WILLIAM GYAMFI GARBRAH

GERONTOLOGICAL NURSE TEACHERS’ COMPETENCE IN FACILITATING NURSING STUDENTS’ INTEREST IN OLDER PEOPLE NURSING

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ABSTRACT

In acknowledging the importance of previous studies that establish the factors hindering and promoting students’ interest in older people nursing, it is equally significant to understand how nursing students perceive their gerontological nurse teachers who are expected to promote and sustain students’ interest in older people nursing. Therefore, the purpose of this study was to develop and validate an instrument to assess the competence of gerontological nurse teachers and to describe students’ perspectives of their gerontological nurse teachers’ competence in facilitating students’ interest in older people nursing. Additionally, this study explored the association between gerontological nurse teachers’ competence to facilitate students’ interest in older people nursing and students’ willingness in older people nursing.

The preliminary items for the Gerontological Nurse Teacher Scale (GeNTS) were generated through a literature review in 2017. Experts (N=19) then participated in a two-round Delphi feedback for content validity in May 2018. A pre-pilot study was undertaken among seven nursing students to ensure readability and understandability in October 2018, followed by a pilot study on nursing students (n=196) for psychometric testing. This was followed by a descriptive cross-sectional study of nursing students (n = 331) from six Universities of Applied Sciences in Finland. Descriptive and inferential analysis were conducted using SPSS.

Based on the literature review, experts’ feedback and psychometric test, the final version of GeNTS consists of 33 items across six sub-scales, scored on a five-point Likert scale. In general, the students were uncertain about their gerontological nurse teachers’ competence facilitating students’ interest in older people nursing. There was a moderate positive association (R= 0.25, N = 243, p < .001) between gerontological nurse teachers’ competence and students’ willingness in older people nursing. The teachers’ competence to develop gerontological nursing course most influence students’ willingness in older people nursing (r=0.26, p < .001), whereas their knowledge and interest in gerontology, least influenced students’ willingness in older people nursing (r=0.14, p=.025). Also, the teachers’ competence to address students’ concerns about aging, promote gerontology careers, and demonstrate leadership skills in gerontology all had a similar statistically significant
moderate positive association \((r=0.23, \ p < .001)\) with students’ willingness in older people nursing.

Administering of gerontological nursing course in the nursing curriculum, should focus not only on providing knowledge, skills and attitudes. Teachers should make deliberate effort to promote gerontology careers by highlighting the incentives and possibilities for career advancement in older people nursing. Faculty need to ensure that there is adequate personal with expertise in gerontological nursing to advocate for resources to establish a reputable gerontological nursing profile in nursing curriculum and to develop and sustain a positive attitude towards older people nursing among students and staff. A qualitative study is needed to understand the reasons behind students’ ratings.

**Keywords:** “Geriatric Nursing; Education; Nursing Teachers; Faculty, Nursing; Students, Nursing; Motivation; Attitude; Career Choice; Older People Nursing
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TIIVISTELMÄ

Aiemmissa tutkimuksissa on tarkasteltu tekijöitä, jotka voivat vähentää tai lisätä opiskelijoiden mielenkiintoa vanhustyötä kohtaan. On kuitenkin yhtä tärkeää selvittää hoitotyön opiskelijoiden gerontologisen hoitotyön opettajiin liittyviä näkemyksiä, sillä alan opettajat edistävät ja tukevat opiskelijoiden ohjautumista vanhustyön pariin. Tämän tutkimuksen tarkoituksena oli kehittää ja validoida gerontologisen hoitotyön opettajien kykyjen arviointiin tarkoitettua mittaria sekä kuvailla opiskelijoiden näkemyksiä gerontologisen hoitotyön opettajien kyvyistä houkutella opiskelijoita vanhustyöhön. Lisäksi tutkimuksen tavoitteena oli tarkastella, onko opettajan kyvyn houkutella opiskelijoita vanhustyön pariin ja opiskelijoiden alaa kohtaan kuntoon kiinnostuksen välillä yhteyttä.


Kirjallisuuskatsauksen, asiantuntijapalautteen ja psykometrisen arvioinnin perusteella loppuliseen GeNTS-mittariin valittiin 33 vääntöä. Mittarin vääntöitä on jaoteltu kuuteen osaan. Kaikkia vääntöä arvioi asiointiavustajalla Likertin asteikolla. Opiskelijat olivat yleensä epävarmoja gerontologisen hoitotyön opettajien kyvyistä saada opiskelijoita kiinnostumaan vanhustyöstä. Gerontologisen hoitotyön opettajien kykyjen ja opiskelijoiden vanhustyötä kohtaan kokemaa kiinnostuksen välillä havaittiin kohtalainen positiivinen yhteys (R= 0.25, N = 243, p < .001). Opiskelijoiden kiinnostusta vanhustyötä kohtaan lisäsi eniten opettajan kyky kehittää gerontologisen hoitotyön opintojaksoa (r=0.26, p < .001); opettajan tietämyksellä gerontologian alasta sekä omalla kiinnostuksella alaa kohtaan koettiin olevan vähäisin merkitys (r=0.14, p = .025). Opettajien kyyvellä ottaa puheeksi opiskelijoiden ikääntymistä koskevia huolia, antaa opiskelijoille tietoa gerontologian alan työurista ja osoittaa johtajuustaitoja gerontologisessa hoitotyössä oli myös tilastollisesti merkittävä kohtuullinen positiivinen yhteys (r=0.23, p < .001) opiskelijoiden vanhustyötä kohtaan tuntemaan kiinnostukseen.
Hoitotyön koulutusohjelman opintosuunnitelmasta käytettävän gerontologisen hoitotyön opintojakson tarkoituksena ei tulisi olla vain opiskelijoiden tietojen ja taitojen lisääminen. Opettajien tulisi pyrkiä tietoisesti kannustamaan opiskelijoita gerontologian työurille korostamalla vanhustyyön tarjoamia uramahdollisuuksia ja kannustimia. Opetushenkilöstön tulee varmistaa, että oppilaitosten henkilökunnalla on riittävästi gerontologisten osaamista, jotta hoitotyön opintosuunnitelmassa varataan riittävästi resursseja gerontologisen hoitotyön edistämiseen. Tavoitteenä tulee olla myös iäkkäisiin liittyvien positiivisten asenteiden kehittäminen ja vahvistaminen. Opiskelijoiden arvioiden taustalla olevia syitä on aihetta selvittää jatkossa laadullisen tutkimuksen keinoin.

**Avainsanat:** vanhustyö, gerontologia; hoitotyö; opettajat; opiskelijat; kompetenssi; motivaatio; asenteet; kiinnostus; vanhustyö
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I dedicate this to my Late father, Emmanuel Ampong Garbrah who would have loved to witness this day.

Oxford, May 2021

William Garbrah
LIST OF ORIGINAL PUBLICATIONS

This dissertation is based on the following original publications:


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ABBREVIATIONS

GeNTS   Gerontologica Nurse Teacher Scale
SINOPS  Students’ Interest in Nursing Older People Scale
OPN     Older People Nursing
WHO     World Health Organization
AACN    American Association of Colleges of Nursing
1 INTRODUCTION

The proportion of older adults with comorbidity is projected to increase as the world’s population is aging (WHO, 2014). These projections will exacerbate the lack of dedicated registered nurses to care for older adults (Banning and Rawlings, 2006; Swanlund and Kujath 2012, WHO, 2014). However, student nurses appear to be disinterested in working in gerontological nursing settings (Bedin et al., 2013). The lack of students’ interest in working in care homes and long-term care settings has been attributed to students’ age, gender, cultures, nursing curriculum and quality of previous experience with older adults as well as gerontology course designs (Garbrah et al., 2017). Also a seeming lack of professional advancement in working in gerontological nursing settings can fuel students’ lack of interest to work with older adults (Ben et al., 2015, Garbrah et al., 2017, Stevens, 2011).

Furthermore, nursing students’ perceive working in gerontological nursing setting as not challenging because of the inability to perform "fancy technological procedures" (King et al., 2013, Kydd et al., 2014). Additionally, nursing students and faculties appear to be either disinterested or under value the soft competences needed to care for older adults in long term care settings (Duggan et al. 2013, King et al., 2013). This has gradually resulted to nursing curriculum portraying contemporary nursing as technical with emphasis on acute and critical care (Duggan et al. 2013, King et al., 2013). Some nursing students perceive the care of older people in nursing homes as boring and frustrating, whereas others characterize the caring environment for older people as depressing where the fear of death and dying are prevalent (Garbrah et al., 2016).

Given these alarming concerns, some previous scholars have proposed educational interventions to promote students’ interest in gerontology careers (Baumbusch et al. 2012, Leung et al. 2012, Reitmaier et al. 2015). The gerontological nurse teacher plays a pivotal role in the implementation of these educational interventions and therefore must possess some special commitment and competences in rolling out these interventions. Consequently, there is the need to understand gerontological nurse teachers’ competences in facilitating students’ interest in older people nursing. As Nouri et al., (2013) argue, the conduct of significant others, particularly the teacher is important in influencing the career choice of their students. Additionally, recently literature reviews have highlighted the need to have gerontological nurse teachers with special interest and competences in gerontological nursing to develop and sustain a reputable gerontological nursing profile in nursing faculties (Neville et al., 2014, and Garbrah et al., 2017).

Also, previous researchers have developed instruments for assessing students’ interest in older people nursing. For example the Students’ Interest in Nursing Older People Scale (SINOPS by Koskinen et al., 2016), The Relating to Older People Evaluation (ROPE by Cherry and Palmore 2008), The Fraboni Scale of Ageism (Fraboni et al., 1990), The Kogan Attitudes Toward Older Adults (Kogan 1961) and the Gerontological Nursing Competence (GeroNursingCom) instrument for measuring gerontological nursing competence among nursing students by Tohmola et al., (2020), just to mention a few. However, to the best of my knowledge, there is no current instrument specially designed to assess the competence of...
gerontological nurse teachers. Also, I could not find any research about the competence of gerontological nurse teachers in facilitating students’ interest in older people nursing. This study therefore presents initial steps in developing and validating an instrument to assess gerontological nurse teachers’ competence in facilitating students’ interest in older people nursing. Finally, this study explored the association between gerontological nurse teachers’ competence to facilitate students’ interest in older people nursing, and students’ willingness in older people nursing.
2 GERONTOLOGICAL NURSE TEACHERS’ COMPETENCE AND INTERVENTIONS THAT FACILITATE STUDENTS’ INTEREST IN OLDER PEOPLE NURSING

2.1 THE COMPETENCE OF GERONTOLOGICAL NURSE TEACHERS

The definition of competence according to the Oxford English Dictionary is the ability of a person “to do something successfully or efficiently”. Cowan et al., (2007) argue that there are three main definitions of competences. The first description focuses on behaviour and skills that constitute satisfactory performance. The second definition on the other hand is about cognitive, affective and psychomotor skills of an individual’s performance. The third approach views competence as complex with multidimensional construct. It is viewed in a holistic perspective as the ability of person to apply their knowledge, skills, and attitudes in making professional judgement and to perform logically in specific situations. It also highlights the importance of reflexive practice (Cowan et al., 2007). Competence is therefore complex and multifaceted notion. Consequently, how it is operationalised, will impact on how it is conceptualized and measured (Bing-Jonsson et al., 2015).

In the five stages of skill acquisition, proposed by Dreyfus and Dreyfus (1980), a learner starts to gain skills as a novice and progress to become an expert. The novice act and make decisions based on rules and non-contextual, while towards the advanced end of the spectrum, the expert tends to act and perform intuitively. Competence is in the midpoint of this spectrum of improving performance (Dreyfus and Dreyfus 1980). The criteria for assessing competence in any specific field would depend on the discipline in question and what task needs to be executed as well as the circumstances within which the task is being measured (Khan and Ramachandran 2012).

Teaching is a complex and multifaceted construct. Therefore, a successful assessment of the competence of gerontological nurse teachers abilities to facilitate students’ interest in gerontology, must consider several factors. In the context of this study, gerontological nurse teachers’ competence is defined as a combination of a perceived attributes of knowledge, skills, and attitudes to motivate students to pursue a career in gerontology. These attributes of knowledge, skills, and attitudes, which are further described below, are in line with a literature review of nurse teachers’ competencies (Zlatanovic et al., 2017), and an integrative literature review of the factors that hinders undergraduate nursing students interest in gerontology careers (Garbrah et al., 2017).
2.1.1 Gerontological nurse teachers’ knowledge, skills and interest in older people nursing

Gerontological nurse teachers’ knowledge, skills and interest comprises of the teachers’ theoretical understanding, clinical competence and interest in nursing care of older people. It consists of their capability in integrating theoretical knowledge and practical skills (Gustafsson et al., 2015) as well as critically appraising nursing theories (Lejonqvist et al., 2011). Demonstrating an interest in teaching gerontological nursing is equally critical in promoting students interest in older people nursing (Fagerberg and Gilje 2007). As argued by Fagerberg & Gilje (2007), having gerontological nurse teachers who are disinterested and lack knowledge and skills gerontological nursing, can dampen students’ interest in pursuing a career in older people nursing.

Also, by having impeccable clinical experience, the nurse teacher can deliver a high standard of teaching and learning (Salminen et al., 2013). Thus nursing being a practical profession, it is importance to ensure that nursing faculty members maintain clinical credibility. This would help teachers integrate their practical skills with the theory (Pennbrant 2016). The nurse teacher being a former nurse with clinical experience is will be able to use “reflective practice” to make their teaching unique (Bono-Neri 2019). They will be able to share their past clinical and academic experiences to ensure effective teaching and learning. As Gustafson et al. (2015) argue, it is imperative for the nurse teacher to understand the practicalities of the theory being thought. Thus being able to relate practically to the theory in question can help the teacher to be creative in selecting a suitable approach in their teaching (Gustafsson et al., 2015).

Additionally, nursing training which was predominantly based on a practical training through apprenticeships in hospitals has become an academic profession. As a result of the “academicalization” of the nursing, it has become a common requirement for nurse teachers in many countries to possess a second degree and a pedagogical training (Bono-Neri 2019). Consequently, the gerontological nurse teacher is expected to be equipped with a solid theoretical knowledge and a demonstrated interest in issues related to older people nursing (Koskinen et al., 2012).

2.1.2 Promoting gerontology careers

Gerontological nurse teachers’ clinical experience and skills as well as their attitude towards older people nursing are significant in promoting gerontology careers among students. Having teachers with a reputable gerontological nursing profile to plan and implement gerontological nursing courses is important in facilitating students’ interest in gerontology (Koskinen et al., 2012). Also, Carlson and Idvall, (2015) emphasized the importance of nursing faculty to collaborate with clinical settings to improve the standards of care in gerontological nursing clinical environment. Such collaboration could be in the form of supporting students and supervisors, to promote a good gerontological nursing clinical learning experience (Carlson and Idvall 2015).

Although, nurse educators may not necessarily work as bedside nurses, they must demonstrate decent and good characteristics in patient care, as nursing is a practical
profession where students emulate the behavior of their teachers (Nouri et al., 2013). Thus the teaching of skills and behavioral learning are interwoven and therefore nursing students imitate the characteristics of their teachers (Klunklin et al., 2011, de Swardt et al., 2017). This trait has been termed by Del Prato (2012) as the ‘hidden’ or ‘informal’ curricula. It is therefore imperative for teachers who administer gerontological nursing to have impeccable gerontology profile and to show decorous in issues related to older people in order to sustain a positive attitude towards nursing care of older people among students and staff.

2.1.3 Developing gerontology course

The different pedagogical strategies that the nurse teacher uses establish their role as an expert and authority figure is very importance in promoting effective teaching and learning (Chilemba and Bruce 2016). Therefore the gerontological nurse teachers need to identify smart approaches in the development and implementation gerontology courses. It is imperative for gerontological nurse teachers’ to use methods that are supportive in maximizing the potentials of the ever-changing students with diverse backgrounds and learning styles (Chilemba et al., 2016; de Swardt et al., 2017). For instance, using teaching material and pedagogical strategies that are proven by research evidence to be effective is vital in promoting students’ interest in older people nursing. As de Swardt et al., (2017) suggest, such pedagogical approaches should aim at building the students' critical thinking and reasoning skills.

The increased use of technology-based teaching resources such as simulation scenarios, discussion boards, wikis, and blogs to facilitate critical thinking should motivate gerontological nurse teachers reconsider how teaching and learning occurs in the 21st century (Felicilda-Reynaldo and Utley 2015; Nguyen et al., 2011). The utilizing of such technologies to develop students’ positive attitudes towards gerontological nursing is key in developing and sustaining students’ empathy towards older people. Clearly, teaching and learning is shifting from face-to-face to blended or fully online delivery (Nguyen et al., 2011). Learning is no longer a process of accumulating knowledge but rather a process of finding out how to use knowledge. Although the hands-on skills are essential to the development of nurses, it is insufficient condition for training nurses in the current era (Petit dit Dariel et al., 2013). The contemporary nurse is expected to be technologically equipped to meet the demands of the current and future healthcare systems (Petit dit Dariel et al., 2013).

2.1.4 Leadership, moral and cultural competence

Teachers are significant individuals in the learning process as their characteristics and attitude can impact students’ choices and behavior. Gerontological nurse teachers must therefore demonstrate ethical and moral decency in issues related to older people (Ben et al., 2015). Nurse teachers can also be seen as leader in developing standards for practice, identifying learning needs, and determining the scope of training for nurses as well as developing guidelines for good practice (de Swardt et al., 2017, Ibrahim and Qalawa, 2016). As leaders they sometimes act as expert resource for clinicians and facilitate clinical
supervision. Creating a positive learning environment where the students and educators treat one another with respect and dignity will reinforce appropriate student behavior (de Swardt et al., 2017; Ibrahim and Qalawa, 2016).

Gerontological nursing teachers committing themselves to upholding the nursing values as well as social appropriateness and sound ethical values are significant for nurse educators to exhibit. As effective role models, nurse educators are expected to maintain high standards of teaching practices and moral values (de Swardt et al., 2017; Nouri et al., 2013). Additionally, it is significant for nurse teachers to show interest and positive attitude towards nursing through their teaching (Del Prato, 2012, Nouri et al., 2013). In Iran, Nouri et al., (2013) observed that, the expectations of nurse educators as role models include acting as parents for their students, who take the responsibility for “developing students emotionally, spiritually, and intellectually”. A similar observation was made in Thailand (Klunklin et al., 2011). However, the characteristics and expectations of a good role model are subjective to cultural context.

Giving timely feedback, conveying belief in students ability to learn and grow, and assisting them to find solutions to their challenges (Del Prato 2012, Nouri et al., 2013) as well as cooperating with the staff at clinical placements (Salminen et al 2013) are professional traits of a good nurse educator. These characteristics promote the professional growth and development of students. Contrary, the consequences of incivility of faculty members on nursing students’ is inhibiting students’ learning, self-esteem, self-efficacy, confidence, and developing identity as nurse (Del Prato, 2012).

To be able to identify and meet the needs and demands of the culturally diverse students, nursing faculty ought to have high levels of cultural competence. This will enable them give appropriate support to minority students to stay in school and graduate. Moreover, as societies are constantly becoming multicultural, it is significant to educate nursing students to be culturally competent to serve ever-changing patients with diverse backgrounds. Nurse educators must therefore exhibit cultural competence and sensitivity in their teaching for their students to emulate (Ume-Nwagbo, 2012).

### 2.2 INTERVENTIONS THAT FACILITATE STUDENTS’ INTEREST IN OLDER PEOPLE NURSING

A literature review, which explored previous studies was carried out to identify the interventions that facilitate nursing students’ interest in gerontological nursing (Whittemore and Knalf 2005). The literature search was done in CINAHL (Ebsco) and Scopus using pre-defined key words (Table 1). The following keywords were used in identifying suitable literature: "nursing student*" OR "student nurses*" OR "undergraduate student*") AND interest OR enthusiasm OR passion OR motivate* OR persuade OR prompt ) AND ("elder* care" OR gerontol* OR geriatr* OR "aged care" OR "dementia care" OR "nursing home" OR "long-term care" OR "service home" OR "older people nursing") AND ( interventions OR promote OR facilitate OR encourage). Included were all available peer-reviewed, empirical studies published from 2009 to October 2020 in English.
language and articles that describes interventions for promoting students’ interest in gerontology careers.

The interventions that facilitate students’ interest are further described below in four main themes: i) improving gerontology content in nursing curriculum; ii) making gerontological nursing content attractive; iii) exposing students to older adults; and iv) improving gerontological nursing clinical environment.

Table 1. Selection of articles describing the interventions to facilitate students’ interest in older people nursing

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<tr>
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2.2.1 Improving gerontology content in nursing curriculum

The lack of faculty interest to support innovation in gerontological nursing education reduces nursing students’ interest in gerontological nursing. Nursing faculty and staff from gerontological nursing clinical settings therefore need to collaborate to improve students’ learning experiences (Chen and Walsh 2009). Also, students who are anxious about aging are less likely to take a career in older people nursing (Chen et al., 2015). Furthermore, nursing curriculum reinforcing the notion of contemporary nursing as acute and critical care is detrimental in promoting gerontology careers amongst students. A deliberate effort to enhance gerontological content in nursing curriculum is recommended (Clendon 2011 and Chen et al., 2015). Faculty effort in identifying relevant gerontology content and competences as well as reviving clinical placement in older adult settings is essential. Additionally, ensuring that students are well equipped to work in gerontological nursing, will demand faculty to include appropriate gerontology content at each year of the programme (Clendon 2011).

The teaching of gerontological nursing by teachers who do not have knowledge and/or expertise in gerontology could discourage nursing students from working in with older adults. Therefore, an effort should be made to have teachers with a solid gerontology profile who are interested about issues related to older people to administer gerontological nursing studies (Koskinen et al., 2012). In addition, a stand-alone gerontology course seems to be effective in motivating students’ interest in older people nursing (Koskinen et al., 2012).

2.2.2 Making gerontological nursing content interesting and innovative

One of the major factors that enhance nursing students’ interest in older people nursing is the quality of gerontological nursing content. Thus, making gerontological nursing course more interesting and innovative is significant in attracting students to take a career in
gerontology. For instance, the use of pet birds to initiate interaction among older adults and students improved students’ communication skills with older adults. Using pet birds facilitated the interaction, reduced anxiety levels and developed the students’ interest in older people. The older adults on the other hand reported an improved self-care, decreased anxiety, sense of purpose, and sense of belonging (Crist et al., 2017). The pet birds helped bridged the generational gap and facilitated the discussion. Both students and older adults felt at eased allowing students to tap into the experiences and wisdom of the older people (Crist et al., 2017). Students recognized that their personal experiences, attitudes, and communication styles with the older adults changed. They could identify common problems, goals, and the process of implementing interventions with the older people (Crist et al., 2017).

The need for pedagogical change in gerontological nursing to facilitate attitudinal change among nursing students has been highlighted by McAllister et al., (2020). Furthermore, the use of arts-based activities is recognized as means of building professional empathy among students (McAllister et al., 2020). Using reflective activities can help to defuse prejudice and stereotypical notions of nursing student about older people. Telling stories for example can bridge the generational gap, foster understanding and develop interpersonal skills (McAllister et al., 2020).

Integrating the theory of gerontological nursing into clinical placement in care homes improved students’ admiration for older adults. Students had a pre-placement learning where they assigned to individual resident and they were offered with consistent support during the entire placement. This increased students’ awareness of the complexities of aging and promoted positive learning experiences (McAllister et al., 2020). Additionally, an interdisciplinary course on aging was found to be effective tool in expanding students’ personal and professional appreciation of the relevance of aging issues. The course included elements to facilitate students’ interest and reduce negative stereotypical notions that students may have about older people. The students who were in the interdisciplinary course on aging were more knowledge about aging and had a more positive attitude towards older people (Merz et al., 2018).

Finally, a paid placement in nursing home incorporated into nursing curriculum increased undergraduate nursing students’ preparation to work with older people. The paid placement also increased the students’ interest in gerontology careers, while providing an opportunity for nursing homes to support and improve students’ learning experiences (Nolet et al., 2015). Similarly, a full-time, eight-week internship with stipends that provided an opportunity for nursing students in junior year to learn more about careers in gerontological nursing was effective in increasing students’ interest in working with older people. A Summer Geriatric Extern Program also opened up opportunities for nursing research (Souder et al., 2012)

### 2.2.3 Exposing students to older adults

Exposing students to healthy older adults is significant to improve students’ interest in working with older adults (Chen 2015, Garbrah et al., 2017). Intergenerational contact can help promote an interaction between nursing students and older people (Burnes et al., 2019).
The use of art for instance presented students with an opportunity and a structured way to connect with older people. This helped to improve the connection and bridge the gap between the generations (Chen and Walsh 2009). Also, exposing students to older adults offered students the opportunity to understand and appreciate the changes associated with aging. This helped students to recognize the impact of aging on the health and functional ability of older people (Baumbusch et al., 2012; Reitmaier et al., 2015). Positive interactions among students and older adults renewed students’ appreciation and love for older adults and increased their interaction with older people (Chen and Walsh 2009). Such interactions provided each student a unique opportunity to learn and appreciate the experiences of the older adults. It helped to develop students’ therapeutic skills and helped them to value and respect older adults’ perspective of their own aging (Hwang et al 2014; Reitmaier et al., 2015).

Furthermore, students who had interactions with older people through consecutive interviews significantly demonstrated a positive attitudinal change towards working with older adults (Garbarino and Lewis 2020). The incorporation of this service learning into existing Gerontological Nursing course allowed students to acknowledge their presumptions about older people before to the course. After having four consecutive interactions with an assigned older adult in the community, students developed a positive attitude towards older adults. The students further demonstrated an increased desire to work with older adults and appreciated the status of gerontological nursing in high esteem. The students further acknowledge service-learning as a unique prospect to establish a valuable interaction with older adults (Garbarino and Lewis 2020).

Additionally, using older adults as educational partners could help increase student interest in gerontology career. In a quasi-experimental study, conducted by Koskinen et al., (2016), students' who learned together with older adults had a significantly increased interest and a more positive attitude towards older adults than their counterparts in the comparison group (Koskinen at al., 2016).

### 2.2.4 Improving gerontological nursing clinical environment

An improved gerontological nursing clinical learning environment can facilitate students' interest in elderly care. Clinical experience has significant impact on nursing students’ career option (Chen et al., 2015). Therefore, exposing students to poor standards in older people nursing could increase students’ negative perception about gerontological nursing (Chen et al., 2015, Husebø et al., 2018). Nursing faculty offering support to clinical instructors is essential in improving the clinical learning atmosphere, as some practice supervisors may lack crucial competences in gerontological nursing. For instance, placement integrated with debriefing and critical reflection, enhances effective preparation towards practical placement for both mentors and students (Lea et al., 2015). Also, practice supervisors and students were more prepared and ready for the placement with a supportive placement integrated with debriefing and critical reflection. Students experienced enhanced teaching and learning derived from high levels of mentor support and increased autonomy. Students’ knowledge, understanding and attitudes around aged care and dementia improved. Students felt welcomed and supported (Lea et al., 2015)
The need for faculty and gerontological nursing clinical placement sectors to liaise and revive the clinical settings for older adult has been proposed (Clendon et al., 2011, Garbrah et al., 2017). Nursing homes that demonstrate supportive, welcoming and hospitable atmosphere, with friendly and open minded staff improved students learning and their willingness to work with older adults (Husebø et al., 2018). Also, there should be a deliberate effort to model caring skills in order to facilitate empathy towards older people (McAllister et al., 2020). This can be done by assigning students to nurses who are empathetic to act as role models for students. Thus, students can adapt to the caring characteristics of their role models by observing, reflecting and imitating.

Pairing students who student nurses with Healthcare Assistants was considered to be a drawback as this left the students with little no understanding of the complexity of the work and responsibilities of the nurse in nursing homes (Husebø et al., 2018). Also, Husebø et al., (2018) described the responsibilities of practice supervisors as giving students constructive feedback, and supporting and facilitating the student’s professional growth. Lea et al., (2014) on the other hand, recognized it as providing support to students and helping them identify learning opportunities to build their confidence. Therefore, having mentors who are knowledgeable and enthusiastic about gerontological nursing is critical in motivating students to pursue a gerontology career (Husebø et al., 2018). On the other hand, having uncertainties, unprepared staff and mentors during an orientation phase negatively affected students desire to work in gerontological nursing clinical settings. Unmanageable challenges such as absent mentors made students felt lonely, unwanted and undervalued. Certainly, the need for nursing faculty and gerontological nursing clinical settings to ensure a successful orientation is essential. Such orientation should include an introduction to the working environment to ensure a smooth start for the students. This will increase the students’ self-esteem and interest to work in older people nursing (Husebo et al., 2018). Moreover, students should be supported in identifying learning possibilities in working with older people (Lea et al., 2014).

2.3 A SUMMARY OF GERONTOLOGICAL NURSING TEACHERS’ COMPETENCE AND INTERVENTIONS THAT FACILITATE STUDENTS’ INTEREST IN OLDER PEOPLE NURSING

Facilitating students’ interest in older people nursing should be a mutual effort from all stakeholders. For instance, it is critical for nursing faculty to ensure that there is enough staff with gerontological nursing expertise to develop and sustain a reputable gerontological nursing profile among students and staff members. Such personnel should make a conscious effort to uplift the image of gerontological nursing and they must demonstrate leadership, ethical and moral competence. Certainly, nursing faculty has the responsibility in ensuring that there is adequate time and resources reserved in the nursing curriculum for the needs of older adults. Additionally, using innovative and technological teaching and learning methods is vital in promoting gerontological nursing courses, thereby facilitating students’ interest in gerontology careers.
Moreover, exposing students to healthy older adults could help reduce the generational gap and any misconceptions and stereotypical attitudes that students might have about older adults. Using arts and other social interactive methods could serve as a catalyst to provide a structured opportunity for students and older people to interact. Such intergeneration interaction could help to student to understand and appreciate how aging impact the functional ability of older people. Nursing faculty and managers of gerontological nursing clinical settings must as well liaise to revive the clinical settings for older people.
3 AIMS, PURPOSE AND RESEARCH QUESTIONS OF THE STUDY

The aim of the current study was to explore the abilities of gerontological nurse teachers’ in facilitating nursing students’ interest in older people nursing. The main purpose of the study was to identify areas in nursing education that need attention in an effort to establish a reputable gerontological nursing profile in nursing curriculum in order to develop and sustain a positive attitude toward older people nursing among students and staff.

Specifically, the study addressed the following aims:

**Scoping phase (sub-study I)**
1. To identify the factors that prevent undergraduate nursing students from choosing gerontological nursing as a career option base on existing literature.

**Instrument development and validation phase (sub-study II)**
2. To develop and validate an instrument for assessing the competence of gerontological nurse teachers.

**Evaluation phase (sub-studies III & IV)**
3. To describe student nurses’ perspectives of their gerontological nurse teachers’ competence in facilitating students’ interest in older people nursing.
4. To explore the association between gerontological nurse teachers’ competence and students’ willingness in older people nursing.

**Summary**
5. To identify areas in nursing education that need attention in establishing a reputable gerontological nursing profile in nursing curriculum in order to develop and sustain a positive attitude toward older people nursing among students and staff.
4 SUBJECTS AND METHODS

4.1 STUDY DESIGNS

Four sub-studies were conducted to achieve the aim of the study. Figure 1 illustrates the study designs (I-IV) at the various phases of the study.

**Figure 1.** Study designs at different phases of the study

### 4.1.1 An integrative literature review (sub-study I)

A literature search was conducted in CINAHL (Ebsco), Scopus, and Eric (ProQuest) to understand the factors prevents undergraduate nursing students from choosing gerontological nursing as a career option (Whittemore and Knalf 2005). The search terms included "nursing student*" OR "student nurses*" OR “undergraduate student*” AND attitude OR perception OR experience* OR view* OR opinion OR interest OR "career preference" OR "career choice" AND "elder* care" OR gerontol* OR geriatr* OR "aged care" OR "dementia care" OR "nursing home" OR "long-term care" OR "service home".
To ensure the quality of the articles included in the study, two reviewers critically appraised each paper using the Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI 2014) for the quantitative papers. Also, the Qualitative Assessment Research Instrument (QUARI) by JBI was used to screen the qualitative studies. Following the predefined exclusion criteria 21 scientific peer-reviewed empirical studies, published from 2006 to March 2016 were selected for analysis (Table 2).

Table 2. The systematic literature search and selection process.

<table>
<thead>
<tr>
<th>Database</th>
<th>Records identified after key words and filters applied</th>
<th>Studies after duplicates removed</th>
<th>After titles screened</th>
<th>After abstracts screened</th>
<th>Included based inclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>CINAHL</td>
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<td>251</td>
<td>97</td>
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<td>21</td>
</tr>
<tr>
<td>Scopus</td>
<td>270</td>
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<td></td>
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</tr>
<tr>
<td>Eric</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>530</td>
<td></td>
<td></td>
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</tbody>
</table>

4.1.2 Instrument development (sub-study II)

An instrument was specifically designed for this study as no existing instrument could be found for the purpose of the study. The Gerontological Nurse Teacher Scale (GeNTS) was designed following Gerrish and Lacey’s (2013) processes (see figure 1) in developing and validating an instrument: (1) preparation and scoping phase; (2) generation of questionnaire items and rating scale; (3) content validity and (4) psychometric evaluation. The four stages are further described below (Figure 2).

**Preparation and scoping phase**
- literature review
- development of concepts and themes through an inductive approach
- labeling items against concepts

**Development of questionnaire items and rating scale**
- pool of questions and rating scale developed for feedback for gerontology experts
- questionnaire mounted onto an online format for feedback from experts

**Content validity (Feedback from experts and students)**
- a two-round delphi feedback from expert group (*content validity*)
- pre-pilot study on nursing students for clarity, readability and adequacy assessment (*face validity*)
- questionnaire revised and finalised for pilot study

**Psychometric testing (Pilot study)**
- pilot study on nursing students (*psychometric testing*)
- finalizing the "Gerontological Nurse Educator Scale (GeNTS)"

Figure 2. Summary of steps in the development of the gerontological Nurse Teacher Scale (GeNTS)
Preparation and scoping phase

A literature review was conducted to establish the factors that hinder nursing students’ interest in gerontological nursing careers [article 1 (Garbrah et al., 2017)]. Additionally, another comprehensive literature review was performed to understand the interventions that can facilitate nursing students’ interest in gerontological nursing (Chapter 2.2). These theoretical frameworks served as the bases for developing the instrument (French 2012). An inductive content analysis was used to develop the major concepts for the instrument.

Generation of questionnaire items and rating scale

At the preliminary stage, the questionnaire items were constructed from the literature and each item was ladled with their reference/s to ensure that the research stay focused on the theoretical elements. The references were removed before sending them to the experts for their feedback. This was to avoid the experts’ responses being influenced (French 2012; Shaeffer and Presser, 2003). All construct that may be relevant to the factors that hinder students’ interest in gerontology career (Garbrah et al., 2017) were considered. Furthermore, gerontological nurse teachers’ abilities and interventions that facilitate students’ interest in older people nursing (chapter 2) were considered in developing the items. A 5-point Likert scale was used to allow the experts to assess and indicate the extent to which they agree to the relevance and appropriateness of each items (Andrusyszyn et al., 2006).

Content and face validity by expert and students

The preliminary items were mounted onto an online platform and the link was sent through an e-mail to gather the experts’ feedback in Delphi round one (Keeney et al. 2011). The experts were asked to indicate the degree to which each item is relevant to the competence of gerontological nurse teacher on a five-point Likert-type scale, where 1 = of no relevance, 2 = of very little relevance, 3 = of little relevance, 4 = relevant, 5 = very relevant. The experts could also add comments to each item and further suggest an item they deemed relevant but was missing from the instrument. The items were revised according to the feedback and resent to the experts to re-examine the items that did not meet the cut-off point in the first round. This was necessary as consensus building is vital in Delphi method (Bell and Leveritt 2015, Gerrish and Lacey 2013).

The researcher then met with nursing students (n=7) who voluntarily offered to comment on the readability and understandability of the items. This was done by asking the students to explain how they understand each of the items in the instrument. Based on the students feedback, a minor revision was done and the instrument was finalized for psychometric testing (Bell and Leveritt 2015, Gerrish & Lacey 2013).

Psychometric testing (pilot study)

After obtaining research approval from three Universities of Applied Sciences, a link to the questionnaire was sent to representatives of each of the institutions. These representatives forwarded the e-mail clarifying the purpose of the study with the link
to the questionnaire to a total of 1,247 students between December 2018 and January 2019. The final pilot data included (n=196) nursing students after the survey was opened for two weeks. The data from the pilot study was used to assess the internal consistency and construct validity of the instrument.

### 4.1.3 Descriptive and explanatory cross-sectional study (sub-study III)

This was a descriptive cross-sectional design using the GeNTS. It is known that gerontological nurse teachers can facilitate students’ interest in older people nursing. However not much is known about how students think about their gerontological nurse teachers competence. Explanatory research design was therefore considered appropriate (Polit and Beck, 2018) to explore nursing students’ perception about their gerontological nurse teachers’ competence in facilitating students interest in older people nursing.

### 4.1.4 Cross-sectional correlational survey (sub-study IV)

A nonexperimental cross-sectional, correlation design was used to understand the association between gerontological nurse teachers’ abilities and their influence on nursing students’ willingness in older people nursing. The Gerontological Nurse Teacher Scale (GeNTS) was used to collect data electronically from students about how perceived their gerontological nurse teachers competence. In addition to the newly created scale, the subscale (Willingness) of the Students’ Interest in Nursing Older People Scale (SINOPS) by Koskinen et al (2016) was used to examine the students' willingness in older people nursing. Nonexperimental design was a deemed appropriate for answering the research question. The survey design allowed students to provide data about how they perceived their gerontological nurse teachers’ competence, without interfering their willingness in older people nursing, being studied (Polit & Beck, 2018).

### 4.2 INSTRUMENTS

The Gerontological Nurse Teacher Scale (GeNTS, appendix 1) was used to assess how the students’ perceive the competence of their gerontological nurse teachers’ in facilitating students’ interest in older people nursing. The GeNTS is made up of 33 items that describes the competence of a gerontological nurse teacher in facilitating students’ interest in older people nursing. The 33 items are divided into six sub-scales: i) Knowledge and Interest; ii) Concerns about aging; iii) Gerontology career promotion; iv) Theoretical course development; v) Practical training development; and vi) Leadership. Each item is measured on a five-point Likert scale ranging, from 1 (completely disagree) to 5 (completely agree). To be able to correctly interpret the scores, the total and sum scores is calculated by summing up the values for each answer. A higher score indicates a higher perception of a
gerontological nurse teacher’s competence to facilitate students’ interest in older people nursing.

The subscale (Willingness) of the **Students’ Interest in Nursing Older People Scale** (SINOPS) by Koskinen et al (2016) was used to assess students’ willingness in older people nursing. The six positive worded statements of the willingness to work in older people nursing (Willingness) are scored on visual analogue scale ranging from 0 (completely disagree) to 100 mm (completely agree). The total score is calculated by adding up the score of all the six items and dividing the total by the number of items (six). A higher score indicated more willingness in older people nursing. (Koskinen et al 2016).

Based on Garbrah et al., (2017), the following **social demographic variables** were assessed: students’ age, gender, academic year, students’ previous work experience with older people and previous education in health and/or social services.

### 4.3 SETTING, PARTICIPANTS AND DATA COLLECTION

**Setting:** Finland has a dual higher education system: The Universities (Scientific Universities) and the Universities of Applied Sciences. The Universities offer and provide education based on scientific research and provide Doctoral programmes (Universities Act 558/2009). On the other hand, the Universities of Applied Sciences, formally Polytechnics, offer professionally oriented higher education and have strong ties with working life (Universities of Applied Sciences Act 932/2014). Completing nursing studies consist of 210 - 270 ECTS credits, lasts from 3.5 to 4.5 years. Registered nurses require 210 credits, public health nurses and paramedics 240, and midwives 270 (Study in Finland 2018). The Finnish nursing education conform to the European Union Standards for Nursing and Midwifery which stipulate that instruction must include general and specialist medicine, general and specialist surgery, childcare and paediatrics, maternity care, mental health and psychiatry, care of the old and geriatrics and home nursing (Keighley 2009).

At the time of data collection, all twenty-one out of the twenty-five University of Applied Sciences in Finland that offered Degree Programme in Nursing were approached from research permission. Of these, nine granted the permission and further appointed a contact person or representative to assist in recruiting the potential participants. The remaining five granted permission but did not give directives about how to contact the students. Whereas the rest either did not grant permission (four) or did not respond (three) after three attempts made. The three of out of the nine institutions that granted research permission were used for the pilot study leaving six institutions for the sub-study III & IV.

**Experts for instrument development:** Using the snowball technic (Patton, 2002), the researcher contacted one expert from each of the following countries: Estonia, Latvia, Lithuania, Sweden and Denmark. These experts who belonged to the same network (Nordman network) with the research then recommended other experts. Additionally, a closed-Facebook group of 17 researchers in gerontological nursing in Finland were contacted. In total 37 experts were contacted of which 19 (51%) responded. The experts
(N=19) were from: Finland (five); USA (five), Sweden (four), Lithuania (two) and one each from Estonia, Latvia, and Canada. All experts were experienced Registered Nurse (RN) who either teaching gerontological nursing or conducting research in gerontology. They were made up of PhD Scholars (n = 14), and Master’s degree holders (n = 5). The researcher met in person with seven second year nursing students who willingly helped to assess the readability and understandability of the instrument.

**Participants for pre-pilot and pilot study (sub-study II):** For the pilot study, students (N = 1 247) who had completed gerontological nursing theoretical module their respective institutions were contacted after research permission was granted. The final pilot data included (n=196) nursing students who had completed the entire questionnaire in the survey.

**Participants for sub-study III & IV:** All students who had completed their gerontological nursing module in the respective institutions that granted me the research permissions were contacted. An email explaining the purpose of the study with link to the survey was sent to the various representatives who then contacted the students. For sub-study III, (N=2820) students from six Universities of Applied Sciences contacted, of which n = 331, (11%) answered to all items in the scale and were therefore included in the study.

For sub-study IV, the data from five UAS was used because the researcher forgot to include the link to the SINOPS scale to students in one of the institutions. The survey therefore consisted of n = 243, (10.3%) participants out of the targeted N=2351 students. The data was collected electronically during November 2018 to May 2019. Two reminders were sent to students while the survey was opened for two week. The data collection period was extended for one week with the hope to recruit more students. The data was then exported from the online survey system (Webropol 2.0) onto Statistical Package for Social Science (SPSS) software version 25 for analysis.

### 4.4 DATA ANALYSIS

**Data extraction and synthesis of literature review (sub-study I):** Constant comparison method was used to synthesis the data extracted from the literature. This method involves extracting, displaying, and comparison of data as well as drawing of conclusions, and verifying of data (Whittemore and Knafl 2005). First, the chosen articles were read thoroughly to get a broader understanding. The results and discussion of the selected articles were reviewed and tested for the purpose of the study. All data answering the research question were extracted and imported to a MS Excel sheet for analysis. Next, the data were sorted into sub-themes and main themes according to their context. The themes and sub-themes were given names and described. Finally, verification was done to ensure the appropriateness of the results (Whittemore and Knafl, 2005).

**Analysis of feedback from experts and pilot study (Sub-study II):** Thematic analysis was used to analyse the written feedback from the experts. The suggestions and comments
were sorted into themes according to their meanings. SPSS was used to analyse the numeric ratings of each of the item by the experts. All items that were rated 4 (relevant) and 5 (very relevant) by ≥75% of the experts was considered to be a consensus agreement of the item by the panel of experts (Bing-Jonsson, Björk, Hofoss, Kirkevold and Foss 2015). This is in line with Bing-Jonsson at al. (2015) argument that, 75% of respondents answering four or five on an item are considered cut-off for consensus in both round 1 and 2 of the Delphi feedback. Internal consistency was determined using Cronbach’s Alpha (α). This helps to determine how closely related a set of items are as a group with values ranging from 0 to 1. Generally, a score of ≥ 0.7 is considered good internal consistency. Cronbach’s Alpha (α) for each of the sub-scale was calculated and then for the whole scale (Gerrish and Lacey, 2013). For the construct validity, exploratory factor analysis was used to determine the underlying theoretical structure (Burton and Mazerolle 2011). The main factors were established using Eigenvalues greater than 1 and varimax rotation was used for interpreting which items best fit with which factor. A factor loading ≥ 0.3 was considered acceptable (Watson and Thompson, 2006).

**Statistical Analysis (sub-studies III & IV):** Descriptive statistics were used to describe the distribution of demographic variables. Frequency and percent were used to report the categorical variables: gender, age, academic year, previous work experience with older people, previous studies in social and/or health care, ever lived in the same house with older person and willingness to live in the same house with an older person. To assess students’ perception of their gerontological nurse teachers’ competence, means and standard deviations were calculated for each item and for the six sub-scales as well as the entire scale. A t-test was used to assess if there is a significant difference between the means of two groups, when the dependent variable was an interval scale. One-way ANOVA and post hoc test were used to determine whether statistically significant differences existed between the means of three or more independent groups. To establish directional relationship between gerontological nurse teachers’ competence and students’ willingness in older people nursing, the Pearson r was calculated (Kim, and Mallory 2017).

## 4.5 ETHICAL CONSIDRATIONS

Although the databases used in the literature review is extensive and has a variety of journals with full text, I recognize the possibility of selection bias in the literature reviews. As indicated by Edwards et al., (2002), there is the possibility that pair of reviewers would miss, on average, 4% of relevant studies. All the studies included in the literature review, were critically appraised by an independent academician to ensure the quality of the study (Stang, 2015).

Five of the experts are in the same network (nordman network) as the researcher. However the researcher has no authority over them and met them only once in a year during the network’s annual meeting and therefore bias was minimalized. Additionally, the feedback from the experts was gathered anonymously through electronic survey and therefore minimise the researcher’s influence on the experts responses. The seven students...
who participated in the pre-pilot study (face validity) were thought by the researcher. However, they did so voluntarily without any reward. On the other hand, those students who did not participate were not penalised in any form (Stang 2015, Finnish National Board on Research Integrity 2019).

Permission was sorted and granted for the use of the subscale (Willingness) of the Students’ Interest in Nursing Older People Scale (SINOPS) by Koskinen et al (2016). Following the General Data Protection Regulation (2018) by European Union, the researcher contacted the participating institution for research permission which was granted. Informed consent was also sorted from all the participants after explaining the purpose and requirements for participating in the research. The students were informed that participation was voluntary and they were assured they will remain anonymous throughout the study if they opted to participate in the study. The data was collected and saved on a secured computer with a password which could only be accessed by the researcher (General Data Protection Regulation 2018; Finnish National Board on Research Integrity 2019).

4.6 SUMMARY OF SUBJECTS AND METHODS

The preliminary items for the Gerontological Nurse Teacher Scale (GeNTS) were generated through a literature review. Experts (N=19) in gerontological nursing education then assessed the relevance of each of the items through a two-round Delphi feedback. This was followed by a review by nursing students (n=seven) to assess the readability and understandability in October 2018. For the psychometric assessment, a pilot study on nursing students (n=196) from three Universities of Applied Sciences was conducted. The final data for the descriptive cross-sectional correlational study was collected from nursing students (n = 331) in six Universities of Applied Sciences in Finland. Descriptive and inferential statistics were used to analyse the data.
5 RESULTS

The results reflect the various sub-studies and their respective research questions. First, the factors that hinder nursing students’ interest in gerontological nursing is shortly presented, followed by the feedback given by the experts and the final instrument. Next, students’ perspective of their gerontological nurse teachers’ competence and how such perceptions are associated with students’ interest in order people nursing are reported.

5.1 FACTORS PREVENTING NURSING STUDENTS’ INTEREST IN GERONTOLOGY (SUB-STUDY I, PUBLICATION I)

The literature review regarding the factors that deters nursing students from choosing a career in gerontological nursing included 21 empirical studies that were conducted in twelve countries across the globe. These included Australia (n = four), China (n = two), Israel (n = three) and the United Kingdom (n = three). Also there was one publication from each of the following countries: Finland, Norway, Philippines, Portugal, Sri Lanka, Sweden and Taiwan. The remaining studies included international samples: Australia and China (n = 1) and the United States, Scotland (UK) and Sweden (n = 1). Four main themes and thirteen sub-themes explained the reasons why nursing students did were not interested in gerontology careers (Figure 3).

Figure 3. Reasons why nursing students do not choose gerontological nursing as a career option.
5.2 INSTRUMENT DEVELOPMENT AND VALIDATION (SUB-STUDY II, PUBLICATION II)

Development of questionnaire items and rating scale: At the initial stage 43 items in the form of positive worded task statements that described the competence of a gerontological nurse teacher were identified from the literature review. These were put into seven sub-scales according to their theoretical construct and were later transferred onto an electronic survey platform (webropolsurveys, version 2.0), with a five-point Likert-type scale. There was the possibility to the experts to add comments to each item, if needed.

Content validity (feedback from experts): In the Delphi round one feedback, the experts found 41 out of the 43 items to be relevant to the competence of a gerontological nurse teacher. Only two items did not meet the cut-off point for consensus. The experts expressed their confirmation of the appropriateness of items quantitatively (table 1) and with comments such as:

"this is essential if we are going to recruit students into the specialty; they also need to demonstrate their "passion" or excitement in gero nursing"

"Often the mentors or preceptors have not had formal training, so it is very important to support them"

While the experts mainly agreed to the appropriateness of items, four items were taken out from the final version because they were thought to be similar to other items. Also, three other items that had a strong consensus, were left out of the final questionnaire because they were regarded to be difficult for students to answer. Two of the seven sub-scales were deemed to be similar and were therefore fused to form one sub-scale. There were also some comments regarding the structure and wording of some items which were revised per the comments by the experts. During the round one feedback, one new item emerged from the experts’ comments as follows; “Communicates their personal positive experiences in gerontological nursing career”. This yielded a 100% consensus from the experts during round two feedback, and was therefore added to the instrument. The two items that did not meet scientific cut-off point during the round one feedback, still did not meet consensus upon sending it to the experts for reconsideration. Based on the feedback from the experts, a final pool of 33 items, divided into six sub-scale emerged for psychometric assessment (table 3).
Table 3. Items with their consensus levels (i.e. the percentage of respondents who rated the item as 4 = relevant, or 5 = very relevant) and references

<table>
<thead>
<tr>
<th>Items</th>
<th>Consensus level (%)</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge and interest</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrates a broad view in gerontological nursing theory</td>
<td>94.7</td>
<td>Ben et al., 2015; Haron et al., 2013;</td>
</tr>
<tr>
<td>Demonstrates confidence in gerontological nursing practice</td>
<td>89.4</td>
<td>Gustafsson et al. 2015; Pennbrant, 2016; Salminen et al. 2013;</td>
</tr>
<tr>
<td>Utilizes research in gerontological nursing course</td>
<td>89.4</td>
<td>Burbank et al 2006</td>
</tr>
<tr>
<td>Is informed about current issues related to older people</td>
<td>94.7</td>
<td>Burbank et al 2006; Koskinen et al, 2012</td>
</tr>
<tr>
<td>Demonstrates interest in teaching gerontological nursing</td>
<td>88.8</td>
<td>Ibrahim &amp; Qalawa, 2015; Burbank et al 2006; Duggan et al., 2013; Koskinen et al, 2012</td>
</tr>
<tr>
<td>Promotes the image of gerontological nursing</td>
<td>77.7</td>
<td>Ibrahim &amp; Qalawa, 2015; Burbank et al 2006; Duggan et al., 2013; Koskinen et al, 2012</td>
</tr>
<tr>
<td>Communicates his/her personal positive experiences in gerontological nursing</td>
<td>100</td>
<td>Gustafsson et al 2015;</td>
</tr>
<tr>
<td><strong>Concerns about aging</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increases students’ empathy towards older people</td>
<td>94.4</td>
<td>Ben et al., 2015; de Guzman et al., 2013; McKenzie &amp; Brown, 2014; Shen &amp; Xiao, 2012; Stevens, 2011; Xiao et al, 2013</td>
</tr>
<tr>
<td>Provides knowledge about memory disorders and ageing process</td>
<td>100</td>
<td>Ben et al., 2015; Haron et al., 2013</td>
</tr>
<tr>
<td>Addresses students’ possible concerns about aging</td>
<td>94.4</td>
<td>Ben et al., 2015; Cheng et al., 2015; Chi et al., 2016; Gonçalves et al., 2011; Haron et al., 2013; Rathnayake et al 2016; Shen &amp; Xiao 2012</td>
</tr>
<tr>
<td>Addresses students’ possible concerns about aging</td>
<td>94.4</td>
<td>Henderson et al., 2008; King et al., 2013; Kloster et al., 2007; Koskinen et al, 2012; Kydd et al., 2014; Stevens, 2011;</td>
</tr>
<tr>
<td><strong>Career Promotion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emphasizes the potentials in gerontological nursing career</td>
<td>89.4</td>
<td>Henderson et al., 2008; King et al., 2013; Kloster et al., 2007; Koskinen et al, 2012; Kydd et al., 2014; Stevens, 2011;</td>
</tr>
<tr>
<td>Emphasizes the possibilities of job satisfaction in a gerontological nursing career</td>
<td>84.2</td>
<td>Duggan et al., 2013; Henderson et al., 2008; King et al., 2013; Kloster et al., 2007; Kydd et al., 2014; Stevens, 2011</td>
</tr>
<tr>
<td>Emphasizes the possibilities for professional growth in gerontological nursing career</td>
<td>78.9</td>
<td>Abbey et al., 2006; Ben et al., 2015; Haron et al., 2013; Kloster et al., Kydd et al., 2014; 2007; Stevens, 2011</td>
</tr>
<tr>
<td>Highlights the benefits involved in gerontological nursing career</td>
<td>83.3</td>
<td>Henderson et al., 2008; King et al., 2013; Kloster et al., 2007; Koskinen et al, 2012; Kydd et al., 2014; Stevens, 2011;</td>
</tr>
<tr>
<td>Emphasizes the demands for nurses in</td>
<td>83.3</td>
<td>Brown et al., 2008; Kloster et al., 2013;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>gerontological nursing</td>
<td>2007; McKenzie &amp; Brown, 2014</td>
<td></td>
</tr>
<tr>
<td>Demonstrates enthusiasm in gerontological nursing careers</td>
<td>88.8</td>
<td>Burbank et al 2006; Koskinen et al, 2012</td>
</tr>
<tr>
<td><strong>Clinical Placement Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emphasizes nurses’ responsibilities in gerontological nursing</td>
<td>83.8</td>
<td>Brown et al., 2008; Kloster et al., 2007; McKenzie &amp; Brown, 2014</td>
</tr>
<tr>
<td>Supports students during gerontological nursing practical training</td>
<td>94.4</td>
<td>Ben et al., 2015; Carlson &amp; Idvall, 2015; Duggan et al., 2013; King et al., 2013; Kydd et al., 2014; Lea et al. 2015</td>
</tr>
<tr>
<td>Support mentors during gerontological nursing practical training</td>
<td>88.8</td>
<td>Carlson &amp; Idvall, 2015; Lea et al. 2015</td>
</tr>
<tr>
<td>Cooperate with stakeholders to improve gerontological nursing clinical placement</td>
<td>83.3</td>
<td>Abbey et al., 2006; Brown et al., 2008; Duggan et al., 2013; King et al., 2013; Kloster et al., 2007; Kydd et al., 2014).</td>
</tr>
<tr>
<td><strong>Theoretical course development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilizes technology in gerontological nursing course</td>
<td>88.8</td>
<td>Allan et al 2013; Nguyen et al., 2011; Oprescu et al 2017; Petit dit Dariel et al., 2013; de Swardt et al 2017</td>
</tr>
<tr>
<td>Utilizes simulations to help students to understand what being an older person feels like</td>
<td>83.3</td>
<td>Henry et al 2011</td>
</tr>
<tr>
<td>Utilizes older adults as education partners</td>
<td>88.8</td>
<td>Baumbusch et al 2012; Kalisch et al, 2013; Reitmaier et al 2015; Rejeh et al., 2011; Swanlund &amp; Kujath, 2012</td>
</tr>
<tr>
<td>Utilizes working life partners as education partners</td>
<td>88.8</td>
<td>Carlson &amp; Idvall, 2015; Cheng et al., 2015; Brown et al., 2008; Kloster et al., 2007; McKenzie &amp; Brown, 2014</td>
</tr>
<tr>
<td>Emphasizes the importance of cultural diversity issues in aging</td>
<td>83.3</td>
<td>Ben et al., 2015; Chi et al., 2016; Kydd et al., 2014; Xiao et al 2013</td>
</tr>
<tr>
<td>Supports individual students with diverse backgrounds</td>
<td>83.3</td>
<td>Gonçalves et al., 2011; McKenzie &amp; Brown, 2014</td>
</tr>
<tr>
<td><strong>Leadership in gerontological nursing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creates a positive learning environment</td>
<td>100</td>
<td>de Swardt et al 2017; Ibrahim &amp; Qalawa, 2015; Klunklin et al., 2011; Nouri et al., 2013</td>
</tr>
<tr>
<td>Exhibits ethical and moral characteristics in issues related to older people</td>
<td>88.8</td>
<td>Areewan et al 2011; de Swardt et al 2017; Ibrahim &amp; Qalawa, 2015</td>
</tr>
<tr>
<td>Acts as a role model for nursing students</td>
<td>88.8</td>
<td>Ibrahim &amp; Qalawa, 2015; Burbank et al 2006; Duggan et al, 2013; Koskinen et al, 2012</td>
</tr>
<tr>
<td>Treat students with respect and dignity</td>
<td>94.4</td>
<td>de Swardt et al 2017; Ibrahim &amp; Qalawa, 2015; Klunklin et al., 2011; Nouri et al., 2013</td>
</tr>
<tr>
<td>Inspires students to take up careers in gerontological nursing</td>
<td>94.4</td>
<td>Ibrahim &amp; Qalawa, 2015; Burbank et al 2006; Duggan et al, 2013;</td>
</tr>
<tr>
<td>Champions the cause of older people</td>
<td>94.4</td>
<td>Burbank et al 2006; Koskinen et al, 2012</td>
</tr>
</tbody>
</table>
**Internal consistency:** The result for Cronbach’s Alpha for the entire scale was 0.97 and ranged from 0.87 to 0.94 for the different sub-scales (Publication III, Table 3). These indicate how closely related the items are as a whole and as sub-scales. It indicates a high level of the reliability of the scale (Gerrish and Lacey, 2013).

**Construct validity:** The Explanatory factor analysis (Publication II, Table 4) indicates that the final pool of 33 items of the scale confirms the underlying theoretical construct of the phenomena (Burton and Mazerolle 2011, Gerrish and Lacey 2013). The explanation of this factor solution (Publication II, Table 4) is further confirmed by the high levels of factor loadings which were above 0.30 as suggested by Watson and Thompson (2006). These six factors were: ‘Factor 1= Knowledge and interest; Factor 2= Theoretical course development, Factor 3= practical training development; Factor 4= Leadership, Factor 5= Career promotion and Factor 6= Concerns about aging. With the high degree of factor loadings, no item was removed from the scale. Thus, the GeNTS scale is made up of 33 items categorized into six sub-scales. It is rated on five-point Likert scale, from 1 (completely disagree) to 5 (completely agree).

### 5.3 STUDENTS’ PERSPECTIVES OF THEIR GERONTOLOGICAL NURSE TEACHERS’ COMPETENCE (SUB-STUDY III, PUBLICATION III)

**Students demographic background:** Publication III, Table 2 indicate that there were 291 (87.9%) female, 37 (11.2%) male, and the rest 3, (0.9%) specified their gender as other. The participants were between 19 years and 57 years. Most 187 (57%) of them were 26 years or older while the average age was 30 years. There were 44 (13.3%) students in the 1st year, 110 (33.2%) in the 2nd year, 131 (39.6%) in the 3rd year and 46 (13.9%) in the 4th year. Just a bit above half (51.2%) had previous studies in social or health care, while a majority 233 (70.4%) of them had earlier worked with older people. Whereas just about a quarter (24%) had ever lived in the same house with an older person, many (57%) were willing to live in the same house with older an older person.

**Students’ perspectives of their gerontological nurse teachers’ competence:** As illustrated in Publication III, (Table 3) the students somewhat indicate that their gerontological nurse teachers have the competence in facilitating student interest in older people nursing (M=3.25, SD = 0.88). The knowledge and interest of the teachers was rated the highest (M=3.62, SD = 0.92) sub-scale, while “theoretical course development” was ranked the lowest (M=2.84, SD = 0.99) sub scale.

Furthermore, the students perceived their teachers to be well informed about current issues related to older people (M=3.95, SD = 0.99). The next item that the students rated higher about their teachers was the teachers’ abilities to demonstrate ethical and moral characteristics in issues about older people (M=3.89, SD=1.06) which was followed by the teachers’ abilities to utilize research in gerontological nursing course (M=3.74, SD =1.09). The students further agreed that their teachers provide knowledge about memory disorders
and the ageing process (M=3.74, SD=1.12) and demonstrate interest in teaching gerontological nursing (M=3.69, SD=1.16). The lowest mean score (2.57, SD = 1.22) on the other hand, was the teachers’ abilities to utilize older adults as education partners. Also the students perceived the teachers’ abilities to utilize simulations to help students to understand what being an older person feels like very low (M=2.63, SD=1.37). They further disagree that their teachers highlight the incentives involved in a gerontological nursing career (M=2.76, SD=1.20). Additionally, the students thought that their gerontological nurse teachers somewhat did not emphasize the possibilities of job satisfaction in a gerontological nursing career (M=2.77, SD=1.16).

5.4 ASSOCIATION BETWEEN GERONTOLOGICAL NURSE TEACHERS’ COMPETENCE AND STUDENTS’ WILLINGNESS IN OLDER PEOPLE NURSING (SUB-STUDY IV)

Table 4: Correlation between students’ demographic variables and gerontological nurse teachers’ abilities (N=331) with n, % mean, SD and p.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
<th>Mean (SD)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td>.250</td>
</tr>
<tr>
<td>Female</td>
<td>214</td>
<td>88.1</td>
<td>3.17 (0.84)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>11.9</td>
<td>2.98 (0.89)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td>.604</td>
</tr>
<tr>
<td>≤ 25 year</td>
<td>85</td>
<td>35</td>
<td>3.12 (0.78)</td>
<td></td>
</tr>
<tr>
<td>≥ 26 years</td>
<td>130</td>
<td>53.5</td>
<td>3.18 (0.87)</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>28</td>
<td>11.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic year*</td>
<td></td>
<td></td>
<td></td>
<td>.006</td>
</tr>
<tr>
<td>1st year</td>
<td>22</td>
<td>9.1</td>
<td>3.73 (0.55)</td>
<td></td>
</tr>
<tr>
<td>2nd year</td>
<td>85</td>
<td>35</td>
<td>3.04 (0.88)</td>
<td>.004</td>
</tr>
<tr>
<td>3rd year</td>
<td>101</td>
<td>41.6</td>
<td>3.09 (0.82)</td>
<td>.008</td>
</tr>
<tr>
<td>4th year</td>
<td>35</td>
<td>14.4</td>
<td>3.25 (0.90)</td>
<td>.157</td>
</tr>
<tr>
<td>Work experience with old people</td>
<td></td>
<td></td>
<td></td>
<td>.281</td>
</tr>
<tr>
<td>Yes</td>
<td>179</td>
<td>73.7</td>
<td>3.12 (0.86)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>64</td>
<td>26.3</td>
<td>3.25 (0.83)</td>
<td></td>
</tr>
<tr>
<td>Previous education in social/healthcare</td>
<td></td>
<td></td>
<td></td>
<td>.724</td>
</tr>
<tr>
<td>Yes</td>
<td>127</td>
<td>52.3</td>
<td>3.13 (0.87)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>116</td>
<td>47.7</td>
<td>3.17 (0.84)</td>
<td></td>
</tr>
<tr>
<td>Ever lived with an older person</td>
<td></td>
<td></td>
<td></td>
<td>.686</td>
</tr>
<tr>
<td>Yes</td>
<td>68</td>
<td>28</td>
<td>3.12 (0.910)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>175</td>
<td>72</td>
<td>3.16 (0.83)</td>
<td></td>
</tr>
<tr>
<td>Willing to live with an older person</td>
<td></td>
<td></td>
<td></td>
<td>.014</td>
</tr>
<tr>
<td>Yes</td>
<td>133</td>
<td>54.7</td>
<td>3.27 (0.84)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>110</td>
<td>45.3</td>
<td>3.0 (0.85)</td>
<td></td>
</tr>
</tbody>
</table>

*Oneway anova
Correlation between students’ demographic variables on gerontological nurse teachers’ competence: Students’ academic year indicated in Table 4 had a statistically significant difference (P = .006) with how they perceived their gerontological nurse teachers’ competence. Based on a One-way ANOVA and post hoc test first year students were more positive about their gerontological nurse teachers’ competence than second year, (P = .004) and third year (P = .008) students. However, no statistically significant difference was noted with regards to how the first year students’ perceived the competence of their gerontological nurse teachers compared to their counterparts in the fourth year (P = .157).

Also, as shown by a t-test, those students who were willing to live with an older person in the same house, rated their gerontological nurse teachers’ competence higher than those who did not want to live in the same house with an older person (P = .014). However, the results did not indicate any statistically significant difference with regards to the students’ perception of their teachers’ abilities and gender, previous work experience with older people, and previous education in social and/or healthcare. (Table 4)

The association between perceived gerontological nurse teachers’ competence and students’ willingness in older people nursing: According to the results of Pearson correlation test (Publication IV, Table 3), a moderate positive association was noted between students’ perception of their gerontological nurse teachers’ competence and students’ willingness in older people nursing (r = 0.25, N = 243, p < .001). The students’ willingness in older people nursing, and had a moderate statistically significant positive association (r=0.26, p<.001) with perceived abilities of the teachers to develop gerontological nursing course. Thus, perceived teachers abilities to develop gerontological nursing course, most influenced students’ willingness in older people nursing. On the other hand, teachers’ knowledge and interest in gerontology, least influenced and showed a significantly significant weak positive association (r=0.14, p=.025) with students’ willingness in older people nursing (Publication IV, Table 3).

The Association between the most and least influential teachers’ competence and students’ willingness in older people nursing: The association between 10 most frequent gerontological nurse teachers’ competence and students’ willingness in older people nursing was rather weak (r = 0.18, p = .005). However, the ten least frequent gerontological nurse teachers’ competence showed a moderate (r = 0.27, p < .001) positive association with students’ willingness in older people nursing (table 5).
Table 5. Association between the ten most and least frequent students’ perception of their gerontological nurse teachers’ competence and influence on students' willingness in older people nursing (r, p with descending Mean with SD).

<table>
<thead>
<tr>
<th>Teachers’ abilities (GeNTS)</th>
<th>r</th>
<th>*p</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students’ ten most frequent perception about their teachers’ competence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Is informed about current issues related to older people</td>
<td>0.12</td>
<td>.100</td>
<td>3.93</td>
<td>1.00</td>
</tr>
<tr>
<td>29. Exhibits ethical and moral characteristics in issues related to older people</td>
<td>0.20</td>
<td>.002</td>
<td>3.86</td>
<td>1.07</td>
</tr>
<tr>
<td>3. Utilizes research in gerontological nursing course</td>
<td>0.10</td>
<td>.409</td>
<td>3.67</td>
<td>1.09</td>
</tr>
<tr>
<td>5. Demonstrates interest in teaching gerontological nursing</td>
<td>0.14</td>
<td>.028</td>
<td>3.67</td>
<td>1.17</td>
</tr>
<tr>
<td>9. Provides knowledge about memory disorders and ageing process</td>
<td>0.11</td>
<td>.079</td>
<td>3.65</td>
<td>1.16</td>
</tr>
<tr>
<td>1. Demonstrates a broad view in gerontological nursing theory</td>
<td>0.10</td>
<td>.120</td>
<td>3.59</td>
<td>1.03</td>
</tr>
<tr>
<td>18. Emphasizes nurses’ responsibilities in gerontological nursing</td>
<td>0.20</td>
<td>.003</td>
<td>3.58</td>
<td>1.04</td>
</tr>
<tr>
<td>31. Treat students with respect and dignity</td>
<td>0.15</td>
<td>.023</td>
<td>3.57</td>
<td>1.25</td>
</tr>
<tr>
<td>33. Champions the cause of older people</td>
<td>0.19</td>
<td>.004</td>
<td>3.53</td>
<td>1.17</td>
</tr>
<tr>
<td>8. Increases students’ empathy towards older people</td>
<td>0.18</td>
<td>.005</td>
<td>3.46</td>
<td>1.03</td>
</tr>
<tr>
<td><strong>Students’ ten least frequent perception about their teachers’ competence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Utilizes working life partners (nurses, leaders in gerontological nursing and health care) as education partners</td>
<td>0.22</td>
<td>.001</td>
<td>2.84</td>
<td>1.20</td>
</tr>
<tr>
<td>27. Supports individual students with diverse backgrounds</td>
<td>0.20</td>
<td>.003</td>
<td>2.82</td>
<td>1.20</td>
</tr>
<tr>
<td>21. Cooperate with stakeholders to improve upon gerontological nursing practical training</td>
<td>0.20</td>
<td>.002</td>
<td>2.81</td>
<td>1.15</td>
</tr>
<tr>
<td>14. Emphasizes the possibilities for professional growth in gerontological nursing career</td>
<td>0.25</td>
<td>.001</td>
<td>2.76</td>
<td>1.11</td>
</tr>
<tr>
<td>26. Emphasizes the importance of cultural diversity issues in aging</td>
<td>0.20</td>
<td>.001</td>
<td>2.76</td>
<td>1.17</td>
</tr>
<tr>
<td>20. Support students’ mentors during gerontological nursing practical training</td>
<td>0.22</td>
<td>.001</td>
<td>2.68</td>
<td>1.14</td>
</tr>
<tr>
<td>15. Highlights the benefits involved in gerontological nursing career</td>
<td>0.19</td>
<td>.003</td>
<td>2.65</td>
<td>1.16</td>
</tr>
<tr>
<td>13. Emphasizes the possibilities of job satisfaction in gerontological nursing career</td>
<td>0.25</td>
<td>.001</td>
<td>2.63</td>
<td>1.12</td>
</tr>
<tr>
<td>24. Utilizes older adults as education partners</td>
<td>0.16</td>
<td>.012</td>
<td>2.46</td>
<td>1.15</td>
</tr>
<tr>
<td>23.Ultimizes simulations to help students to understand what being an older person feels like</td>
<td>0.24</td>
<td>.001</td>
<td>2.45</td>
<td>1.30</td>
</tr>
</tbody>
</table>

*Sig (2 tailed)
5.5 SUMMARY OF RESULTS

The results do the literature review indicated that the dearth of students’ interest in older people nursing could be due to the students’ negative experiences, perception and knowledge about ageing. Additionally, nursing students’ seems to think of gerontological nursing as lacking prospects for professional development and having lower professional status. Furthermore, nursing curriculums seems to reinforce the notion of contemporary nursing as technical, with less focus on gerontological nursing.

The items for the Gerontological Nurse Teacher Scale (GeNTS) were identified through literature reviews. Using the experts' opinion and psychometric testing, the final version of GeNTS consisted of 33 items divided into six sub-scales as follows: knowledge and interest; concerns about aging, gerontology career promotion, practical training development; theoretical course development; and leadership in gerontological nursing. The items in the scale are measured on a five-point Likert scale where 1=completely disagree and 5=completely agree.

The results of the current study demonstrate that, the students somewhat perceived their gerontological nursing teachers to have the competence to facilitate students’ interest in older people nursing. They agreed that the teachers have knowledge and interest in older people nursing and demonstrated leadership in gerontology. However, they were uncertain about their teachers’ abilities to address students concerns about aging, promote gerontology careers, and to develop gerontological nursing theory and practical training.

Finally, this study reviewed a statistically significant moderate positive association between students’ willingness in older people nursing and students' perception of their gerontological nurse teachers' competence. The 10 most influential (frequent) gerontological nurse teachers’ competence had a weak association with students’ willingness in older people nursing. On the other hand, the ten least influential (frequent) gerontological nurse teachers’ competence indicated a moderate positive association with students’ willingness in older people nursing.
6 DISCUSSION

6.1 DISCUSSION OF RESULTS

Students’ interest in older people nursing: The results of the literature review indicated that exposing students to healthy older adults before and during their gerontological nursing course is vital to promote students’ interest in gerontology careers. This is because students’ with prejudice and stereotypical mindset about older people are more likely to have a negative attitude towards a career in gerontology upon graduation. Again, exposure of nursing students to healthy older people during gerontological nursing courses is important to stave off any biases regarding older people is critical (Rejeh et al., 2011). Giving students the opportunity to interact with older people can help to mitigate some of the prejudice and stereotypical attitudes that student may have about older adults (Rejeh et al., 2011; Baumbusch et al. 2012; Reitmaier et al. 2015). Although, the sustainability of such interactions could be questioned, sequential visit, where students meet and interact with older people is found to be effective (Walsh and Chen, 2008).

In concordance with earlier research (Rejeh et al., 2011), the present study also found that unpleasant experiences during clinical placement as a result of poor standards of care, can fuel students’ lack of interest in pursuing a career in gerontology after graduation. To minimize such negative experiences from clinical placements, previous researchers (Carlson and Idvall 2015; Duggan et al., 2013, Neville et al., 2014), have highlighted the importance of collaboration between faculty members and gerontological nursing clinical partners. Such collaboration should focus on creating an enabling and conducive learning environment for both nursing students and practice supervisors.

It was worrisome to uncover how nursing students felt unprepared to care for the older people due to limited amount of resources reserved in their nursing curriculum for gerotological related courses (Swanlund and Kujath 2012). Clearly, nursing faculties should make a deliberate effort to include gerontology-related modules in their curriculums of all nursing students in order to change this phenomenon. For instance, a stand-alone gerontology course for all nursing students seems to be effective in ensuring that students are well prepared to care for older adults (Fagerberg and Gilje 2007, Koskinen et al., 2012). Additionally, having teachers with high gerontological nursing profile is recommended to administer gerontological nursing studies (Koskinen et al., 2012).

Instrument development and validation: The instrument was developed to reflect the multidimensional construct teaching (Altaf et al., 2013). This is because assessing teachers’ abilities can be complex and controversial due to the multidimensional nature of teaching. The instrument therefore was developed to have specific contextual knowledge, skills and attributes of a gerontological nurse teacher. The development of the GeNTS went through rigorous phases to ensure, that it measures the measures the appropriate content (content validity). Furthermore, the extensive instrument development process helped to strengthen the face validity, internal consistency, and construct validity.
The literature view (Garbrah et al., 2017), which formed the bases of the instrument development is in concordance with other reviewed studies which highlight the factors that hinder and promote students’ interest in gerontology careers (Algoso et al., 2016; Neville et al., 2014). Seeking the opinion of the panel of experts and the feedback from the nursing students further contributed to the validity and reliability of the instrument (Burton and Mazerolle, 2011).

**Gerontological nurse teachers’ competence in facilitating students’ interest in older people nursing:** The results of the current study further indicated that the participants somewhat perceived their gerontological nurse teachers’ to have the competence in facilitating students’ interest in gerontology careers. In the student’s opinion, their teachers are knowledgeable and interested gerontological nursing theory. The teachers also demonstrated gerontological nursing clinical competence according to the students’ responses. This impression that students have about their gerontological nursing teachers is very significant in motivating students’ to pursue a career in nursing. As Gonçalves et al. (2011) argue, nursing students’ interest in gerontology career can be promoted if experts from different settings, such as academia, possess relevant, up-to-date knowledge about aging processes. Similar to previous studies (Gustafsson et al., 2015, Baldwin et al., 2014), the current study emphasize the importance of nurse teachers to demonstrate clinical nursing competence in order to identify an appropriate theory that can be related to the practical situation.

Additionally, in the students’ opinion the gerontological nurse teachers are confidence and enthusiastic about older people nursing. They also felt that their teachers are knowledgeable about issues related to older people. This notion that students have about their teachers who teaches gerontological nursing is significant in motivating students’ career interest in older people nursing. As recommended by Koskinen et al., (2012), students’ interest in older people nursing can be boosted by ensuring that the teachers who administer gerontology-related courses are enthusiastic and competent in older people nursing. Similarly, Klunklin et al., (2011) and Nouri et al., (2013) highlighted the significance of a nurse teacher to be enthusiastic about their job in order to offer a high standard of teaching activities.

In concordance with Ibrahim & Qalawa, (2016), the students mostly perceived their teachers exhibited leadership in gerontology and demonstrated respect and decent behavior towards issues related to older people. Similar to Klunklin et al., (2011) and Ibrahim & Qalawa’s (2016), argument, the students indicated that their gerontological nurse teachers were respectful and polite towards their students.

The development of theoretical course is a significant responsibility of every teacher (Chilemba and Bruce 2016). However, it was worrying to notice that this was the least rated sub-scale in the entire instrument. For instance, students were uncertain about their teachers’ abilities to utilize technology in a gerontological nursing course. To make gerontological nursing course attractive, de Swardt et al., (2017), urged nurse teachers to employ technological solution in their teaching to meet the needs of their students with diverse background. The tendency of increasing students’ appetite for a career in gerontology can increase when gerontological nursing courses are engaging and attractive. Furthermore, the current study ascribes to Henry et al (2011), who highlight the need to use...
for nurse teachers to use different technological and pedagogical solutions such as games and simulations to help students to appreciate how it feels to be an older adult. This could potentially boost students’ desire to consider career in gerontology upon graduation (Henry et al., 2011). However, to employ these technological advancements in teaching, teachers would require institutional support in a form of training and equipping teachers with the need skills and resources (de Swardt et al., 2017, Oprescu et al., 2017). The students also noted that their teachers do not utilize older adults as education partners as this was the least rated item on the scale. As much as this is a worrying observation, the challenges in organizing older adults as educational partners must be recognized. Although, it well documented that exposing student nurses to older adults is vital in myth busting and increasing students’ interest in gerontology careers (Cheng et al., 2015; Chi et al., 2016; Gonçalves et al., 2011), the sustainability of such exposure is uncertain, (Leung et al. 2012). An intermittent interaction with older adults is recommended to sustain students’ attitudinal change toward older adults (Leung et al., 2012).

The current study revealed that, the issues that most influenced students’ willingness in older people nursing were rather related low by the students. For instance, students were uncertain about whether or not their gerontological nurse teachers emphasize the potentials for job satisfaction and potentials for professional advancement in gerontology careers. As noted in Israel, the possibility for nursing students to pursue further studies and become Clinical Nurse Specialists in gerontology led to increased student interest in older people nursing (Haron et al., 2013). Further in support of earlier studies, gerontological nurse teachers should make cautious effort in highlighting the incentive and prospects in pursuing a career in gerontology (Koskinen et al., 2012; Kydd et al., 2014).

6.2 VALIDITY AND RELIABILITY OF STUDY

The rigor process employed in screening the studies included in the literature view increase the credibility of this work. The total number of participants (N = 9,532) involved in the literature review (sub-study I) was large with heterogeneous characteristics from a wide geographical area. No single empirical study is likely to be able to gather such rich data. Also, the predefined protocol for the literature search contributed to the study’s reliability (JBI Manual, 2014). Although the search was conducted in three major scientific databases we acknowledge the possibility of availability bias where potentially relevant studies published in other databases may have been missed (Edwards et al., 2002).

The GeNTS was developed through a thorough process to warrant the validity and reliability of the instrument (Heshmati-Nabavi & Vanaki 2010). Although the instrument was developed based on a literature review (Garbrah et al., 2017), which is in line with previously reviewed studies (Algoso et al., 2016; Neville et al., 2014), it must be acknowledged that not all relevant constructs might have been captured in this tool. The two rounded feedback from the experts and the comments by the nursing students further helped to strengthen validity and reliability of the instrument (Burton and Mazerolle 2011). Also, the heterogeneous background of the experts was substantial in producing a varied consensus to increase content validity of the instrument. All the experts had registered
nursing background and were experts in gerontological nursing research and/or education. The experts included PhD Scholars (n = 14), and Masters’ degree holders (n = 5). The experts were therefore experienced, knowledgeable and competent in making professional judgement intuitively (Cowan et al., 2007). While the experts lived and worked in different geographical settings was significant in providing a varied consensus, it was also a limitation in to encounter the experts face-to-face. I therefore recognize that encountering the experts in person, could potentially yield a more in-depth exploration (Gerrish and Lacey 2013).

A strong consensus was already established during the round one of the Delphi feedback. Seventy-five percent or more (≥75%) of the experts agreed that 41 out of the 43 items were either relevant (4) or very relevant (5) to gerontological nurse teachers competent. This clear consensus could be attributed to the strong theoretical bases of each of the questionnaire items which emanated from previous literature (Morrell-Samuels 2002). Thus rather than developing items based on our own thoughts, the sources of the instrument originated from research evidence (French 2012). The high level of internal consistency (Publication III, Table 3) of the six sub-scales and the entire instrument is clear indication of how close the items are related to each other. Thus, the items confirm and measure the same fundamental construct (Burton and Mazerolle 2011).

The fact that the survey was self-administered helped to reduce potential pressure on the participants to impress the researcher with their responses (Gerrish &and Lacey, 2013). However, while all students’ impressions are right, weather they are subject and related to their previous experiences or other circumstances is unknown. Thus, the students’ perspective of the gerontological nurse teachers’ competence as presented on this study is subjective. Although students’ evaluation of their teachers’ competence is significant for quality control, it remain questionable as a tool for improving teachers’ performance and having competent graduates. This is because of the different interpretation the participants might have about the questionnaire. Finally, the generalizability of the current study is questionable, due to the low response rate of students from the six out of the twenty-one Universities of Applied Sciences in Finland that offer degree programs in nursing.

6.3 PRACTICAL IMPLICATIONS AND RECOMMENDATIONS FOR FURTHER STUDIES

Implications for nursing education
- It is important to give students the opportunity to interact with older adults before gerontological nursing clinical placement. Particularly, exposing students to healthy older people could stave off any prejudiced and stereotypical attitudes.
- Nursing faculties should endeavor to include a stand-alone gerontology-related course in curriculum for all nursing students, regardless of their specialization option.
Nursing faculties must ensure that there are enough personnel with reputable gerontology background to develop and sustain a gerontological nursing profile, and to promote a positive attitude toward older people nursing among students and faculty.

Gerontological nurse teachers should make deliberate effort to correct students’ misconceptions about older people nursing by highlighting the incentives and potentials in gerontology careers.

Gerontological nurse teachers should concentrate on making gerontological nursing courses more attractive by using technology and simulations to help students to understand what being an older person feels like.

**Implications for nursing practice**

- Gerontological nursing placement partners must liaise with nursing faculty and other stakeholders to develop and improve upon the pedagogical and supportive clinical placement atmosphere for nursing students.

- Registered nurses must act practice supervisors and role models for nursing students during gerontological nursing clinical placements.

**Recommendations for further studies**

Based on this study, gaps in the literature were identified in the following areas:

- Lack of longitudinal studies to follow any changes in students’ interest to choose a career in gerontological nursing is recommended.

- A qualitative study is needed to understand meaning behind students’ rating of their gerontological nurse teachers’ competence.

- Teachers who administer gerontological nursing course could self-assess their competence in facilitating students’ interest in older people nursing using the GeNTS scale.

**6.4 CONCLUSIONS**

Nursing students’ lack of or inadequate positive experiences with older people before and during their studies hinder their interest in gerontological nursing. In addition, unpleasant experiences from gerontological nursing clinical placements strengthen students’ prejudices and stereotypical attitudes towards older people nursing. Further, nursing curriculums reinforces the perception of contemporary nursing as technical, with less focus on gerontological nursing. Thus, nursing faculties’ commitment to develop an aged-friendly curriculum cannot be over emphasized.

The rigor processes in developing the instrument, and the high validity and reliability tests, are indications that the GeNTS can be confidently used to assess the competence of gerontological nurse teachers in facilitating students’ interest in older people nursing.

In general, the student somewhat perceived their gerontological nurse teachers have the competence to facilitate students’ interest in older people nursing. Gerontological nurse
teachers must highlight the incentives and potentials in gerontology careers and address any concerns students might have about older people nursing. The results of this study further indicate that the development of a gerontological nursing course not should focus on only providing knowledge and skills but also an effort must be made to change the attitudes of students nursing care of older people.

The current study indicates that, students’ opinion about their gerontological nurse teachers’ abilities has a significant impact on students’ willingness in older people nursing. However, the items that most influence student willingness in older people nursing were rated lower by the students, while those items that had weak or insignificant association with student willingness in older people nursing were rated higher. Faculty therefore need to ensure that there is adequate personal with expertise in gerontological nursing to advocate for resources to establish a reputable gerontological nursing profile in nursing curriculum and to develop and sustain a positive attitude towards older people nursing among students and staff.
7 REFERENCES


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APPENDIX

APPENDIX 1: THE GERONTOLOGICAL NURSE TEACHER SCALE (GeNTS)
Kindly score the items according to what you think about the work of your gerontological nurse teacher on a scale 1-5.
1 = strongly disagree/ rarely performs,
2 = disagree/ performs occasionally,
3 = somewhat agree/ performs on average,
4 = agree/ performs frequently
5 = strongly agree/ performs more than frequently

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<th>Knowledge and interest</th>
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<tr>
<td>1. Demonstrates a broad view in gerontological nursing theory</td>
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<td>2. Demonstrates confidence in gerontological nursing practice</td>
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<td>3. Utilizes research in gerontological nursing course</td>
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<td>4. Is informed about current issues related to older people</td>
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<td>5. Demonstrates interest in teaching gerontological nursing</td>
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<td>6. Promotes the image of gerontological nursing</td>
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<td>7. Communicates his/her personal positive experiences in gerontological nursing</td>
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<td>8. Increases students’ empathy towards older people</td>
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<td>9. Provides knowledge about memory disorders and ageing process</td>
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<td>10. Addresses students’ possible concerns about aging</td>
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<td>11. Addresses students’ possible concerns about careers in gerontological nursing</td>
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<td>12. Emphasizes the potentials of careers in gerontological nursing</td>
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<td>13. Emphasizes the possibilities of job satisfaction in gerontological nursing career</td>
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<td>14. Emphasizes the possibilities for professional growth in gerontological nursing career</td>
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<td>15. Highlights the benefits involved in gerontological nursing career</td>
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<td>16. Emphasizes the demands for nurses in gerontological nursing</td>
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<td>17. Demonstrates enthusiasm in gerontological nursing careers</td>
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Practical training development
18. Emphasizes nurses’ responsibilities in gerontological nursing  
19. Supports students during gerontological nursing practical training  
20. Support students’ mentors during gerontological nursing practical training  
21. Cooperate with stakeholders to improve upon gerontological nursing practical training  

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<th>Theoretical course development</th>
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<td>22. Utilizes technology in gerontological nursing course</td>
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<td>23. Utilizes simulations to help students to understand what being an older person feels like</td>
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<td>24. Utilizes older adults as education partners</td>
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<td>25. Utilizes working life partners (nurses, leaders in gerontological nursing and health care) as education partners</td>
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<td>26. Emphasizes the importance of cultural diversity issues in aging</td>
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<td>27. Supports individual students with diverse backgrounds</td>
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<th>Leadership in gerontology</th>
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<td>28. Creates a positive learning environment</td>
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<td>29. Exhibits ethical and moral characteristics in issues related to older people</td>
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<td>30. Acts as a role model for nursing students</td>
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<td>31. Treat students with respect and dignity</td>
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<td>32. Inspires students to take up careers in gerontological nursing</td>
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<td>33. Champions the cause of older people</td>
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