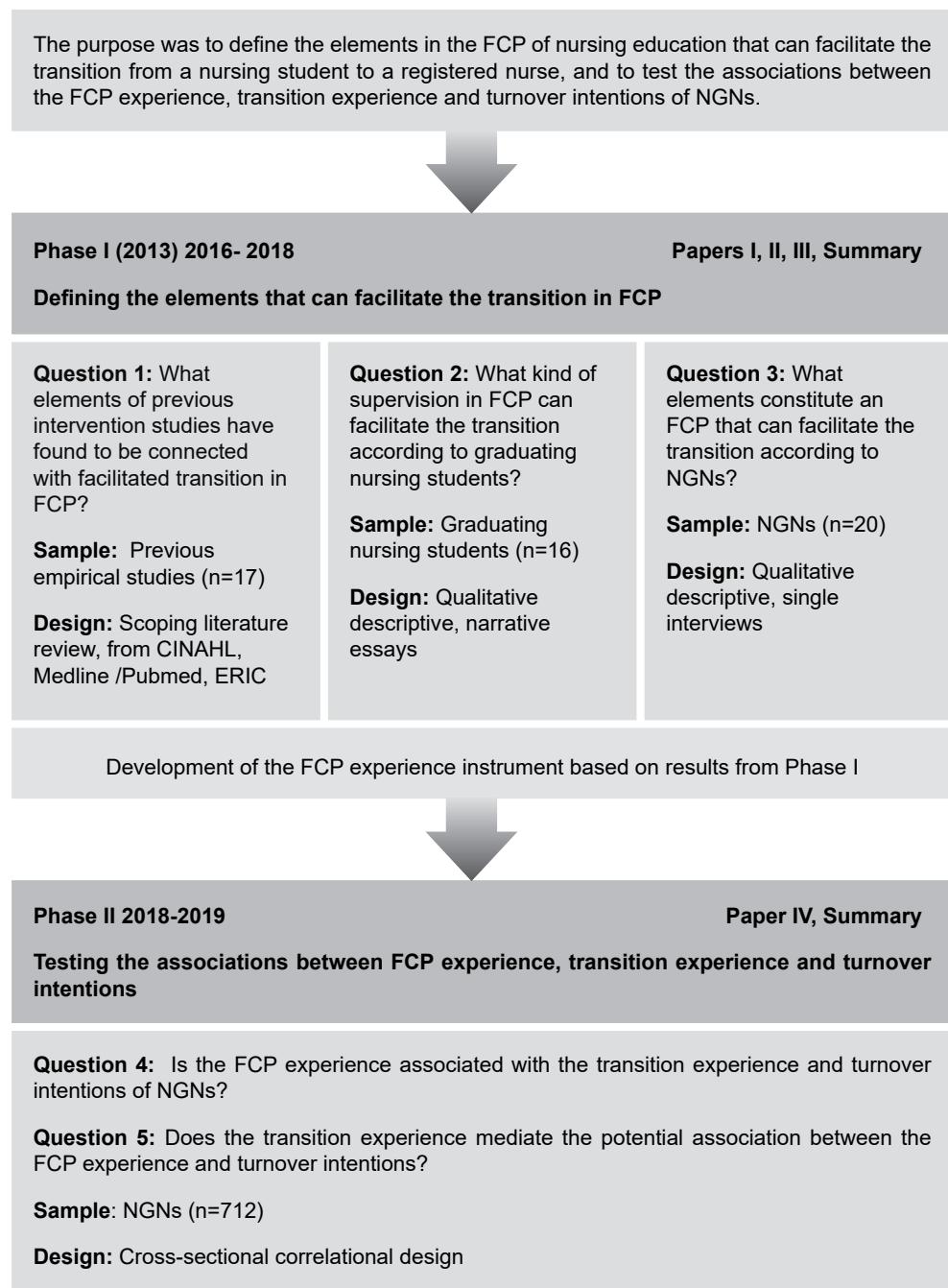


Figure 1. Study Phases I-II.

4 Materials and Methods

This chapter describes the materials and methods that were used in study phases I-II to address research questions 1–5. Various designs, settings, samples, data collection methods and types of data analysis were utilised to gain a comprehensive picture of the essential elements of FCPs and to examine their association with the transition experience and turnover intentions of NGNs (Table 1).

Table 1. Study phases, sample, setting, time, design, data collection and analysis.

| Phase | Study | Sample, setting, time | Design | Data collection | Data analysis |
|----------|-------------|-------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------|
| Phase I | I | Research articles (n=17), 2016 | Scoping review | Systematic literature searches from CINAHL, Medline/Pubmed, ERIC | Numerical summary, qualitative content analysis |
| | II | Graduating nursing students (n=16), one UAS in Finland, 2010 | Qualitative descriptive design | Written narratives | Modulated narrative analysis (inductive approach) |
| | III | NGNs (n=20) from different geographical areas in Finland, 2017 | Qualitative descriptive design | Individual semi-structured interviews | Framework method |
| Phase II | IV, summary | NGNs (n=712), (a total sample of nurses graduated within past two years in Finland), 2018 | Cross-sectional correlational design | Electronic questionnaire | Descriptive statistics, structural equation modelling (SEM) |

The philosophical assumptions behind the study design followed both interpretive and positivist paradigms (Weaver & Olson, 2006). In Phase I, an interpretive

approach with qualitative research methods was used to gain an insight into the essential elements of FCP with regard to transition. In Phase II, a positivist approach with quantitative research methods was used to verify and quantify the importance of the identified FCP elements.

4.1 Study design, setting and sampling

Phase I

In the first phase of the study, a scoping literature review (Arksey & O'Malley, 2005) was conducted to map and synthesise the existing literature regarding the different interventions implemented in FCPs aiming to facilitate the transition. The aim of the review was to find those elements of FCP that were connected to the facilitated transition (Paper I). Since there were no previous literature reviews available regarding the FCPs, the scoping review method was seen as suitable for summarising the research activity and findings around the topic (Arksey & O'Malley, 2005; Levac et al., 2010). The scoping review was also suitable for identifying and examining factors that are connected to a particular concept; in this case, the facilitated transition (Munn et al., 2018). The majority of the studies included in the review ($n=17$) were conducted in the USA ($n=8$), and the rest in Australia ($n=4$), Canada ($n=1$), Taiwan ($n=1$), China ($n=1$) and Jordan/Sweden ($n=1$). Most commonly the studies utilised qualitative methods ($n=8$) and had descriptive designs ($n=7$). The quantitative ($n=5$) and mixed methods studies ($n=4$) included comparative ($n=2$), longitudinal ($n=2$), quasi-experimental ($n=2$), triangulated ($n=2$), retrospective cross-sectional ($n=1$) and correlational designs ($n=1$) (Paper I: Table 2).

Secondly, a study with a qualitative descriptive approach was conducted to examine how the graduating nursing students describe the significance and possibilities of the FCP supervisor in facilitating their upcoming transition (Paper II). The study was conducted in one Finnish UAS. The convenience sample consisted of pre-graduate nursing students ($n=16$) from a Bachelor of Healthcare (Nursing) programme. The inclusion criteria for participants were that the student (1) would graduate within the current semester and (2) had not done FCP before the data collection. The decision to collect the data before the FCP was made in order to capture the expectations and wishes that graduating nursing students had of their FCP supervisors. If data would have been collected after the FCPs, the students might have focused more on describing their former FCP supervisors, instead of describing the supervision that they actually hoped to receive.

Thirdly, a study with a qualitative descriptive approach was conducted to describe NGNs' perceptions of an FCP that can facilitate the transition from a nursing student to a nurse (Paper III). In order to achieve a comprehensive sample

for the study, the participants were recruited using three different methods: First, they were recruited from three large UASs, then by publishing an invitation to participate in a Finnish nursing forum ([nurses.net](#)) and finally on Facebook. Twenty-seven graduating nursing students contacted the researcher and twenty (n=20) of them were included in the study based on the following inclusion criteria: (1) certainty of graduation at the end of term, (2) had done or were about to do their FCP, (3) willingness to participate in a study 3–4 months after graduation, and (4) working as a nurse after graduation. The most common reasons for the students to be excluded from the study were having an extended graduation date and not being employed after graduation.

Phase II

In the second phase of the study, a cross-sectional survey study was conducted to examine the associations between the FCP experience, transition experience and turnover intentions of NGNs, and whether the transition experience mediates the potential association between the FCP experience and turnover intentions (Paper IV). The sample comprised all of the registered nurses graduated in Finland within the past two years at the time of data collection. This total sample of NGNs (n=6797) was selected from the Terhikki register (Finnish Central Register of Valvira) based on a registration date of between 9/2016 and 6/2018. An invitation to participate they study was sent to those nurses (n=3942) whose email addresses were obtained from the register of the Union of Health and Social Care Professionals in Finland, Tehy. Altogether, 712 (18%) nurses participated in the study.

4.2 Data collection and instruments

Phase I

In the scoping literature review, the data was gathered by conducting systematic and comprehensive searches from three electronic databases: MEDLINE/ PubMed, CINAHL and ERIC (Paper I). The main search terms (combined with several variations) were: nursing student, transition, clinical practicum, programme, facilitate. The searches were limited to the English language, available abstract and publication years of between 2005 and 2016. This time frame was considered suitable because it took into account the inception of the EU directive (2005/36/EC) regarding the recognition of professional qualifications and the increasing nursing shortage that has taken place over the past decade (WHO, 2013). The searches were supplemented by a search on Google Scholar and by screening the reference lists of the articles and further reference suggestions provided by the electronic databases.

The search was updated in August 2019 to cover the period from 2016 to 2019, but no new articles were found that matched the following inclusion criteria: (1) primary empirical research articles, (2) graduating nursing students in their final year/final semester, (3) interventions designed to facilitate the transition from nursing student to a registered nurse, (4) interventions arranged in clinical practicum, and (5) the results describe the outcomes of the intervention for graduating nursing student or NGN.

In the first qualitative study, the data was collected by using a modulated narrative method (Paper II). This method was suitable for providing rich and personal perspectives about the topic that handled the identity of an individual and the change in that identity within certain social or cultural surroundings (Holloway & Freshwater, 2009; Riessman, 1993). The graduating nursing students ($n=16$) were asked to write an essay related to their upcoming transition from a student to a nurse. The focus was on how they rated the significance of the FCP supervisor (mentor) in facilitating their upcoming transition into nurses. No exact questions were asked but students were instructed to write freely whatever came to mind about the topic ('stream of consciousness'). The narrative data consisted of sixteen handwritten pages.

In the second qualitative study, the data was collected from single semi-structured interviews (Paper III). The method was suitable for examining the perceptions of the participants about the subject that they possibly were not used to discussing, and the method also allowed them to express diverse issues that were perceived as meaningful (Kallio et al., 2016). The NGNs ($n=20$) were interviewed three to four months after their graduation, so they would have some experience of the transition and would also still be able to recall their FCP experiences. The main topics in the interview guide were formulated together with the research group by utilising the findings from the previous scoping literature review (Paper I). The topics included: (1) structure and content of the FCP, (2) supervision, (3) received support, and (4) learning assignments in FCP. The main questions asked of nurses in each topic were: what elements had facilitated their transition in FCP, what elements had complicated their transition in FCP, and what would they consider as ideal practices that could have facilitated their transition in FCP. The interview questions were emailed to the participants a few days before the planned interview in order to give them an opportunity to orientate to the subject. The interviews were conducted face-to-face ($n=5$), or via Skype ($n=10$) or telephone ($n=5$), because the interviewees lived all over Finland. The interviews took 35–45 minutes and were audio-recorded and transcribed verbatim for the analysis by the main researcher.

Phase II

In the cross-sectional survey study, the data was collected using a electronic questionnaire between October and December 2018 (Paper IV). An email with an invitation to participate in the study and a link to the electronic questionnaire was sent to the sample of NGNs (n=3,942). Three email reminders were also sent during the data collection period.

The three instruments that were used to measure the FCP experience, transition experience and turnover intentions of NGNs are presented in Table 2 and then described in more detail in the following paragraphs.

Table 2. Instruments used to measure the FCP experience, transition experience and turnover intentions.

| Variable | Instrument (scale range) | Items | Example of an item |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCP experience | FCPe: | 24 | |
| | Preparing for demands of nurse's work (1–5) | 6 | <i>I had possibilities to be responsible and work independently</i> |
| | Being part of professional team (1–5) | 4 | <i>I felt to be a member of the work community</i> |
| | Systematicness of practicum (1–5) | 5 | <i>I had concrete learning objectives</i> |
| | Teacher involvement (1–5) | 3 | <i>I had support from the teacher when needed</i> |
| | Quality of supervision (1–5) | 6 | <i>My supervisor had the skills to guide a graduating student</i> |
| Transition experience Emotional: psychological distress | General Health Questionnaire (Goldberg & Williams, 1988) (1–4) | 4 | <i>Have you recently felt constantly under strain</i> |
| Physical: sleep quality | Sleep problems (Jenkins et al., 1988) (1–6) | 4 | <i>How often during the past weeks have you woke up feeling tired and worn out after the usual amount of sleep</i> |
| Socio-developmental: role discrepancy | Role conflict and Role ambiguity (Rizzo et al., 1970) (1–5) | 5 3 | <i>I have to buck a rule or policy in order to carry out an assignment</i> <i>I know exactly what is expected of me</i> |
| Intellectual: transition and educational preparation | Perception of transition and educational preparation (self-developed) (1–5) | 3 | <i>My transition from student to nurse was easy; Education prepared me well for nurse's work; My professional competence was good at the time of graduation</i> |
| Turnover intentions | Turnover intentions from job (1–5) | 1 | <i>I have planned to change my current job/employer</i> |
| | Turnover intentions from profession (1–5) | 1 | <i>I have planned to change the profession</i> |

FCP experience (FCPe)

A new FCPe instrument was developed for this study to measure the FCP experience because no previous suitable instruments existed. The instrument was developed on the basis of the scoping literature review and two qualitative studies from Phase I.

The FCPe measures how well different transition facilitating elements have been implemented in FCP. It includes 24 items (originally 28) under five sub-scales: (1) preparing for demands of nurse's work, (2) being part of a professional team, (3) systematicness of practicum, (4) teacher involvement and (5) quality of supervision (Table 3). All the items are positively worded and measured using a five-point Likert scale (1=implemented very poorly – 5=implemented very well). The scale includes a neutral response option (3= not implemented poorly or well) as it may reduce the chance of response bias (Croasmun & Ostrom, 2011). In all the sub-scales, a higher score indicates that there were more transition-facilitating elements in the FCP, thus a better FCP experience.

Transition experience

Because no suitable existing instruments were found to measure the transition experience, it was measured using four individual measurements that were chosen to demonstrate the (1) emotional, (2) physical, (3) socio-developmental and (4) intellectual domains of the transition, as defined in the Transition Conceptual Framework (Duchscher, 2009). In the following sections, these four domains of the transition and the four selected measurements are described.

(1) The emotional domain of the transition refers to the overwhelming and labile emotions, insecurity and anxiety that are experienced during the transition process. *Psychological distress* was chosen to demonstrate this domain and it was measured using four items from the General Health Questionnaire (GHQ-12) (Goldberg et al., 1997). The GHQ-12 measures a person's current mental health and the four items that were used represented the factor of 'anxiety/depression' (Graetz, 1991; Wesolowska et al., 2018). All the items are rated on a 4-point scale (1='not at all', 4='much more than usual'). A higher score indicates a higher amount of psychological distress.

(2) The physical domain of the transition describes the amount of all-encompassing energy that is required from NGNs when trying to perform at an expected level, and how sleeping difficulties commonly contribute to growing exhaustion. *Sleep quality* was chosen to demonstrate this domain and it was measured with the four-item Jenkins Sleep Questionnaire that is widely used to evaluate sleep problems (Jenkins et al., 1988; Lallukka et al., 2011). On this scale, respondents are asked to rate how often they have trouble falling asleep, or have felt tired and worn out after the usual amount of sleep, for example. All the items are

rated on a 6-point scale (1='not at all', 6='every night'). A higher score indicates more severe sleep problems.

(3) The socio-developmental domain of the transition refers to the NGNs' role uncertainty, dependence and relationships with other professionals. This domain was demonstrated with *role discrepancy*, which was measured with five items on the Role Conflict Scale and three items on the Role Ambiguity Scale (Kath, 2013; Khan, 2014; Rizzo et al., 1970). The Role Conflict Scale measures the congruence/incongruence that respondents experience between their assigned role and the internal strengths, time and organisational demands. The Role Ambiguity Scale measures the clarity of the requirements and the certainty of the duties and relationships with others. All the items are rated on a 5-point scale (1='totally disagree', 5='totally agree'). The items in the role ambiguity scale are positively worded, so they were recoded in a way that a higher score indicated having more role ambiguity. The items in these two scales were combined into one 'role conflict and ambiguity' sum variable for the analysis. A higher score indicates more role conflict and ambiguity.

(4) The intellectual domain of the transition describes the transition shock of NGNs that is caused by the incongruence between the learned and real nursing practice, limited tacit and practical knowledge, and concerns NGNs have about clinical situations beyond their competence level. To demonstrate this domain, three items were created to measure the NGNs' *perception of their transition and educational preparation*, because no previous suitable instrument was found. Items are rated on a 5-point scale (1='totally disagree' to 5='totally agree'). A higher score indicates a more positive perception of the transition and educational preparation.

Turnover intentions

The turnover intentions were measured with two questions that were created to address the turnover intentions from job and turnover intentions from profession within the past six months: (1) I have planned to change my current job/employer, (2) I have planned to change profession. Items were rated on a 5-point scale (1='totally disagree' to 5='totally agree'). A higher score indicates a greater intention to change job and profession.

Table 3. The sub-scales and items of the FCPe instrument.

| Sub-scales (number of items) | Items |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Preparing for the demands of a nurse's work (6) | I got a realistic picture of a nurse's work I accomplished all the nurse's work assignments of the unit under guidance I faced challenges related to a nurse's work I had possibilities to be responsible and work independently I was able to strengthen my competence in those nursing areas in which I had deficiencies I had possibility to hear other nurses' experiences about their graduation as nurses. |
| Being part of a professional team (4) | I felt I was a member of the work community I communicated spontaneously with different members of the work community The atmosphere in the unit was collegial I had support from different members of the work community when needed |
| The systematicness of FCP (5) | I got an FCP placement that served my learning needs I proceeded systematically in my FCP I had concrete learning objectives I achieved the set learning objectives The length of my FCP was sufficient |
| Teacher involvement (3) | I had guidance from my teacher in forming the learning objectives I had support from my teacher when needed My teacher attended the assessment of my FCP |
| The quality of supervision (6) | My supervisor(s) treated me as an equal and as a future colleague My relationship with my supervisor was trustful I had regular constructive feedback from my supervisor I was able to reflect upon my feelings with my supervisor My supervisor had the skills to guide a graduating student My supervisor was motivated to guide me |

Potential confounders

Because of the limited available knowledge on which factors could potentially act as confounders between the main study variables (FCP experience, transition experience and turnover intentions), the confounders were chosen by setting all the main study variables and several potential confounding variables in the same correlation matrix. Those of the potential confounders (including demographic, FCP-related and work-related factors) that showed significant correlation with any of the main study variables were included. The included confounders were: age, gender, previous healthcare degree (licensed practical nurse), gained healthcare work experience during studies, type of FCP placement, familiarity of the FCP placement from previous clinical practicums or work, having the same supervisor during the whole FCP, current employment sector, length of current employment, current work schedule, and whether the current place of employment is the FCP placement. The year of graduation and how much time the student had between the end of FCP and

graduation were excluded as they did not correlate with any of the main study variables. Additionally, workload (time pressure), team climate and social support at work were selected as potential confounders (the instruments used are described in Paper IV) because of their suggested link with the NGNs' transition experience and turnover intentions (Lavoie-Tremblay et al., 2008a; Lavoie-Tremblay et al., 2008b).

4.3 Data analysis

Phase I

In the scoping literature review (Paper I), the included studies ($n=17$) were analysed by conducting a descriptive numerical summary and a qualitative content analysis as suggested by Arksey & O'Malley (2005). The numerical summary provided a description of the characteristics of the studies, while the qualitative content analysis with an inductive approach was used to summarise the findings of the studies (Arksey & O'Malley, 2005; Levac et al., 2010).

In the first qualitative study (Paper II), the essays ($n=16$) of graduating nursing students were analysed by using a modulated narrative analysis with an inductive approach. The aim was to find common elements from the narratives by sequencing and categorising the text (Riessman, 1993). First, all the statements that answered the research question were extracted from the essays and slightly condensed without altering their original content. Then the condensed statements were grouped based on their similarity. This led to the creation of seven sub-categories, which were further divided into three main categories.

In the second qualitative study (Paper III), the transcribed interview data of NGNs ($n=20$) was analysed by utilising a framework method (Ritchie & Lewis, 2003). The framework method was suitable for analysing semi-structured interview transcripts and it allowed the use of a combination of deductive and inductive approaches. The benefits of using the framework method is that a large amount of data can be systematically categorised and organised while also producing a structured output of summarised data (Gale et al., 2013). The initial framework included headings that were based on the topics of the interview guide. Then the framework was further developed while reading the transcripts and proceeding with the analysis by creating sub-topics to the initial framework. The sub-topics were inductively created based on all the essential expressions that were extracted from the transcripts. In total, 48 sub-topics were created and each sub-topic included two to fourteen expressions. Finally, the sub-topics were grouped into nine sub-categories based on the similarity of their content and then further classified into three main categories.

Phase II

In the cross-sectional survey study, descriptive statistics (frequencies, percentages, mean values, standard deviations) were used to describe the data. The associations between the FCP experience, transition experience and turnover intentions of NGNs were investigated with structural equation modelling (SEM). The five sub-scales (sum-variables) of the FCPe instrument were combined into one latent variable for the analysis. Similarly, the two items addressing the turnover intentions from job and from profession were combined into one ‘turnover intentions’ latent variable. SEM was also used in testing whether the four domains of the transition experince mediated the possible associations between the latent FCP experience variable and the turnover intentions. The mediating effects were tested separately for each transition domain/mediator, which were: (1) *psycholocial distress* (demonstrating emotional domain of transition), (2) *sleep problems* (demonstrating physical domain of the transition), (3) *role conflict/ambiguity* (demonstrating socio-developmental domain of the transition), and (4) *perception of transition and educational preparation* (demonstrating intellectual domain of the transition). Thus, four structural models were tested. Goodness-of-fit of the SEM models were evaluated with the following indices: chi-square, the root mean square error of approximation (RMSEA), standardised root mean-squared residual (SRMR), comparative fit index (CFI), normed fit index (NFI) and Tucker-Lewis Index (TLI).

The data was analysed using the IBM SPSS statistics version 25 and R statistical software (lavaan package).

4.4 Ethical considerations

Good scientific practice and research ethics were followed in all phases of the research process (ALL European Academies, 2017; Finnish Advisory Board on Research Integrity, TENK, 2012; National Advisory Board on Social Welfare and Healthcare Ethics, ETENE, 2006).

The ultimate goal of this study was to produce new knowledge about the significance of FCP as part of nursing education that could be utilised in the development of the curriculum, teaching and clinical learning environments and in enhancing the retention of NGNs. From an ethical perspective, the topic and aim of this study can be considered acceptable because the knowledge achieved could help graduating nursing students benefit from a smoother transition into the nurse’s role, which in turn could improve the chances of retaining them in the healthcare workforce. The transition process from a student to a nurse is recognised to be demanding and stressful for NGNs (Duchscher, 2009; Halpin et al., 2017; Kramer, 1974) and there was a need to increase the knowledge about the possibilities of pre-graduate clinical education in facilitating the transition (Kaihlanen et al., 2018).

Moreover, the predicted worsening of the nursing shortage is a serious threat to the quality and safety of patient care (Aiken et al., 2014; WHO, 2013; WHO, 2016), thus, new approaches and actions are required to avoid the turnover of NGNs from their jobs and the nursing profession.

The scoping literature review did not require ethical approval, since the data comprised previous empirical studies. In order to obtain a reliable review, (1) discussions were held with the research group and a health and medical science library informatics experts about the search strategies, (2) two researchers examined the abstracts and evaluated the eligibility of the full texts of the articles independently by following the inclusion/exclusion criteria, and (3) discussions were held with the research group regarding the categorisation and interpretation of the findings.

In the first qualitative study, research approval was obtained from the UAS where the research was conducted. Whilst graduating nursing students may not be considered vulnerable research participants, it was considered that their consent to participate may be affected by an urge to please the researcher or teacher (Bradbury-Jones & Alcock, 2010). To avoid this, the data collection was not arranged during the normal school day. Instead, students were informed about the study by their teacher, and those who were willing to participate were invited to come to school on a certain day one hour before the start of the normal class. Only the researcher was present during the data collection. Students were again provided with the information about the purpose of the study and about the meaning of their contribution. It was confirmed that they understood that participation was voluntary and that their anonymity and confidentiality would be maintained. In the essay papers, students were also asked to tick a box if they permitted the use of direct quotes when reporting the findings of the study. Students returned their essays to the researcher in sealed envelopes so that they would not feel obligated to answer or feel embarrassed about returning an empty paper in case they changed their mind about participation.

In the second qualitative study, ethical approval was provided by the Ethics Committee of the University of Turku (15/2017). Permissions for recruiting the participants were obtained from the three UASs. Information about the study was first provided to the nursing students either via email, or they were able to find it from the website (nurses.net) or from Facebook. Based on this information, nursing students gave their initial consent to participate in the study by voluntarily contacting the researcher by email or by sending a personal message through a social media site. Three to four months after graduation, these volunteers were sent an information letter with a written informed consent form. Participants were informed again about the purpose of the study, anonymity, that the original data would be handled only by the first author, and that they could withdraw from the study at any time. All the participants signed the informed consent form before the interviews. After the interviews, the participants were asked whether they wanted to receive a cinema

ticket as a thank you for their time and effort. All the participants were also individually sent a link to the article after it was published as an expression of gratitude for making the study possible.

In the cross-sectional survey study, ethical approval was provided by the Ethics Committee of National Institute for Health and Welfare (THL/253/6.02.01/2018). The NGNs were sent an invitation letter by email, which included information about the purpose of the study, the fact that responding was voluntary, and that the data would be handled without identifiers and only by the research group. Submitting the questionnaire was considered as consent to participate in the study. The principles of the General Data Protection Regulation (GDPR) were followed (European Parliament and Council 2016/679).

5 Results

The main results responding to research questions 1–5 are reported according to the two study phases. First, an overview of the different elements facilitating the transition in FCP are described from the perspectives of previous studies (Paper I), graduating nursing students (Paper II) and NGNs (Paper III), and then a summary of these results is provided (Table 4). Second, the results of the cross-sectional survey study testing the associations between the FCP experience, transition experience and turnover intentions of NGNs are presented (Paper IV). The detailed descriptions of the results are presented in the original publications I–IV.

5.1 Elements facilitating transition from a student to a nurse in the FCP

Elements connected with facilitated transition in FCP according to previous intervention studies (Paper I)

The systematic literature search was conducted to identify what FCP elements have been connected with the facilitated transition in previous intervention studies. The scoping literature review included 17 studies (Paper I). Based on the findings of these studies, four main FCP elements were identified that were connected with the facilitated transition: (1) quality of the supervision, (2) adjusting to being a professional nurse, (3) the achieved comfort and confidence, and (4) the achieved competence (Figure 2: Paper I). In this chapter an overview of the results is reported.

(1) Several studies highlighted the importance of the *quality of the FCP supervision* for graduating nursing students' development towards the role of nurse (Christiansen & Bell, 2010; Kim, 2007; Rebeschi & Aronson, 2009; Tseng et al., 2013). A positive supervisory relationship was described as interactive, trustful and reliable (Callaghan et al., 2009; Kim, 2007; Wieland et al., 2007) and collegial rather than supervisory (Nash et al., 2009). Having a good supervisory relationship improves students' learning opportunities in FCP (Rebeschi & Aronson, 2009; Wieland et al., 2007) and the ability to collaborate and communicate with patients and team members (Kim, 2007) and adapt to the unit and team (Rebeschi & Aronson,

2009; Wieland et al., 2007). Having one-on-one supervision allows the supervisor to get to know the student on a deep level and provide continuous feedback about the student's progress in FCP (Callaghan et al., 2009; Kim, 2007; Wieland et al., 2007). Working with several different supervisors may complicate the assessment of the progress (Wieland et al., 2007), but it does allow students to see different practice styles, which helps in developing their own practices as nurses (Callaghan et al. 2009).

(2) *Adjusting to being a professional nurse* was identified as a second element facilitating the transition in FCP. Adjustment requires that students have opportunities to network with nurses and other nursing students (Hamrin et al., 2006), are being treated as a colleague (Nash, Lemce & Sacre, 2008), and are able to become an equal and respected team member in FCP (Callaghan et al., 2009; Rebeschi & Aronson, 2009). Having a sense of belongingness to the team can improve a student's interpersonal skills and their ability to collaborate and communicate with team members and patients (Chung et al., 2008; Wieland et al., 2007). Getting a realistic overview of all the demands and nursing activities that students are expected to confront and manage in everyday practice (Chung et al., 2008; Demeh & Rosengren, 2015; McKenna & French, 2009; Zielinski & Beardmore, 2012) can help nursing students obtain a real picture of a nurse's work and consequently help in the new role adjustment (Chung, Wong & Cheung, 2007; Demeh & Rosengren, 2015). Students also need a suitable amount of authority, autonomy, responsibility and opportunities to work independently and organise patient care (Nash, Lemce & Sacre, 2008; Rebeschi & Aronson, 2009; Wieland et al., 2011), although it may increase their feelings of inadequacy and anxiety as they become more aware of their own possible knowledge and skill deficiencies (Cantrell & Browne, 2005; Hamrin et al., 2006).

(3) *The achieved comfort and confidence* was identified as a third element facilitating transition in FCP. The sense of coping in different areas of nursing can increase a student's confidence (McKenna & French, 2009; Nash et al., 2009; Zielinski & Beardmore, 2012). Experiencing shift work (McKenna & French 2010; Nash, Lemce & Sacre, 2008; Zielinski and Beardmore 2012), having specific learning objectives (Wieland et al., 2007), becoming aware of achieved knowing and learning (Christiansen & Bell, 2010) and benefiting from peer support (Hamrin et al., 2006) can increase a student's sense of coping in FCP. Familiarity of the FCP placement and knowing the organisational structure, policies, culture, routines, functionality and personnel also seems to be beneficial to the student's confidence and work readiness (Cantrell & Browne, 2005; Newton et al., 2011; Steen et al., 2011). Moreover, the perceived skill development (Wieland et al., 2007), extended clinical time and involvement in the same unit (Steen et al., 2013; Rebeschi & Aronson, 2009), achieving the set learning objectives (Rebeschi & Aronson, 2009),

and facing different challenging situations related to a nurse's work in FCP (Wieland et al., 2007) can build up students' comfort and confidence levels.

(4) *Achieved competence* was identified as the fourth element that facilitates transition in FCP. Solving real-world nursing problems (Rebeschi & Aronson, 2009), focusing on nursing leadership (Demeh & Rosengren, 2015), having co-teaching between school and hospital (Tseng et al., 2013), doing night shifts (McKenna & French, 2010; Zielinski and Beardmore, 2012), having a structured programme in clinical practicum (Kim, 2007) and setting specific learning objectives based on the perceived challenges in a nurse's work (Wieland et al., 2007) may improve the student's competence in FCP. Improvements have been reported in students' clinical knowledge and skills (Chung, Wong & Cheung, 2007; Kim, 2007; Nash, Lemce & Sacre, 2008; Tseng et al., 2013; Wieland et al., 2007), the ability to connect theoretical knowledge to practice (Demeh & Rosengren, 2015; Rebeschi & Aronson, 2009), implementing nursing process (Chung, Wong & Cheung, 2007; Kim, 2007) documentation, time management and organisational skills (Wieland et al., 2007), and following ethical practice (Chung, Wong & Cheung, 2007).

Supervision in FCP that can facilitate the transition according to graduating nursing students (Paper II)

The participants in this study were graduating nursing students ($n=16$) in their final semester of studies. They were all female, their average age was 24.6 years (range between 22 and 37 years), and four of the students had previous qualifications as licensed practical nurses. In the written narratives of these students, the supervisor's possibilities to facilitate the transition were described from the perspectives of (1) role change support, (2) supervisor's actions, and (3) the qualities of a good supervisor (Figure 1: Paper II).

(1) *The role change support* from the FCP supervisors, and the overall role of the supervisor, were seen as extremely valuable for graduating students and their upcoming transition into nurses. Students expressed that a student-supervisor relationship had the potential to either increase or decrease graduating student's confidence and their motivation to face new situations and challenges. The relationship between the student and supervisor was seen to effect how certain and enthusiastic students were about their future nursing careers. In general, the FCP was described as an important opportunity to start the transition process from student to nurse in a safe learning environment.

(2) *The supervisor's actions* that were seen to facilitate the transition were allowing the student to take responsibility, but providing guidance when needed. Supervisors were also expected to give the students open and confidential feedback, which would help them to develop their confidence and professional identity.

Students also hoped that supervisors could decrease some of the fears and uncertainty about the transition by sharing some advice and personal experiences about their own start of working life.

(3) The most important *qualities of a good FCP supervisor* were found to be the ability to provide encouragement and a visible motivation to be in the supervisor's role. Students also highlighted that having a sense of equality and being treated as a future co-worker were important aspects of a supervisor's possibilities to support the transition.

Elements constituting an FCP that can facilitate the transition according to NGNs (Paper III)

The participants in this study were registered nurses (n=20) who had graduated within the past three to four months from nine UASs throughout Finland. The participants were mostly female (n=19), their average age was 26.5 years, and eight of the participants had previous qualifications as licensed practical nurses. The participants have had their FCPs in a variety of nursing specialities, their FCPs had varied in length (between 4 and 10 weeks) and there were also differences in the number of assigned supervisors and in the learning assignments. Based on the interviews the elements constituting an FCP that could facilitate the transition were: (1) the possibility to prepare for the transition, (2) resources for support, and (3) the quality of the final clinical practicum. Each of these three main categories consisted of three sub-categories that provided more detailed descriptions of the different transition facilitating elements (Figure 1: Paper III).

(1) *The possibility to prepare for the transition* included an opportunity for the students to face a sufficient but manageable number of typical nursing challenges in FCP. Facing such challenges was found to facilitate the transition through an increase in courage to manage different nursing situations after graduation. Another important aspect was the students' opportunity to take responsibility and feel a sense of independence in FCP. The nurses indicated that especially during the final weeks of the FCP, the amount of responsibility that is given to students should better match the actual responsibilities of registered nurses. Preparedness for the transition was also facilitated by students' potential to strengthen and verify the competence required in working life in FCP, which allowed them to increase their confidence and sense of coping. In order to avoid the postgraduate reality shock, nurses emphasised the importance of getting a realistic picture of all the activities and requirements of a nurse's work in FCP.

(2) *The resources for support* in FCP that nurses described as crucial included regularly and systematically arranged feedback and reflection sessions. Discussions about personal and professional development were mainly expected to happen with

the supervisor(s), but meetings with fellow students were also highly recommended for getting peer support. The supervision skills and commitment of the FCP supervisor(s) were perceived as significant for their ability to support the students in facing all the ongoing demands and changes related to transition. Nurses recognised that not all supervisors had the skills or expertise to support graduating students. However, not just the supervisor but the whole work community were seen as important resources for support in FCP. Collegial attitudes and receiving guidance from different co-workers allowed students to feel like they were members of the work community and the team, which helped them to feel more like a nurse instead of a student.

(3) The overall *quality of the FCP* was noted as important for the transition. Firstly, the quality indicated that students were able to get a final clinical placement that was carefully chosen and matched their wishes and individual learning needs. Secondly, sufficient length and correct timing of FCP were important aspects, and 7–12 weeks was considered an ideal length for allowing students to become more independent, gain self-confidence and get acquainted with the work community. Good timing for FCP was considered to be right before graduation. Lastly, carefully designed and structured progress of the FCP was believed to facilitate the transition. Systematic planning and implementation of the practicum, with concrete and individually determined learning objectives were emphasised, as this would allow the students to focus on essential and important topics in FCP, thus helping them to use the limited remaining time as a student wisely.

Summary of the results of Phase I

In order to make a synthesis of the elements facilitating transition in FCP, all the individual elements that were discovered from the scoping literature review (Paper I) and the two qualitative studies (Paper II, III), were first listed and then categorised into groups based on the similarity of their content. Altogether, five main categories were formulated that represented the five main elements facilitating the transition in FCP. The elements were: (1) preparing for the demands of a nurse's work, (2) being part of a professional team, (3) the systematicness of the practicum, (4) the teacher's involvement, and (5) the quality of the supervision (Table 4).

Table 4. The elements facilitating the transition in FCP according to Phase I.

| The main elements facilitating the transition in FCP | The individual elements facilitating transition in FCP | Study /Paper |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------|
| Preparing for the demands of nurses' work | Obtaining a realistic picture of nurse's work | I |
| | Performing all the nurse's work assignments | I |
| | Facing sufficient, but manageable amount of challenges | I, III |
| | Having opportunities to be responsible and independent | I, II, III |
| | Having opportunities to strengthen the competence areas that are perceived weak | III |
| | Getting familiar with the practical matters concerning the employees in the organisation | III |
| | Hearing other nurses' experiences about their graduation/transition | I, II, III |
| Being part of the professional team | Having a sense of belonging to a team | I |
| | Communicating with different members of the work community | I |
| | Working together with different nurses in the unit | I |
| | Experiencing a collegial work environment | I, III |
| | Having support and guidance from different members of the work community | III |
| Having systematicness in the planning and implementation of the practicum | Having a practicum placement that serves student's individual learning needs | III |
| | Having systematic/structured progress in the practicum | I, III |
| | Having concrete/clear learning objectives | I, III |
| | Achieving the set learning objectives | I, III |
| | Sufficient length and correct timing of the practicum | I, III |
| | Having opportunity to reflect on experiences with the student group during the practicum | I, III |
| Teacher's involvement | Having guidance from the teacher in making the learning objectives | III |
| | Having support from the teacher when needed | III |
| | Teacher's attendance in the practicum evaluation | III |
| The quality of the supervision | Being treated as an equal co-worker by the supervisor(s) | I, II, III |
| | Having confidential relationship with the supervisor(s) | I, II |
| | Having regular constructive feedback | III |
| | Having regular feedback that helps to build self-confidence | II, III |
| | Having opportunities to reflect on emotions with the supervisor(s) | I, III |
| | Having a supervisor with skills to guide a graduating student | III |
| | Having a supervisor with motivation to guide | II, III |

5.2 Associations between the FCP experience, transition experience and turnover intentions

In this section, the results of the cross-sectional survey study conducted in Phase II are presented. First, descriptive statistics about the NGNs' FCP experiences, transition experiences and turnover intentions are presented (Table 2; Paper IV). Second, the results of the tested associations between the FCP experience, transition experience and turnover intentions are provided (Table 5; Figures 2–5; Paper IV). Finally, the mediating effects of the four transition domains are presented (Table 6; Table 3; Paper IV).

Characteristics of the participants

The majority of the respondents were female (88.9%) and their age ranged from 21 to 61 years (Mean 31.1, SD 8.77). Close to 40% of the nurses had previously qualified as licensed practical nurses. Nurses most often worked in specialised healthcare (38.4%) or in elderly care (23.1%) and their length of employment was between 6 and 11 months (35.9%) or between 1 to 2 years (35.2%). Most commonly nurses' FCP placements were in specialised healthcare (48.4%) or emergency care (22.8%). The length of FCPs varied from between 3 and 12 weeks and 22.5% of nurses were currently employed in their former FCP placements (Table 1: Paper IV).

FCP experience, transition experience and turnover intentions of NGNs

The overall mean for the nurses' FCP experience was 4.17 (SD 0.59), the scale being 1–5. At the sub-scale level, the highest score was for *the systematicness of the FCP* (Mean 4.42, SD 0.59). The second highest score was for *preparing for the demands of nurse's work* (Mean 4.28, SD 0.62), then in *being part of a professional team* (Mean 4.19, SD 0.79), *the quality of supervision* (Mean 4.18, SD 0.92) and the lowest score was in *teacher's involvement* (Mean 3.48, SD 1.05) (Table 2: Paper IV).

From the four indicators that demonstrated the four domains of the transition, the mean for nurses' psychological distress (emotional domain) was 2.09 (SD 0.77) the scale being 1–4. The mean for sleeping problems (physical domain) was 2.59 (SD 1.11) the scale being 1–6. The mean for role conflict/ambiguity (socio-developmental domain) was 2.38 (SD 0.70) and the mean for the perception of transition and educational preparation (intellectual domain) was 3.63 (SD 0.9), the scale being 1–5 (Table 2: Paper IV).

The percentage of nurses who somewhat or totally agreed with the statement about having planned to leave their job/employment within the past six months was 36.8 (Figure 2), whereas 29.8 per cent of nurses somewhat or totally agreed about having planned to leave the nursing profession (Figure 3). The means for turnover intentions from job and from profession were 2.83 (SD 1.42) and 2.43 (SD 1.48), the scale being 1–5.

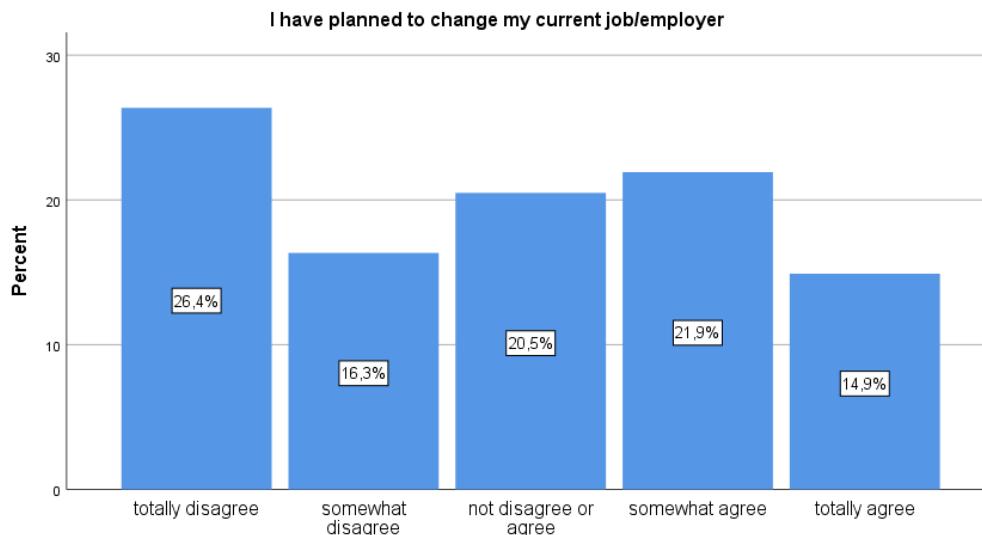


Figure 2. Nurses' turnover intentions from job.

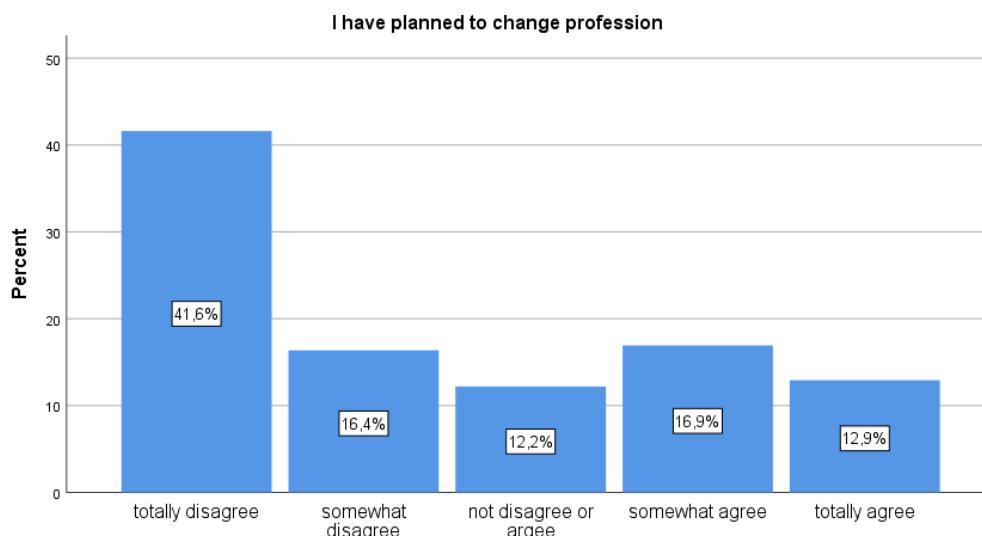


Figure 3. Nurses' turnover intentions from profession.

Associations between the FCP experience, transition experience and turnover intentions

In the unadjusted (univariate) models, the latent FCP experience variable was associated with all four transition domains and the latent turnover intentions variable (beta range from 0.21 to 0.49). Similarly, in the adjusted (multivariate) models, the latent FCP experience variable was associated with all four transition domains (beta

range from 0.09 to 0.41), but a significant association with the turnover intentions was shown only in the model with sleep problems (physical domain of the transition). Psychological distress, sleep problems and role conflict/ambiguity were associated with turnover intentions (Table 5; Figures 2–5: Paper IV).

Table 5. The results of the associations in unadjusted and adjusted models.

| | Coefficient (univariable) | Coefficient (multivariable) |
|--------------------------------------------------------------------------------------------------|---------------------------|-----------------------------|
| Model 1. Psychological distress | | |
| FCP and psychological distress (emotional domain of transition) | 0.23 (p < 0.001) | 0.09 (p = 0.004) |
| FCP and turnover intentions | 0.26 (p < 0.001) | 0.12 (p = 0.128) |
| Psychological distress and turnover intentions | 0.20 (p < 0.001) | 0.17 (p < 0.001) |
| Model 2. Sleeping problems | | |
| FCP and sleeping problems (physical domain of transition) | 0.21 (p = 0.002) | 0.12 (p = 0.026) |
| FCP and turnover intentions | 0.26 (p < 0.001) | 0.06 (p = 0.042) |
| Sleeping problems and turnover intentions | 0.08 (p = 0.121) | 0.25 (p = 0.008) |
| Model 3. Role conflict/ambiguity | | |
| FCP and role conflict/ambiguity (socio-developmental domain of transition) | 0.26 (p < 0.001) | 0.13 (p = 0.002) |
| FCP and turnover intentions | 0.26 (p < 0.001) | 0.07 (p = 0.191) |
| Role conflict/ambiguity and turnover intentions | 0.41 (p < 0.001) | 0.31 (p < 0.001) |
| Model 4. Perception of transition and educational preparation | | |
| FCP and perception of transition and educational preparation (intellectual domain of transition) | 0.49 (p < 0.001) | 0.41 (p < 0.001) |
| FCP and turnover intentions | 0.26 (p < 0.001) | 0.07 (p = 0.391) |
| Perception of transition and educational preparation and turnover intentions | 0.07 (p = 0.74) | 0.06 (p = 0.391) |

Mediating effects of the four transition domains

The results of the model fit indices (CFI; TLI; NFI; RMSEA; SRMR) showed that all four SEM models showed acceptable fit with the data (Table 6; Table 3: Paper IV). Model 1 with psychological distress and Model 3 with role conflict/ambiguity

showed significant mediating (indirect) effects between the FCP experience and turnover intentions. In Model 2 with sleeping problems, a direct effect was found between the FCP experience and turnover intentions. No direct or indirect effects between the FCP experience and turnover intentions were found in Model 4 with perception of transition and educational preparation as mediators (Table 7; Table 3: Paper IV).

Table 6. Fit indices of the mediator models (values of good/acceptable fit). (Modified from Table 3: Paper IV).

| | CFI ≥0.95/>0.90 | TLI ≥0.95/>0.90 | NFI ≥0.95/>0.90 | RMSEA <0.05/<0.10 | SRMR <0.08 |
|-----------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------------------|----------------------|
| Model 1 Psychological distress as mediator | .968 | .950 | .955 | .060 | .031 |
| Model 2 Sleep problems as mediator | .967 | .949 | .954 | .060 | .030 |
| Model 3 Role conflict/ambiguity as mediator | .970 | .954 | .958 | .058 | .030 |
| Model 4 Perception of transition/educational preparation as mediator | .958 | .934 | .946 | .071 | .034 |

Table 7. Indirect, direct and total effects in the mediator models (Modified from Table 3: Paper IV).

| | Indirect | | Direct | | Total | |
|--------------------------------------------------------------------------------|--------------------|----------|--------------------|----------|--------------------|----------|
| | Effect size | P | Effect size | P | Effect size | P |
| Model 1 Psychological distress as mediator | .062 | .016 | .166 | .128 | .227 | .042 |
| Model 2 Sleep problems as mediator | .027 | .086 | .200 | .042 | .229 | .027 |
| Model 3 Role conflict/ambiguity as mediator | .084 | .008 | .143 | .191 | .227 | .045 |
| Model 4 Perception of transition/educational preparation as mediator | .027 | .393 | .071 | .391 | .098 | .364 |

5.3 Summary of the main results

Five main elements (Figure 4) were identified in this study that could potentially facilitate the transition from a nursing student to a registered nurse in FCP, based on the scoping literature review (Paper I), narratives of graduating nursing students' (Paper II) and the interviews of NGNs (Paper III):

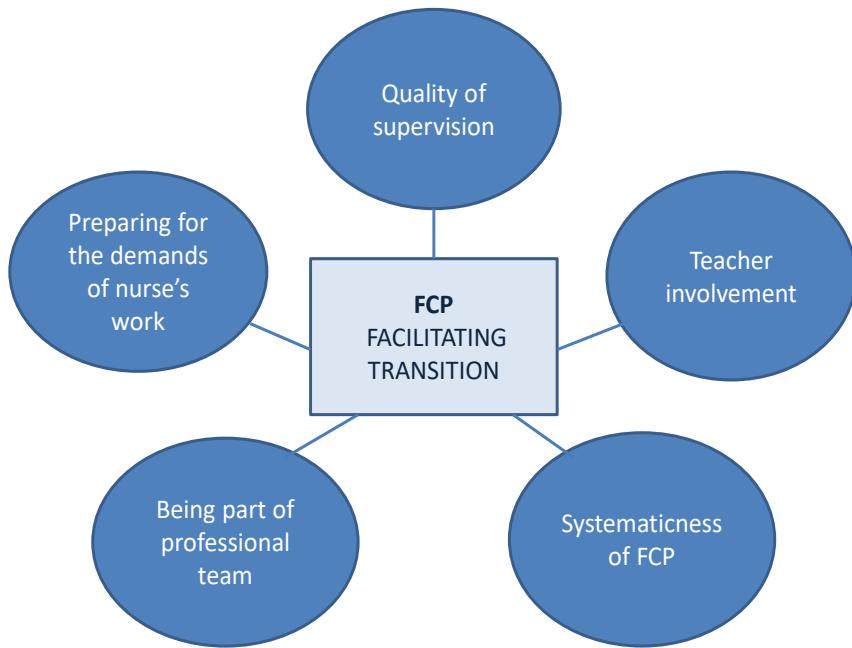


Figure 4. Main elements facilitating transition in FCP.

The identified main elements acted as sub-scales in the new FCPe instrument that was developed and used in this study. Each sub-scale in the FCPe consisted of three to six items (24 items in total) that represented the individual transition-facilitating elements that were discovered in Phase I. The exploratory and confirmatory factor analyses that were conducted to examine the construct validity of the FCPe (described in detail in section 6.2.2 Validity and reliability of the instruments, and in Paper IV) supported the theoretical structure of five factors.

The testing of the associations between the FCP experience, transition experience and turnover intentions of NGNs showed that the FCP experience was significantly associated with all four transition experience indicators (psychological distress, sleep problems, role conflict/ambiguity, perception of transition and educational preparation) and the turnover intentions. The better the nurses' FCP experience, the less psychological distress (emotional domain of transition), the less sleep problems (physical domain of transition) the less role conflicts/ambiguity (socio-developmental domain of transition) and the better the nurses' perceptions of their transition and educational preparation (intellectual domain of transition) they had. The strongest association was found to be between the FCP experience and the perception of transition and educational preparation ($\beta= 0.41$, $p <0.001$). However, this intellectual domain of the transition was not associated with turnover intentions. The four mediator models that were tested showed that the association between the

nurses' FCP experiences and turnover intentions were mediated by the psychological distress and role conflicts/ambiguity (Figure 5).

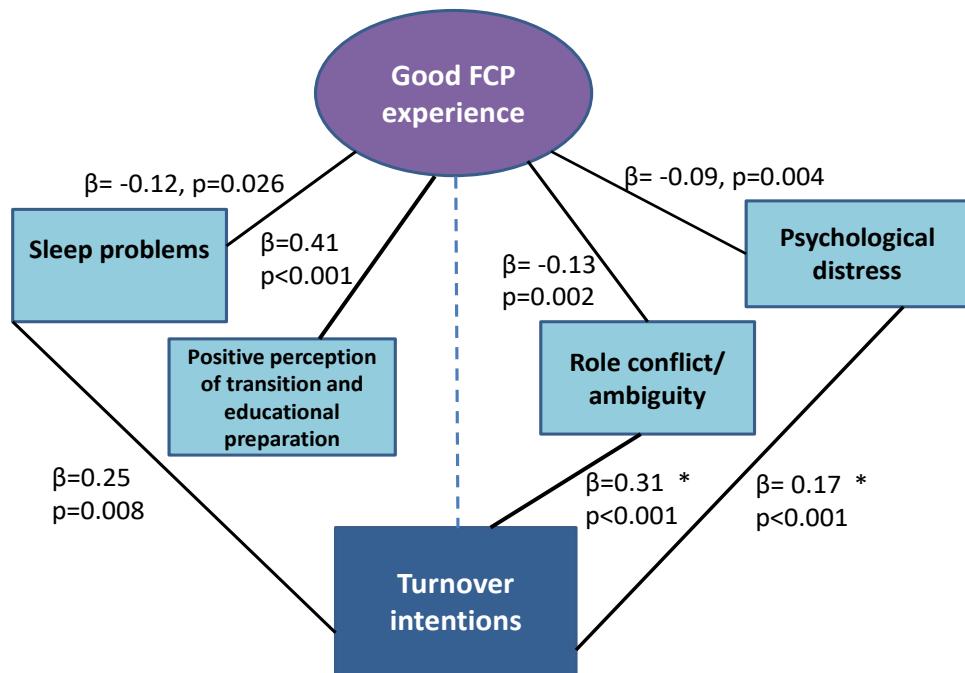


Figure 5. Associations between the FCP experience, transition experience and turnover intentions and the detected mediating effects* (psychological distress and role conflict /ambiguity).

6 Discussion

In this chapter, the main results of this study and the validity and reliability of the two study phases are discussed. At the end, practical implications and suggestions for further research are provided. More detailed discussions are presented in papers I–IV.

6.1 Discussion of the results

The purpose of this two-phased study was to define the elements in the FCP of nursing education that could facilitate the transition from a nursing student to a registered nurse, and to test the associations between the FCP experience, transition experience and turnover intentions of nurses within their first two years in practice.

6.1.1 Elements facilitating transition in FCP

This study was able to identify five main elements that could facilitate the transition from a nursing student to a registered nurse in FCP.

The first element identified was the graduating nursing student's opportunity to get prepared for the demands of a nurse's work in FCP. Getting a whole and realistic picture of a nurse's work, accomplishing all the typical work assignments, facing challenges, being responsible and independent, strengthening weak competence areas and hearing other nurses' experiences about their graduation, helped graduating nursing students to get prepared for the demands of nursing (Paper I, II, III). This corresponds to what Nicholson & West (1988) have presented about the preparation stage of the transition, and more closely, how previous educational or employment experiences have an impact on a person's psychological readiness and anticipatory socialisation to the new role. Previous studies have also recognised that insufficient preparation for the nurse's role demands and protecting nursing students from the full responsibilities, such as organising and managing the care of multiple patients, are significant issues that negatively affect the transition experience (Halpin et al., 2017; Usher et al., 2015; Walker et al., 2017). The findings of this study confirm that more attention must be paid to ensuring that nursing students accomplishing their FCPs are aware of what they are likely to experience and what

is expected of them after graduation. Having an FCP where students have sufficient opportunity to experience the reality and demands of a nurse's work, while still being 'safe' and under the guidance of supervisors and the nurse teacher, requires collaboration and efforts from both educational institutions and clinical practice settings. Creating a learning experience that allows students to get a guided pre-taste of what to expect could help to decrease the shock that is experienced in their first work environments (Dames, 2019; Duchscher, 2009; Kramer, 1974; Roziers et al., 2014).

The second element facilitating transition in FCP was the student's opportunity to be part of the professional team. This means that the student feels like a member of the work community, is able to communicate with different team members, experiences a collegial atmosphere, and receives support from team members when needed during the FCP (Paper I, III). In Nicholson's (1984) transition theory, the importance of induction and socialisation practices are described from the perspective of the organisation where the new role takes place. The findings from this study indicate that socialisation practices can shape the new role adjustment before the person actually enters the role and the future organisation. It seems that proper socialisation to the new clinical environment, obtaining a sense of belonging and having support and positive interaction with team members can be equally important in FCPs than they are noted to be in the first work environments (Tomietto, 2018; van Rooyen et al., 2018). Similarly, it seems that experiencing unprofessional behaviour from the staff, lack of team support and feeling socially excluded can provoke anxiety (Wang et al., 2019), and may be as detrimental for graduating nursing students as it is for NGNs (Labrague et al., 2019; Leong & Crossman, 2016). It should be noted that not just the role change, but the future colleagues that nursing students are expected to work with can be a significant source of stress and can negatively affect the transition. Therefore, being valued and supported as a student can promote positive transition experiences and also increase the chances to recruit and retain nursing students in the units after graduation (Lavoie-Tremblay et al., 2008a; Leong & Crossman, 2016; Tuckett et al., 2017).

The third element identified in this study was the systematicness of the practicum. Having systematicness in the FCP indicates that the practicum placement is carefully chosen to match the student's needs, their process in the FCP is planned and systematic, that they have concrete and achievable learning objectives, and that the length of the FCP is sufficient (Paper I, III). These findings emphasise the special role of FCPs being located at the end of their studies. The approaching graduation and the diminishing time as a student increases the need to choose the right practicum placement that considers students' employment preferences and also provides versatile learning opportunities and enough time for students to strengthen their clinical skills. Moreover, having some pre-planned structure in FCP, such as weekly

plans based on the student's individual learning objectives, could help students to proceed more systematically in FCP and prepare for the transition. Having a structure guiding students' learning and progress in FCP would simultaneously help the supervisors to focus on the right things within the limited time. The benefits of having structured guidance (Ong, 2013; Wu et al., 2015) and setting their own authentic learning objectives instead of having goals that are obligational from school (Dames 2019) have also been recognised in earlier studies.

The fourth element facilitating transition was the involvement of the nurse teacher in FCP. The teacher's involvement means that the teacher provides guidance for the student in forming the learning objectives, supports the student when needed, and attends to the student's assessment in the FCP (Paper III). Previously, the role of the nurse teacher has not really been addressed from the perspective of FCP. This may either indicate that the teacher's role in clinical practicums is considered to remain relatively stable throughout the education, or that teacher's involvement is not seen as central at the end of the education than it is in earlier clinical practicums. However, the quality of the teacher's pedagogical and cooperative role in any clinical practicum is an acknowledged part of the students' experience in clinical placements (Saarikoski et al., 2008). On the other hand, the frequency of meetings and the amount of time that the nurse teacher is able to spend with students in clinical practicum placements seem to vary both nationally and internationally (Saarikoski et al., 2013; Warne et al., 2010). Use of different e-communication channels have become more common in supplementing face-to-face meetings (Saarikoski et al., 2013; Strandell-Laine et al., 2015) but in this study, the teacher's involvement that facilitated transition was not tied to frequency or type of communication. Findings rather suggest that the teacher's accessibility and support at times of need are more important for graduating nursing students in their FCPs.

The final element identified was the quality of the supervision. The quality of supervision indicates that the supervisor treats students equally and as a future colleague, the relationship between the student and the supervisor is trustful, the supervisor gives regular constructive feedback, and the student is able to reflect on their own feelings with the supervisor in FCP. Additionally, quality of supervision is enhanced when supervisor has the skills and motivation to guide a graduating nursing student (Paper I, II, III). These findings confirm that the quality of supervision and the supervisory relationships remain crucial in nursing students' clinical practicums throughout their education (Johansson, 2010; Saarikoski, 2017; Vizcaya-Moreno et al., 2015). Many of the identified individual elements facilitating transition in FCP, such as regular feedback, equality or positive attitudes towards supervising the student are congruent with the essential elements of supervisory relationships in any clinical practicum (Saarikoski & Leino-Kilpi, 2002). However, graduating nursing students can be more demanding of their supervision than

students at earlier stages of their studies (Papastavrou et al., 2010), and this study also showed that the closeness of the graduation and the upcoming transition raises special support needs that should be considered in FCP. Firstly, students need opportunities to reflect on their emotions and fears, and secondly the supervisor should not only have the motivation but also sufficient skills to guide students through this significant and often stressful phase prior to graduation. Even though the staff shortages and heavy workloads may decrease the frequency of supervision in FCP, the quality can be more meaningful than the quantity (Nepal et al., 2016). In order to ensure the quality of supervision in FCP, there is an acknowledged need to provide adequate training and support for nursing staff (Edwards et al., 2015; Lott et al., 2011; Piccinini et al., 2018).

In summary, this study confirmed that nursing students who are about to transition into nurses have special and multifaceted needs in their FCPs. This study produced new knowledge about the essential elements of FCP that could facilitate the transition from a student to a nurse. It is worth noting that even though contacts with patients and clients are known to be pivotal for the students' learning and professional development in clinical practicums (Suikkala, 2018; Suikkala et al., 2008), patients' roles in facilitating the transition did not emerge in this study. This does not necessarily signify its lack of importance, but it may indicate that patients are not primarily considered as partners helping the students to achieve sufficient practice preparedness as they are in placements for receiving care.

6.1.2 Associations between the FCP experience, transition experience and turnover intentions

This study showed that the FCP experience is associated with the transition experience of nurses in their first years in practice. More specifically, this study revealed that nurses who had more transition-facilitating elements in their FCPs, thus a better FCP experience, experienced less psychological distress, less sleep problems and less role conflicts and role ambiguity, which are common issues during the transition period (Chang & Hancock, 2003; Duchscher, 2009; Hasson & Gustavsson, 2010). Additionally, nurses with better FCP experiences had more positive perceptions about their transition and educational preparation for nurse's work, which indicates that the final clinical learning opportunities may have an effect on nurses' overall satisfaction about the nursing programme. So far, the suggested connections between the pre-graduate clinical experiences and the transition have mainly been based on qualitative findings about students' experiences about their FCPs (Callaghan et al., 2009; Haleem et al., 2011; Hoffart et al., 2011; Nash et al. 2009) or NGNs' perceptions about their educational preparation (Halpin et al., 2017; Kumaran & Carney, 2014; Walker et al., 2017). This study provides an addition to

the scant existing evidence about the importance of FCP and demonstrates a connection between the specific FCP elements and four indicators that demonstrated the emotional, physical, socio-developmental and intellectual domains of the transition experience. It is notable that even though the first year in nursing practice is seen as the main transition period (Duchscher 2008), these connections were detected in a sample of nurses that had graduated within the previous two years. Currently, NGNs starting their working life face considerable pressure to be fully functional and responsible soon after graduation. It is possible that achieving the final ‘knowing’ stage of the transition with increased comfort, confidence and a greater ability to manage the nursing requirements (Duchscher, 2008) requires more time from nurses today than before.

Moreover, this study found a significant association between the nurses’ FCP experiences and turnover intentions, which was mediated by the emotional (psychological distress) and socio-developmental (role conflict and ambiguity) domains of the transition experience. Firstly, these results demonstrate that in addition to the fact that FCP can have an impact on nursing students’ careers and employment choices (McKenna et al., 2010; Wareing et al., 2018), it may also shape their future decisions about whether to leave or remain in their jobs and in the nursing profession. Previous studies have both supported (Cantrell & Browne, 2006) and not supported (Friday et al. 2015) the claim that that pre-graduate clinical experiences, such as externships, have positive effects on NGNs’ retention. In this study, less than a quarter of the nurses worked in their FCP placements. Given that graduating students are more likely to pursue an FCP placement that matches their main interest in and preference for future work environments, the number of nurses working in their FCP placements can be considered rather low, although we do not know whether more nurses were initially employed in their FCP placements but have changed their jobs afterwards. Anyhow, having a continuum from FCP to working life could benefit both the NGNs and the employing organisations through easier transition experiences as well as easier recruitment processes.

Secondly, this study confirmed the suggested association between the emotional well-being and turnover intentions of NGNs (Laschinger et al., 2016), and revealed new knowledge about the link between the FCP experience, emotional well-being and turnover intentions. Nursing students have been shown to experience psychological distress (Watson et al., 2009) and burnout (Rudman & Gustavsson, 2011) even before entering the profession, which can increase their risk of leaving their jobs early on in their careers. In order to decrease the risk, more attention should be paid to the emotional well-being of graduating nursing students. Focusing on enhancing the personal self-care skills of students during education, and not purely the self-care of patients, could be useful for their future nursing career. The opportunity to benefit from peer support (Hamrin et al., 2006), developing self-care

strategies (Rainbow & Steege, 2019) and increasing emotional management skills and self-compassion could help students to cope better with the feelings of stress and incompleteness related to the transition (Dames, 2019; Mitchell, 2018).

The association between the FCP experience and the role conflicts and ambiguity, and the detected mediating effect of this socio-developmental domain of transition, corresponds to Nicholson's (1984) statement about the independent influence of prior occupational socialisation in new role adjustment. As discussed earlier in this chapter, FCPs should have an emphasis on providing graduating nursing students with clinical experience that is as congruent as possible with the postgraduate reality. The association between nurses' role discrepancies and turnover intentions have been established previously (Takase et al., 2006a), and in this study the nurses that experienced more role conflicts and ambiguity expressed higher turnover intentions. It is obvious that nursing students cannot be perfectly equipped for every possible work environment, and also, it seems that the issue of role discrepancy cannot purely be solved by having more clinical experience (Takase et al., 2006b; Walker et al., 2017). Nevertheless, it can be stated that having more hands-on experience, for example in terms of nurses' typical patient load (Klingbeil et al., 2016; Labrague et al., 2019), organising care (Kumaran & Carney, 2014; Tingleff & Gildberg, 2014) and facing challenging and complex situations (Guner, 2015; Roziers et al., 2014) prior to graduation could help graduating nursing students be more prepared for the role of a nurse in any clinical area and potentially decrease role discrepancies.

The high mean scores in all the FCP experience sub-scales indicate that the transition-facilitating elements actualised well in FCPs. A slight exception was seen in the teacher's involvement that scored significantly lower than other FCP elements, and the values were also more spread compared to others. This most likely demonstrates the differences in the UASs and how they allocate teacher resources. In the future, more attention should be paid to the role of nurse teachers in FCP. They have an important role in promoting nursing students' learning, but also in enhancing the collaboration between educational institutions and practice environments, which is crucial for tackling the existing transitional challenges of nurses (Thomas et al., 2012). The education and practice sectors can have differing views about the NGNs' practice readiness and greater collaboration would help in obtaining a consensus about what is the expected preparedness of nurses when they enter the workforce (Doody et al., 2012; El Haddad et al., 2017). A common understanding about preparedness could help to achieve better congruence between education and practice and also enhance mutual understanding of the best practices in terms of how to facilitate students' transition into nurses, both before and after graduation.

6.2 Validity and reliability of the study

The validity and reliability of this study were considered throughout the two study phases. The various methods and perspectives that were used in Phase I to define the transition-facilitating elements in FCP created a reliable basis for the development of the FCPe instrument, and consequently, for Phase II where the associations between the FCP experience, transition experience and turnover intentions were examined. In this section, the validity and reliability of the data collection, instruments and results of this study are discussed.

6.2.1 Validity and reliability of the data collection

Phase I

The data for the scoping literature review (Paper I) was selected from the electronic databases. The likelihood of including all the relevant data in the review was enhanced by having a discussion about the search strategy and the search terms with a medical library informatics expert and with the research group beforehand. The literature searches were conducted in MEDLINE/Pubmed, CINAHL and ERIC, which are essential scientific databases for the research in the nursing education field. To ensure comprehensiveness of the literature search, the searches were also supplemented by a search on Google Scholar and by screening the reference lists of all the articles. However, the lack of hand searching from journals, not including grey literature, can be considered a limitation. To increase the reliability of the data, the inclusion and exclusion criteria were developed and carefully adhered to by the two researchers who separately examined the titles, abstracts and full texts of the articles (Arksey & O’Malley, 2005; Levac et al., 2010).

The data for the first qualitative study (Paper II) was collected from the graduating nursing students with written narratives. The validity of the data was enhanced by conducting a pilot test of the data collection form with three graduating nursing students. The testing verified that the data collection method and the questions were appropriate for answering the research question, which increases the trustworthiness of the study (Elo et al., 2014). Even though the narrative method provided rich data, interviewing the participants would have allowed the researcher to ask further questions and could have produced more in-depth responses or revealed other insights about the topic.

The data for the second qualitative study (Paper III) was collected from the NGNs with individual interviews. As with any other qualitative research, interview studies hold a potential threat for researcher bias (Turner, 2010). Researcher reflexivity, meaning that the researcher self-discloses their own assumptions, beliefs

and biases that may shape the study or interpretations, enhances the validity study (Creswell & Miller, 2000). In order to minimise the potential bias in the data collection and to ensure the credibility of the data, the researcher, who was also a registered nurse and a nurse teacher, consciously strove to recognise and suspend her personal perceptions and experiences about the subject before the interviews (Whittemore et al., 2001). Evidently, the background of the researcher may have still affected the interviews and the interpretations. The adequacy of the sample is integral to the validity of interview-based qualitative research (Robinson, 2014), and by utilising various sampling methods, such as posting the invitation to participate on a social media site, the researcher was able to reach participants from different geographical areas, different nursing specialities and work environments in Finland. The interview guide was also tested by utilising two methods: firstly, it was evaluated in collaboration with the research team (internal testing), and secondly, it was tested with the potential study participants (field testing) (Kallio et al., 2016).

All the data in Phase I was collected by the researcher herself, which affirms the reliability of the data collection.

Phase II

The data for the cross-sectional study (Paper IV) was collected via an electronic questionnaire that was sent to the NGNs by email. Despite the three email reminders that were sent, the response rate remained considerably low (18%), which is a typical limitation when collecting data with a web-based questionnaire (Jones et al., 2008). The fact that some participants had had considerable time (over two years) since they undertook their FCPs can be seen as a threat to the internal validity of data collection. The time may have affected how positively, or negatively, the nurses evaluated their FCPs (Onwuegbuzie & McLean, 2003).

6.2.2 Validity and reliability of the instruments

This section focuses on describing the validity and reliability of the FCPE instrument that was developed and used for the first time in this study (Paper IV).

The content validity of the FCPE was evaluated in two steps as proposed by Lynn (1986): First, expert panels of experienced nurses ($n=8$) and clinical nurse teachers ($n=5$) evaluated the relevance of 28 individual items with a 4-point scale (ranging from 1=not relevant to 4=highly relevant). Additionally, the expert panels were asked to evaluate the clarity of the items, whether items belonged to the given sub-scale and whether some relevant items were missing. Second, a CVI (I-CVI) was computed for each item and a CVI-average (S-CVI/Ave) was calculated for the whole scale. The I-CVI was calculated by summing up the number of experts rating

the item either three or four, and dividing the sum by the number of experts. The S-CVI/Ave was calculated by averaging all the I-CVIs. Two items were removed as irrelevant, because their I-CVI value was under the minimum (0.78). The I-CVI values for the remaining items were between 0.85 and 1.0. The S-CVI/Ave for the whole scale was sufficient (0.925), as the acceptable level is considered to be 0.90 (Lynn, 1986; Polit et al., 2007). Finally, the instrument was piloted on a small sample of intended respondents (NGNs, n=20) to ensure that the items did not lack clarity (Rattray & Jones, 2007). No changes or clarifications were required, which indicated that the items were clear and usable.

The construct validity of the FCPe was evaluated using exploratory and confirmatory factor analysis/structural equation modelling (SEM). The evaluation was based on the data of NGNs (n=712) from Phase II.

First, in exploratory factor analysis maximum likelihood extraction and oblimin rotation were used, as this type of rotation allows the factors to correlate and should theoretically render a more accurate solution. The Kaiser criterion, meaning that all the factors with eigenvalues greater than one are retained, was used to determine the number of factors (Beavers et al., 2013; Costello & Osborne, 2005). The exploratory factor analysis showed all but two of the items loaded on the five factors that were initially created based on the literature review and qualitative studies (Phase I). The eigenvalues for the five factors varied between 11.02 and 1.05, explaining 67.1 per cent of the total variance in the FCPe. The two items that did not reach the adequate level of loading (from 0.40 to 0.70) were dropped from the instrument (Costello & Osborne, 2005; Rattray & Jones, 2007). The first dropped item was *I worked together with several different nurses*, which was initially included in ‘being part of professional team’ sub-scale but loaded in the ‘preparing for the demands of the profession’ sub-scale (loading 0.31). The second dropped item was *I had a possibility to share experiences with other students during the practicum* that was included in the ‘systematicness of the practicum’ sub-scale (loading 0.24). The final factor loadings of the FCPe instrument were between 0.43 and 0.92 (Table 8).

Table 8. Factor loadings of the FCPe instrument.

| Sum variables | Factors | | | | |
|-------------------------------------------------------------------------------------------|---------|------|------|-------|------|
| | 1 | 2 | 3 | 4 | 5 |
| Quality of supervision | | | | | |
| I had regular constructive feedback from my supervisor | ,883 | | | | |
| My supervisor had the skills to guide a graduating student | ,868 | | | ,106 | |
| My supervisor was motivated to guide me | ,866 | | | | |
| I was able to reflect upon my feelings with my supervisor | ,836 | | | | |
| My relationship with my supervisor was trustful | ,814 | | | -,176 | |
| My supervisor(s) treated me as an equal and as a future colleague | ,678 | | | -,287 | |
| Teacher involvement | | | | | |
| I had support from my teacher when needed | | ,923 | | | |
| I had guidance from my teacher in forming the learning objectives | | ,796 | | | |
| My teacher attended the assessment of my FCP | | ,714 | | | |
| The systematicness of the practicum | | | | | |
| I had concrete learning objectives | | | ,813 | | |
| I achieved the set learning objectives | | | ,767 | -,104 | |
| I proceeded systematically in my FCP | | | ,746 | | |
| I got an FCP placement that served my learning needs | | | ,506 | | ,194 |
| The length of my FCP was sufficient | | | ,425 | | |
| Being part of professional team | | | | | |
| The atmosphere in the unit was collegial | | | | -,821 | |
| I felt I was a member of the work community | | | | -,765 | |
| I had support from different members of the work community when needed | ,151 | | | -,689 | |
| I communicated spontaneously with different members of the work community | | | ,177 | -,529 | ,137 |
| Preparing for the demands of nurse's work | | | | | |
| I faced challenges related to a nurse's work | | | | | ,744 |
| I accomplished all the nurse's work assignments of the unit under guidance | | | | -,136 | ,661 |
| I had possibilities to be responsible and work independently | ,127 | | | -,108 | ,552 |
| I was able to strengthen my competence in those nursing areas in which I had deficiencies | ,127 | | ,148 | | ,545 |
| I got a realistic picture of a nurse's work | | | ,117 | | ,534 |
| I got to hear other nurses' experiences about their graduation | | | | -,132 | ,443 |
| Eigenvalues | 11.0 | 2.2 | 1.9 | 1.3 | 1.0 |
| Percentage of variance | 42.4 | 8.6 | 7.3 | 4.9 | 4.0 |
| Cumulative percentage of variance | 42.4 | 51.0 | 58.3 | 63.1 | 67.1 |

Then, the final structural model of the FCPe instrument was assessed by using a two-step approach: First, a one-factor model where all the items loaded on the same latent construct was estimated (null model) (Figure 6). Second, the theoretical model with five factors was estimated (Figure 7). Goodness-of-fit of the SEM models were

evaluated with chi-square and several fit indices. The five-factor model indicated a good fit with the data and showed better fit with the data than the one-factor model (Table 9) (Anderson & Gerbing, 1988; Byrne, 2013).

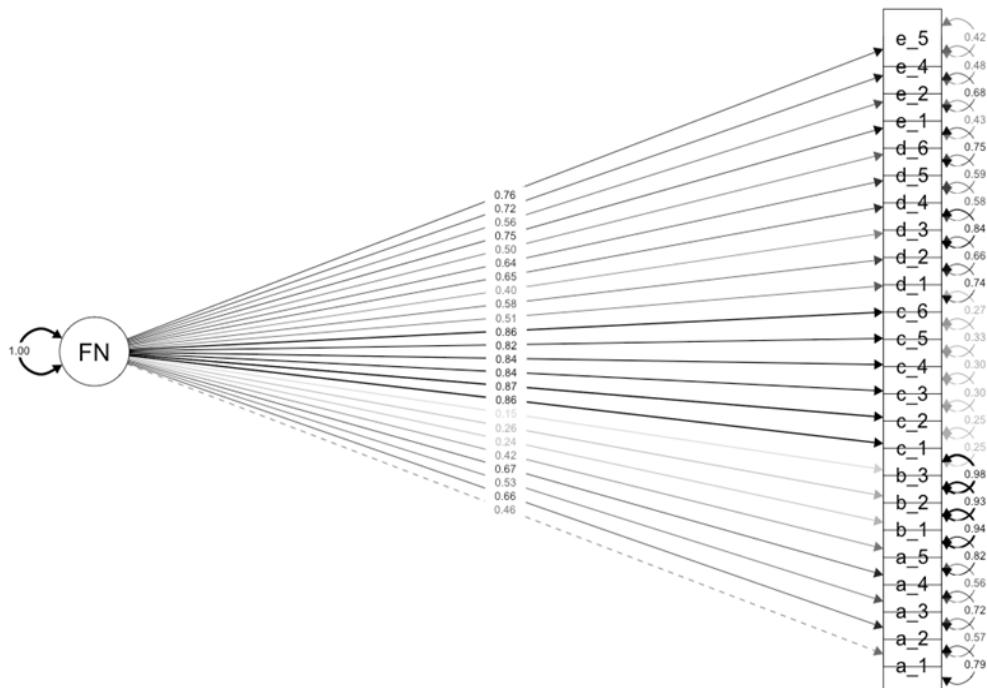


Figure 6. The one-factor model. a1–a5: The systematicness of the practicum, b1–b3: Teacher's involvement, c1–c6: The quality of supervision, d1–d6: Preparing for the demands of nurse's work, e1–e4: Being part of the professional team.

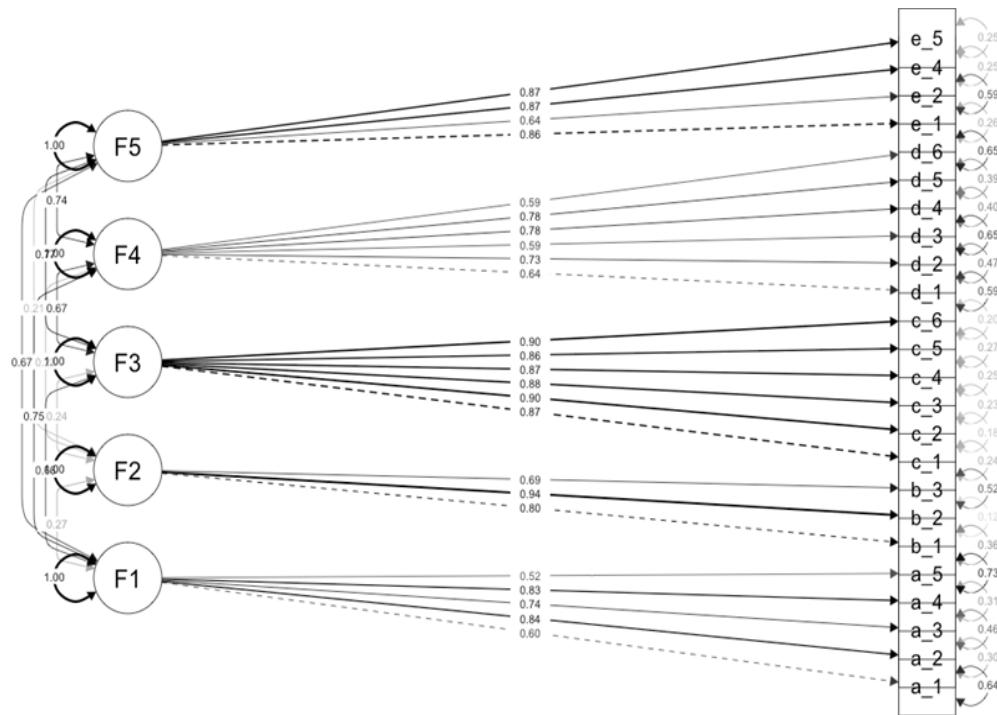


Figure 7. The five-factor model. F1: The systematicness of the practicum, F2: Teacher's involvement, F3: The quality of supervision, F4: Preparing for the demands of nurse's work, F5: Being part of the professional team.

Table 9. Fit indices of confirmatory factor analysis (values of good/acceptable fit).

| | Model fit | | | | |
|--------------------------|--------------------|--------------------|--------------------|----------------------|---------------|
| | CFI >0.95/>0.90 | TLI >0.95/>0.90 | NFI >0.95/>0.90 | RMSEA <0.05/<0.01 | SRMR <0.08 |
| One-factor model | 0.689 | 0.659 | 0.675 | 0.143 | 0.097 |
| Five-factor model | 0.935 | 0.926 | 0.917 | 0.067 | 0.038 |

The reliability (internal consistency) of the scales were evaluated by Crohnbach's alpha coefficient. Crohnbach's alpha of 0.70 is considered acceptable for new scales, thus the value of 0.93 for the whole FCPE scale was acceptable and indicated good internal consistency (Rattray & Jones, 2007; Tavakol & Dennick, 2011). The reliability of the other instruments used in this study (Paper IV) were also evaluated and the Crohnbach's alpha values ranged from 0.78 to 0.87 and indicated acceptable internal consistency. Thus, the used instruments were considered reliable (Table 10).

Table 10. Internal consistency of the used instruments.

| Instrument/subscales | items | α |
|------------------------------------------------------|--------------|----------------------------|
| FCPe total | 24 | 0.93 |
| Preparing for demands of nurse's work | 6 | 0.83 |
| Being part of professional team | 4 | 0.88 |
| Systematicness of practicum | 5 | 0.81 |
| Teacher involvement | 3 | 0.85 |
| Quality of supervision | 6 | 0.95 |
| Psychological distress/General Health Questionnaire | 4 | 0.87 |
| Sleep problems | 4 | 0.84 |
| Role conflict and role ambiguity | 8 | 0.81 |
| Perception of transition and educational preparation | 3 | 0.78 |

6.2.3 Validity of the results

Phase I

In the scoping review method, the lack of a systematic quality appraisal of the included studies can be seen as a limitation, as it may have an impact on the relevance of the review findings (Arksey & O'Malley, 2005; Levac et al., 2010). However, many of the transition-facilitating elements of FCP that were discovered in the review (Paper I) were supported and confirmed to be relevant in the two qualitative studies (Papers II, III) that were also conducted in Phase I.

In the first qualitative study (Paper II) the validity and reliability (trustworthiness) of the results was enhanced by extracting the data from the narratives in a way that it did not alter the original meaning. Additionally, the reliability was ensured by identifying the extractions in a way that the researcher could easily get back to the original data to verify the accuracy of the meaning and context during the analysis and reporting (Leung, 2015). One researcher was responsible for the analysis but the credibility was enhanced by having dialogue with another researcher about the process and categorisation (Elo et al., 2014). Transparency of the analysis enhances the validity of the results and this was ensured by describing the process in detail and providing evidence to support conclusions by using direct quotes from the narratives (Elo & Kyngäs, 2008; Polkinghorne, 2007).

In the second qualitative study (Paper III), the trustworthiness of the results was enhanced by utilising researcher triangulation in the analysis and in confirming the findings. This was done by having two researchers involved in the categorisation, who then had discussions about obtaining an agreement on the analysis and results (Roberts et al., 2006). Moreover, utilising several direct quotes from the interviews when presenting the results increases trustworthiness, as it shows the link between the data, interpretations and conclusions (Dixon-Woods et al., 2004; Elo et al., 2014; Whittemore et al., 2001). The used quotes were first translated into English by the

researcher and then proofread and discussed with professional translator to ensure the accuracy of the content. The achieved saturation of data and categories can also be considered as an indication of rigour in the research process (Morse et al., 2002). The achieved saturation, and the fact that the provided information and the experiences of the interviewees were not unique and mostly relevant also for other participants, enhances the likelihood that the results are transferable (Elo et al., 2014; Polit & Beck, 2010).

Phase II

The generalisability (the external validity) of the results from the cross-sectional survey study (Paper IV) may be limited due to the low response rate (18%). The sample comprised approximately 10% of all the registered nurses ($n=6,797$) who graduated within the previous two years at the time of data collection (the end of 2018). However, the sample of 712 Finnish NGNs was rather large when compared to previous studies with the same target population (Flinkman et al., 2008; Numminen et al., 2016). The required sample size in SEMs depends on the specific model under consideration; however, no estimates for sample size were undertaken in this study because the number of participants was clearly above 200, which is one suggested rule-of-thumb for a minimum (Fan et al., 1999). Moreover, the fact that the participants represented different geographical areas, different FCP placements and a variety of nursing work environments, and that the potential sampling bias was taken into account by adjusting the analysis for multiple potential confounders, may allow the results to be generalised to other similar groups.

The strength of the study results was increased by assessing the content and construct validity of the new FCPe instrument, and by ensuring sufficient internal reliability of all the used measurements by calculating Cronbach's Alpha values (DeVen et al., 2007). However, it should be taken into account that since there were no previous suitable instruments available to measure the transition experience, four individual scales were selected to demonstrate the emotional, physical, socio-developmental and intellectual domains of the transition (Duchscher, 2009). Evidently, the selected measurements cannot cover all the aspects of the multidimensional experience and the results and conclusions may have been different if other measurements had been selected. However, this limitation was considered with careful selection of the measurements, as all the scales, except the one that was created for this study to demonstrate the intellectual domain of transition, were frequently used and previously shown to be reliable.

6.3 Practical implications

Based on the results of this study, the following practical implications for nursing education and nursing practice can be presented:

- Generally, more attention should be paid to nursing students' FCPs as an important step between being a student and becoming a registered nurse. FCP is the last opportunity for nursing students to be prepared for the requirements of the profession; therefore, ensuring a good clinical learning experience at this stage is crucial.
- It should be a priority for nursing students to be able to choose their FCP placements based on their individual learning needs and possible employment preferences. Having support and guidance from nurse teachers in deciding the most suitable FCP placement for each student would be beneficial. Developing specific clinical skills and gaining familiarity with the chosen clinical area could smooth the transition process and ease NGNs' start to working life.
- Educational institutions need to consider allocating sufficient resources for nurse teachers to guide and support graduating nursing students in their FCPs that helps them prepare for the transition.
- Nursing students could benefit from having a pre-planned structure for their FCPs. Having common guidelines or a checklist as well as an individual plan for the progress of the FCP could help the students use the remaining time as a student efficiently and better prepare for the transition. Having a structure would also guide the FCP supervisors in promoting students' professional development with relevant learning opportunities.
- Nursing students in their FCPs must become acquainted with the actual requirements of nursing that they are soon expected to handle as NGNs. For example, experiencing the expected work and patient load instead of being assigned to take care of one to two patients, or being involved in complex and challenging situations in FCP, could help to reduce the post-graduate transition shock. Clinical learning environments must provide sufficient opportunities for graduating nursing students to experience the realities and challenges of a nurse's work, instead of protecting students from them.
- Being able to get prepared for the upcoming transition in FCP requires students to be aware of their own strengths and weaknesses. Students would benefit from having both self- and objective assessments of their competence before FCP. Creating a realistic perception about one's own

competence may require more support from nurse teachers. Having a realistic perception would help students to identify the critical areas that need further development and should be focused on in FCPs. Concrete learning objectives and gaining experience and improvement in the detected deficiencies could increase students' sense of coping and increase their confidence to step into the nurse's role.

- The FCP placements should invest in making the students feel welcomed and helping them to become members of the work community. Experiencing a collegial and supportive atmosphere is crucial for students in their FCP, and nurse managers should be aware that the FCP experiences can guide students' overall interest in working in the chosen unit, organisation, clinical speciality area or even nursing as a whole after the graduation.
- Collaboration is needed between nurse educators, supervisors and managers to ensure that graduating nursing students have an FCP experience that can facilitate their transition into nurses.

6.4 Suggestions for further research

In this section, suggestions for further research from both methodological and content perspectives are provided. There is an obvious need for research in the nursing education field that would provide rigorous evidence on whether, and how, the transition from a student to a nurse could be facilitated in FCP. So far, the focus has mostly been on different postgraduate programmes and strategies that aim to ease NGNs' start to working life with an intention to increase their retention in healthcare organisations. From a societal perspective, conducting research in this field is highly important because smoother transition experiences can promote NGNs' willingness to remain in their jobs and the profession.

- To achieve stronger evidence on the effects of pre-graduate clinical education in NGNs' first years in practice, longitudinal research with several measuring points should be conducted. Following nursing students from their FCPs through one to three years after graduation would allow the researcher to detect whether an actual causal relationship exists between the FCP and transition. This would provide valuable new information about the transition over a longer time perspective and the significance of FCP in shaping the process.
- Studies regarding FCP have most often utilised descriptive research designs. In order to come to valid conclusions about the relationship between the FCP and some specific transition indicators or outcomes,

more studies with experimental or at least quasi-experimental designs should be carried out. Intervention studies focusing on FCP could provide reliable information for educational institutions and clinical practice settings on how to develop students' clinical practicums.

- In this study, the FCP experience was examined as a whole instead of scrutinising the transition-facilitating elements individually at a sub-scale level. Hence, this approach did not produce knowledge about the weight of individual FCP elements, meaning it is unclear whether some element could be more significant than others. Therefore, examining the significance of individual FCP elements should be addressed in further studies.
- As with the autonomy of the UASs and the considerable differences in the clinical practicum settings, in FCP supervisors, nurse teachers and students themselves, there can be great variation in the implementation of students' FCPs. These differences may put students in unequal positions in terms of getting prepared for the upcoming transition. In this study, for example, just the length of students' FCPs varied between three and twelve weeks; hence, mapping the current FCP practices at a national level would be reasonable for unifying the practices.
- Given the noted importance of adequate and quality supervision in FCP, more studies related to the skills of FCP supervisors should be conducted. There is an acknowledged need to provide support and education for supervisors who guide students in their FCPs. However, little is known about what should be taught and how. Developing evidence-based educational interventions and evaluating their effectiveness on student outcomes could help with decision-making on what kind of training is worthwhile and how much resources should be invested in supervisor education.
- There is a lack of studies regarding the nurse teacher's role in FCP. Thus, more studies should be conducted around the topic for determining the role and significance of the nurse teacher in graduating nursing students' preparation for the transition and the start of working life.
- The FCPe instrument that was developed and used in this study showed sufficient content and construct validity. In the future, the association of the FCP experience with other transition-related outcomes, such as competence, self-efficacy or confidence of graduating nursing students could be explored. Moreover, the applicability of the instrument in other contexts, such as in practical nurse education, or in other countries could be tested.

7 Summary/Conclusions

The FCP of nursing education is a valuable learning experience for graduating nursing students before they enter the healthcare workforce as registered nurses. The upcoming transition engenders special needs in graduating nursing students and this study produced new knowledge about the essential elements of FCP that can facilitate the transition from a nursing student to a nurse. A good FCP experience was shown to comprise several elements that require attention from nurse teachers, supervisors, nurse managers and other healthcare staff who are involved in the planning and implementation of students' FCPs.

The results of this study suggest that having a good FCP experience can promote an easier transition experience and eventually make nurses less willing to leave their jobs and the nursing profession at an early stage of their careers. Due to the alarming shortage of nurses, there is an urgent need to help graduating nursing students to transition smoothly into the nurse's role. The mission of retaining the new professionals in the nursing workforce requires both pre- and postgraduate strategies and good collaboration between the educational institutions and clinical practice settings.

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