Stress and Stressors in

The Clinical Environment:

A Comparative Study of

Fourth-year Student Nurses

And

Newly Qualified General Nurses

In Ireland

A thesis presented to Dublin City University for the Master's Degree in Science

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I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Master's Degree in Science is entirely my own work, that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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Glossary

An Bord Altranais: The Irish Nursing Board. This is a statutory body responsible for the regulation of the practice of nursing and midwifery in Ireland.

DATHS: Dublin Academic Teaching Hospitals and St Luke's Hospital

DoHC : Department of Health and Children. Formerly entitled Department of Health prior to June 1997.

HSE: Health Service Executive

RCN: Royal College of Nursing

UKCC: The United Kingdom Central Council

NEATE: Nurse Education and Training Evaluation in Ireland

NMC: Nursing and Midwifery Council

NMPDU Nursing and Midwifery Planning and Development Unit

NCNM: National Council for the Professional Development of Nursing and Midwifery

S.P.S.S.:Statistical package for the Social Services.

Supernumerary: Not part of the rostered compelement of nursing staff.

U.K.: United Kingdom

WHO: The World Health Organisation.

Operational definitions

The language of the operational definition specifies how the concept can be measured.

Stress: Stress is defined by Gray-Toft and Anderson as 'an internal cue in the physical, social, or psychological environment that threatens the equilibrium of an individual' (1981a, p. 12)

Perceived stress: A reaction to events, which the person perceives as endangering their physical or psychological wellbeing (Atkinson, 1993).

Stressor: 'Antecedent conditions within one's job or organisation, which require adaptive responses on the part of the employees' (Jex and Beehr, 1991, p.312).

Student nurse: A nurse undertaking the degree programme in adult nursing approved by An Bord Altranais (2000a). For the purpose of this study the student nurse will be in their fourth year of the undergraduate general nursing programme currently working on clinical placement.

Newly qualified nurse: A nurse whose name has been recorded on the register (An Bord Altranais, 2000c) within the past six months having undergone the four-year undergraduate general nursing programme in adult general nursing in Ireland.

'Nurse' is defined by An Bord Altranais (2000c) as a woman or man whose name is entered in the register.

Clinical environment: An environment where clinical nursing practice takes place. In the case of this study the clinical environment are acute adult hospitals, where participants have direct contact with patients.

Abstract

Background: Stress in the nursing workplace has significant consequences for both the person and the organisation, such as psychological and physical health deterioration, financial and social impact, and impaired professional practice. This study sought to measure and compare the perceived levels of job–related stress and stressors of newly qualified nurses and fourth-year student nurses in the clinical environment and to explore the participants' views on stress and stressors from a qualitative perspective.

Methods: This study used a cross sectional survey design, using self-reporting questionnaires to measure and compare levels of stress in both groups in one region of Ireland. The instrument used was 'The Nursing Stress Scale', complemented by an open-ended question, which was analysed qualitatively. Data were obtained from newly qualified nurses (n=31) and fourth year student nurses (n=40) in six acute hospital sites.

Findings: Levels of stress were high in both groups. Perceived stress was not higher in newly qualified nurses compared to fourth-year student nurses for the following factors: death and dying, inadequate preparation, lack of staff support, uncertainty concerning treatment and conflict with other nurses. However, perceived stress in relation to workload and conflict with physicians was higher in newly qualified nurses compared to fourth-year student nurses. Themes identified from the responses to the open question by both groups included excessive workload, relationships with other nurses and lack of support. Newly qualified nurses also referred to lack of preparation and confidence in new role, moving wards and made suggestions for improvement. Some student nurses felt excluded, had difficulties combining academic demands with clinical placement and reported unmet learning needs.

Implications: These results can help stakeholders in nurse education and practice to develop interventions to reduce stress for both groups and to ease the transition from student to graduate nurse, thereby helping to retain this valuable human resource within nursing.

Chapter 1 Introduction

Stress is defined by Gray-Toft and Anderson as 'an internal cue in the physical, social, or psychological environment that threatens the equilibrium of an individual' (1981a, p. 12). Moreover, stress refers to an 'imbalance between a perceived demand and the perceived ability of an individual to respond to it' (McGrath, 1970, p. 17). Theories of stress assert 'that a stressor poses a demand, challenge or threat' (Walker *et al*, 2007, p. 158). When experienced in high levels, stress can lead to physiological and psychological ill health (Sarafino, 1998).

Nursing has been singled out as a particularly stressful profession (Charnley, 1999; Malone, 2004). Prior to the turn of the century, the need to change the way nurses were educated and trained was highlighted in reports such as 'The Future of Nurse Education in Ireland' (1994) and 'A Framework for Continuing Nurse Education in Ireland' (1997). Responding to recommendations outlined by the 'Report of The Commission on Nursing' (Government of Ireland, 1998), the Nursing Education Forum (Government of Ireland 2000) was established and a pre-registration degree in nursing, was introduced nationally within third level education sector in 2002. Stress and stressors specifically *within* the clinical environment for student nurses and newly qualified nurses, who have undertaken the new degree programme in general nursing remains poorly explored. Therefore there appears to be a need for further exploration of the perceptions of those who have undertaken or who are undertaking this new degree programme in Ireland in light of these recent changes.

This study used a quantitative method with the 'Nursing Stress Scale' (Gray-Toft and Anderson, 1981a) to measure and compare levels of stress and stressors in newly

qualified nurses and fourth-year student nurses within the clinical environment. This focuses on those participants who are on both sides of the transition between student nurse and newly qualified nurse for comparative purposes. This numerical data can be used to test hypotheses and support an existing body of knowledge on stress associated with the transition experiences of nurses. The inclusion of an open-ended question qualitatively enhances the findings through a different data collection method to provide an opportunity for participants to expand and clarify the answers in the Nursing Stress Scale.

Findings could help raise awareness among health service management, staff involved in nurse education and clinical nurses, with empirical evidence that a proactive, systematic approach is needed to ease the transition of the fourth-year student and newly qualified nurse in clinical practice. This could prompt the development of strategies to potentially prevent or reduce stress in the work environment and to identify areas where contingency plans need to be put in place to support both the student and the newly qualified nurse in the clinical environment. Stress reduction in the work environment may improve staff wellbeing and performance (Cooper, 2004), reduce the high turnover of nurses (McCarthy *et al*, 2002), and retain nurses in the Irish health service (DATHS, 2000). This is at a time when retention of staff is paramount to the efficiency, quality and progress of the health service (McVicar, 2003). Furthermore, findings could strengthen the need for structured support in the clinical setting for newly qualified nurses.

Outline of following chapters

Chapter 2 presents the relevant literature on stress and stressors with particular emphasis on research from Ireland and Great Britain spanning the past decade. The focus will be on research on stress within the clinical environment and in particular on previous research into the difficulties encountered by the newly qualified and fourth-year student nurses in Ireland. This provides the framework for the development of the research design.

Chapter 3 outlines the methodology used in the study. The choice of quantitative design will be discussed along with the description of the instrument used. The sampling strategy will be explained along with the ethical considerations associated with sampling and with the research study overall.

Chapter 4 presents the findings from the study. This chapter is divided into two sections dealing with quantitative and qualitative findings respectively.

Chapter 5 discusses the findings and addresses the core themes raised within the findings. The conclusion of the study will complete this chapter.

Chapter 6 concludes the study with recommendations for the future in nurse education, management, practice and future research on this topic. Limitations will be outlined followed by concluding words on this study. The findings will help gain a level of understanding of stress and stressors experienced by both cohorts within the clinical environment in attempt to improve the well-being of nursing staff in an effort to retain nurses for the future.

Chapter 2 Literature review

2.1 Introduction

The transition from student nurse to qualified staff nurse has always been challenging and this is particularly noticeable in the first six months of practice (Charnley, 1999; Wheeler *et al*, 2000). It has been long acknowledged that there is a disparity between the ideological teachings in the classroom and the reality in clinical nursing practice (Kramer, 1974). Maben *et al* (2006), claim that challenges exist in the clinical environment that do not apply to the classroom. McVicar (2003) further classifies these challenges to include high workload, time constraints and first hand exposure to the theory-practice gap in nursing. This is compounded by the fact that the complex world of clinical practice for the newly qualified nurse is quickly forgotten by those who are more qualified at a time when peer support is crucial (Evans, 2001; Gillespie and Melby, 2003).

It is well documented that support is needed for the newly qualified nurse in terms of the environment and personnel dedicated to assist with educational and emotional needs (Charnley, 1999; Boxer and Kludge, 2000; Gerrish, 2000; Kelly *et al*, 2002; Clark and Holmes, 2007). It is equally well documented in numerous qualitative research studies that stress in the transition period is significantly high (Maben and MacLeod Clark, 1998; Charnley, 1999; O'Shea and Kelly, 2007, Mooney, 2007a). However quantitative research to support these qualitative studies is lacking, particularly on the perceived levels of stress.

Key computer data-bases such as Wiley InterScience, Blackwell Synergy, Science Direct, Medline, Health Resource Nursing, CINAHL, Cochrane library and Ovid

online were used to facilitate the search of the existing literature on stress in the clinical environment. Further hand searches were conducted of government publications, books, journals and publications in local libraries. The keywords used in the search strategy were *Stress, Stressors, Student Nurse, Newly Qualified Nurse, Role Transition and Clinical Environment.*

Nursing, by its nature, is very stressful (McGrath *et al*, 2003) with publications worldwide to support this view (Salmond and Ropis, 2005). Despite an abundance of studies on stress in nursing internationally, there appears to be little literature addressing the experience of this phenomenon within the Irish context. In order to maximise the relevance of the findings, literature examined was confined to the past decade and mainly confined to Irish and British studies where support structures are similar. This literature review also includes some USA seminal studies, such as Kramer (1974) and other studies whose findings are very relevant to the topic.

This literature review will firstly explore recent changes in nurse education and training in Ireland. Stress will be explored mainly from a psychological perspective. The effects of stress and the sources of stress in the clinical environment will be investigated both on a personal and organisational level. The difficulties encountered in role transition from student nurse to newly qualified nurse will be discussed. The concept of supernumerary status in clinical placement will be explored, examining the contribution of this concept to the wellbeing and learning experiences of the student nurse. Finally, studies investigating the impact of personnel support for both newly qualified nurses and student nurses in the clinical environment will be studied.

2.2 Nurse education in Ireland

Nurse education in Ireland has witnessed rapid change in recent years. Prior to the turn of the century, the need to change the way nurses were educated and trained was highlighted in reports such as 'The Future of Nurse Education in Ireland' (1994) and 'A Framework for Continuing Nurse Education in Ireland' (1997). 'Nurse Education and Training Evaluation in Ireland' (NEATE Report, Simons *et al* 1998), was conducted by a team in Southampton. Among the recommendations that emerged from this report, were the emphasis on the focus on theory and practice in nurse education and call for the clarification of the future role of the Irish educated nurse.

At the same time as these reports, nurses were expressing their disquiet concerning working conditions, pay and promotional limitations (Fealy, 2002). This national unrest prompted the establishment of the 'Commission on Nursing' whose final report was published in 1998, entitled, 'A Blueprint for the Future' (Government of Ireland, 1998). This report has had a profound affect on the development of modern nursing as a professional discipline and has, in many ways changed the role of the nurse in Ireland. It provided a framework for a new approach to nurse education and preparation and in professional development both before and after qualification (Fealy, 2002).

Stemming from this report was the establishment of a 'Nursing Education Forum' (2000). Its main function was 'to develop a strategic framework for the introduction of a pre-registration nursing degree programme in general, psychiatry and mental handicap nursing' (Nursing Education Forum, 2000, p.9). The forum was guided by four principles: 'partnership, consultation, openness and transparency and adherence

to the spirit and letter of the report on the Commission on Nursing', in relation to pre-registration nursing education in Ireland. The traditional three-year apprentice-type, hospital based certificate style of training had been replaced in 1994 by a three-year diploma course. Based on the Commission report, from 2002, nurse education moved to degree level within third level education sector. Ireland became the first country to deliver nurse education through direct entry to the four-year degree programme in Europe (Cowman, 2001).

Furthermore, based on the Commission report 'The National Council for the Professional Development of Nursing and Midwifery in Ireland' was established in 1999 to support post-registration professional development in nursing. Supporting these changes was the work done by An Bord Altranais and the 'Scope of Nursing Practice' review and the development of a Scope of Practice framework. Scope of Practice is defined as the 'range of roles, functions, responsibilities and activities that a registered nurse, is educated, competent and has the authority to perform" (An Bord Altranais, 2000b, p.3). The framework supports and guides nurses from all levels including students and newly qualified nurses in their practice, responding to the changing needs of society and demands on the nursing profession.

Proficiency required for nurse training in Ireland centres around five domains of competence: interpersonal relationships, holistic approach to care and integration of knowledge, professional/ethical practice, organisation and management of care and finally personal and professional development (An Bord Altranais, 2005). More recently An Bord Altranais (2005), have amended the 'Requirements and Standards for Nurse Registration Education Programmes' in an effort to adequately prepare the

student nurse for the reality of the clinical setting once qualified. One of the major amendments has been the deferral of the rostered year from third to fourth year of the training programme and renaming it 'internship' with effect from 2005. This is similar to the United Kingdom, where the Nursing and Midwifery Council (NMC) formerly The United Kingdom Central Council (UKCC), in 1999, recommended a period of consolidation of clinical skills towards the end of the nursing course hoping to ease the transition from student to staff nurse (An Bord Altranais 2005). Change arose from concerns that essential skills were lacking in the newly qualified nurses, leaving them ill equipped for the new role and inevitably adding to their pressure (Maben and MacLeod Clark, 1998; Baldwin, 1999; Carlisle *et al*, 1999; Ross and Clifford, 2002). However, there is still concern that emphasis is placed on academic ability with less time in clinical placement to consolidate clinical skills (Lambert and Glacken, 2005).

Nurse education in Ireland has dramatically changed. While stress and stressors occur in all types of employment, these changes in how the nurse in prepared for the clinical environment may present new challenges for the nurse in the transition period when newly qualified. These challenges are of relevance to student nurses and newly qualified nurses and all stakeholders in nurse education and practice in pre-empting and addressing stress and stressors associated with these changes.

2.3 Stress

Stress is a difficult concept to define precisely (Patel, 1996; Clegg, 2001; Keil, 2004), primarily as a result of the abundance of different disciplines with different perspectives on this subject (Le Blanc *et al*, 2000 in Chmiel, 2000). *Stringer* is the Latin term for stress, which means to "draw tight" (Arnold *et al*, 1998, p.422). Despite substantial literature available on this concept there is considerable absence of an exact definition of stress in relation to nursing. This would help gain insight into stress or stressors particular and in some cases exclusive to nursing. Many disciplines, which have studied this concept ranging from psychological, physiological, occupational and sociological perspectives have led to varied definitions on stress. Lazarus and Folkman (1984, p.19) viewing stress from a psychological perspective, assert that the stress process is 'a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being'. Keil (2004, p.659) builds on this definition, asserting that, 'Stress involves a set of circumstances with which the individual is attempting to cope'. Atkinson (1993) describes stress as being a state that occurs when people come across events that they perceive as endangering their physical or psychological wellbeing. Many definitions focus on stress in the working environment termed 'occupational stress'.

The complexity of the subject of stress is exemplified in the multitude and multifaceted approaches to its exploration and vast development of models on stress. Some models view occupational stress from a personal perspective and others view stress from an organisational or environmental perspective. Despite difficulty in

defining stress, there is a general consensus that stress involves three meanings (Le Blanc *et al*, 2000 in Chmiel, 2000; Furnham, 2005).

- Stress as a stimulus, which explores the causes of stress
- Stress as a response, which explores the reactions to stress
- Stress as the intervening process of between both stimulus and response.

Hans Seyle provided the foundation for exploration of the concept of stress with the introduction of the 'General Adaptation Syndrome' (GAS), which focuses on response to all types of stress (Haslam, 2004). This syndrome described the transitory response that the person experienced when faced with a stressful situation. Three stages of alarm, resistance and exhaustion were depicted to describe the person's reaction to stress. This syndrome related to all types of stress including occupational stress, which is the area of interest in this study. In relation to the working environment three models dominated research on stress. These are the 'Social-Environment model' (Michigan Model), which provides a simplistic view of stress in the workplace with emphasis on categorising and describing causes of stress (Furnham, 2005). This preceded the more popular 'Person–Environment Model' (P-E model), which is described as the lack of association between the environment demands at work and the personal characteristics of the worker (Koslowsky, 1998). This model has been refined to the 'Karasek job-strain model' (JD-C approach, job demand–control, Karasek *et al*, 1981) with emphasis placed both the psychological and physical effect of stress in the workplace, in particular with the correlation between stress and cardiovascular disease. This was further developed into the Demand- Control-Support model, 'D-C-S Model (Karasek and Theorell, 1990) which adopted a three dimensional approach to stress to include the importance of support in the working environment. High workload, low perceived control and low support

were considered to contribute to stress. Siegrist (1996) adopted a more sociological approach to stress in the development of an 'Effort–Reward Imbalance model' (ERI), where stress emerged from the effect of low reward resulting from perceived high effort. One likely response that fits with this model is the feeling of being undervalued in the workplace, though personality traits and work-home interface are not taken into account. While all of the above models have considerable merit, all suit different circumstances. Generalisability of the above models to nursing is not always afforded as stress in this profession is considered to be 'an internal cue in the physical, social, or psychological environment that threatens the equilibrium of an individual' (1981a, p. 12). The equilibrium of the individual is not confined to physical well-being, which is emphasised in the Karasek job-strain model.

In an effort to place stress into a wider context, Buchanan and Huczynski (2004) have since developed an overall view of stress, which examines stress from different perspectives in the organisation to include stimulus, response, moderators associated with, and coping strategies adopted to combat stress. Causes of stress or stressors are influenced by a number of factors namely the individual type 'A' personality which is considered uptight as opposed to the more relaxed Type 'B' personality. Attributes associated with the type 'A' personality are considered contributory to stress (Koslowsky, 1998). Life changes affect stress and organisational conditions, which is the clinical environment in this study. What must be taken into account are the possible moderators to stress, which are outlined as episodic versus chronic stress, the individual's physical and mental condition and cognitive appraisal of stressors and degree of individual hardiness.

Buchanan and Huczynski (2004) also outline the impact of, or response to stress both on the organisation and on the individual. Organisational responses to stress include poor work performance and productivity, tardiness, higher turnover, sick leave and poor time management. Individual responses manifest as physical problems and emotional difficulties. Coping strategies outlined are both individual and organisational. Individual strategies are actions that improve coping skills and resilience to stress. The organisational coping strategy is problem-focused action to change or remove stressors from the workplace. This model comprehensively summarised stress from all perspectives, though again related to all working environments and was not specific to nursing or healthcare. Many models have been developed in an effort to explore stress, though the approaches differ with resulting varied types of models, which fit different aspects of stress in the workplace.

Stress can be further categorised into good stress called *Eustress*, which is a type of stress that can enhance wellbeing when faced with challenge and responsibility (Gibbons *et al*, 2007). On the other hand *bad* stress, which is the type of stress that causes most concern, receives and deserves most attention and is synonymous with distress (Malone, 2004). The Yerkes–Dodson Law suggests that stress, which is contained within certain limits, can actually have a beneficial effect on the person's wellbeing and that extension to beyond or below these stress or excitement levels can cause harm to the individual when exposure is chronic (Yerkes and Dodson, 1908 in Cooper and Robertson, 1990).

Occupational stress exists in all professions (Cooper, 1995) with concern regarding the overwhelming presence of stress in the workplace in the twentieth century (Arnold

et al, 1998). Farrington (1997) outlines how stress is depressing, demoralizing and de-motivating for nurses. Stress affects the well being of the nurse with a positive correlation between stress and mood disturbance (Healy and McKay, 2000). McVicar (2003) declares that stress involves a person's perception of the demands being made on them and to their perception of their ability to meet those demands. Arnold *et al* (1998) describe occupational stress as any force that pushes a psychological or physical factor beyond its range of ability, producing strain. For the purpose of this study, the focus will remain stress and stressors pertaining to the working environment.

The problem of stress in the nursing profession is widespread with worldwide research on this subject (Stacciarini and Troccoli, 2004; Corr, 2000; Williamson and Dodds, 1999). Evans and Kelly (2004) examined the stress and coping abilities of a convenience sample of student nurses in a teaching hospital in Ireland (n=52). They explored the type of clinical and educational stress that students are exposed to, examining coping mechanisms adopted. In an effort to deepen into the whole realm of stress, they examined the emotions experienced by the students when faced with stress including a look at the personality factors the help the students during turbulent times. A self-reported questionnaire devised by Lindop (1999) was distributed which included both open and closed-ended questions. Analysis indicated predominant stress factors in the clinical environment to include conflict between what is taught and what is experienced. Unfriendly atmosphere and the experience of being corrected in public were also cited as contributors to stress in the clinical environment. Also included are the educational stressors, such as examinations and heavy academic workload. Coping strategies identified included talking to relatives

and friends. Personality attributes of determination and assertiveness suggested as being a key to survival in nursing.

This is supported by Begley and Glacken (2004). They impress the importance of nurturing self-assertiveness in effectively dealing with stress in the clinical environment. The authors aimed at measuring self-assertiveness levels in Irish student nurses (n=75). Questionnaires were given to student nurses at the beginning and end of the three-year diploma course at two Irish hospitals. Interestingly, the levels of self-assertiveness rose in conjunction with level of training. Reliability and validity of the adapted measurement of assertiveness tool was evidenced and representation was enhanced by the random selection of both a small and large hospital site.

Nolan and Ryan (2008) conducted a study, which explored the experiences of stress in 28 fourth-year psychiatric nursing students in Ireland coupled with a semi-structured interview with four participants. The General Health Questionnaire (Goldberg, 1978) was used along with a demographic profile questionnaire. Findings revealed that stress was associated with high workload, difficulty with relationships at work, matching responsibility with competence and combining clinical work with academic demands. The author had supervisory involvement with the participants, which may have had an effect on the responses. While this study was confined to psychiatric nurses, it has helped gain an insight into stress associated with the degree programme in Ireland.

McGrath *et al* (2003) explored stress in nursing, the effects of stress and views on nursing and coping strategies in a large stratified random sample (n=300) of varied grades of nurses in Northern Ireland by postal survey. This publication focused on nurses, though the larger study (unpublished) included other professions such as teachers and social workers. Nursing had lower levels of absenteeism and emotional exhaustion than teachers and social workers. But nurses expressed dissatisfaction regarding lack of autonomy. There appears to be an avoidance of the emotional demands of nursing, suggesting that this is a coping mechanism to reduce stress and termed 'avoidance behaviours'. This comes at a time when emotional care is a necessary component of the nursing care (Roper, Logan and Tierney, 2000). Furthermore, improved relationships with other professionals and greater support within the nursing arena have been suggested in the alleviation and prevention of stress for nurses. The General Health Questionnaires (Goldberg, 1978) and Maslach Burnout Inventory (MBI) (Maslach and Jackson, 1981) were used. Additionally questions were asked regarding possible stressors and coping behaviours identified by respondents. While the first tool measures the effects of stress the latter could be argued to measure levels of burnout and not necessarily the effects of stress. The new scale to explore sources of, effects of and modes of alleviation of stress was validated, though the content was not explicit.

Gillespie and Melby (2003) conducted a comparative study on a small sample of nurses working in Northern Ireland. The Maslach Burnout Inventory (Maslach and Jackson, 1981) was also used and distributed to nurses in acute medicine and accident and emergency (n=56). A focus group (n=3) was also incorporated. Emotional exhaustion was considered to be higher in nurses working in acute medicine as

opposed to nurses working in accident and emergency. Findings conclude that stress and burnout have a major effect on the wellbeing of the participants both within and outside the clinical arena. Staff shortages, length of shifts, increase in workload and lack of time were cited as reasons for emotional exhaustion. Nurses were also concerned with the dependence of junior staff on them, which also contributed to dissatisfaction. Findings urge cognisance of the difficulties encountered by nurses with an appeal for support for nurses in the clinical area. However exclusion of junior nurses from the study impeded generalisability.

Clegg (2001) reviewed literature on occupational stress in general using a post-modernist theoretical framework. He then viewed the concept pertaining to nursing from a biophysical, occupational, psychological, phenomenological and sociological perspective. Having broadly reviewed this phenomenon through a theoretical medium, Clegg has endorsed the benefits of a multifaceted approach to stress management in the clinical setting. These include transformational leadership style, stress management and clinical supervision in stress management, which includes reflective practice.

In another literature review in the same year, Lambert and Lambert (2001) studied the experience of role of stress/strain in nursing. In this study, different perceptions of stress were studied from country to country worldwide. The Irish studies included, covered the identification of causes of stress (Ryan and Quale, 1999) and the attitudes of nurses to role extension/expansion, (Magennis *et al*, 1999). These concepts do not fit exactly with the authors' initial aim, which was to gain insight into the role stress/strain in nurses from an international perspective. Nevertheless the collective

findings suggest that exploration of stress is necessary using a myriad of techniques and approaches. From a psychological perspective stress can cause tension, worry and lead to alienation. Indeed stress in nursing can lead to both psychological and physical health deterioration impairing professional practice (Charnley, 1999; Ross and Clifford, 2002).

2.4 The effects of stress

The effects of stress are well documented (Cooper, 2004). Stress has been cited as one of the reasons for leaving nursing (McGowan, 2001;McCarthy *et al*, 2002), which results in a high turnover of nurses (Department of Health and Children, 2002a). This high turnover is of concern to nurse stakeholders as this negatively impacts on the services, quality and continuity of care, impacting on patient wellbeing (Department of Health and Children, 2002b). This is at a time when the demand for nurses is exceeding the supply (Kennedy, 1999). This creates a greater dependence on agency staff, overtime and overseas nurses (Health Service Executive –Employers Agency, 2006). This in turn further compounds the problem in the clinical arena of stress due to work overload, with nurses frequently asked to work overtime, defer annual leave, work with poor skill mix or inadequate numbers of staff (Department of Health and Children, 2002a). Kendrick (2000) identified stress as one of the major reasons why nurses do not function at an optimum level of competence.

Edwards *et al* (2000), following a study in Wales, reported that the consequential effects of the high level of stress recorded in the workplace impact not only on the individual but also on the organisation. This follows a postal survey using six questionnaires relating to burnout, general health, self-esteem and methods of coping with community mental health nurses (n=301). High levels of emotional exhaustion

and burnout were recorded compounded by nurses experiencing feelings of lack of accomplishment. Results showed evidence of stress related increase in errors, alcohol consumption, smoking and absenteeism. McVicar (2003) also links the effects of stress with staff absenteeism, poor staff retention and ill health.

In Ireland, Timmins and Kaliszer (2002a) explored absenteeism among student nurses. They distributed a questionnaire to final year diploma students (n=110), while in the classroom setting from two hospital sites in Ireland. This questionnaire was developed by Waltz and Baussall (1981 in Timmins and Kaliszer, 2002a) and adapted by the authors. Attendance records from a sub-group were also analysed in effort to see an association between possible stressors and voluntary absenteeism and students' views on nursing. Stress factors were listed and the respondents were required to grade according to severity such as course work, financial strain and death of a patient. Using Pearson's correlation coefficient, the link between stress factors and absenteeism was statistically significant. Sixty three percent of those who found clinical placements very stressful were absent at least three times. Financial strain and academic demands appeared to cause greatest stress for student nurses, though clinical placements were also considered a source of stress. They conclude that support is imperative in addressing stress both in college and on clinical placements in an effort to reduce absenteeism and instil in the student a sense of belonging. Permission was sought to carry out the study and ethical safeguards were explained in the maintenance and assurance of anonymity and confidentiality. Piloting was evidenced and validity of the questionnaire was enhanced by the examination of content validity by six expert nurses.

Deary *et al* (2003) used a longitudinal study at four different stages in the nursing course in Edinburgh to explore possible links between stress, burnout and attrition in adult and mental health nursing students. Personality factors were also explored to see if they influence attrition in nursing. Specifically the study examined the relationship between stress, burnout and attrition in nursing and found that there was a positive correlation between length on nursing course and levels of stress. However they concluded that there might not be a link between stress, burnout and attrition in nursing, but stated that personality factors could be influential on stress at the outset. They recommend screening of applicants at the outset to exclude personalities predisposed to stress. The number of tools used, some with explicit validity and reliability, added credence to the study, though the practicality of filling out six questionnaires tends to lead to low return rate. Despite the writer assuring voluntary participation, the return rate of 100% in the initial survey was extremely rare and return rate for the following three studies was not discussed except to detail the limitation of mortality associated with longitudinal design.

On the contrary Payne (2001) found neither high levels of stress nor burnout in a study on hospice nurses in England. Payne (2001) explored the phenomenon of burnout whilst viewing occupational determinants of stress in a survey of various grades of hospice nurses and nursing assistants (n= 89) utilising three well-recognised and appropriate tools with quantitative measurement.

The tools used in this study included The 'Maslach Burnout Inventory' (MBI), which is a 22 item scale measuring three main areas of burnout, which are emotional exhaustion, cynicism and inefficiency (Maslach *et al* 1996, 2003). The focus of this

instrument as a research tool is on burnout, which according to Maslach (2003) is a prolonged response to chronic and interpersonal stressors on the job. It involves using a 22-item scale measuring three main areas of burnout, which are emotional exhaustion, cynicism and inefficiency (Maslach *et al,* 1996, 2003). Also included was 'The Nursing Stress Scale' (Gray-Toft and Anderson, 1981a), a 34-item questionnaire that identifies the sources of stress and potential stressful situations in the nursing environment with the higher the score the greater the stress level (Pinikahana and Happell, 2004). This scale was used by French *et al* (2000), who identified it as the best and most widely used scale to evaluate stress in nursing asserting that the aim of identifying sources of stress is the first step in the problem solving approach to its management. Finally the 'Ways of Coping Scale' (Folkman and Lazarus, 1986) was used, though altered, with no evidence of reliability or validity, neither of the altered scale nor of piloting of the research.

Nonetheless the study was enhanced by inclusion of demographic data, while maintaining anonymity and confidentiality. Following an extensive, though dated literature review, Payne's findings did not show high levels of burnout though coping strategies outlined by the respondents would endorse organisational support within the workplace. However these findings reflect the views of hospice nurses from one speciality in nursing and sample selection method was not discussed.

Le Blanc *et al* (2000 in Chmiel, 2000) classified the effects of stress into five categories. These are *affective* responses resulting in possible anxiety, tension, anger, depression and apathy experienced by the individual. The interpersonal affective response was possible irritability and oversensitivity demonstrated in conflict with

others leading to the organisational response of job dissatisfaction. *Cognitive* response describes how the mind processes the information leading to a possible feeling powerlessness. The resulting organisational response was cynicism about role at work, feeling undervalued and could lead to distrust in work colleagues at all levels. *Physical effects* of stress in the workplace also have effect on the individual with possible physical distress, psychosomatic disorders and immune system impairment. *Behavioural* response to stress has individual consequences such as hyperactivity, impulsivity, eating disorders and raised consumption of caffeine or tobacco. The behavioural response can manifest in poor work performance, increased sick leave and staff turnover.

Motivational outcome could manifest as loss of zeal and enthusiasm with disillusionment, boredom and demoralisation. Interpersonal effects could be loss of interest in colleagues, indifference and discouragement. The organisational impact is attrition, low moral lack of work initiative. This provided an overview of the effects of stress in the workplace, though this applied to all workplaces as opposed to health care settings.

The consequences of stress can lead to symptoms such as alcohol and drug dependence and eating disorders along with sleep disorders and absenteeism (Malone, 2004). Nursing rates high in female suicides in Great Britain (Hawton *et al*, 2002). Emotional symptoms outlined included inability to relax, and can lead to anxiety and depression with physical symptoms such as frequent colds and headaches associated with stress. As evidenced in many of the above studies stress was explored in relation to the effects it had not only on the person, but also on the organisation, profession

and most importantly on the patient. Also included in some of the studies was a view of the sources of stress.

2.5 Sources of stress

Le Blanc *et al* (2000 in Chmiel, 2000) assert that stress in modern society is studied from varied perspectives and that its study focuses not only on the term stress as being a state of tension which encompasses physical, mental, psychological or social demands, but also refers to the cause of stress, which is referred to as *stressor*. Le Blanc *et al* identify and categorise job-related stressors into four main sections. These were *job content*, which incorporated work over-/underload, complex work, monotonous work and work with too much responsibility. Also stressors related to job content were dangerous work and conflicting/ ambiguous demands. The second category of stressors was *working conditions*. The physical demands of work and again dangerous situations and lack of protective devices were deemed stressor to the category of work stressor. Toxic substances poor conditions, work posture and lack of hygiene also were potential contributors to stress in the workplace. *Employment conditions* included shift work, low pay, poor career prospects job insecurity and flexible labour contract. Finally *Social relations at work* accounted for the fourth category of job related stressors and were sub divided into poor leadership, low social support, low participation in decision-making and discrimination. This model is effective in describing stress, though the definitions are broad as they pertain to all types of organisations and not exclusive to healthcare or nursing.

Cooper and Locke (2000) not only explore the physiological and psychological effects of stress, but also include the environmental causes, which can be termed stressors.

Arnold *et al* (1998) have identified stressors in all working environments to include new technology, work overload, work conditions, shift work, role ambiguity and role conflict and the responsibility of persons. This somewhat exhaustive list can be particularly relevant to nursing (Arnold *et al*, 1998; Cotrell, 2001). In a study already discussed by Charnley (1999) relating to occupational stress in the newly qualified nurse, the author asserts that low levels of confidence in clinical skills contribute to stress in the newly registered nurse and revealed four main contributory factors. These include work and lack of qualified support, all of which were significant to the newly qualified nurse. Her conclusions were that the newly qualified nurses need support once qualified, to nurture confidence and create positive socialisation, which will reduce anxiety levels. She emphasised the need for the educational curricula to reflect the clinical needs of the nurse in practice.

Additionally, McVicar (2003) builds on the above findings in a literature review on workplace stress, identifying sources of stress as workload, leadership/management issues, the emotional cost of caring and professional conflict. Despite non-apparent meta-analysis, findings are consistent with previous studies concluding that the workplace provides many sources of stress in nursing. Despite limitation to mental health nurses, Edwards and Burnard (2003) identified similar stress issues and stressors following another literature review. This literature review identified similar causes of stress as McVicar, though it differed in that it also focused on stress management with emphasis on removing or reducing the apparent stressor from the workplace where possible.

Benner (1984) in her seminal work on skill acquisition regarded the novice nurse working at the level where skill development is governed by context free rules, leaving the inexperienced novice inflexible and limited in the use of discretionary judgment. This inadequacy of clinical and managerial skills can possibly lead to increased stress. In effort to develop a model for skill acquisition in nursing in the USA, Benner also identified sources of stress pertinent to the clinical setting with particular reference to the novice nurse. The author emphasises nursing skill acquisition to include skilled practice and clinical judgement skills and not only the psychomotor activity of a clinical nursing procedure. Benner (1984) interviewed new graduate nurses and preceptors (n=42) using Heideggerian phenomenology. Additionally, participant observation and/or interviews were held with 51 experienced nurses, 11 new graduates and five senior nursing students. The author describes the inability to use discretionary judgment as posing the main difficulty for the novice, with behaviour governed by rules. This leads to inefficiency of time and affects quality of care, thus limits the novice's ability to gain confidence within a new field. This impedes progress, and further pressurises the novice. Benner described the effect of inexperience, inflexibility and inability to use discretionary judgement when entering a new environment, as possibly leading to increased stress in the novice. Despite the age of this literature, the work and the generalisability of the findings owing to the study carried out in a different cultural setting (Gately, 1992), Benner had been instrumental in examining skill acquisition in nursing "from novice to expert" and has been referred to in abundant literature worldwide (Silver, 1986; English, 1993).

Among a myriad of qualitative studies on the subject of stress, McGowan (2001) used a quantitative approach, which assessed the correlation between self-reported stress and job satisfaction in nursing, to identify causes of stress for nurses. This study involved 72 nurses of all grades working in a paediatric setting in Belfast. Results showed a negative correlation between stress and job satisfaction. Six main sources of stress were identified. These included shortage of resources, lack of understanding on behalf of management as to the needs nurses and decisions made without the nurse's consent. Additionally nurses experienced time pressure and had difficulty dealing with aggressive people and in initiating change. The data collection tool to assess levels of stress was the 'Nurse Stress Index' (Hingley, 1986), which focuses on nurses in a managerial role. This was acknowledged and justified by the author. This scale includes a section, which assesses job satisfaction. Face validity and content validity were explained. Although simple random sampling was employed by the researcher, the sample size was small representing only 20% of all nurses, from a particular discipline in the hospital and only from a single site, thus limiting generalisability.

From another nursing speciality, Murphy (2004) concurs with these views and adds that a lack of education for junior nurses as contributing to stress. This follows a qualitative study using a grounded theory to explore perception of stress in a random sample of ten renal nurses in Northern Ireland, which developed five main themes. These included job content, which focused on the negative impact of shift-work and high workload on staff. Resource issues centred on time constraints and inadequate staffing levels. Respondents identified time pressure, as having a negative effect on quality patient care. Professional concerns included dissatisfaction at level of care.

Recently qualified nurses expressed feelings of anxiety and pressure in the workplace. Professional working relationships were both positive and negative. Finally, one extraneous variable may have affected the stress level given the time of data collection in a period of political disquiet in Northern Ireland as identified by the author. While the aim of the study focused on exploration of the nurse's perception of stress, the findings also included coping mechanisms. These findings were only representative of renal nurses.

Higginson (2006) builds on these findings albeit from a different country. This follows a qualitative grounded theory approach to explore the fears, worries and experiences of first-year pre-registration student nurses (n=5) in the UK. They include fear of death, bodily fluids and clinical procedures and role conflict and socialisation conflict. Furthermore the financial and academic concerns associated with nurse education loomed yet again. Ethical approval was granted and confidentiality assured, though the data collection could possibly be tainted by the fact that the interviewer had in fact taught these students. Interestingly Higginson emphasises the difference between stresses, anxiety and fear though concedes that stress can occur in response to unresolved fear and anxiety. Despite a small theoretical sample size of five voluntary participants, results showed that similar themes arose common to and unique to student nurses.

In the same study that looked at the association between stress and absenteeism in nursing students in Ireland, Timmins and Kaliszer (2002b) also explored aspects of nurse education programmes that were perceived to cause stress to nurse students. They used a sample of 110 third-year nursing students undertaking the diploma

programme. Credence was given to the investigation, given that ethical considerations were evidenced and a pilot study questionnaire was carried out with high-test retest reliability. The study was supported by an extensive literature review. The author developed the questionnaire based on themes identified in the literature review such as workload, clinical placements and theory, stating that it was a 12-item self-report questionnaire with responses on a four point Likert scale. The panel of nurse experts ensured the content validity of this tool. Reliability of the tool was assured with high correlation testing in the pilot study. Results revealed that stress exists in the student nurse both in the clinical environment and the academic arena, with recommendations for educators to include adequate support structures for clinical areas, preceptorship programmes and availability of student counselling services. Financial constraints and academic demands were considered the greatest source of stress for student nurses. Clinical placements, dealing with the death of a patients and also relationships with staff were considered to contribute to stress but to a lesser extent.

Also focusing on student nurses and using a battery of questionnaires, Tully (2004) studied stress, sources of stress and coping among a convenience sample of psychiatric nursing students in Ireland (n=35). Findings revealed high levels of stress as a possible risk to the health of the student. There was an increase in the level of stress with progression of the course although comparison is difficult owing to the first years being on clinical placement and second year students in the classroom setting. Nonetheless findings prompt cognisance and action on behalf of all stakeholders in nurse education. Similar issues were identified in the UK in the last decade (Kipping, 2000) and indeed further a field in Australia (Healy and McKay, 2000).

Demerouti *et al* (2000) echo the findings of Benner and Wrubel (1989) in identifying shift patterns as a source of stress both on and off duty. Benner and Wrubel also agree with McVicar, (2003) in identifying sources of stress as workload, interpersonal relationships and bureaucratic constraints, lack of professional latitude and role ambiguity. Additionally they note that domination of male gender in seniority terms in a predominantly female occupation can contribute to stress.

All of the above stressors inevitably led to increasing levels of stress among nurses in the clinical area with the consequential relocation of nurses to less stressful employment or leaving the profession (Department of Health and Children, 2002a; Dublin Academic Teaching Hospitals (DATHs) Recruitment and Retention Report, 2000). The Dublin Academic Teaching Hospitals Nursing Recruitment and Retention group actively sought reasons why nurses and leaving the profession and looked at how to attract nurses to and retain nurses in the profession. This group asserted that experience lost through attrition from nursing could not instantly be replaced by filling the vacant post. Three separate surveys were conducted in 1999 involving nurses employed in the seven teaching hospitals in Ireland's capital city. Dissatisfaction with pay, working conditions, poor staffing levels and lack of opportunity for promotion appeared to be the findings on the survey on job satisfaction. In relation to career pathways one of the five priorities identified by this group was to focus on newly qualified nurses. They identified the need to retain newly qualified nurses by supporting them in the initial period by providing induction programme and support in the form of mentoring for all newly qualified nurses. Also identified was the need to support post-graduate education and development and introduce a standardised rotation programme for novices. While the responsibility

rested with the Directors of Nursing, the Department of Health and Children were also accountable for implementation of these recommendations. While there is considerable financial support for self-development with funding for courses available from Nursing and Midwifery Planning and development Unit (NCNM, 2001), to date there is no national implementation of formal mentoring of newly qualified staff, nor mandatory induction or rotational programme for such staff. The sample from each survey varied from four hundred and eleven who were assessed on levels of job satisfaction. Nonetheless this study provided a useful insight into reasons why Irish nurses were leaving the profession at a time when there was a great need for nurses. This is compounded by the loss of qualified nurses abroad very soon after qualification (Treacy and Hyde, 2003). Similar issues were identified in the UK in the last decade with stress in nursing considered to rate highest when compared to other professions (Royal College of Nursing, 2006) and internationally associating stress as a reason for high staff turnover in nursing (Gray-Toft and Anderson, 1981b; Yin and Yang, 2002). In light of this, downturn in employment of nurses coupled with the difficulty in nurse retention in Ireland (McCarthy, *et al*, 2002, Department of Health and Children, 2005a), cognisance of these findings could strive to furnish the stakeholders in nursing practice, administration and education with a proactive, nurse-centred approach to planning for the nurses of the future. While alleviation of stress cannot take place overnight, identification of the causes with empirical support may contribute to its alleviation (McVicar, 2003; Sharif and Armitage, 2004). One such source of stress is that which is associated with role transition.

2.6 Role transition

In light of the many reforms in nurse education in Ireland and Great Britain, studies on transition have provided insight into the perceptions of those who have experience the transition form student nurse to newly qualified nurse. There is a general consensus in the literature that a newly qualified nurse experiences significant stress (Charnley, 1999; Holland, 1999; Godinez *et al*, 1999; Ross and Clifford, 2002). But Hyde and Brady (2002) note that the student years are not completely stress free either.

Over three decades ago Kramer (1974) described the progression from student to newly qualified nurse as a 'reality shock'. This followed a landmark study, which developed an emergent theory using case studies and case histories of newly graduated nurses in the United States of America. This was supported by quantitative and qualitative findings from previous studies exploring the socialisation of the new nurse in the new environment. Kramer developed a theoretical framework for the study of the experiences of nurses in transition, in effort to address the conflict arising from the difference between what is taught and what is practiced in reality, which is termed 'professional-bureaucratic role conflict theory' (Kramer, 1974, p.32). The process of transition was depicted through four sequential stages. These were termed 'Rites of Passage' which describe the transition of newly qualified nurse in developmental stages. These included 'skill and routine mastery', where the new nurse is faced with mixed emotions of euphoria and dread in the new surroundings. This is followed by 'social integration', whereby the nurse is developing relationships with colleagues and learning about the organisational culture. This is coupled with the discovery that there is a misfit between the ideals that are taught and the reality that is

practiced. Subsequently the 'moral outrage' phase ensues with feelings of resentment and discontent regarding working practices and awareness of workplace stressors. This phase is crucial in the development of the novice nurse as fixation in this phase can have negative affect on their wellbeing (Kramer, 1974). The final phase is 'conflict resolution' whereby the nurse adopts one of a number of reactions to this reality shock ranging from withdrawal to acceptance to resistance.

Kramer highlighted the negative impact of this reality shock on patient care. As a result, the author recommended the introduction of a programme to help nurses manage conflicts, encompassing more realistic expectations and by reducing stress and attrition in the newly qualified nurse. This research is now over thirty years old and generalisability is compromised by the American location, where different support systems are in place, operating under different employment laws (Marquis and Huston, 2000). Nonetheless this study has had a catalytic effect for further studies in that it highlighted for the first time that the transition in nursing is a stressful one. This study has formed the foundations of many subsequent studies as it is referenced in each introduction (Maben and McLeod Clark, 1998, Charnley, 1999).

Evans (2001) used a focus group to examine the expectations and concerns of newly qualified children's nurses in London (n=9). Evans acknowledged Kramer's 'rite of passage' in the sequential development of the socialisation of the newly qualified nurse in transition. However, terms used differed to include separation, transition and integration. Using content analysis appropriate to phenomenology, the participants developed themes such as role acquisition, separation from student role and transition to staff nurse role and integration into the profession. The problems associated with

deficit of clinical skills featured highly in the findings. Findings concurred with Kramer, which strongly endorsed support during the transition stage. Rigour was enhanced by the presence of an impartial observer to supervise the research process. However the background of the study participants was not explicit and evidence of data saturation, sample selection, inclusion and exclusion criteria, trustworthiness of the data collection and ethical approval were not discussed. Moreover the title only referred to expectations, which did not match the aims of the study, which also specified concerns of nurses. Despite the limitation of the sample, which involved only child health nurses and the possibility of groupthink associated with focus groups (LoBiondo-Wood and Haber, 2002), the above findings were significant in recommending support for newly qualified nurses in the transition stage of their career.

Using a grounded theory approach, Mooney (2007a) explored the expectations of the newly qualified nurse in Ireland through interviews with nurses within one year post-qualification (n=12). Mooney revealed similar findings to Kramer's 'reality shock' though termed 'unexpected reality' following qualification. This encompasses the sense of high expectations placed on the new nurse coupled with the difficulty encountered with non-nursing duties and fears associated with this newfound responsibility. All of these experiences spoil the idealistic expectation previously held by these novices. This was further complicated by the newly qualified nurses' deficit of clinical skills. Mooney suggests that preparation for the new role was impeded by the supernumerary status prior to qualification. These neophyte nurses placed high expectations on themselves and expressed concern regarding time pressure and increased workload. They resented the demand from non-nursing duties at the

expense of actual nursing and quality patient contact. The perceived theory–practice gap and concern for patient safety caused more anxiety for these participants. New responsibility and accountability appeared to weigh heavily on their minds in the transition stage. The rigour of the study is enhanced by evidence of explicit data collection and analysis appropriate to grounded theory approach with axial coding. However the choice of convenience sampling is less representative. Nevertheless, these findings provide useful insight into the perceptions of newly qualified nurses throughout this turbulent time.

In another publication from the same study, Mooney (2007b) explored newly qualified nurses' perception of becoming qualified nurses with emphasis on the concept of professional socialisation. Mooney identified the compelling need for newly qualified nurses to become socialised within the professional realm in order to truly ease the transition in the clinical arena. This socialisation encompasses adaptation to the organisational culture of the institution within which ritualistic practices are often found. This can contribute to the stress of the transition. The enthusiasm of the novices appeared to be quelled by the rigidity and ritualistic nature of the clinical practice leading to feelings of powerlessness and vulnerability. Stress was associated with the negative experiences felt by these newly qualified nurses. Phrases like 'set in stone' regarding ritualistic practices and 'without a voice' referring to the participant's feelings of powerlessness, depicted the views of the participants. Mooney explicitly discussed ethical issues. The trustworthiness of the data was clearly established with explicit account of enhancement of credibility, confirmability and consistency and applicability. This included verification of findings with three participants and provision of audit trail through a peer assessor.

Despite the limitation of sampling from a single acute general hospital in Ireland, the findings were of particular personal relevance because of the Irish location as opposed to findings from overseas.

While focusing again on newly qualified nurses' perception and experience of becoming qualified nurses, Ross and Clifford (2002) also recommended greater consistency in the provision of support for those who are newly qualified in the UK. They explored the experiences of nurses before and after qualification replicating the work of Nolan *et al* (1998). They compared the experiences of nurses in a longitudinal study over an eight-month period and evaluated their perception of support in transition. A questionnaire using a combination of a Likert-Scale and open-ended questions was sent to a small convenience sample of 30 nurses (n=30). This was supplemented by a pre-qualifying interview (n=4). Findings confirmed the stressful nature of transition in nursing. This was compounded by lack of preparation before qualifying due to limited clinical exposure and theoretical grounding. While affirming the merit of preceptorship as a means of support and guidance in the initial months of transition, the authors found that this programme lacked consistency. Unfortunately only the qualitative findings were reported. A relatively small sample restricted generalisability somewhat and the self-selection of 30 volunteers to participate owing to an expressed interest in transition may add bias to the findings. However, scientific rigour was enhanced by a triangulation approach, a pilot study and trustworthiness by way of colleagues' comment on the design and student validation of results. The recommendations were that organised preceptorship should be fully available for all qualified nurses.

Maben *et al* (2006) examined the extent to which the ideals and values for practice expressed by the student nurse were realised when qualified. This study was undertaken in three colleges in Southampton and preceded by extensive research on transition experiences of nurses (MacLeod Clark *et al*, 1997; Maben and MacLeod Clark, 1998). The authors studied those qualifying from the nursing diploma courses using an open-ended questionnaire from a sample of 72 (n=72) final year students. They then compared the responses from a purposive sample of 26 qualified participants (n=26) on two occasions within fifteen months of registration. They support Kramer's findings in concluding that there is a disparity between what is taught in the classroom and what is practised in the clinical area. They also claim that there is a lack of support in the clinical area caused by time constraints, staff shortages and increased workload and highlighting the need for supervision and support in these early and crucial stages of a newly qualified nurse to ease the transition.

Maben *et al* found that the theory-practice gap lead to the disturbance of the ideals held prior to qualification, which is much researched and evidenced in previous studies (Hyde and Brady, 2002; Clark and Holmes, 2007). The longitudinal design and the trustworthiness of the data were explicitly documented which added to the scientific rigour of the content. Ethical safeguards were explicit in the study. However bias may have factored in the purposive sampling of the 26 interviewees following examination of the responses from the 72 questionnaires.

Concerns regarding clinical competence raised in the above study were echoed by Clark and Holmes (2007). They acknowledge the skills deficit experienced by newly qualified nurses. Their study focused on the way competence develops among novice

nurses and how ward managers and colleagues perceive this. This qualitative study involved five focus groups totalling a sample size of 105. Participants came from a varied background including preceptors, practice development nurses and newly qualified nurses, which provided a broad insight into this topic. Additionally a further five ward managers were interviewed (n=5). The authors note that the impact of this perceived deficit of clinical skills on self-confidence is further damaged by low expectations from them on behalf of ward managers. Once again, the need for support for the first six months of practice to facilitate development of these skills is highlighted.

These negative feelings are not confined to the acute nursing as evidenced by Rungapadiachy *et al* (2006), who conducted a qualitative study to follow-up a previous study of student mental health nurses (n=11). The previous study was conducted in 2004 (Rungapadiachy *et al,* 2004), when the same cohort was at student nurse level. Using a grounded theory approach, this study explored the participant's perception of their current role of newly qualified mental health nurses in Leeds. Despite insignificant difference in the perception of the role before and after qualification, repeated themes emerged to include role ambiguity, lack of support and the theory-practice gap, all having a negative impact on transition period in nursing. Evidence of trustworthiness and bracketing was explicit. This was enhanced by supervision from authors from a different background holding no preconceptions in this area. The respect for the participant's right to decline from interview was exercised in two cases though it was stated that data saturation was achieved within the cohort of eleven participants (n=11). However generalisability was compromised by the small sample size and focus on a mental health nurses only.

The negative perceptions experienced by the above participants coupled with the stress associated with lack of clinical competence as outlined by Maben *et al* (2006) were echoed by Charnley (1999) concluding that significant stress and anxiety were experienced in the first six months after qualification. Charnley (1999) also used a grounded theory approach involving semi-structured interviews with newly qualified nurses during the first six months of practice (n=18). The lack of confidence and inadequacy of clinical skills was cited as a major intrinsic source of stress. Extrinsic factors contributing to stress included high workload and lack of qualified support in the initial period post-qualification. Charnley recognised the benefit of facilitation for those newly qualified. This grounded theory approach to data collection and analysis was appropriate given the unexplored territory of stress in the newly qualified nurse graduating from Project 2000 (UKCC). Theoretical sampling was chosen in order to gain optimum insight into their perceived views about transition. Data generation was elucidated and trustworthiness was evidenced somewhat in the recruitment of a colleague to establish an independent category system, preventing bias from tainting the findings. No explanation of the way theoretical sampling occurred and no further evidence were presented to show data trustworthiness.

Despite emphasis placed on newly qualified nurses in relation to stress in the clinical environment, Baldwin (1999) found that student nurses experienced more stress than their newly qualified colleagues. Baldwin set out with a multitude of aims in a comparative, follow-up study of student nurses and newly qualified nurses in Scotland. These aims were to identify mental health problems in novice nurses, to identify risk factors affecting health and to learn about attitudes towards seeking help. Additionally the author aimed to assess the relationship between mental health

sickness and attrition and absence from nursing. Baldwin's approach involved interviews held at four yearly intervals supported by an annual questionnaire from two cohorts namely a group who qualified in 1994 (n=212) and another group who began their course in 1994 (n=147). Baldwin asserts that stress is higher in the student nurse as opposed to the newly qualified nurse with financial worries and family circumstances cited as dominant stressors. However the author acknowledges the need for consolidation of skills in the first year of qualification and stressed the importance of adequate staffing and support for these neophyte nurses. The tool used, though lacking reference to the author, was the 'General Health Questionnaire' (Goldberg, 1978), which appeared appropriate to this area of study. There appears to be scant evidence of addressing all the aims of the study.

It must be noted that contrary to the majority of findings, Brown and Edelmann (2000) have found that newly qualified nurses and indeed student nurses experienced fewer stressors and better resources than participants predicted in England. They performed a longitudinal study to examine predicted stressors and sources of support in student nurses using an open-ended questionnaire followed by a newly devised questionnaire based on the findings from the initial study. Six months later, sources of stress and coping strategies that were actually experienced by newly qualified nurses were examined. Findings included a little disparity between anticipated and experienced stressors and coping resources. While newly qualified nurses experienced less support they met with less turmoil than anticipated. Student nurses experienced financial stress, as opposed to anticipation of competency difficulties. Though the response rate was above 75%, limitations included misrepresentation in sample size in the three groups with a wide disparity of numbers in each group with

no explanation given. Novice student group (n=73), students with eighteen months experience (n=20) and a mere sixteen having completed the course (n=16). They used a specifically designed open-ended questionnaire, omitting evidence of validity and reliability of this instrument and no evidence of piloting.

Gibbons *et al* (2007) have also found mixed views on stress in a purposive sample of four focus groups of final year student nurses in the United Kingdom (n=16). The aim of the study was to identify both positive and negative aspects to the nursing course overall, including university and clinical placement by identifying sources of distress and eustress as perceived by the student nurse. Following thematic analysis of the findings, four themes emerged to include aspects about clinical experience, support structures, learning and teaching experiences and course structure. The clinical experience was considered to contribute both positively and negatively to the student nurses' stress. Distress was associated with short staffing and relationship difficulties with some staff, while experiential learning was considered a source of eustress. Support was considered crucial to the wellbeing of the student, with specific reference to the value of 'undivided attention' from tutors in helping students cope with stress. Limitations included generalisability curtailed by a small, female-only, convenience sample in a setting, where support structures differ slightly to Ireland.

Overall, the studies on the transition process acknowledged the significant stress encountered by newly qualified nurses compounded by the theory-practice gap and role ambiguity. Emphasis is placed on the potential value of support both pre-registration and post-registration in benefiting the nurse, which inevitably transcends to better care for the patient. Owing to the subjective nature of this concept, all

studies used a qualitative methodology. While this approach is appropriate, the abundance of studies and similar findings in all studies suggest that transition issues are continuing to cause concern. The generalisability of most of these studies is compromised by small sample size, sample location or limit to single location. Within these studies, stress for both the student and newly qualified nurse exists in varied levels and guises, with persistent reference to the stress and stressors both within and outside the clinical arena.

2.7 Effects of supernumerary status on the student nurse

Supernumerary status frees the students from the constraints of delivering nursing care according to the needs of the service and focuses on their own educational needs and clinical exposure (Gorley and Elcock, 2007). This has been introduced into the programme for nurse education in Ireland in 1994 (Government of Ireland, 2000). Following concerns regarding clinical aptitude of newly qualified nurses, supernumerary status will only pertain to the three initial years of education effective from 2005 (An Bord Altranais, 2005).

Supernumerary status during nursing education is widely supported as evidenced by Spouse (2000). This follows exploration of student's images of how they will practice in nursing from eight student nurses in England. The author found that supernumerary status contributed to realising the dreams of student nurses. Students felt empowered to learn in the clinical environment without the added burden of excessive workload and responsibility. Spouse used both phenomenological and ethnographical approach to this study with explicit justification for both. Rigour was further enhanced by

using a longitudinal method of data collection from focus groups, individual interviews, observational data collection and student's expression through art.

However the value of supernumerary status is refuted by Hyde and Brady (2002). This follows a qualitative exploration of 16 staff nurses' perceptions of their role and attitudes toward diploma students in clinical education in Ireland. This specifically pertains to their perception of supernumerary status compared to rostered placement in clinical area. Using NUD*IST software package for data analysis, three dominant categories emerged: Firstly the view was that students were overly focused on theory at the expense of clinical practice. Secondly, less clinical responsibility was given to these students than to the traditional 'apprentice-style' students in the past. Finally, supernumerary status led to alienation of the student from the team. The study reveals that service needs dominate the clinical arena at expense of the educational needs of the student nurse. Limitations included a greater risk of bias owing to the convenience sample selection as opposed to random sampling. Additionally, almost one quarter of the participants had special interest in student nurse assessment having spent at least ten days in relevant training programme. This percentage would not be representative of all general nurses in Ireland. Furthermore the involvement of a nurse tutor as the interviewer may have influenced the participants' replies to the open-ended questions known as 'social desirability' (LoBiondo-Wood and Haber, 2002). There was acknowledgment of confounding variables, which limited the findings, which included severe staff shortages and small sample size.

In contrast to Hyde and Brady (2002) who examined the views of qualified staff, McGowan (2006) studied the concept of supernumerary status from a student nurse's

perspective. McGowan had a threefold ambition which was to define supernumerary status, examine its implementation into practice and to see the effect that supernumerary status had on student nurses working in second year, undertaking nurse education in Northern Ireland. Using ten focus groups for data collection, McGowan concluded that clarity is required to establish the expectations from the supernumerary role and indeed that clarity is needed in the aims of such a role. While some students perceived this role positively, inconsistencies in preparation for and lack of clear definition of this role led to negative attitudes towards it. One weakness associated with focus groups for data collection is with a possible tendency for 'group-think', which may bias the results. This theory explains how situational conditions within a group can affect the response (Hodson and Sorrentino, 1997).

Some of these negative findings concurred with those of Joyce (1999) following action research in an Irish hospital. In a quest to develop a framework for the implementation of supernumerary learning at a time when the diploma course was in progress, Joyce (1999) found that there were mixed feelings about supernumerary status and suggested that service needs, overrule the educational needs of the student in the clinical environment. Joyce's findings revealed a general consensus of lack of preparation for this role. This study explored this concept by way of focus group interviews with self selected clinical nurses (n=8), reflective diary written by the researcher, critical incidents from a convenience sample of student nurses (n=31) and semi structured interview with nurse teachers (n=4). All participants were from a single site in Ireland and a small sample limited generalisability, as acknowledged by the author.

Holland (1999) has explored the transition experiences of the student nurse throughout training in England using an ethnographical approach. Despite theoretical evidence to support supernumerary status, there appears to be a conflict in the role of the non-waged student between that of student and that of a worker. This pertains to the contribution required from them to the ward work. Despite ambiguous identification of exactly who the participants are, whether student nurses or newly qualified, one clear message abounded. That is, that transition from student to qualified nurse is clearly a stressful time. The number of approaches to data collection, which were interview, direct and non-direct observation and open-ended questionnaire, enriched these findings. However the fact that the data collector was the participant's teacher could have resulted in the 'Hawthorne Effect' (Abbot and Sapsford, 1999) and social desirability regarding the questionnaires, as anonymity was not explicit. Despite this limitation, the findings are congruent with Hyde and Brady (2002) regarding ambiguity of the role of the supernumerary student nurse which prompts further exploration.

From a managerial perspective Begley and Brady (2002) explored through grounded theory, the views of 10 senior nurse managers involved with Irish nursing students undertaking the diploma programme in three Dublin teaching hospitals in 1997. Findings were positive with a perception of good organisation and effectiveness of this programme. Participants expressed surprise regarding their own favourable reaction to this relatively new approach to learning in the clinical environment, who like their English counterparts viewed this phenomenon with a degree of apprehension (Maben *et al*, 2006). The authors recommended that students should be encouraged to give full care under supervision in order to optimise learning opportunities

irrespective of supernumerary status. Merits of the study included explicit bracketing on behalf of the interviewer coupled with confidentiality and anonymity assurance and piloting of the study. However one concern is that the participant's perceptions may have been swayed by the imminent change from diploma level preparation and inception of the degree programme in 2002. Additionally data saturation may not have occurred as acknowledged by the authors owing to the small, accessible sample size.

From the perspective of Irish registered nurses who facilitate the student in the clinical area, O'Callaghan and Slevin (2003) found mixed reaction to the facilitation of this supernumerary role. This followed exploration through semi-structured interviews from a convenience sample of 10 in a phenomenological approach. There remained ambiguity regarding the supernumerary role as supported by McGowan (2006). Supernumerary status lends itself to that of learning only through observation. This often impeded participation in clinical activity and curtailed the learning experience. While on a positive note, participants found this facilitation rewarding and enjoyable, though some found this stressful at times. The findings are interpreted with caution owing to sampling from a single site and convenience sampling questioning the reasons for participation possibly distorting the findings though generalisability was increased due to Irish location.

Morgan (2002) explored student nurses experience of their first clinical experience in a supernumerary capacity in a large Dublin teaching hospital. Findings suggest the supernumerary status can be lead to the feeling of 'being in the way' initially, though this feeling appears to be transient. The registered nurses positive attitude towards the

student was perceived to be pivotal in facilitating a positive learning experience for the student nurse. Limitations include the possibility of 'social desirability' affecting the findings as the researcher had a non-direct educational role with the student nurses. There was no evidence of data saturation possibly owing to the small sample and generalisability was impaired by the study carried out in a single hospital. However this study gained insight into the perceptions of student nurses towards supernumerary status in Ireland.

There appears to be a conflict of opinion as to the psychological effect of supernumerary status on nursing (Elcock *et al*, 2007). This follows an extensive international review of the literature. Authors have concluded that supernumerary status did not significantly change the learning opportunities for students in the clinical arena. This resulted from unclear definition of the role, which often isolated the student from the team at a time when support is paramount. Positive reinforcement is essential in developing self-esteem in student nurses (Begley and White, 2003).

While supernumerary status provides a safe opportunity for the student to focus on their own educational needs in the clinical setting, the effects of this status appear to inadvertently impede this process by limiting clinical exposure and isolating the student from the team. Ironically, problems associated with this role appear to occur when students are not treated as supernumerary (Joyce, 1999). This questions whether supernumerary status allows for observation or participation. Further empirical support is needed to explore this phenomenon, particularly in Ireland with

the relatively new programme for nurse education and lack of literature exploring the effects of supernumerary status on those nurses undertaking the degree programme.

2.8 Personnel to support students and qualified nurses

In an effort to ease the transition of newly qualified nurses and to support nursing practice at ward level, a number of roles have been introduced with the sole intention of facilitating clinical learning and practice in the clinical environment. Personnel support particularly for newly qualified nurses varies not only from country to country but also varies between different hospitals (Lambert and Glacken, 2005). Terms used to describe the support also differ somewhat.

This support has also been endorsed by Harvey *et al* (2002), who critically analysed the relevant English literature on the role of facilitator in implementation of evidence-based practice. The function of this role ranges from clinical supervision to quality improvement and from auditing to counselling. However, the authors clearly emphasise this role as facilitating and supporting others in the implementation of theory in practice. While the authors sought more clarity on the models of facilitation, there is no doubt that findings were overwhelmingly positive with regard to their benefit.

Lambert and Glacken (2005) conducted an extensive literature review on former and existing clinical support. They specifically focused on what is known about the role of the clinical education facilitator in the Ireland. The importance of supervision by supernumerary personnel in the clinical environment was stressed with regard to the overall development of competency in the nurse. They have acknowledged the

stressful transition to newly qualified nurse. General support was lacking in the clinical environment despite evidence to support the role of clinical facilitator. Despite recognition of the positive contribution of this emerging role, they noted a lack of clarity regarding the roles of clinical facilitator in the Irish context. This is later supported by Kilcullen (2007), who analysed the experiences of clinical supervision from a supervisor and supervisee perspective (n=10). The study used a qualitative method and was limited to a urological specialty in nursing. Findings revealed that, although clinical supervision systems are not yet implemented fully in Ireland, they are of major benefit in relation to support in the clinical environment.

From a slightly different perspective, Williamson and Dodds (1999), focused on clinical supervision in a review of the literature. Rather than a supporting role they saw this role as focusing on educational issues and on monitoring. They have advocated the provision of clinical supervision in the reduction of stress, though acknowledge little research evidence exists to support this view, hence the need to empirically evaluate this phenomenon. Bick (2000) has endorsed the clinical facilitator role in supporting the newly qualified nurse. This follows a report on a small-scale survey carried out in England on newly qualified nurses (n=15) to ascertain views on preceptorship and support in the initial stages after qualifying. The role of clinical facilitator was also recommended to support the preceptorship programme in acknowledgement of workload and staff shortage pressures already placed on the preceptor. Though at the time this role was practised by the author, hence the possibility of bias entering the study.

Whitehead (2001) has also advocated the value of structured provision of support for the newly qualified nurse, specifically termed 'preceptorship' during this anxious time, where knowledge and experience is perceived to be lacking. Findings from this qualitative study using semi-structured interviews revealed recurrent themes experienced by these novice nurses. These include inadequate preparation theoretically and practically for this new role coupled with lack of support in the initial stages. This hampers a smooth transition for the nurse. Whitehead has advocated preceptorship to support these novices in the initial period in effort to overcome their stressful experiences. Unfortunately, a relatively small convenience sample size of three student and three qualified nurses from a single site may compromise generalisability of the findings. Moreover, the author's personal acquaintance with and purposive sampling of the subjects could question the possibility of bias affecting the results, though this was acknowledged and justified by the author.

Endorsement of a supporting role is cited by Alderman (1999), who conducted a pilot study assessing the role of clinical practice facilitators. Alderman asserts that newly qualified nurses experience stress, and need support and guidance during the initial period of practice. There emerges a strong recommendation for the introduction of this role in facilitating educational and professional needs of nurses particularly in newly qualified nurses.

Likewise, Amos (2001) supports this conclusion based on a qualitative approach using semi-structured interviews and focus groups. The sample included newly qualified nurses working on a gynaecological ward (n=5) and a focus group involving

newly qualified nurses working on general wards (n=5) in Birmingham. Participants expressed feelings of anxiety, attributing this mainly to perceived inadequate preparation for their new role compounded by lack of structured support in the initial period after qualification. Amos asserts that structured supervision by a preceptor and rotation programmes are ways to assist role transition in the newly qualified nurse, stressing the need and value of structured support for the newly qualified nurse in effort to reduce anxiety. Generalisability was hampered by the small sample, half of which worked in a gynaecology speciality, plus non-inclusion of bracketing or data saturation.

Gerrish (2000) compared the perceptions of newly qualified nurses from two cohorts from different areas. The first study was carried out in 1985 (n=10), followed by a further study in 1998 with a larger sample of newly qualified nurses (n=25). A grounded theory approach using in-depth interview for data collection was adopted in both studies with constant comparative analysis undertaken as is appropriate to this research approach. Gerrish found that despite a significant association of stress with the transition in both cohorts, the latter group found the passage easier owing to preceptorship and were fortified by strong knowledge base. However fear of litigation and varied perception of clinical competence appeared to compound the stress perceived by these participants. Limitations include the fact that the groups were interviewed at different locations, which questions their equivalence and also notwithstanding the value of this longitudinal approach the time difference can often include extraneous variables not identified by the researcher. In conclusion, Gerrish (2000) affirms that support in the form of preceptorship programmes was useful for the easing of role transition in the early months after registration.

Teasdale *et al* (2001) concurred with this view in a comparative study aimed at assessing effects of clinical supervision and informal support on qualified nurses. This survey involved two groups of nurses, one group supervised and the other unsupervised from a large sample from 11 randomly chosen hospitals and community sites in UK (n=211). They also used qualitative data from analysis of 156 critical incidents. Quantitative data collection tools included the 'Maslach Burnout Inventory' (MBI) (Maslach and Jackson, 1981). This is widely used and validated (Pinikahana and Happell, 2004). The focus of this instrument is on burnout, which is a prolonged response to chronic and interpersonal stressors on the job (Maslach and Jackson 1981; Maslach, 2003). The 'Nursing in Context Questionnaire' (NICQ Brocklehurst, 1999 in Teasdale *et al,* 2001) was also used. Findings from the latter questionnaire revealed that differences between groups were significant. This was not confirmed in the Maslach Burnout Inventory. Nonetheless the positive effect of supervision and support was significantly higher. There was a statistically significant positive difference in personal accomplishment scale when supervised. However there were no other statistically significant differences between the groups. The authors stressed that in cases where resources are limited; concentrating on junior nurses would be most appropriate.

With regard to practical support for the student nurse in his/her supernumerary capacity in Ireland, the role of the Clinical Placement Coordinator is pivotal in supporting and guiding the student in the clinical environment (Drennan, 2002). The Forum for Nurse Education in Ireland (2000) has recommended the maintenance of this role in the support of the student nurses in clinical practice, because they play a key role in applying theoretical knowledge to practice (Commission on Nursing,

1998). Drennan (2002) has supported the retention of this role following a study using qualitative and quantitative methods, exploring and evaluating this role from a multifaceted perspective. This study has shown positive regard for the support provided by the clinical placement coordinator in the clinical environment, with some ambiguity about the role in the initial stages (Drennan, 2002). The researcher optimised the scientific rigour of the study with a mixed method approach using interview, focus group and questionnaire. Also a large sample size enhanced generalisability, which returned questionnaires from student nurses (n=121), clinical nurses of all grades (n=168) and clinical placement coordinators (n=79). Individual focus group interviews involved 166 participants. Reliability testing of the questionnaire, and cluster and stratified sampling also enhanced the probability of the generalisability of the findings. However clinical placement coordinators were disproportionate in the sample taking up almost one fifteen per cent of the sample size, which may alter the results.

In the UK, Kelly *et al* (2002) conducted an action research project to evaluate the value of the role of clinical practice facilitator in an acute nursing setting. This involved the supernumerary appointment of clinical practice facilitators in six pilot areas in London to support both healthcare assistants and newly qualified nurses. Evaluation included assessment of questionnaires sent to all nursing staff albeit with a poor return rate. Educational audits were carried out and enriched by review of recruitment and retention data. Findings were overwhelmingly positive regarding this role in providing nursing staff with supernumerary staff to develop skill-focused education. A larger scale study with involvement of more participants and different types of settings would aid the generalisability of the findings. These findings were

supported by concomitant random selection of survey participants (n=30), who had left the setting. Among the findings was the perception that support to develop professionally was inadequate at ward level, which led to dissatisfaction. Ethical approval or voluntary participation in the latter survey was not discussed nor the demographic detail of this group, which was not limited to novices.

Hutchings *et al* (2005) have explored how student nurses are supported with regard to capacity and suitability of the environment to do so. Purposive sampling was chosen, including those with an interest in educational issues. Following three focus group interviews (n=12) ranging from nurses mentors, nurse managers and matrons from a general nursing setting in England, three themes arose. There were capacity issues, which focused on large numbers of learners on placement, which were perceived to challenge the staff and cause anxiety. Secondly, a supportive learning environment was dependent on the structured management of the placement. Finally there was a consensus that supporting roles were necessary in enhancing learning practice. The role of education facilitator was endorsed to support learning in practice and promote best practice. Attendance at the focus group interview was small (n=12). This was paradoxically due to workload pressure. This has been evidenced by other studies in England with nurses too busy to fill out the questionnaires on stress (Harrison, 2004).

Wheeler *et al* (2000) evaluated the change in the education programme for nurses in Birmingham through the perceptions of, and the career patterns of the graduated nurses in a follow up study (n=94). Using open and closed-ended newly devised questionnaire, the authors explored graduate's perception of their degree programme. Despite the limitation of a low response rate, the respondents remarked that there was

little support given by senior staff, limited induction and lack of support programmes for the young graduates. This came at a time when graduates felt understaffed and under-equipped in clinical skills, thus impacting negatively on the quality of patient care. On a more positive note graduates felt well prepared academically to provide evidenced based care. Communication skills made them better prepared to advocate for both the patient and the profession. While piloting was demonstrated and face and content validity were explained, there was no evidence of measures to test reliability.

From a different perspective Dearmun (2000) explored the contribution of Lecturer Practitioners in supporting newly qualified children's nurses. Specifically, the perceptions of newly qualified children's nurses regarding their first year in practice in Oxford were examined. A longitudinal design using grounded theory was employed, interviewing post-graduate nurses (n= 10) on four occasions within the first year of qualifying. The level of support perceived by these nurses appears to be less than that which is offered. The value of the lecturer practitioner role in the clinical setting to support newly qualified nurses and assist in the amalgamation of theory and practice was advocated. Though bias may have entered owing to the author's occupation being that of lecturer practitioner. Other factors found to disconcert neophyte nurses included the way nursing care was managed, through task orientation and the organisational hierarchical structure. These findings outlined four distinct stages within the transition period of one year. These were the initiation stage approximating three months where the person develops clinical skills, and becomes a member of a team. This is followed by a consolidation stage where the person develops confidence and where the theory practice gap narrows. The third stage can present difficulties for the nurses who feel that they need more challenge and finally

the decision to stay or leave at the end of the first year presents a serious dilemma for this precious resource. The generalisability of these findings is compromised by the focus only on children's nurse discipline. While the title sought to examine the support for newly qualified nurses, the findings reflected a different concept, which explores the development in the first year, albeit cognisant of the value of support namely the lecturer practitioner role.

Findings from the research reviewed indicate the positive effects of support within the clinical area in the reduction of stress, though there is debate as to the most appropriate form of support. Nonetheless, this valued support does not always continue once qualified. Collectively, the importance of the role the preceptor plays in clinical supervision and support of the student and newly qualified nurse is paramount in the reduction of stress in the clinical field (Charnley, 1999; Gerrish, 2000; Smith and Gray, 2001). It is important that future research focuses on support in whatever guise in order to develop a strong body of knowledge on the subject in order to fortify this support for all nurses in the clinical arena, especially the newly qualified nurse. One theme persists that there are positive and negative views on the subject of supernumerary status.

2.9 Conclusion

The education and training of nurses in Ireland has dramatically changed over the past decade. This has resulted in newly qualified nurses entering the clinical arena with different preparation than their colleagues who have experienced the traditional apprentice-type training (Simons *et al*, 1998). There appears to be a dissonance between the ideological teachings in the classroom and the reality on the ward floor.

The clinical environment provides an opportunity for both newly qualified nurse and student nurse alike to link theory with practice in nursing with amalgamation of nursing as an art and a science (Dearmun, 2000). However the theory-practice gap remains problematic for both student nurses and newly qualified nurses (Maben *et al*, 2006). This is compounded by concern regarding adequate preparation for the role as graduate nurses (Bick, 2000; Gerrish, 2000; Clarke and Holmes, 2007). This lack of preparation for the new role is not confined to Europe, but evidenced worldwide (Beckett *et al,* 2007). This is also complicated by the mixed opinion on the value of supernumerary status for the student nurse.

Stress appears to be associated with high turnover in nursing. There was considerable attention paid to the concept of stress in the study of high staff turnover in Irish nursing with workload, pressure at work given as some of the reasons for nurses leaving (McCarthy *et al*, 2002). Mean turnover rates are relatively higher than other nursing disciplines in general nursing with the exception of private nursing homes (Department of Health and Children, 2004). Stress was considered contributory to attrition from nursing (RCN, 2006) and in turn has lead to the ripple effect (McCarthy *et al*, 2002) whereby the loss of staff from the organisation leaves greater workload with fewer staff thus exacerbating the problem of stress in the clinical environment.

What resonates from this literature review is the endorsement of support for nurses in the clinical environment. There is a definite consensus of opinion that structured support is beneficial both for the student nurse and the newly qualified nurse. This is coupled with evidence to support that there is a strong association between a supportive environment and the satisfaction with the placement, which in turn encouraged the nurse to return to that area after qualification (Andrews *et al*, 2005).

There is also an agreement that support for the newly qualified nurse is particularly important. The foundations have been laid by previous studies to improve the clinical environment for the student and newly qualified nurse in effort to reduce stress (Charnley, 1999). Cooper and Locke (2000) assert that awareness of the negative effects of stress in the workplace is essential, with a compelling need to address this issue in the development of effective preventative measures and intervention strategies aimed at reducing stress not only in nursing but in all workplaces. Moreover, Cooper (2004) suggests that with strategies such as stress management, stress awareness in management training and remedial activities including counselling services, stress in the work environment could be potentially reduced, thereby improving staff well-being and performance. Despite many advances in nursing, stress appears to prevail and comments by nurses over 30 years ago in Kramer (1974) seem to be repeated over and over. It is clear that the transition is stressful. It is also clear from the studies that despite the evident merit of support, there remains a perception within the clinical environment that this is lacking.

Chapter 3 Methodology

3.1 Introduction

This chapter outlines the aims and objectives of the study and the hypotheses. The justification for this study will be followed by a discussion on the philosophical underpinnings that prompted the choice of methodology used. The design will be outlined including a brief description of the data collection tool, namely the 'Nursing Stress Scale' (Gray-Toft and Anderson, 1981a). The validity and reliability of this instrument will be examined along with the trustworthiness of the accompanying open-ended question. Considerations associated with the sampling process will be discussed along with the ethical principles associated with the study. This will be followed by a description of the data analysis process.

3.2 Aims and objectives of the study

The aim of a study and the research questions serve to inform the researcher as to the most suitable way of obtaining data (Parahoo, 1997). This research aims to measure and compare levels of stress exclusively related to the clinical environment as perceived by both fourth-year student nurses and newly qualified nurses. This is facilitated by the use of a data collection tool specific to the nursing environment, called the 'Nursing Stress Scale'. In previous studies most stressors identified by student nurses occurred outside the clinical arena (such as examinations and financial concerns) as opposed to stressors identified by newly qualified nurses, which have been identified as occurring within the clinical environment. The reason for the inclusion of fourth-year student nurses for comparison is that this cohort will be working in the clinical area at the time on rostered placement and are towards the end

of their four-year education. This forms the foundation for the testing of a hypothesis with the comparison of two relatively equivalent groups who are working under the same conditions at the same time.

The objectives of the study were:

1. To investigate and identify what are the perceived levels of stress and job-related stressors in fourth-year student nurses and newly qualified nurses.
2. To determine if there was a difference between the levels of stress and stressors in both groups.
3. To explore the participants' views on stress and stressors in the clinical environment from a qualitative perspective.

3.3 Hypotheses

The first hypothesis is one tailed giving direction as illustrated below but is also termed as a directional hypothesis (Burns and Grove, 2005). This has been influenced by the findings of the literature review.

Hypothesis 1: 'Perceived stress within the clinical environment is higher in newly qualified nurses compared to fourth-year student nurses'.

Hypothesis 2: 'Newly qualified nurses will identify different stressors to fourth-year student nurses'.

In quantitative research, the research hypothesis provides the basis from which to test the null hypothesis, which proposes the absence of a hypothesis. This guards against superficiality of results and prevents misinterpretation of results (Polit and Beck, 2004). The wording of the hypotheses is deliberately simple and declarative.

3.4 Justification for the study

Qualitative and quantitative methods have been used to study stress as evidenced in the literature review. There is a predomination of a qualitative approach owing to the subjective nature of stress (Cooper, 2004). The quantitative studies, though scant, have used various instruments to collect data both by themselves and with qualitative methods in a triangulation approach to data generation (Denzin, 1989 in Williamson, 2005). Collectively there is a consensus that newly qualified nurses and student nurses experience stress. This is at a time when the demand for nurses outweighs the supply in the health service (Buchan, 1994; Treacy and Hyde, 2003). This is also at a time when discontent in nursing has been highlighted in recent protests regarding pay and conditions (Treacy and Hyde, 2003; Doran, 2007) and attrition is of major concern to the stakeholders in nursing (Department of Health and Children, 2002a, 2002b; Salmond and Ropis, 2005).

Stress has been studied mainly from a psychological perspective with a notable similarity in causes of and effects of stress, which seem to span the world over in the clinical nursing arena. Equally, stress exists in the student nurse with the intensity increasing with the level of training (Lindop, 1999). In light of recent findings, which account absenteeism rates for nurses in Irish Hospitals to over ten percent (Culiton, 2008), the reasons must be explored with examination of the possibility of stress as a contributory factor. Some of the stressors identified by student nurses appear to occur outside the clinical environment such as financial constraints and academic demands (Lo, 2002; Timmins and Kaliszer, 2002a). Conversely stressors identified by newly qualified nurses appear to occur mainly *within* the clinical environment such as workload, leadership/management style, professional conflict and the emotional cost

of caring (McVicar, 2003). As illustrated earlier, the ever-increasing volume of literature related to stress in nursing suggests the extent of the problem, with studies on role transition concluding that stress is significant in the initiation period post-qualification. Therefore, the conclusion of the literature review has prompted the writer to conduct this study, using a quantitative method to identify stressors and ascertain the actual levels of stress in the newly qualified nurse compared to the levels in a group of fourth-year student nurses *within* the clinical environment. The writer proposes the inclusion of an open-ended question to qualitatively enhance the findings. The identification of stressors using the 'Nursing Stress Scale' (Gray-Toft and Anderson, 1981a) will identify areas where contingency plans need to be put in place to support both the student and the newly qualified nurse in the clinical environment. Findings of this study could support the previous studies on stress with numerical data and reveal how this concept is perceived in the Irish context. This empirical evidence could support a systematic approach to easing the transition for the newly qualified nurse. This is at a time the quality of patient care is affected by stress (Brown and Edelman, 2000) and when retention of staff is paramount to the efficiency, quality and progress of the health service (McVicar, 2003; Hayes *et al*, 2006; McCarthy *et al*, 2007).

Furthermore, findings could help legitimize structured support in the name of preceptorship or facilitator in the clinical setting for newly qualified nurses (Lambert and Glacken, 2005). This may go a long way in alleviating stress and ensuring harmony within the workplace, retention of staff transcending to provision of quality care to the patient and their families.

3.5 Philosophical underpinnings for the study

When deciding on a research methodology, considerations are taken into account such as the nature of the phenomenon being studied, the philosophical paradigm and goal of the research, along with practical considerations (Shih, 1998). Stress, by nature is considered to be highly complex, sensitive and subjective thus lending itself more easily to qualitative approach (Benner and Wrubel, 1989; Charnley, 1999; Marks-Maran, 1999; Cooper, 2004). Hence such methods have predominated this area of research (Charnley, 1999), which has led to the development of a body of knowledge, which is richly narrative, informative and descriptive of the concept of stress. Subjective phenomena do not lend themselves easily to objective enquiry (Marks-Maran, 1999; Bryman, 2004). However the consequences of stress in the working environment are considerable and include poor job satisfaction (McGowan, 2001) an association with high turnover (McCarthy *et al*, 2002) and impeded learning (Gaberson and Oermann, 1999). Therefore quantitative results with tested hypotheses to support the qualitative findings are necessary (Clegg, 2001).

Health research in the past has been predominated by quantitative approaches (Weaver and Olson, 2003; O'Cathain, 2007). Two main approaches are naturalistic or qualitative and positivist or quantitative approaches differ in their ontological, epistemological and methodological perspectives (Proctor 1998; Weaver and Olson, 2006). Qualitative approaches in previous studies have aptly adopted the naturalistic paradigm given the subjective nature of stress. However there is a paucity of quantitative findings to support the qualitative findings. Hence the need to adopt a positivist (quantitative) approach in gaining quantifiable data to support previous qualitative studies. The methodology is through quantitative survey method, with

numerical data collection and hypothesis testing. The deductive approach to this study holds the ontological view of realism. The epistemological view in an objectivist one, whereby bias and hearsay is excluded from the findings. Bryman (2004) and Carter (2000) acknowledge that the objectivity of positivism is maintained through the collection observable and quantifiable data. Stress, being a subjective experience can gain from objective approaches to its study in order to present a truly unbiased view of the findings. Crossan (2003) adds that the truth sought through positivism is dependent on belief, which is verified and not on belief alone. Therefore speculation in investigation of phenomena can be avoided.

The qualitative part of the study serves to support the quantitative findings and to address the weaknesses of the closed-ended questionnaire by giving participants an opportunity to expand on responses in the Nursing Stress Scale. The quantitative qualitative debate will always continue with strength of each paradigm compared with the weaknesses of the other and vice verse. In truth both paradigms have considerable merit, though some epistemological ways of knowing are more suited to different topics, samples, environments and aims of the studies (Weaver and Olson, 2006)

3.6 Design

The design in a research study refers to "the researcher's overall plan for answering the researcher's question or testing the research hypotheses" (Polit *et al*, 2001, p.167). Previous literature has supported the development of a hypothesis on stress and stressors in the clinical environment. However, in order to test a hypothesis, is a need to support these findings with a quantitative approach (Shaughnessy *et al,* 2000; Clegg, 2001). This concurs with the views of Clegg (2001) who asserts that the

economic consequences of stress in the workplace are so apparent such as quantitative research into the causes and effects of stress in the workplace are justified. Therefore a positivist approach was chosen to produce statistics that are quantifiable and comparable from data generated from a non-experimental design through self-reported questionnaire.

This study involves a cross sectional, comparative survey of two groups of people in a non-experimental, descriptive survey design. This explores and measures the perceptions of participants' stress within the clinical environment. The groups are newly qualified nurses and fourth-year student nurses in clinical practice in six general nursing hospitals in the Dublin/North East region of Ireland. This postal survey aims to quantify and compare levels of stress between these two groups who are working in the same setting at the same time, through self-reported data, which is totally anonymous.

The 'Nursing Stress Scale' was used, as it was specific to clinical nursing as opposed to questionnaires, which globally measure stress (Cohen *et al*, 1983). Cohen *et al* (1983) suggest that subjective influences on behalf of the researcher are often eliminated by the purely objective measurement in quantitative reporting. While the study is mainly quantitative, data were also collected through the open-ended question. The rationale for this was to enhance the quantitative findings with qualitative material (Polit and Beck, 2004). The open-ended question gave participants an opportunity to make comments or suggestions in relation to stress in the clinical environment from their own perspective, focussing within the clinical environment. Student nurses and indeed newly qualified nurses may find themselves

in a vulnerable position particularly in new surroundings with new people (Muncey, 1998). As a consequence to finding themselves entering a different organisational culture (Marguis and Huston, 2000), they often are reluctant to tell anyone that they are "not coping" or finding the transition stressful (White, 1996) and are often discouraged to admit that they have experienced stress (Healy and McKay, 2000). Therefore they may not speak openly in an interview setting with fear of reprisal. Moreover face-to-face interviews, which were commonly used in exploration of this phenomenon, provoke the possibility of 'social desirability' and 'interviewer bias' affecting the responses in an interview setting (Polit and Beck, 2004). This can occur in surveys, though to a lesser extent.

Therefore, given the sensitive nature of stress (Clegg, 2001) in order to facilitate an ethics committee through which the author sought approval to carry out the study. Questionnaires were colour coded with white forms sent to newly qualified nurses and yellow forms sent to fourth-year student nurses. This aided identification of each cohort when analysing the data (Sim and Wright, 2000). The research procedure involved distribution of a covering letter detailing the nature and purpose of the study, together with an assurance of anonymity accompanied the questionnaire. A copy of the research proposal accompanied the questionnaire where requested by some hospitals. This followed ethical approval and permission to access participants in the participating hospitals. As advised by Roberts (1999), pre-paid addressed envelopes accompanied the questionnaire and a reminder letter was sent to those participants who could be contacted by post in four weeks to optimise return rate. It was not possible to send reminders to all the participants since some participants postal addresses was not available. The process of meeting with the clinical nurse managers

from each ward in a particular hospital asking them to distribute the questionnaires to was not repeated as it was not considered feasible in consideration of their clinical workload.

Cross sectional designs are carried out at one point in time (LoBiondo-Wood and Haber, 2002). Therefore the study may be affected by recent events at the time of the study. This is pertinent to this study as a recruitment embargo was announced at the time of distribution of questionnaires, which may have an effect on the responses. However, the main advantage of cross sectional design is that maturation does not occur, nor mortality which could affect the internal validity of the study (LoBiondo-Wood and Haber, 2002). The choice of independent groups design has advantage in that order effects do not occur as would do in repeated measures design (Mulhern *et al*, 2004).

In the unexpected incidence of a participant being negatively affected as a result of completing the questionnaire, a contact number for a counselling service provided by each hospital was included in the participant information leaflet. This included contact numbers for the respective counselling services available to all staff (see appendix A). The researcher assured the participants that the counselling services were separate to the research study. The counselling services were contacted outlining the nature, time, and extent of the study. The provision of professional advice from the researcher is not recommended (Mulhern *et al*, 2004). Absolute anonymity was assured except to state that the participants were from the Dublin/North East region, which included the six hospitals where undergraduate nurse education took place.

3.6.1 Advantages of questionnaires

Questionnaires are less costly than interviews or observations, and require less time to administer (Gillies, 2002). They are suited to surveys that involve dispersed geographical location such as this one (Nieswiadomy, 1998). They are used extensively in survey designs (Parahoo, 1997). The instrument used in the research can be tested for reliability and validity (Nieswiadomy, 1998). There was no direct contact between the researcher and the participant in an effort to control the possible bias often associated with interview, known as interviewer effect (Parahoo, 1997) or limit possible social desirability (Sims and Wright, 2000; Bryman, 2004; Mulhern *et al*, 2004). This self-administered questionnaire ensures absolute anonymity and encourages unbiased responses (Parahoo, 1997). Stress can be a sensitive subject for disclosure, therefore suited to this method of data collection where anonymity is assured. Therefore anonymous questionnaires can possibly elicit information without embarrassing the participant (Morse and Field, 1995). This underpins the rationale for selecting this mode of data collection as opposed to interview, which ensures that anonymity can be guaranteed.

Brevity and clarity in a questionnaire do not require the participant to spend much time to complete, encouraging a higher response rate (Morley, 1995). The Nursing Stress Scale takes approximately ten minutes to complete (Gray-Toft and Anderson, 1981a). The length of time taken to complete the open-ended question will vary. As advised by Nieswiadomy (1998), avoiding the timing of the study to coincide with holiday season can optimise return rate, therefore the questionnaires were distributed in October 2007.

3.6.2 Disadvantages of questionnaires

The possibility of low return rate often affects the generalisability of the findings (Polit *et al*, 2001). However this method of data collection provides the opportunity to access a much larger sample at a relatively lower cost. Perception or attitude scales such as this one have a number of associated disadvantages. There is no opportunity for the researcher to clarify the questions, nor is there an opportunity on behalf of the respondents to clarify their answers in closed-ended questionnaires such as 'The Nursing Stress Scale'. This was addressed in the provision of an open-ended question, which provided an opportunity for additional comments or suggestions. Non-verbal communication is lost in postal questionnaire, which may reveal pertinent information (Parahoo, 1997) and there is a tendency for superficiality in the responses (Polit *et al*, 2001). Nevertheless, social desirability in interviews can often distort responses. Sims and Wright (1999) caution the possibility of leading responses and central tendency bias and leniency tendency bias entering the results whereby the respondent will avoid extreme measures of the scale or indeed tend to stay on extreme levels of the scale.

Denial bias may also affect the results whereby a respondent may not accept that they find a situation stressful. Nieswiadomy (1998) also cautions that the use of questionnaires assumes that participants are literate and are physically capable of filling out the questionnaire. However this problem does not apply to this study, as all participants are either post-graduate nurses or university student nurses which implies an assumption that they are capable of comprehending and filling out the questionnaire and are physically capable of working in the clinical area at the time of the survey.

3.7 The Nursing Stress Scale

The 'Nursing Stress Scale' is a 34-item scale, which identifies perceptions of the sources of stress and perceived stressful situations in the nursing environment (See appendix B). The Nursing Stress Scale elicited the frequency to which respondents perceived themselves to be exposed to stressors pertaining to the clinical environment. Each item is scored according to the frequency with which these situations are assessed as stressful, from (0) never, (1) sometimes, (2) frequently, and (3) very frequently. The results of total scores range from 0 to 102. The greater frequency of work stressors experienced by the participant is indicated with a higher score (Lee *et al*, 2007, Pinikahana and Happell, 2004). Approval to use this scale was granted by the author (see appendix C). This scale was sub-divided into factors, which focused on different aspects that were considered potential stressors in nursing practice (Gray-Toft and Anderson, 1981a):

Factor 1: Workload: This includes breakdown of computer, perception of too many non-nursing tasks and time pressures regarding the provision of nursing care and emotional support. Also included in this factor are staff shortages and unpredictable staffing and scheduling. (Range of scale: 0-18).

Factor 2: Death and dying explores the perceptions of the participants about the frequency to which they found that the performance of procedures that could cause pain and the feeling of helplessness when dealing with patients whose condition might not improve. The stress relating to the dying process was also examined in relation to its effects on the participants. (Range of scale: 0-21).

Factor 3: Inadequate preparation: This area explores the frequency of which the participants felt inadequately prepared for their role in dealing with difficult questions and in the provision of emotional care to both the patient and relatives. (Range of scale: 0-9).

Factor 4: Lack of Staff Support: This area looks at the participants' view on the support available to them in the clinical setting and examined the occurence at which that they felt unable to voice their concerns and felt unsupported by personnel. (Range of scale: 0-9).

Factor 5: Uncertainty concerning treatment: This area focuses on the medical aspect of the patients care and looked at the frequency in which the participants felt that there was inadequate information for patients regarding treatment, inappropriate treatment and uncertainty regarding the working of medical equipment. (Range of scale: 0-15).

Factor 6: Conflict with physicians: This focussed on the frequency of physician conflict, fear of error in nursing care, conflict regarding appropriate treatment of the patient and perceptions of being left to make decisions in the absence of a physician. (Range of scale: 0-15).

Factor 7: Conflict with other nurses: This was concerned with the amount of times that the participants felt that they had disagreement with the nursing supervisor, moving to work on other wards due to staff shortages and difficulty working with particular nurses within and beyond the ward. (Range of scale: 0-15).

This scale was previously used and adapted by French *et al* (2000), who identified it as the most widely used scale to evaluate stress in nursing asserting that the aim of identifying sources of stress is the first step in the problem solving approach to its management. French *et al* adapted this scale to include provision of dealing with relatives (Reada, 2006). However this item was deliberately excluded, as student nurses do not deal with relatives as much as newly qualified nurses and this may distort the findings. Therefore the original Nursing Stress Scale was used with no amendments. Though this scale was developed in 1981, its continued use is a testament to its relevance to nursing in modern society. The Nursing Stress Scale was developed and is still relevant to study stress and stressors in nursing in modern society. This scale was chosen as opposed to the Maslach Burnout Inventory (MBI), (Maslach, 2003) the Perceived Stress Scale (Cohen *et al*, 1983) and the General Health questionnaire (GHQ) (Goldberg and Williams, 1978). These tools have considerable merit in measuring the concept of stress (Fagin *et al*, 1996; Tully, 2004; Fliege *et al*, 2005). But, these tools measure stress in a broader sense and not specifically to the clinical nursing environment. Therefore the validity of these tools in relation to this study was questionable. The aim of the study was to explore stress and stressors within the clinical environment, hence the use of the Nursing Stress Scale. Student nurses in previous studies identified stressors, which included financial concerns, and academic stressors (Timmins and Kaliszer, 2002a). In relation to this research, these stressors, though very real, were considered to be extraneous to this study. Drenth *et al* (1998) assert the need for detailed research on occupational stress within the work environment, which was the focus of this study.

3.7.1 Validity of the Nursing Stress Scale

Validity refers to whether or not an instrument measures what it is supposed to measure (LoBiondo-Wood and Haber, 2002). Questionnaires that are not valid, can possibly be reliable hence the importance of assessing for both validity and reliability (Parahoo, 1997). The Nursing Stress Scale has demonstrated validity in the measurement of stress (Pinikahana and Happell, 2004). Polit *et al* (2001) affirm that *content validity* looks at the adequacy of the coverage of the areas being measured, i.e. stress and stressors. The content validity of the Nursing Stress Scale was established by Gray-Toft and Anderson (1981a). Six nurse colleagues assisted in measuring the face validity of the scale and were satisfied with its validity.

Criterion related validity assesses the relationship between the respondent's measure on the measurement tool and their actual behaviour (Polit and Beck, 2004). It can be concurrent or predictive (LoBiondo-Wood and Haber, 2002). This is the most difficult to measure (Nieswiadomy, 1998). Criterion-related validity is evidenced in previous studies (Pinikahana and Happell, 2004). Concurrent studies have validated this measure (Topf and Dillon, 1988,). Lee *et al* (2007) were satisfied with the validity of this scale in relation to its close statistical association with other scales, which measure anxiety and affect. Concurrent studies have qualitatively supported the results from the Nursing Stress Scale with the development of similar themes to the factors, which are contained in the scale (McGrath *et al,* 2003; Evans and Kelly, 2004; Jenkins and Elliott, 2004). Predictive validity compares this measurement and uses it to predict the performance from another measure (Young *et al*, 2001). Parahoo (1997) asserts that predictive validity can be confirmed in the future with consistent results measuring the same concept at a later stage. The Nursing Stress Scale has

evidenced its predictive validity through extensive use over the past two decades with consistent results (French *et al*, 2000; Healy and McKay, 2000).

Construct Validity asks the following question. "What construct is the instrument actually measuring?" (Polit *et al*, 2001, p.310). Lee *et al* (2007) supported the construct validity of the scale with factor analysis. Construct validity of the Nursing Stress Scale is supported through research as evidenced in the wide and varied use of this tool since 1986 (Cole *et al*, 2001; Zaragoza, 2005; Lee *et al,* 2007).

3.7.2 Reliability of the Nursing Stress Scale

Reliability refers to the extent to which the instrument yields the same results on repeated measures. This includes stability, homogeneity and equivalence (LoBiondo-Wood and Haber, 2002). This measures the accuracy and dependability of the instrument (Young *et al*, 2001).

Stability was assured with test-retest reliability determined by the authors (Gray-Toft and Anderson, 1981a) and supported by Cole *et al* (2001). Test–retest reliability was .81 (Lee *et al,* 2007). This measure is satisfactory for measuring this reliability of the scale (Burns and Grove, 2005).

Internal consistency/homogeneity/internal reliability simultaneously compares each item in the scale with others in effort to ascertain whether the scale components measure the same concept. This was demonstrated by Gray-Toft and Anderson (1981a) with Spearman Brown coefficient of 0.79; Guttman split-half coefficient of 0.79. Payne (2001) has expressed this estimating Cronbach's alpha at 0.89. A result above 0.70 is deemed acceptable (LoBiondo-Wood and Haber, 2002). Lambert *et al* (2004) tested the internal reliability using Cronbach's alpha with satisfactory results found when carried out in different countries ranging from 0.91-0.93 with Hamaideh (2008) affirming internal reliability with Cronbach's alpha of 0.92. The test is frequently used to test internal reliability particularly instruments that use Likert scales (LoBiondo-Wood and Haber, 2002). To further evaluate the internal consistency of this instrument Lee *et al* (2007) focussed on the individual factors finding a poorer result ranging from 0.67 to 0.79. However this test was carried out on the instrument when translated into Chinese.

Equivalence refers to the consensus among users of the tool of its use and results for consistency with other tools measuring the same concept (LoBiondo-Wood and Haber, 2002). This is evidenced in consistent results given when a battery of tools were used in previous studies including the Maslach Burnout Inventory (1981) which was also used by Healy and McKay (2000), which used this scale with Job satisfaction scale from the Ways of Coping Questionnaire, the Coping Humour Scale, Job Satisfaction Scale of the Nurse Stress Index, and a modified Profile of Mood States) Cole *et al* (1999) also used this tool in order to measure the reliability of another scale relating to post code stress.

Interrater reliability was not relevant to this study as this was a self- report questionnaire.

The choice of Nursing Stress Scale was governed by the researchers aim to explore stress within the clinical environment, knowledge of its validity and reliability and ease completion on behalf of the participants.

3.8 Open-ended question

An open-ended question accompanied this scale. 'Do you have any comments or suggestions to add, relating to stress and stressors in the clinical environment?' This question is specifically designed for participants to comment on stress and stressors, as they perceive it. This provided an opportunity for respondents to expand on responses in the 'Nursing Stress Scale' and include further stressors and suggestions relating to the clinical environment. It also yielded information on stress and stressors as perceived by them and provided an opportunity for respondents to suggest ways to prevent or manage stress in the clinical environment. It was worded clearly, simply and unambiguously and is not value laden or leading (Parahoo, 1997). The wording of this question was specifically designed not to present leading questions. In order to control these extraneous variables such as financial constraints, the qualitative questionnaire specifically requests the participants to relate to the clinical setting. It was anticipated that respondents would identify stressors within the clinical environment and elicit information on stress in order to enrich the data collected (see appendix B). While the open-ended question provides an opportunity for participants to expand and clarify the answers in the Nursing Stress Scale it also enriches the rigour of the study through a different data collection method. The questionnaire was deliberately short in order to enhance participation, though broad enough to elicit sufficient data relating to this topic.

3.9 Sampling

The population is seen as the 'whole' that is to be studied and the 'sample' as part of the whole (Clifford, 1997). It must be large enough to facilitate generalisability and avoid bias, and small enough to be within the researcher's resources (Peat, 2002). Selection of a sample is critical in optimising generalisability of the findings, though it was not possible to access all fourth-year student nurses and newly qualified nurses in Ireland due to financial and time constraints. The target population in this study was identified as being all 'fourth-year student nurses and newly qualified nurses within six months of registration having trained in general nursing in Ireland in the Bachelor of General Nursing Programme'. From the target population, the accessible population was delineated, which is described by Fain (1999) as the population, which is readily available and represents and near as possible, the target population.

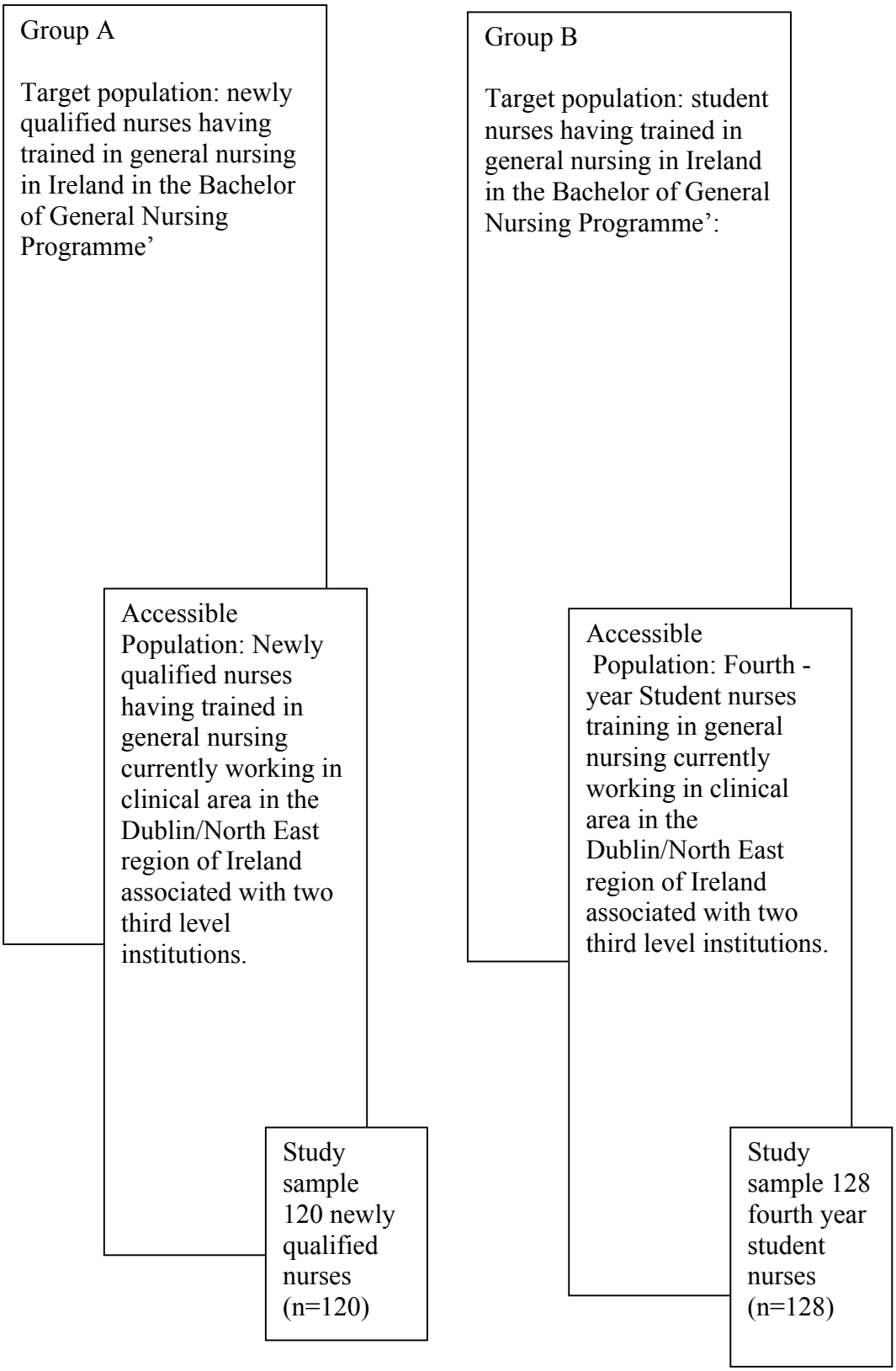
The accessible population in this study was 'Fourth-year student nurses and newly qualified nurses having trained in general nursing currently working in the Dublin/North East region of Ireland associated with two third level institutions. This included six acute hospital sites. In order to enhance representation of the sample multiple sites were used to increase the generalisability of findings. All student nurses and newly qualified nurses who satisfied the inclusion criteria and were accessible received a questionnaire containing the 'Nursing Stress Scale' and an open-ended question. This number took into account to the possibility of a fifty percent return rate ensuring that a minimum number of at least fifty in each group respond necessary for data analysis. This was the approximate return rate from the pilot study, though the average return rate in postal surveys is 33% (De Vaus, 2004).

3.9.1 The inclusion criteria

To be eligible for inclusion, each participant must satisfy the researchers' inclusion and exclusion criteria.

- The person must be willing to participate in a voluntary capacity.
- Participants from group A 'newly qualified nurses' must be registered as nurses with An Bord Altranais working in a full time capacity in an acute general setting having qualified within the past six months.
- Participants from group B 'student nurses' must be student nurses in their fourth year of the degree programme in general nursing working on an acute general ward at the time of data collection.

Figure 1: Diagram representing sampling plan



3.9.2 The sampling strategy

The sampling plan involved accessing the population of newly qualified nurses and fourth-year student nurses while in employment in hospital. The selection of participants within the hospital had a twofold ambition. Firstly to access participants without intruding on their privacy by gaining their postal addresses, and secondly to research within the clinical arena so the possibility is that they will fill out the questionnaire on site to enhance accuracy of their perceived stress at that time. Often when one is at home reflecting on the day, perceived stress may be altered by the environment outside the clinical area thus potentially affecting the internal validity of the results. The student nurses were on rostered placement at the time of the study ensuring that the questionnaire will be filled out when the student is in the clinical environment. With the crucial assistance of a wide range of staff including clinical nurse managers, clinical placement co-ordinators, human resource managers and clerical staff the questionnaires were distributed either personally by a designated employee or posted to each fourth-year student nurse and newly qualified nurse while in each ward.

A sample of optimum size is deemed essential for effective quantitative research (LoBiondo-Wood and Haber, 2002). The preferred return rate for each group would exceed fifty for statistical analysis. The timing of the study was aimed to specifically capture participants' views when either within the first six months of qualification or on rostered clinical placement. This was part of the inclusion criteria as the study aimed to capture the perceptions of those newly qualified nurses while in transition from student to newly qualified nurse. In effort to avoid distortion of memory which

could possibly cause inaccuracies in self reporting (Parahoo, 1997), the choice of cross sectional design and timing of the study addressed these possible compromises e.g. where respondents only remember particular events in their initial months which may distort the actual facts. All newly qualified nurses (group A), and all fourth- year student nurses (group B) formed the sampling frame. Therefore the largest size possible was obtained therefore favouring convenience sampling despite known associated weaknesses. Group 'A' accounted for one hundred and twenty newly qualified nurses (n=120) and Group 'B' accounted for one hundred and twenty eight student nurses (n= 128). The researcher had no direct contact with the participants.

This sampling plan has selected two of the Higher Education Institutions that provide general nurse education in the Dublin/North East Region. There were six general hospitals associated with these two institutions. These hospitals were from the Dublin/North East Region. One hospital in the region that was excluded as it did not participate in student nurse education at the time of the study. The hospitals contained a wide range of bed numbers from 137-620 beds. Quota sampling further enhanced convenience sampling somewhat in that there was deliberate inclusion of different hospital sizes to enhance generalisability of findings. The acute general hospitals in the region included large hospitals with more than 500 beds and small hospitals with less than 500 beds. This ensures representation from both groups where different support mechanisms and structures may be in place. Staffing levels and support systems differ throughout hospitals in Ireland (Government of Ireland, 2003). In this study, approximately half of the questionnaires were sent to a large hospital and half to smaller hospitals. Analysis was carried out on the combined data, as there was no way of knowing which hospital the questionnaire came from.

The choice of convenience sample as opposed to randomisation was made in order to optimise the number in return rate from each sample (Polit and Beck, 2004). This took into account that the possible low return of data, which is common in all postal surveys (Gillies, 2002).

While 120 questionnaires were distributed to newly qualified nurses the exact number that received the questionnaire is not known for a number of reasons. Firstly, the newly qualified nurses received the questionnaire through a third party, as direct contact with the participant was not permitted. This was a practical drawback in the distribution stage of the research questionnaires as the exact number of those in receipt of the questionnaires was therefore unclear. The non-response rate could take into account the number of potential respondents that did not receive the questionnaire and are termed by Pope and Croft (1996) as 'ghosts'. Therefore only an approximation of those in the inclusion criteria could be given. As a result, non-responders could not be identified and therefore this cohort could not be accessed again in effort to increase the response rate. Reminders were sent to some student nurses through the same distribution method after six weeks.

The embargo on the employment of all new staff in Ireland greatly impacted on newly qualified nurses, who were in pursuit of new employment. This event occurred at the same time that the data collection was conducted and could not have been predicted at the outset of the study. Despite the possibility of this impacting on the level of stress on the participant, this embargo possibly affected both cohorts. Some of the newly qualified nurses were working with an agency in the associated hospitals at the time of the study. This may have reduced the availability of participants at the time of the

study. This development could not have been predicted at the outset. Efforts to yield higher response rates included the use of coloured paper, purposefully short questionnaires, and personally signed letters with stamped addressed envelopes. Also reminders were sent out to participants. Non-responders could not be identified as it was an anonymous survey and monetary incentives were not practically possible. Edwards *et al* (2002) suggested that questionnaires containing questions of a sensitive nature such as this survey could yield lower return rates. The sampling plan was guided by ethical and access approval conditions.

3.9.3 Ethical considerations in relation to sampling

The next step involved obtaining ethical and access approval from the relevant institutions to conduct the study. Ethical approval was sought and obtained from the University Research and Teaching Ethics Committee and approval to carry out the study was given by each educational institution. Ethical approval was sought and granted by the relevant hospitals' research ethics committees. This also involved both ethical approval from each hospital and educational institution and access approval to six hospitals in the Dublin/North East Region associated with general nurse education. The process for ethical and access approval differed slightly for some hospitals. Directors of Nursing and General Managers gave access approval in the hospitals. This was evidenced in writing in a site-specific assessment form. In the process of seeking approval a letter accompanied by a copy of the research proposal was submitted to the Director of Nursing and General Manager from each hospital site. Communication by phone and/or in person provided opportunity to explain any queries and a contact number and email address was available for contact where necessary. This was part of the process for obtaining ethical approval. The researcher

explained verbally beforehand and supported the request for approval with a letter detailing the aims and methods employed in the research. In other hospitals ethical and access approval was also granted with communication through the ethics committee directly.

The duration for the application process for ethical approval took approximately nine months (see appendix D). This time depended on the dates for review in the respective hospitals. Some terms of agreement differed in the hospitals with a slight variation in the procedure for accessing the population. The means of distribution of questionnaires were governed by slightly different conditions for different hospitals and at all times these conditions were met. In some hospitals, the sample was accessed by meeting the Clinical Nurse Manager on each ward and requesting that they distribute the questionnaires to the respective participants who fulfilled the inclusion criteria. Each clinical nurse manager in this hospital received a short description of the research and was asked to distribute the questionnaires to those on their ward who fulfilled the inclusion criteria. In other hospitals the questionnaires were distributed through a designated employee or by post in agreement with the ethics committees. This complied with the rules outlined by the Medical Research Ethics Committees.

An enclosed stamped addressed envelope accompanied the questionnaire, which was addressed to the researcher's home. In accordance with the terms of ethical and access approval, names of participants or locations of employment were deliberately excluded to ensure total anonymity. The results of the study made no reference to the individual hospitals involved in the study and were not named except to be part of the

Dublin/North East group of hospitals. Demographic profile questions were also excluded to ensure absolute anonymity. This decision was made in collaboration with some ethics committees as the number of males in both cohorts was proportionately low and therefore, there was a greater possibility of identifying them. All correspondence from the relevant hospitals, directors of nursing, hospital managers and ethics committees were deliberately excluded from the appendix to ensure anonymity.

3.10 Ethical considerations

> 'The conduct of nursing research requires not only expertise and diligence but also honesty and integrity' (Burns and Grove, 2005 p. 207)

In the performance of nursing research one must be cognisant of the inextricable link between ethics, research and clinical practice (Smith and Hunt, 1997). In the performance of a research study, the protection of the participant is paramount (Mulhern *et al,* 2004). Furthermore 'the participant must be protected from the possible consequences of difference in power between the researcher and the participant' (Mulhern *et al,* 2004 p.14/7). Beneficence can be demonstrated in the contribution of the findings to the overall good of the client and indeed the profession (Brockopp and Hastings-Tolsma, 2003).

The World Medical Association has compiled a Declaration of Helsinki (1964). This declaration has been amended six times and provides guidance on the performance of research. This guidance provides the cornerstone for the purpose, existence and

function of the ethics committees with whom the researcher had the opportunity to work with prior to the performance of the study.

The basic rights of fair treatment, anonymity or confidentiality, self-determination, privacy, dignity and safety must be adhered to (LoBiondo-Wood and Haber, 2002). These underpin the three ethical principles of respect for persons, beneficence and justice (Levine, 1986). In respect for the person the researcher ensured that information was adequate, understandable and did not place any undue pressure on participants to become involved in the research. Newly qualified nurses and student nurses are considered to be relatively vulnerable groups of individuals (Gerrish and Lacey, 2006). This is because these cohorts may feel dependent on colleagues for employment and appraisal and may be reluctant to refuse to participate in a study in case of any reprisal. With this in mind the researcher was at all times cognisant of the possible difference in power between the researcher and the participants and at no time was this power exploited for the benefit of the research. The researcher had no supervisory relationship with the participants at the time of the study.

Under the Code of Professional Conduct (2000c), the nurse as a researcher has an obligation to ascertain that the appropriate bodies, namely the Ethics Committee, the relevant hospitals and the colleges of nursing, sanction the research. This ensures that the rights of the participants are protected at all times (An Bord Altranais, 2000c, 2007b). In order to carry out the study, the researcher obtained permission to pursue the study from the Director of Nursing where the author was employed. Permission was granted and funding was provided from The Nursing and Midwifery Planning and Development Unit.

The Data Protection Act (Department of Justice, Equality and Law Reform, 2003) has protected the participants from intrusion in relation to their own personal data. The principle of this act in relation to personal health information obliges the person processing the data to ensure that it is obtained fairly and that the purpose of the collection of this information is explained clearly. The information must be relevant and not excessive. It should not be held longer than necessary and must be purpose specific and held securely. This Act is relevant to researchers. While this Act has great merit, the consequences for nursing research have been significant as the process for gaining ethical approval and access approval is lengthened and randomisation is more difficult to obtain. This deters possible researchers from using such methods where names of participants are required, as they cannot be disclosed to the researcher and therefore places a dependence on a designated hospital employee to facilitate accessibility to the participant.

Absolute anonymity was assured and demonstrated in the deliberate exclusion of the signed consent form and demographic data. This is crucial when dealing with personal information such as stress (Murphy-Black, 2000). This was requested at the outset in gaining approval to carry out the study. The exclusion of demographic data took into account the low number of male potential participants in each cohort. Therefore identification of oneself as male almost identified the person. This was in accordance with the Code of Professional Conduct (An Bord Altranais, 2000c) and 'The Data Protection Act' (Department of Justice, Equality and Law Reform, 1988 and 2003). Respective institutions were therefore not identified in the data collection process. There was no means of identifying the participant who responded except to identify as student or newly qualified nurse. In order to comply with the Data Protection Act

(1998, 2003) at no time did the writer have access to the participants' names. This may have posed difficulty in facilitating a good response rate as the letters were impersonal addressed to "Newly Qualified Nurse' and 'Fourth–Year Student Nurse'. Addresses were not required, as the questionnaires were posted to their place of employment with an enclosed stamped addressed envelope to the researcher's home address. The completed questionnaire did not contain any identifying features other than identifying as student nurse or newly qualified nurse.

Voluntary participation is mandatory in research of this nature (De Raeme, 1997). This was respected at all times. Each participant must be willing to participate in a voluntary capacity with the of participant's welfare paramount (Gerrish and Lacey, 2006). Unconditional respect was demonstrated and explicit assurance that they could decline from participation in the study without any consequence asserting their own autonomy in their freedom to determine one's own actions (Treacy and Hyde, 1999). Information about the study was provided in an understandable way so that the participants can make an informed decision about consent and participation ensuring voluntary commitment. As detailed in the information for participant letter, return of the questionnaire will indicate consent. 'By filling out this survey, you are indicating that you have read this statement and have agreed to voluntarily participate' (see appendix A). A tick box was placed on the questionnaire where the participants could give a sign of consent without disclosing their place of employment or own name. This was explained in the information letter for the participants alerting them to the fact that return of the questionnaire would indicate consent.

The professional integrity of the researcher compels the adherence to ethical principles of safety (Gerrish and Lacey, 2006). The greatest care was undertaken to ensure safety of the participants as it is well known that the end does not always justify the means (Mulhern *et al*, 2004). The principle of nonmaleficence which is rooted in the maxim 'first do not harm' (Treacy and Hyde, 1999) was adhered to in the unconditional respect for the respondents. Moreover access was provided to a counsellor should the need arise, as the provision of professional advice from the researcher is not recommended (Mulhern *et al*, 2004). If any individual would experience any discomfort following the completion of the questionnaire phone numbers of the counselling services were provided in the participant's information letter (see appendix A). Participants are advised to contact a counselling service attached to their hospital as stated in the participant's information letter. The counselling services were contacted in advance of the research outlining the details of the research.

All institutions and participants received the same information and were treated fairly at all times in keeping with the principle of justice for all (Treacy and Hyde, 1999). Findings of this study may not directly benefit the participants, though indirectly through the establishment of structures to support the transition of the newly qualified nurse. Findings may also reveal key issues that cause stress for student nurses and thus may potentially contribute towards strategies to reduce student attrition rate.

3.11 Data analysis

The purpose of analysis of data is to make sense of the data received (Parahoo, 1997) This involves both descriptive and inferential statistical analysis of the quantitative results and interpretation of the qualitative findings. The computer software package used was SPSS Version 12. Data were analysed using SPSS VERSION 12. SPSS refers to 'Statistical Package for the Social Sciences'. This was developed in 1965 in California (Howitt and Cramer, 2001).

With the 'Nursing Stress Scale', the analysis of data was descriptive and inferential. Despite the intervals between the scores are not measured equally as is common on Likert scales (Jamieson, 2004), this scale has repeatedly assumed interval level when analysing data (Lee *et al,* 2007). Burns and Grove (2005), acknowledge that while the scores are at ordinal level in this type of scale, the sum of the scores are treated as interval, thus acceptable to use for statistical purposes assuming interval level of measurement. Studies that have employed the Nursing Stress Scale to date were analysed on the assumption that levels of measurement are interval (Lee *et al*, 2007; Pinikahana and Happell, 2004; Stordeur *et al*, 2001; Healy and McKay, 2000).

3.11.1 Descriptive analysis

Data were analysed with descriptive statistics comparing mean scores for each group and focussing on the individual factors in The Nursing Stress Scale. Measures of variability will also be shown as the range of answers, which is the difference between the highest and lowest scores with standard deviation scores. As the items within each factor range from three to seven it is difficult to compare scores in each factor. The

authors expressed their results for individual factors and did not include equivilised scores. A number of studies expressed the results similarly (Lambert et al, 2004; Chang *et al*; 2006 Hamaideh *et al*, 2008) Studies that used equivilised scores were calculated to facilitate comparison between factors. These included studies by Healy and McKay (2001) and Payne (2001). Tables are presented to illustrate the results. The score frequency for each item in the factors will be illustrated in tabular form (see appendices G and H).

3.11.2 Inferential relationships

Analysis of data allows us to take the results and make inferences about the population from which the sample is drawn (Meehan, 2003). While the sampling methods employs a convenience sample which is a violation of the assumptions necessary for inferential statistical method, this test is used by most researchers who have a convenience sample (LoBiondo-Wood and Haber, 2002).

The choice of statistical test is governed by a number of factors (Martin and Thompson, 2000). Parametric tests are carried out if at least two of the following assumptions hold. That there is evidence of normal distribution, that the level of measurement is at least interval and that the groups are homogenous. Statistical procedures assume that variances of the populations from which different samples are drawn are equal. The Levene's test assesses this assumption. The Levene's test was carried out to assess both independent groups for equality of variance (Pallant, 2005). More specifically the Levene's test is a test of the hypothesis that all factor standard deviations in the Nursing Stress Scale results are equal. This was carried out prior to

the independent *t- test,* as this assumption is a prerequisite to this inferential statistical test.

The use of an independent *t*-test was appropriate in this instance as a parametric test. Interestingly, this statistical test is of Irish origin in Guinness' Brewery dating back to 1908 to an English man named William Sealy Gosset (Mankiewicz, 2004). This test compares the two samples in order to see if the difference between the means is statistically significant given the following. The measurement is at least interval, with roughly equal variability in each group, data in each group normally distributed, and independent group designs (Mulhern *et al*, 2004; Walsh, 1990).

The one-tailed hypothesis gives direction, and the value of *t*, which must be less than or equal to the corresponding critical value in the *t* in order to reject the null hypothesis. The level of significance is the probability of the outcome of the study being unlikely to have occurred by chance (Fowler *et al*, 2002) is set at $p \leq 0.05$. This would leave the possibility of accepting a null hypothesis less than one in twenty, concluding that stress levels are significantly higher in the newly qualified nurses within the clinical environment. The independent *t*-test is appropriate when one independent variable, measured in two separate groups, with data at least interval. Each group should be normally distributed and data from each group should have roughly equal variability (Mulhern *et al*, 2004).

There is always the possibility of making a Type 1 error. This is the difference between the actual results and the results that could be elicited from the target population. (Gerrish and Lacey, 2006), This is also the rejection of a null hypothesis,

which should be accepted (Burns and Grove, 2005). Internal reliability tests were carried out followed by correlation studies to assess the association between factors and items in the Nursing Stress Scale.

3.11.3 Analysis of open-ended question

The data from the open-ended question were analysed qualitatively. Data analysis followed a sequential pattern, which firstly developed codes from the verbatim comments from all of the respondents. Codes were later condensed into categorisations and then developed through linking commonalities to themes. Data analysis involved preparation and organisation of the qualitative data, which followed a sequence recommended by Morse and Field (1995).

Comprehension: Data analysis involved 'preparation and organisation of the data' (Creswell, 2007, p. 148). Transcripts were read several times to grasp an overall understanding of the content and to gain an insight into the perceptions of both newly qualified nurses and student nurses in the clinical environment. Data were written out verbatim and then coded.

Synthesis: Sentences and phrases were coded which represented the view of each participant. These were colour coded and then sorted using 'Microsoft word' in order to facilitate pattern recognition. This identified prominent themes. Infrequent emergence of some codes was excluded at this stage. This stage involved condensing the codes to categories and then into themes. This was the prerequisite to the next stage of categorizing the data into common themes termed *theorizing*.

Patterns were categorised. These were grouped where linkages were common in order to develop themes. These themes were compared with the initial transcriptions. Boyatzis (1998) recommends this part of the process in order to ensure that the final themes were clear and concise, related closely to the original data and were considered to be conceptually meaningful to the research question. When categorising the themes, data analysis was conducted exclusively to the data presented. Caution was exercised in an effort to reduce the risk of being influenced by codes and themes already established in previous literature. This was termed 'emergent' categories as opposed to 'prefigured' or '*a priori'* codes categories (Creswell, 2007).

Finally *recontextualisation* occurred in which the emerging themes were examined in relation to the wider clinical setting and other populations. This process is crucial in the development of a body of knowledge for nursing research. The developed theories were compared and contrasted with the existing literature and is discussed in Chapter 5**.** This choice of analysis was driven by the nature of the data collected. The wording of the data was qualitative as the data derived did not only list stressors but expanded on stress and stress in the clinical environment. The respondents wrote about stressors ass they perceive themselves and about the perceived effects of stress on themselves and the organisation. This yielded great insights into the participant's perception of stress and stressors in the clinical environment. For the purpose of this study, no names were assigned to any of the comments and anonymity was preserved and any identifying phrases were excluded.

The trustworthiness of the qualitative data was examined using the criteria from Lincoln and Guba (1985). Analysis of the data followed a sequential, systematic pattern. Themes were developed from categories, which emerged from the codes that were identified from the verbatim transcripts of all the respondents. The auditability of the analysis process can be seen in the description of the analysis of the data from the open-ended question in the results section. An example of the audit trail is given (see appendix F). Credibility could not be assessed, as the participants in this anonymous survey could not be contacted to 'member check' the data to see if it 'rang true'. However, findings were discussed with two clinical placement coordinators, two registered nurses, two clinical nurse managers and two general nurse students all of whom could relate in some way to the findings despite non participation in the study. Anonymity was preserved during this process with printed verbatim transcripts as opposed to the hand written documents. The fittingness of the findings were discussed with the supervisors to see if the information 'rang true' and also the researcher maintained a neutral stance by not presenting her own views during the analysis of the findings to minimise bias affecting the results. The confirmability is established in the logical flow of data from the study. Both existing themes relating to this topic emerged along with newer and less known themes.

3.12 Pilot study

A pilot study was carried out one month prior to the study in order to identify any problems with the research instrument. This increases the validity and reliability of the instruments used (Parahoo, 1997). Gillies(2002) states that the rationale for piloting is to see how long the questionnaire will take to fill out, identify flaws such as ambiguity in questions and establish whether or not the instructions were

understandable. In September 2007 questionnaires were distributed to a convenience sample of five student nurses and five newly qualified nurses in two hospitals. As no problems were identified, no changes were made to the questionnaire. Return rate for the pilot study was 60 percent in each group (three completed questionnaires from each group).

3.13 Data storage

In keeping with the principles of the Data Protection Act (Department of Justice and Law Reform, 2003), no names of prospective participants were requested for disclosure following explanation of the nature and purpose of the study. Information gathered will be kept securely and was not being held any longer than necessary. No biographical details accompanied the survey and no attempts were made to identify participants. The returned questionnaires did not have any identifying features, which enhanced the assured anonymity.

Chapter 4 Results

4 Introduction

This chapter will present the findings from this study. As data collected were both quantitative and qualitative in nature, this chapter is divided into two sections, which will describe quantitative and qualitative data separately.

The objectives of the study were:

1. To investigate and identify what are the perceived levels of stress and job-related stressors in fourth-year student nurses and newly qualified nurses.
2. To determine if there was a difference between the levels of stress and stressors in both groups.
3. To explore the participant's view on stress and stressors in the clinical environment from a qualitative perspective

A questionnaire was distributed which involved the collection of quantitative and qualitative data:

Quantitative results (Section 4.1)

• The Nursing Stress Scale (Gray –Toft and Anderson, 1981a) elicited the frequency to which respondents perceived themselves to be exposed to stressors pertinent to the clinical environment.

Qualitative results (Section 4.2)

• An open-ended question yielded information on stressors and provided an opportunity for respondents to add any additional comments, to identify stressors experienced by them and to suggest ways to prevent, ameliorate or manage stress in the clinical environment.

Section 1

4.1 Quantitative results

This section will outline the results of the descriptive statistics and inferential statistical tests on the data obtained by the Nursing Stress Scale. This section will describe the numerical data giving the mean scores for each group in the study. Correlations among factors and items within the nursing stress scale will be presented. Results from tests to assess the reliability of this instrument will also be presented.

4.1.1 Response rate

Newly qualified nurses (Group A) received 120 questionnaires at six hospital sites in the Dublin/North East region. Fourth year student nurses (Group B) from the same sites received 128 questionnaires. The return rate for newly qualified nurse Group A was 26% (n=31) and the return rate for fourth year student nurses Group B was 33% (n=40).

4.1.2 The Nursing Stress Scale

The Nursing Stress Scale elicited the frequency to which respondents perceived themselves to be exposed to stressors pertaining to the clinical environment. The Nursing Stress Scale elicited numerical data through a Likert scale. Each item is scored according to the frequency with which these situations are assessed as stressful, from (0) never, (1) sometimes, (2) frequently, and (3) very frequently. The results of total scores range from 0 to 102 (Gray-Toft and Anderson, 1981a). The greater frequency of work stressors experienced by the participant is indicated with a higher score (Lee *et al*, 2007, Pinikahana and Happell, 2004).

4.1.3 Descriptive analysis

Data were analysed using the SPSS software package, which is a computer software programme that has revolutionised analysis of quantitative data. This study utilised SPSS VERSION 12 for the purpose of data analysis. All items were retained for analysis as no item had more than five percent of missing data (Tabachnick and Fidell, 2006). Scores in the Nursing Stress Scale were presented in the following diagrams. The overall score for fourth-year student nurses was 45.69 compared to 44.95 for newly qualified nurses from a possible range of 0-102.

	Possible Range for each factor	**Actual range for Fourth – Year Student Nurses**	**Actual mean for Fourth – Year Student Nurses**	**Standard deviation Fourth – Year Student Nurses**	**Actual range for Newly Qualified nurses**	**Actual mean for Newly Qualified nurses**	**Standard deviation Newly Qualified nurses**
Factor 1 Work load	0-18	4-15	10.03	2.65	5-18	11.47	3.51
Factor 2 Death and Dying	0-21	4-17	9.90	3.45	2-16	9.63	3.42
Factor 3 Inadequate preparation	0-9	2-9	5.20	2.24	2-8	4.71	1.57
Factor 4 Lack of staff support	0-9	0-9	4.08	2.54	0-8	2.94	2.35
Factor 5 Uncertainty concerning treatment	0-15	1-13	7.25	2.46	2-13	6.71	2.61
Factor 6 Conflict with physicians	0-15	1-12	4.95	2.67	1-10	5.81	2.34
Factor 7 Conflict with other nurses	0-15	1-10	4.28	3.06	0-11	3.68	3.23

Table 1: Mean scores and standard deviation per factor on Nursing Stress Scale

To facilitate comparison of scores across factors, the number of items within each factor is divided into the mean score to ascertain a comparative picture of the different factors and to identify numerically the areas of high and low scoring for each cohort. The following table illustrates the results of this equivilised picture.

Table of equivilised means for each factor (number of items in each factor divided in order to compare factors).	Possible Range for each factor	Fourth – Year Student Nurses	Newly Qualified nurses
Factor 1 Work load	0-3	(n=40) 1.67	(n=31) 1.91
Factor 2 Death and Dying	0-3	(n=39) 1.47	(n=31) 1.37
Factor 3 Inadequate preparation	0-3	(n=40) 1.73	(n=31) 1.57
Factor 4 Lack of staff support	0-3	(n=40) 1.36	(n=31) 0.98
Factor 5 Uncertainty concerning treatment	0-3	(n=40) 1.45	(n=31) 1.34
Factor 6 Conflict with physicians	0-3	(n=40) 0.99	(n=31) 1.16
Factor 7 Conflict with other nurses	0-3	(n=39) 0.85	(n=31) 0.73

Table 2: Table of equivilised means for each factor

Newly qualified nurses scored highest in relation to 'workload' and lowest in 'conflict with other nurses'. Fourth-year student nurses scored highest in 'inadequate preparation' and scored lowest in 'conflict with other nurses', though the range was not as wide. 'Workload' also scored high for student nurses also though not as high as newly qualified nurses. Newly qualified nurses scored higher than their student counterparts in relation to perception of 'conflict with physicians'. There was a difference between perceived 'lack of support' from both groups with student nurses feeling less supported than newly qualified nurses. No mean score in any of the factors was two or above. Therefore neither group perceived this stressor frequently. However, a score above one assumes that this factor was considered stressful at least occasionally.

Response groups were of unequal size. A description of the results is given as a percentage of each cohort in order to compare groups (see appendix G). Sixty percent of student nurses never encountered stress in relation to 'breakdown of computer' compared to thirty two percent of newly qualified nurses. Significantly, over half of newly qualified nurses *never* encountered stress in relation to 'criticism by supervisor' whereas half of student nurses encountered this problem occasionally. 'Difficulty working with a particular nurse or nurses outside the unit' was *never* encountered by fifty two percent of newly qualified nurses as opposed to forty percent of student nurses. Seventy one percent of newly qualified nurses *never* encountered 'conflict with supervisor'. This contrasts with student nurses accounting for less than half holding the same view regarding this item. 'Too many non-nursing tasks' required, such as clerical work was frequently encountered by 45 of student nurses whereas 27.5 percent of newly qualified nurses also found this to cause difficulty.

As illustrated above the most noteworthy findings were 'Not enough time to provide emotional support to a patient' scored very frequently for 48 percent of newly qualified nurses and 37.5 percent of student nurses. What appears to be a least frequent stressor for student nurses is 'conflict with physician' and 'conflict with supervisor' for newly qualified nurses.

4.1.4 Inferential statistics

The Levene's test was carried out to assess both independent groups for equality of variance (Pallant, 2005). This test is a prerequisite to the independent *t*-test. It is used to assess whether the variance in both groups student nurses and newly qualified nurses is equal. Equal variances were assumed for factor 1,3,5,6,7 based on the above data taken from SPSS VERSION 12. The level of significance p=. 05 or less was shown in factor 2 (p=. 01) and factor 3(p =. 01). Therefore in relation to factor 2 and 3 equal variance could not be assumed. An alternative *t*-value provided by the SPSS package facilitated continuation with the use of the independent *t*-test.

	Levene's test for equality of variance	**Significance**	***t*-value**
Factor 1 Work load	6.41	0.01	-1.95
Factor 2 Death and Dying	0.054	0.81	0.31
Factor 3 Inadequate preparation	5.74	0.01	1.08
Factor 4 Lack of staff support	1.22	0.27	1.93
Factor 5 Uncertainty concerning treatment	0.12	0.72	0.89
Factor 6 Conflict with physicians	0.13	0.71	-1.40
Factor 7 Conflict with other nurses	1.00	0.32	0.79

Table 3: Levene's test for equality of variance

The statistical hypothesis stated that: 'Perceived stress is higher in newly qualified nurses within the clinical environment compared to fourth-year student nurses'. The level of significance is the probability of the outcome of the study being unlikely to have occurred by chance (Fowler *et al*, 2002) and is set at $p \leq 0.05$. The *t*-value is above this level in factor 2,3,4,5,and 7. The *t*-value is below this level in factor 1 and 6. Therefore overall it is necessary to accept the null hypothesis and consequently

reject the statistical hypothesis to conclude that 'Perceived stress is not higher in newly qualified nurses compared to fourth-year student nurses for the following factors; death and dying, inadequate preparation, lack of staff support, uncertainty concerning treatment and conflict with other nurses. However, perceived stress in relation to workload and conflict with physicians is higher in newly qualified nurses compared to fourth-year student nurses'. It can be concluded that stress in relation to workload and conflict with physicians is perceived to be statistically higher in newly qualified nurses as opposed to fourth-year student nurses. Taking the overall scores into account for each group, there is not statistically significant difference between the scores in both groups(t=0.243, df=64, p 0.809).

	p value	**Independent *t*-test**	**Degrees of freedom**	**Mean difference**
Factor 1 Work load	.06	-1.95	52	-0.24
Factor 2 Death and Dying	.75	0.31	67	0.03
Factor 3 Inadequate preparation	.28	1.08	69	0.16
Factor 4 Lack of staff support	.05	1.93	69	0.37
Factor 5 Uncertainty concerning treatment	.37	0.89	69	0.10
Factor 6 Conflict with physicians	.15	-1.40	67	-0.17
Factor 7 Conflict with other nurses	.43	0.79	68	0.12

Table 4: Independent *t*-test results for each factor

4.1.5 Internal reliability tests

The internal reliability of each factor was tested on SPSS VERSION 12 using cronbach's alpha. This test of internal consistency is most commonly used for attitude scales such as the current Nursing Stress Scale.

	Title of factor	Cronbach's alpha	Number of items in factor
Factor 1	Workload	.74	6
Factor 2	Death and dying	.72	7
Factor 3	Inadequate preparation:	.80	3
Factor 4	Lack of Staff Support	.88	3
Factor 5	Uncertainty concerning treatment	.62	5
Factor 6	Conflict with physicians	.66	5
Factor 7	Conflict with other nurses	.74	5

Table 5: Cronbach's alpha for each factor for both groups combined

As evidenced above five of the seven factors measured an acceptable level of reliability using Cronbach's alpha coefficient scoring above 0.7. Therefore the tool was considered reliable when measuring workload, 'Death and dying', 'Inadequate preparation', 'Lack of Staff Support' and 'Conflict with other nurses'. However in relation to the following factors, the Cronbach's alpha level did not reach the acceptable level of .70 or above: 'Conflict with physicians' and 'Uncertainty concerning treatment'.

	Title of factor	Cronbach's alpha Group A Newly Qualified nurses	Cronbach's alpha Group A Newly Qualified nurses	Number of items in factor
Factor 1	Workload	0.81	0.63	6
Factor 2	Death and dying	0.73	0.72	7
Factor 3	Inadequate preparation:	0.64	0.86	3
Factor 4	Lack of Staff Support	0.89	0.86	3
Factor 5	Uncertainty concerning treatment	0.70	0.55	5
Factor 6	Conflict with physicians	0.56	0.71	5
Factor 7	Conflict with other nurses	0.82	0.71	5

Table 6: Cronbach's alpha for each factor for each individual group Group A: Newly qualified nurses and Group B: Fourth-year student nurses.

The Nursing Stress Scale was again assessed for reliability using Cronbach's alpha coefficient using results from individual groups of either newly qualified nurses or fourth-year student nurses. Results showed a difference in the reliability of this instrument when this tool is used with the two different groups. In relation to 'workload', Cronbach's alpha for newly qualified nurses was acceptable at .81. Despite this assurance of reliability for this cohort, the measure of .63 was unacceptably low for student nurses. Likewise the factor relating to 'Uncertainty concerning treatment' for student nurses was again low measuring .55 as opposed to

the newly qualified cohort scoring .70. Newly qualified nurse appeared to challenge the reliability of this tool in relation to 'Inadequate preparation' and 'Conflict with physicians' with a score of .64 and .56 respectively as illustrated below. Therefore when testing the reliability of this tool using Cronbach's alpha for each separate group, the tool was considered unreliable for student nurses in relation to 'Uncertainty concerning treatment'. It was also unreliable for newly qualified nurses in 'Inadequate preparation' and 'Conflict with physicians'. Therefore, the Nursing Stress Scale was reliable when assessed overall, despite weaknesses noted in internal reliability when individual factors were measured both with the overall group and when cohorts were divided.

4.1.6 Correlations

Tests of correlation or association were carried out in order to make inferences about strength of relationship between the individual factors in the Nursing Stress Scale. The Pearson's Product moment correlation(r) was used to analyse this type of data. The strength of the relationship between the different factors assessed in the knowledge that the correlation of zero indicated that there was no relationship whereas 1 indicates a positive relationship, correlation or association. The closer to 1 either in positive or negative terms indicates a greater association. Cowen (1988) states that r = or above .50 was considered large correlation, whereas medium correlation was .30-.49. In order to assess the correlation between different factors within the Nursing Stress Scale correlation studies were performed using SPSS VERSION 12 software programme.

A two- tailed hypothesis was used in effort to prevent a type 1 error i.e. by wrongly rejecting a false null hypothesis (Polit, 1996). The hypothesis declared that there is a strong relationship between items in the Nursing Stress Scale. There was a strong association between 'Conflict with other nurses' and 'Lack of staff support'. This is supported by the findings in the open-ended question. Conflict with physicians also appears to be related to 'Uncertainty concerning treatment' and 'Conflict with other nurses'. Despite 'workload' and 'lack of staff support' rating high in the responses from the open-ended question, there is no statistical support to associate these stressors together. When the level of significance is set at .01, there were more associations although to a lesser degree which are indicated in scores above .33. This is indicated in the table of correlation (Table 7). Those results that were considered to be associated significantly are highlighted in the table below. In order to avoid duplication only the bottom part is filled out (Hazard Munro, 2001)

	Factor 1 Workload	**Factor 2** Death and Dying	**Factor 3** Inadequate preparation	**Factor 4** Lack of staff support	**Factor 5** Uncertainty concerning treatment	**Factor 6** Conflict with physicians	**Factor 7** Conflict with other nurses
Factor 1 Workload	1						
Factor 2 Death and Dying	.20	1					
Factor 3 Inadequate preparation	.21	.48	1				
Factor 4 Lack of staff support	.11	.26	.09	1			
Factor 5 Uncertainty concerning treatment	.26	.36	.33	.33	1		
Factor 6 Conflict with physicians	.43	.25	.29	.19	**.61**	1	
Factor 7 Conflict with other nurses	.29	.08	.01	**.50**	.37	**.50**	1

Table 7:Tests of correlation using Pearson's Product moment correlation

As indicated above there were strong correlations noted with a predominance of associations occurring within each factor. Scores above 0.5 were considered by Cowen (1988) to be significant. Therefore only those correlations that exceeded this score are presented. There were no negative correlations noted from the overall factors.

Section 2

4.2 Qualitative findings

4.2.1 Introduction

This section reports on the findings from the open-ended question, which asked: 'Do you have any comments or suggestions to add relating to stress and stressors in the clinical environment?' The findings will be presented for both newly qualified nurses and fourth-year student nurses together. The richness of the data collected in the open-ended question is testament to the value of this inclusion in the study. The main themes will be described with emphasis on the main commonalities and differences highlighted from each group. The themes common to both groups will be presented firstly, and then followed by those themes that emerged from newly qualified nurse group and fourth-year student nurses respectively. A number is assigned to each theme for clarity, though this number does not suggest level of importance to the study. Each theme is followed by a verbatim transcript, which aids insight into the minds of the respondents. Out of the forty respondents representing fourth-year student nurses, the open-ended question was replied to in 35 cases. 26 responded to this question from the 31 respondents in the newly qualified cohort. The responses mainly focused on the negative aspects of the clinical environment. It was mentioned at times that there are many positive attributes to both the staff and the organisation and the clinical environment in the response to the open-ended question. No names were assigned to any of the comments thereby ensuring anonymity. Phrases with any identifying features were deliberately excluded from responses. Coding in this case was 'S' for student nurse and 'Q' for newly qualified nurse with a number assigned to each questionnaire. For example S29 refers to student number 29.

4.2.2 Process of analysis

Data analysis followed a sequential pattern, which firstly developed codes from the verbatim comments from all of the respondents. Codes were later condensed into categories and then developed through linking commonalities to themes. (See appendix F for audit trail). A number of similar and different themes emerged for each group. Themes 1-3 were common to both groups and are labelled 'common' themes. Themes 4-6 were exclusive to newly qualified nurses and themes 7-9 were exclusive to fourth-year student nurses and labeled 'exclusive' themes to each group.

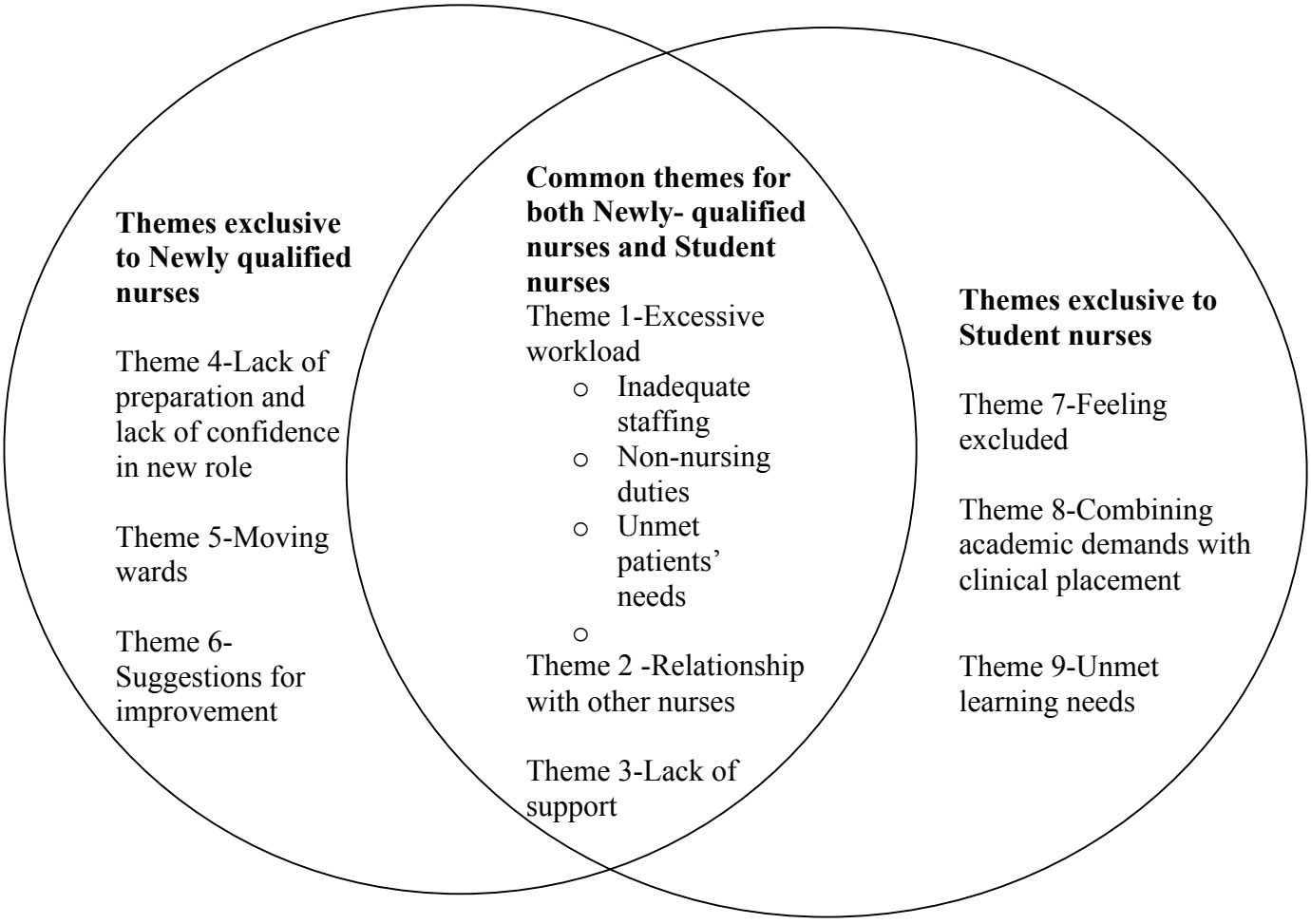


Figure 2: Pictorial illustration of results of open-ended question

4.2.3 Theme 1-Excessive workload

Common theme

Workload was considered to be a frequent stressor as evidenced in a large number of respondents' statements. This perception appeared to cause concern for both newly qualified nurses and student nurses alike. Time constraint was considered to be heavily associated with workload and vice versa, therefore this theme incorporated both. Phrases, which addressed this issue, were often combined with comments about non-nursing duties and short staffing. This heavy workload was perceived to have a negative impact on patient care, particularly attending the emotional needs of the patient. Both student nurses and newly qualified nurses wrote about the pressure to achieve what was perceived to be an unachievable goal in relation to workload. The effect of this workload was cited as a stressor and was considered to be a contributory factor in sick leave. Student nurses associated workload with time pressure and wrote about the difficulty in working long hours with such a heavy workload. This was expressed as follows:

> 'Too many non-nursing tasks, which adds to workload in limited time. This leads to stress at work. People always busy and rushing'. (S17)

Coupled with the feeling of heavy workload was the difficulty encountered with time management. One respondent wrote about this difficulty, particularly dividing time between documentation and direct patient care.

> 'I find the most stressful situation can be in caseload and time management particularly dividing my time between documentation and direct patient care.'(Q69)

This appeared to compel some nurses to work at a faster pace. One person remarked that 'not feeling quick enough' (Q67) was considered a stressor when administrating medications and reading out the nursing report. Overall, both student and newly qualified nurses identified workload and time pressure as a major stressor. This finding is supported by the quantitative data, which revealed the highest measure in the Nursing Stress Scale for newly qualified nurses and second highest for student nurses. Workload and time limitations were interlinked and both were often perceived to be as a result of inadequate staffing.

4.2.3.1 Inadequate staffing

More than half of the student nurses expressed dissatisfaction at the low staffing levels in the clinical environment. This was associated with a call for better staff – patient ratios. Some student nurses felt that staff shortages placed the student into situations where care is compromised and this adversely affected quality of patient care. Reduced staffing was cited to be related to higher sick leave and students reported their dissatisfaction with having to pay back time in relation to time from sick leave taken while on clinical placement. Likewise, over half of the newly qualified nurses commented on short staffing as a major stressor. The comments included lack of staff numbers and poor skill mix. This was elaborated when talking about short staffing by one respondent who found that

> 'There have been many days when I have been unable to take a lunch break in order to complete all my tasks' (Q59).

References were made to the recent embargo on Health Service Executive staffing as a possible stressor

> 'Shortage of staff is number one especially due to this freeze' (S3).

One nurse as expressed this:

> ‘Cut backs, cut backs and more cutbacks by the HSE’ (Q70)

References were also made to the low staff- patient ratio and dependence on agency nursing for nursing provision and employment. One respondent added that:

> ‘If there were higher staff levels, it will evenly spread the workload and decrease stress levels’ (Q59).

The negative effect of short staffing was also cited as leading to difficulty in keeping track of patients’ care paths, therefore affecting quality of care.

> ‘This is a very stressful position to be in when trying to give the best care to patients about concerns, anxiety, treatment when you are aware of work load and other patients that need you but there isn’t enough staff for patient ratio especially in the morning’ (Q45).

Not only was there dissatisfaction about the numbers of staff, but there were also comments about the poor skill mix, particularly in relation to senior/junior staff on a ward at a time. This was perceived to put extra pressure on senior staff with resulting negative attitude towards newly qualified staff. Junior nurses with allocation of excessive responsibility.

> ‘Once newly qualified, I found it stressful that because of staff shortages nurses more senior than me took on a lot when working with me, as I cannot administer drugs yet. Their added stress because additional workload to them is often reflected in their attitude towards me as if I am to blame for poor rostering, which is a management issue.’(Q43)

There was a sense that short staffing resulted in restricted time spent attending patients' needs.

> 'The primary stressor in my opinion is lack of staff. It is very frustrating and disheartening when one is unable to provide the type of complete holistic care one wants to.'(Q47)

4.2.3.2 Non-nursing duties

In an environment where both groups expressed dissatisfaction relation to shortages of staff and heavy workload, there was also a feeling that excessive time was spent carrying out non-nursing duties. Many commented on having to carry out clerical work such as answering phones, washing or moving beds, attending paperwork or simply carry out duties that were considered 'non-nursing'. Performing non-nursing duties impinged on time that nurses could spend on direct patient care, leaving staff feeling exploited:

> 'I feel as if I was utilised to perform a wide range of duties such as washing beds to carrying out clerical work, which I feel are not nursing tasks. I feel that performing those non-nursing tasks took up a large part of my time-time, which I could have otherwise attributed to direct personal/patient care. This left me feeling very stressed and under pressure to complete my own work' (S26).

In the performance of non-nursing duties, both student nurses and newly qualified nurses spoke about how this impacted on time that could be spent with a patient and how this had an effect on their own feelings regarding their own responsibilities toward the patient:

> 'I go home weak feeling guilty because although I may have prepared patients notes, x-rays, blood reports, ambulance booked an escort, chased a doctor to

consent and cannulate the patient (A patient going for a procedure) I have not had time to ask my patient how they felt or had they worries/ fears, no time to reassure my patient' (S14).

There was a perception that the performance of non-nursing duties added to the stress associated with high workload and time pressure, reduce time spent with patient:

> 'There is a huge amount of clerical work expected of nurses, which leaves us with less time for our patients. Patients should come first.'(Q54)

4.2.3.3 Unmet patients' needs

Consequential to heavy workload, lack of staff and time spent carrying out non-nursing duties both students and newly qualified nurses felt that there was not enough time to attend to the emotional needs of their patients. There was a sense that there was not enough time to actually talk to the patients. One student nurses compared the final year negatively to the previous years in relation to the relationship that he/she had with the patients:

> 'Comparing my first year placement and now fourth-year placement, there is no comparison. In first year I feel I knew my patients better and could take my time in giving them a wash or simply taking them on a small walk down the corridor, whilst engaging in conversation. These simple things patients appreciate. To day however, I don't get a chance to enjoy or even do this with patients' (S14).

This graphic picture of the busy clinical environment has left the student stating that:

> 'Basic nursing care can be missed out on and I most definitely didn't become (hopefully) a nurse to ignore a patients emotional needs and not to give them a quick wash and for my only interaction with them be doing regular observations and medication rounds'. (S14)

Time pressure and heavy workload appeared to account for the lack of opportunity to provide this emotional care to the patient. There was a feeling that nurses were not fully providing basic or holistic nursing care, which causes concern for the nurses.

4.2.4 Theme 2 Relationship with other nurses

Common theme

Difficult relationships with other nurses appeared to present problems for both student nurses and newly qualified nurses. However student nurses appeared to focus on this difficulty a lot more than newly qualified nurses, in their responses. Some expressed dissatisfaction at feeling exploited and being seen as 'a helping hand' and felt that they were not listened to as a student. There was a general feeling of being undervalued and subordination. The manner in which the students were verbally addressed also appeared to cause stress in the clinical environment as exemplified by a student nurse who wrote about being simply ignored by fellow nurses or called the wrong name or feeling negatively regarded as 'the student'. Student nurses appear to be very aware of the power held by their senior nursing colleagues. Students expressed dissatisfaction at the negative attitude that was directed towards them from the staff nurses. Some students felt that their opinion was not welcomed and had difficulty asserting oneself. There was a perception that the student nurse's opinion was not welcome as expressed in the following comment, which depicted a sense of powerlessness.

> 'Having to back down no matter who is right or wrong, for the sake of maintaining adequate relationship.' (S2)

Conflict with relationships was predominantly directed at nurses including staff nurses, preceptors, supervisors and clinical nurse specialists. Some respondents

attributed time pressure to poor communication with senior staff nurses. Many students felt that they were not treated equally in the multidisciplinary team despite feeling that they held valid opinions and could make contributions to the team. It appears that any conflict or inadequacies with professional relationships causes stress in the clinical environment. This was supported by a student who expressed the feeling that:

> 'You must do exactly as you have been instructed to do by the manager regardless of your opinion or research in order to avoid conflict.' (S19)

However, conflict with other nurses was not cited as much in the responses from the newly qualified nurses. Conflict was associated mainly with a wider range of healthcare workers. This was directed at other members of the multidisciplinary team rather than confined to other nurses. Any conflict with nurses was confined to a feeling that more senior nurses increase their workload when working with newly qualified nurses. This put increased pressure on senior staff on the ward and sometimes led to a negative attitude towards newly qualified nurses. One nurse felt conflict with other unapproachable staff and felt that there was conflict between senior and junior staff. Newly qualified nurses considered relationship difficulties more transient. There was a sense that newly qualified nurses needed time to gain confidence from their nursing colleagues in the initial stages after qualification.

> 'The first couple of weeks also I was aware of being 'checked up on'. That was stressful. I was almost doubting myself' (Q65).

Some newly qualified nurses felt that there was a lack of communication on the ward, particularly between relatives and doctors. There was a recommendation that the new nurse works as part of team with fairer distribution of tasks. In contrast to student nurses, newly qualified nurses wrote a considerable amount of positive comments

regarding relationships with others. This positive feeling was expressed particularly with other nurses. Newly qualified nurses cited that staff were approachable and willing to help as noted by the following comment:

> 'Other staff on the ward are so helpful and approachable and didn't make me feel inadequate if I asked a question about something I didn't know'. (Q65)

This comment is in stark contrast to that of a student nurse who wrote:

> 'I frequently encountered staff nurses who had a very negative attitude towards students and I felt like an inferior being'. (S26)

4.2.5 Theme 3 Lack of support

Common theme

This theme was closely related to the last theme (relationships with other nurses), which also focused on relationship difficulties. It appears that both student nurses and to a lesser degree newly qualified nurses felt a lack of support in the clinical environment. Student nurses felt unsupported by fellow staff nurses and nurse managers, with some feeling that their needs within the clinical environment were not being met. One newly qualified nurse reflected retrospectively on the student days negatively in relation to lack of support, which accords with the responses from the student nurses. Some newly qualified nurses sensed a lack of support, though there was clearly mixed opinions on this. Newly qualified nurses felt that the lack of support was from the wider context, which incorporated the organisation and other members of the multidisciplinary team. There was a sense of lack of support was directed at a wider circle rather than confined to other nurses. It was evident that

support was perceived to be lacking from the organisation and from management and the Health Service Executive.

> 'Lack of support by the H.S.E. with regard to nursing issues. The H.S.E. in general are the main stress in my career at present and their lack of involvement and accountability in the service they are supposed to be providing for the patients'. (Q70)

However most appeared to feel supported as evidence by comments such as:

> 'Working in highly supportive environment' (Q64).
>
> 'Support is never ending' (Q55).

The support was perceived to be 'great' from the clinical nurse manager and that nursing staff were approachable, with an overriding sense of belonging to a team. There was a general consensus within the newly qualified group, that there was a lot of support from colleagues as opposed to student nurses. So much so that responses from newly qualified nurses spoke reflectively about student days when recounting negative experiences regarding support within the clinical environment. Some student nurses did not feel supported in the clinical environment by their colleagues and this sense was often associated with their feeling of exclusion. Lack of support appeared to be linked with a sense of poor communication in the clinical environment. There was a sense that there was a lack of opportunity to ask questions or express oneself and a lack of ward meetings and lack of positive feedback. Also a small number of student nurses spoke about the lack of financial support. In accordance with the theme associated with relationship difficulties, support was perceived to be lacking from a wide range of nursing grades also.

4.2.6 Theme 4 Lack of preparation and lack of confidence in new role

Theme exclusive to newly qualified nurses

There was a general feeling of a lack of preparedness for the new role. This theme emerged from the newly qualified nurses which is exemplified in the following statement:

> 'I am excited about being a staff nurse but it does make me stressed when I think about wearing a staff nurses uniform and the expectations it brings'. (Q56)

Resulting from lack of preparedness on behalf of the newly qualified nurses, was a sense that their own inability to fulfil the role of the nurse left pressure on those on the ward that were more senior. There was a sense that the newly qualified nurse often sensed a negative attitude towards them when they couldn't perform certain duties. One nurse felt a lack of confidence while another felt that they were not shown how to carry out certain tasks as a student and were now expected to be able to do so, such as

> 'Order pharmacy as a student and deal with care attendants' (Q67).

One nurse felt ill prepared for operating specialised equipment especially in a cardiac arrest situation and another expressed fear of giving incorrect information. While newly qualified nurses sensed that they received support in the initial months, they also commented on the awareness of high expectations from them. There was a sense of mixed emotions associated with this new role in relation to increased responsibility and while some embraced this, others cited this as a stressor. There was a sense of excitement coupled with a sense of being

> 'Overwhelmed with new tasks such as medication rounds' (Q67).

The sense of increased responsibility was attributed in some way to the awareness and cognisance of:

> 'Looking at the bigger picture for each patient and liaising with the multidisciplinary team in order to provide and ensure the planned care/treatment is achieved. This can be a stressor in itself.' (Q63).

The expectation of being preceptor to student nurses when just qualified was also deemed a stressor. There was a feeling of lack of preparedness for this role. However, in relation to exposure to new demands, one nurse saw this as a positive learning exposure. The feeling of being prohibited from certain duties e.g. disconnecting IV fluids was expressed. However, there was a sense of transience about this difficulty encountered by newly qualified nurses.

> 'The most stressful day for me was the first day' (Q65).

These new tasks presented difficulties for some newly qualified nurses who felt that they needed more time and support to fulfil this new role and practice independently and competently.

4.2.7 Theme 5 Moving wards

Theme exclusive to newly qualified nurses

Being transferred from one ward to another was perceived as stressful. A number of nurses remarked on the impact of moving wards in relation to agency work. They commented on the difficulty of having to get to know new wards, surroundings and patients. For example:

> 'Relief work, I believe adds to the stress for newly qualified nurses, as you must establish yourself with different staff on different wards on a daily basis' (Q61).

While some positive attributes of moving wards were identified, such as increasing learning exposure, it was generally considered daunting particularly when dealing with critically ill patients. Also a number of nurses commented on conditions on the wards such as overcrowding on wards making accessibility to equipment such as phones and computers difficult. Poor facilities or lack of facilities was also cited for staff and patients e.g. with heavy patients with limited lifting aids for heavy patients.

4.2.8 Theme 6 Suggestions for improvement

Theme exclusive to newly qualified nurses

There were a large number of suggestions made by newly qualified nurses in relation to possible improvement of the clinical environment. These included a call for an induction period whereby the new nurse could work in a supernumerary capacity initially in order to settle into the new role and new environment. The time frame suggested for this induction period ranged from one to six weeks.

> 'There should be a short supernumerary period for newly qualified staff to allow them to settle into a ward.' (Q59)

Some had experienced an induction programme and one newly qualified nurse who had undergone a one-week programme positively appraised this. In particular there was a remark made about the value of a role-play in a simulated cardiac arrest situation involving clinical nurse managers. Also there was a suggestion for an official buddy system. There was a call to raise awareness of stress and to identify the nature of support required and to incorporate stress management support and stress management training with early intervention as the key to effective management of stress.

4.2.9 Theme 7 Feeling excluded

Theme exclusive to fourth-year student nurses

This theme emerged from student nurses' responses only. Some student's nurses stated that they felt unwanted or were simply ignored and felt that they were not treated as an equal member of the multidisciplinary team or didn't feel part of the team. For example:

> 'I have experienced many issues that have added to my stress levels- such as the feeling of not being part of the team, being referred to as the student or being called the wrong name', (S27).

Student nurses frequently wrote about being excluded, undervalued or not regarded as a member of the multidisciplinary team.

> 'Not being treated as an equal within the multidisciplinary team due to our own lack of experience even though we may have very valid opinions'. (S11)

And

> 'Being simply ignored while on duty is something I have experienced on many occasions more so in 1st and 2nd year'. (S27)

Some felt dissatisfaction at not being included in the communication in relation to patient management and sharing of relevant information regarding patient care. Generally the feeling of exclusion and poor communication was directed at other nurses with particular reference to more senior nurses. Nonetheless other members of the multidisciplinary team including doctors also appeared to contribute to their feeling of exclusion. For example:

> 'Ringing doctors to review a patient, you are often overlooked when you identify yourself as a student' (S25).

Some students felt the need to have a more time to address their own needs in the clinical environment and allocation of a definite preceptor. There appeared to be a sense of poor communication on a personal, professional and organisational level. There was a feeling that there is a lack of ward meetings to address relevant patient issues. Suggestions were made to encompass regular feedback opportunities for students in relation to clinical placement. One student suggested involvement of clinical placement coordinators and lecturers in discussion/ debriefing session.

4.2.10 Theme 8 Combining academic demands with clinical placement

Theme exclusive to fourth-year student nurses

Many student nurses expressed dissatisfaction with having to combine full time work with academic demands also made on them while on placement. One student stated that:

> 'The college work along with 39 hr rostered duty causes me most stress. I felt constantly overwhelmed and on edge because of it' (S22).

A number of student nurses remarked on the stress of having to complete academic assignments while on clinical placement and that insufficient time was allocated to study while on placement. While the potential stressor of academic demands was considered to be extraneous to the focus of this study (of the clinical environment), one student remarked that while this is outside the clinical area that the stress from this impact on the person while on placement.

> 'The college work along with 39 hr rostered duty causes me most stress. I felt constantly overwhelmed and on edge because of it. The time around assignment due is stressful and shows at work'. (S22)

4.2.11 Theme 9 Unmet learning needs

Theme exclusive to fourth-year student nurses

Closely associated with students was the dissatisfaction expressed regarding the clinical placement as an opportunity to enhance clinical skills. Students felt that their exposure and experience in new practices was inhibited by a number of reasons. One reason cited was the apparent high activity of the ward. Some students felt that they were not working with the preceptor all of the time or felt that support from the preceptor was inadequate. Communication with other nurses was again cited as a perceived difficulty, particularly in relation to addressing their learning needs. One student commented on the perceived lack of opportunity to ask questions or find preceptor / staff nurse to explain anything. This comment was further qualified with the acceptance that it was due to heavy workload rather than lack of cooperation by the staff nurses. Despite the previous two years in supernumerary status one student felt that she/ he was learning everything the hard way and one student felt that positive feedback is lacking. Overall there appeared to be a perceived lack of conformity in work practices, styles and opinions within the learning clinical environment, which impacted negatively on the student nurse's learning experience.

Other pressures placed upon student in relation to learning needs were deemed to affect their stress levels. This included the pressure to get student documentation to be signed off. Some felt that there was too much paperwork e.g. writing portfolios whilst on placement. There appeared to be a perceived pressure on the student to learn on the clinical placement, though time and resources were perceived to inhibit this experience. This was typified by one comment whereby a student felt that:

> 'Just feel at times I could be learning more than I am' (S18).

This sense of limited learning exposure was expressed in the frustration of student nurses at not being given enough responsibility or independence or given too much responsibility. One student remarked about being given a lot of criticism and a small degree of responsibility. This was a reported as a source of conflict between the student nurse and the preceptor particularly in relation to allocation of responsibility when wanting to carry out a particular procedure.

In contrast, many students expressed frustration at being given too much responsibility with little guidance. One student remarked that the expectations on student nurses were too high. This perceived discord between allocations of responsibility with level of competence is articulated in this comment:

> 'You can feel like others are constantly looking over your shoulder and while you need a certain amount of supervision it's hard to strike a balance.'(S34)

This view of imbalance of allocation of responsibility appeared to impact on the student's view of the clinical environment as a place of learning.

4.2.12 Conclusion

The overall mean score for newly qualified nurses was 44.95 out of a range of 0-102. This compares to 45.69 from fourth-year student nurses. The statistical hypothesis stated that 'perceived stress is higher in newly qualified nurses compared to fourth-year student nurses'. This was tested inferentially and this hypothesis was rejected, therefore concluding that while stress frequency was encountered at least occasionally by both groups and comparatively high to other studies. 'Perceived stress is not higher in newly qualified nurses compared to fourth-year student nurses for the following factors; death and dying, inadequate preparation, lack of staff support, uncertainty concerning treatment and conflict with other nurses. However, perceived stress in relation to workload and conflict with physicians is higher in newly qualified nurses compared to fourth-year student nurses'. Hence it is necessary to reject the null hypothesis and accept that there is a significant difference in the scores in each group with regard to workload and conflict with physicians.

Qualitatively, both groups identified both common stressors and stressors that were exclusive to each group. Newly qualified nurses concurred with student nurses about excessive workload, short staffing and the dissatisfaction at having to perform non-nursing duties when time was already perceived to be limited. This appeared to impact on both group's ability to provide basic and holistic nursing care. Student nurses expressed dissatisfaction in relation to the perceived inadequacies regarding relationships with other nurses in the clinical environment. This perceived poor relationship left the student nurse feeling isolated and not part of the team. Relationship difficulties were cited by newly qualified nurses, but to a much lesser

degree and were directed in a wider context such as other members of the multidisciplinary team rather than confined to other nurses.

Notwithstanding the fact combining academic work with working full time were extraneous to the study, students clearly expressed the impact that these difficulties had on them while in the clinical environment. The ward environment was not always seen as a place to facilitate learning and was a cause of stress for some student nurses. However there was a sense that this perception of stress and stressors was transient as cited by a newly qualified nurse.

Positive attributes of this transition were also cited by newly qualified nurses and were more vocal in the provision of suggestions that may improve the alleviate stress in the clinical environment. In particular, the need and benefit of an induction period supported by supernumerary status in the initial period was frequently advocated. A notable difference in this group was the frequent citing of moving wards and agency work as contributing to stress. This was coupled with the perception of lack of preparedness and lack of confidence in this new role. Numerous detailed responses and the language used have confirmed that respondents in both groups experience stress in the clinical environment. These findings support and build on the findings from the quantitative results by providing an insight into the minds of the respondents and providing suggestions for improvement in the clinical environment.

Chapter 5 Discussion

5.1 Introduction

The findings from this study will be discussed with reference to how they supported or did not support the research hypotheses. This study's close affinity with a particular model on occupational stress will be discussed. Findings from previous studies that have used the 'Nursing Stress Scale' as a research instrument will be outlined and compared to this study. The findings from each factor included in this scale will be discussed. With regard to the open-ended question, themes that were similar to those factors identified in the Nursing Stress Scale are integrated and will be discussed together. Those themes that yielded new information will be discussed separately. Some factors will be discussed in more detail given their greater prominence in the study findings such as workload and relationships with other nurses. The conclusion of the study, which will lead into the recommendations made as a result of this study in the final chapter.

The aims of the study were:

1. To investigate and identify what are the perceived levels of stress and job-related stressors in fourth-year student nurses and newly qualified nurses.
2. To determine if there was a difference between the levels of stress and stressors in both groups.
3. To explore the participants' views on stress and stressors in the clinical environment from a qualitative perspective.

The research hypotheses were as follows:

Hypothesis 1: 'Perceived stress is higher in newly qualified nurses within the clinical environment, compared to fourth-year student nurses'.
Hypothesis 2: 'Newly qualified nurses will identify different stressors to fourth-year student nurses'.

The impetus for this study not only arose from the extensive literature relating to the subject, but also from the author's own experience of stress in the initial period after qualification and from observation of others in the clinical environment at this present time. It was anticipated that stress would be measured significantly higher in the newly qualified nurse than in the student nurse and that both comparative and contrasting stressors would be identified in each group. The aims of the study were accomplished through the use of a well-validated Nursing Stress Scale (Lambert and Lambert, 2001), supported by an open-ended question. The qualitative findings from the open-ended questionnaire allowed participants to freely express their opinion in their own words (Streubert and Carpenter, 1999). Levels of stress were identified and compared through the use of an independent *t*-test for both newly qualified nurses and fourth year student nurses. The research hypothesis was rejected with the conclusion that 'Perceived stress is not higher in newly qualified nurses compared to fourth-year student nurses for the following factors; death and dying, inadequate preparation, lack of staff support, uncertainty concerning treatment and conflict with other nurses. However, perceived stress in relation to workload and conflict with physicians is higher in newly qualified nurses compared to fourth-year student nurses'. Despite little difference between groups overall, this study concurs with previous literature

that stress and stressors continue to pose difficulty and remains a cause for concern in the clinical environment (Stordeur *et al*, 2001; Lambert *et al*, 2004; Chang *et al*, 2006).

The first hypothesis was not supported in this study. Despite substantial literature written on stress and stressors related to the transition to newly qualified nurse, this study has revealed is that while stress and stressors continue to cause stress for the newly qualified nurse, fourth –year student nurses also encounter many problems in the clinical environment. The findings also revealed that stress was as high in student nurses who were considered a 'shielded' group in the past (Charnley, 1999). Perhaps the reason why this was not supported in previous literature to as great an extent is because the preparation for nursing has changed nurse education to degree programme with a paucity of literature exploring this new phenomenon in Ireland. This has not allowed time for the accumulation of sufficient literature to assert that stress exists within the clinical environment for student nurses to the same extent as those who are newly qualified. This is well documented for the transition in newly qualified nurse backed up with a multitude of studies. Therefore, this study contributes to, and supports an existing body of knowledge on stress and stressors on the transition to newly qualified nurse. This study also contributes to a relatively unexplored phenomenon of stress and stressors encountered by fourth-year student nurses in Ireland, given the timing of this study on foot of the introduction of the four-year degree programme in Ireland.

The second hypothesis was supported. Some stressors are similar to those encountered by newly qualified and some are different. Workload, relationships with other nurses

and lack of staff support were themed by both groups. Newly qualified nurses exclusively spoke about lack of preparation and lack of confidence in their new role. They also spoke about problems associated with moving wards and made numerous suggestions for improvement. Fourth-year student nurses spoke extensively about feeling excluded and with relationship difficulties within the clinical environment and spoke about the difficulties encountered combining academic demands with clinical placement. Also these students expressed dissatisfaction regarding their clinical environment as a place of learning and felt that there were many unmet learning needs.

5.2 Models of occupational stress

Many models of occupational stress currently exist. This study relates closely to the models of stress as a 'stimulus', which focuses on the causes of stress. The Nursing Stress Scale exclusively focuses on this area of stress, while the open-ended responses yielded a broader dimension to this topic including stressors, effects of stress and suggestions for improvement. This study does not fit entirely with any previous model on stress as most models view occupational stress quite generally. Additionally some stressors identified in this study have received little attention in previous models such as relationship difficulties and stressors associated with the workplace as a place of learning. A well known model has been associated with stress in nursing, namely the Karasek Job-Demand -Control model, 'JD-C Model' (Karasek *et al*, 1981), as cited in many studies using this model as a framework for development of a theory on stress in nursing (Seago and Faucett, 1997; Cheng *et al*, 2000). This earlier model focuses on stress as a stimulus; while at the same time identifies the effects of stress on the individual. According to the model, stress is

highest when the job demand is high and perceived control is low. This model fails to identify the importance of support in the workplace (Fletcher and Jones, 1992).

The Demand-Control-Support model 'D-C-S Model' (Karasek and Theorell, 1990) has identified this failure, advocating the importance of the involvement of social support in the workplace and this study has identified lack of support as a stressor. This model has closer association with this study. This refinement of the original model has incorporated the additional elements in the workplace to include interpersonal conflict and cognitive appraisal of the job. This model regards stress to be highest when the demand is high, control in low and support is low. Furthermore this study associates with the D-C-S model when focusing on the effects of stress on the individual.

There are considerable weaknesses also associated with this model in relation to its relevance to this particular study. Firstly, the focus of stress effects appear to be confined to the individual and fail to take into account the wider context to include the effects on the organisation such as absenteeism, high turnover, poor performance and relationship difficulties as depicted by Buchanan and Huczynski (2004). The effects of stress in nursing are not only confined to the individual nurse, but have far reaching effects on the other staff, the organisation and most importantly, the patient. Furthermore, the findings from this study have far reaching goals in attempting to address the stressors by recommending coping strategies in cognisance of the effect that stress has both on the organisation and on the individual. Secondly, this model also fails to account for stress and stressors associated with the workplace as a place of learning. However notwithstanding these weaknesses, this model provides a

framework from which to explore and address stress and stressors in the clinical environment with regard to its emphasis on work demand, control of the clinical environment and support within the clinical environment also. Organisational issues associated with and issues associated with the clinical environment as a place of learning can be integrated into this model and adapted to suit the needs of this particular phenomenon of stress and stressors within the clinical environment.

5.3 Findings from previous studies using the Nursing Stress Scale

Previous studies that have used the same scale are outlined in chronological order. For clarity and comparison the following studies are illustrated in tabular form (Table 8). This table illustrates the country in which the study was conducted, and the number of participants and outlines the highest and lowest ranking factors that emerged from the studies. Lambert *et al* (2004) conducted a comparative study, as did Hughes and Umeh (2005), the results of which are illustrated separately for comparison.

List of studies in chronological order	Country of study	Discipline of nursing	Parti-cipants	Highest equivilised score	Lowest equivilised score
Healy and McKay, 2000	Australia	Registered nurses (unspecified discipline)	129	Workload	Lack of staff support
Payne, 2001	United kingdom	Hospice nurses and care assistants	89	Death and dying	Uncertainty concerning treatment
Pinikahana and Happell, 2004	Australia	Psychiatric nurses	136	Workload	Conflict with other nurses
Lambert *et al*, 2004	Japan	General and psychiatric nurses	310	Death and dying	Lack of support
Lambert *et al*, 2004	South Korea	General and psychiatric nurses	449	Workload	Conflict with other nurses
Lambert *et al*, 2004	Thailand	General and psychiatric nurses	297	Workload	Conflict with other nurses
Lambert *et al*, 2004	USA Hawaii	General and psychiatric nurses	498	Workload	Lack of support
Hughes and Umeh, 2005	England	Psychiatric nurses	28	Workload	Conflict with other nurses
(Hughes and Umeh, 2005)	England	General nurses	45	Workload	Conflict with other nurses
Chang *et al,* 2006	New Zealand	Registered nurses (unspecified discipline)	127	Workload	Lack of support
Chang *et al,* 2006	Australia	Registered nurses (unspecified discipline)	225	Workload	Lack of support
Hamaideh *et al*, 2008	Jordan	General nurses	446	Workload	Lack of support

Table 8: Previous studies that have used the Nursing Stress Scale as a research instrument.

All of the above studies can help make comparisons as the same scale was used. Two noteworthy limitations were found. Firstly, some studies used a range on the Likert scale from 1-4 as opposed to 0-3 therefore yielding a higher score and making comparison difficult. Those studies that used this measurement are highlighted with an asterisk in the following table. Secondly, there were different numbers of items in each factor also making comparison between factors difficult. Therefore, in order to compare scores, the number of items within each factor is divided into the mean score giving an equivilised score. This ascertains a comparative picture of the different factors and identifies numerically the areas of high and low scoring for each cohort. Some studies did not give an equivilised score.

Despite rigour enhanced by large sample sizes, collective limitations from these studies include limited generalisability owing to studies conducted in different countries where different support systems are in place and the use of convenience sampling in some cases. As the studies were carried out at different times extraneous variables were difficult to compare. Generalisability was also limited by representation of different specialities in nursing and inclusion of care assistants in the sample. Nonetheless this gives a broad view of how this study compares to the findings internationally. Comparisons will be drawn from this study with the findings from the following studies.

	Factor 1 Workload	**Factor 2** Death and dying	**Factor 3** Inadequate preparation	**Factor 4** Lack of staff support	**Factor 5** Uncertainty concerning treatment	**Factor 6** Conflict with physicians	**Factor 7** Conflict with other nurses
Range for each factor except those with asterisk*	(0-18)	(0-21)	(0-9)	(0-9)	(0-15)	(0-15)	(0-15)
Current study: Newly qualified nurses	**11.47**	**9.63**	**4.71**	**2.94**	**6.71**	**5.81**	**3.68**
Current study: Fourth year student nurses	**10.03**	**9.90**	**5.20**	**4.08**	**7.25**	**4.95**	**4.28**
Japan (Lambert *et al*, 2004)	9.26	9.34	4.49	2.81	6.38	7.08	6.50
South Korea (Lambert *et al*, 2004)	7.83	7.30	3.34	2.86	5.32	5.51	4.15
Thailand (Lambert *et al*, 2004)	7.40	7.29	2.94	2.82	5.53	5.52	2.67
USA Hawaii (Lambert *et al,* 2004)	11.00	8.98	3.73	3.03	6.24	6.92	6.12
England Psychiatric nurses (Hughes and Umeh, 2005)	9.60	5.45	2.75	2.65	4.40	5.70	3.10
England General nurses (Hughes and Umeh, 2005)	10.32	8.26	3.79	3.00	6.55	6.05	3.63
New Zealand (Chang *et al,* 2006)	10.47	8.65	3.31	2.76	5.80	5.77	5.47
Australia (Chang *et al,* 2006)	11.51	9.16	3.67	3.04	6.43	6.59	6.06
Jordan * (Hamaideh *et al*, 2008)	14.53*	16.13*	6.67*	6.51*	11.48*	11.21*	11.58*

Table 9: Results from each factor in current study compared to previous studies using the Nursing Stress Scale An asterisk* is placed on the study which uses the Likert scale ranging from 1-4, therefore with a higher result.

Range in all factors (0-3) except those with asterisk*	**Factor 1** Workload	**Factor 2** Death and dying	**Factor 3** Inadequate preparation	**Factor 4** Lack of staff support	**Factor 5** Uncertainty concerning treatment	**Factor 6** Conflict with physicians	**Factor 7** Conflict with other nurses
Current study Newly qualified nurses	**1.91**	**1.37**	**1.57**	**0.98**	**1.34**	**1.16**	**0.73**
Current study Fourth-year student nurses	**1.67**	**1.47**	**1.73**	**1.36**	**1.45**	**0.99**	**0.85**
Australia (Healy and McKay, 2000)	1.61	1.18	1.17	0.97	1.27	1.24	1.04
UK Hospice nurses and care assistants (Payne, 2001)	1.07	1.32	1.15	0.84	0.83	0.97	0.86
Australia Psychiatric nurses *(Pinikahana and Happell, 2004)	2.21*	1.95*	1.92*	1.77*	1.93*	1.96*	1.71*
Japan (Lambert *et al*, 2004)	1.54	1.55	1.49	0.93	1.27	1.41	1.30
South Korea (Lambert *et al*, 2004)	1.32	1.21	1.11	0.95	1.06	1.02	0.83
Thailand (Lambert *et al*, 2004)	1.20	1.21	0.98	0.94	1.10	1.10	0.52
USA Hawaii (Lambert *et al,* 2004)	1.83	1.49	1.24	1.01	1.24	1.38	1.22
England Psychiatric nurses (Hughes and Umeh, 2005)	1.60	0.77	0.91	0.88	0.88	1.12	0.62
England General nurses (Hughes and Umeh, 2005)	1.72	1.18	1.26	1.00	1.31	1.21	0.72
Jordan *(Hamaideh *et al*, 2008)	2.38*	2.30*	2.22*	2.17*	2.29*	2.24*	2.31*

Table 10: Results from each factor in current study compared to previous studies using the Nursing Stress Scale using equivilised scores.

When comparing the results from this study with other studies any measure of one or above infers that stress was encountered at least occasionally and is considered high in previous studies (Hamaideh *et al,* 2008). This score indicates that the respondent finds this stressor problematic (Payne, 2001). Overall, the findings from this study revealed that 'workload' ranked highest for newly qualified nurses and fourth-year student nurses. This is supported in the open-ended question. When the scale was equivilised, newly qualified nurses continued to rank workload highest. Fourth-year student nurse's ranked 'inadequate preparation' as highest score. This finding was not mirrored in the previous studies, though it must be borne to mind that the previous studies were conducted with qualified staff only. Both groups in this study ranked 'conflict with other nurses' as the lowest scoring of the factors within the Nursing Stress Scale. This accords with studies conducted in Australia (Healy and McKay, 2000; Pinikahana and Happell, 2004). However, student nurses also scored lowest in conflict with other nurses despite much written on this subject in the open-ended responses.

There is a noteworthy difference in scoring from both groups in relation to 'lack of staff support' with a more favourable response from newly qualified nurses. This finding is mirrored in the open-ended question. Quantitative findings appear to associate accurately with the qualitative findings with the exception of 'Lack of support', and 'conflict with other nurses'. While both factors scored low for both groups quantitatively, qualitative responses focused heavily on lack of support and in particular on relationship difficulties within responses from student nurses. Tests to ascertain the validity and reliability of the nursing stress scale were conducted by Lee *et al* (2007). 'Conflict with physicians' and 'Lack of support' were considered to lack

internal consistency. This followed psychometric assessment of the Nursing Stress Scale using Spearman Brown coefficient, coefficient alpha and standardised alpha to measure internal consistency. The subscale entitled ‘Lack of support’ was also considered unreliable as a tool with levels only ranging from .46-.65. and test-retest reliability confirming instability with this factor. This was not evident in this study with Cronbach’s alpha on this factor found to be .88. However, Cronbach's alpha level did not reach the acceptable level of .70 in ‘Conflict with physicians’ and in ‘Uncertainty concerning treatment’. The internal reliability of the Nursing Stress Scale was not at the appropriate level for student nurses in relation to ‘Uncertainty concerning treatment’. It was also unreliable for newly qualified nurses in ‘Inadequate preparation’ and ‘Conflict with physicians’. This has affected the reliability of this scale and the reliability of the results within the above factors.

Each factor is now discussed, integrating qualitative results where appropriate

5.4 Excessive workload

While workload can be attributed as a stressor in all professions (Arnold *et al*, 1998) it has particular relevance to nursing (Arnold *et al*, 1998; Cotrell, 2001; Nolan and Ryan, 2008). Both groups identified excessive workload as a major source of stress in the clinical environment. This accords with almost all of the previous studies. This study quantitatively revealed that 'workload' ranked highest for newly qualified nurses and second highest for student nurses. This concurs with the findings of Jenkins and Elliot (2004), who found that workload was less noted by unqualified staff. Workload scores compare higher for newly qualified nurses in this study compared to most previous studies, though generally both groups scored comparatively high. This was supported by the findings from the open- ended question with workload identified as a key stressor in the responses from both groups. These findings have been reported elsewhere in other studies in Ireland (McCarthy *et al*, 2002; Gillespie and Melby, 2003; Murphy, 2004; Mooney, 2007a), Great Britain (Maben and MacLeod Clarke, 1998; Charnley, 1999; Taylor *et al*, 1999; Edwards and Burnard, 2003) and internationally (Healy and McKay, 2000; Demerouti *et al*, 2000; Evans *et al*, 2008).

Workload was associated with a reason for leaving nursing employment (DATHS, 2000; McCarthy *et al*, 2002; DoHC, 2002a) and this paradoxically leaves fewer staff to cope, with a resulting higher workload and termed as the 'ripple effect' (McCarthy *et al*, 2002). Workload in nursing incorporates direct patient care, indirect patient care such as care planning, non-nursing duties and invisible care such as provision of

emotional support (McCarthy *et al*, 2002). More themes were subsumed into the workload factor to include inadequate staffing, performance of non-nursing duties and concern regarding unmet patients needs as follows.

5.4.1 Inadequate staffing

'Lack of staff' was frequently cited as a stressor in this study, particularly for newly qualified nurses. There were references made to the recent recruitment embargo on staffing in the Health Service Executive (Doran, 2007; Hourihan, 2008). The number of nurses employed was drastically reduced at the time of the study (HSE, 2007). Nursing posts have dropped to 34.5% of total healthcare staff compliment in 2006 compared to an increase of paramedical, management and administration services (Department of Health and Children, 2008). McCarthy *et al* (2002) factored inadequate staffing as a reason for attrition from nursing, at a time when the demand for nurses far outweighed the supply.

The tide turned from an oversupply and export of Irish nurses to a shortage and dependence on nurses from abroad in the millennium. The shortage of nurses put pressure on management to provide quality care with limited resources requesting staff to work overtime, defer annual leave and work with a poor skill-mix or inadequate numbers of staff. Labour costs account for significant current expenditure of the health service budget, which has been a source of much debate with health care costs outpacing the economic growth in line with other countries (Kinsella, 2003). In 2007 while there the ongoing dependency on nurses from other countries and on agency nursing existed, there was a freeze on recruitment of healthcare staff including

nurses due to financial constraints in the Health Service Executive. This adds to the high dependence on agency workers in this country (Health Service Executive Employers Agency, 2006). This has left newly qualified nurses dependent on relief work with unpredictable working arrangements. This not only impacted on the workload, but also impacted on job security, which was a confounding source of stress for newly qualified nurses as there were references made to reliance on agency work in the first months following qualification. This contrasts with a much greater percentage of nurses with permanent contracts at the turn of the century (Department of Health and Children, 2002a). Lack of staff results in excessive workload and was also identified consistently in previous studies, as contributing to stress (Maben and MacLeod Clark, 1998; Taylor *et al*, 1999; Bick, 2000; McGowan, 2001; Edwards and Burnard, 2003). There are over 1000 nursing education places in acute general nursing (An Bord Altranais, 2008a). A drop in applications for nursing this year has highlighted the decreased demand for nursing as a chosen profession (An Bord Altranais, 2008b).

There was not a strong correlation between lack of staff and lack of staff support in the inferential findings of the Nursing Stress Scale, despite the open-ended responses alluding to this. In a previous study, lack of staffing was positively correlated with a perception of lack of support (Wheeler *et al*, 2000) with resulting inference to high attrition rates. Mooney (2007a) further asserts that short staffing is associated with adverse effects for patients. Short staffing contributes to stress with a paradoxical impact on absenteeism, ill health and attrition from nursing (McVicar, 2003). Culiton (2008) cites nursing and support service workers to account for highest absenteeism rates in Irish hospitals. In the UK, nurse's sick leave appeared to rate higher in

hospitals settings than elsewhere with stress ranking fourth out of nine reasons for leaving (Royal College of Nurses, 2006). Absence from work is of great organisational and financial cost to the health service (Johnson *et al*, 2003). Efforts to retain nurses have been explored (McCarthy *et al*, 2002; Jasper, 2007). Dunne (1991) outlines measures to retain nurses, which includes continuing education. The establishment of the National Council for the Professional Development of Nursing and Midwifery (2001) has endeavoured to facilitate this in response to the learning needs of qualified nurses in Ireland. High staff turnover in nursing leads to increased workload on those left behind. Increased workload is cited as a reason to high turnover, therefore considered to 'feed on itself' (McCarthy *et al*, 2002, p.155). So too can stress and stressors 'feed on themselves' when not addressed on time. The problem of stress and stressors in the clinical environment needs to be highlighted to inform the decision makers involved in nurse education and practice at a time when nursing is changing at a phenomenal rate.

Flexible working hours, continuing education, monitoring reasons for leaving, development of magnet hospital strategies where hospitals tactically serve to attract and retain staff and provision of job security were highlighted as the influencing factors for consideration (Department of Health and Children, 2002a). The magnet hospital's functional aim is to attract and retain staff (Flynn and McCarthy, 2007). Despite literature to support the merit of these initiatives, the open-ended responses cited the opposite as being stressors in the clinical environment currently in Ireland.

5.4.2 Non-nursing duties

Nursing has undergone many changes, which have influenced its development as a professional discipline. The old image of the nurse as handmaiden to the doctor as described by Porter (1992) has changed to being recognised in some areas as a valued member of the multidisciplinary team. However despite this development, nurses in this study are still expected to wash and move beds, answer phones and an abundant amount of duties that are not perceived to qualify as 'nursing duties'. Almost half of newly qualified nurses 'very frequently' encountered stress in relation to the performance of non-nursing duties. This compares to just over one quarter of student nurses. Nursing duties were considered by both groups to extend beyond the realms of the nurse's remit. This has been a major source of stress for both groups and has left some respondents questioning their career choice, particularly when time spent on non-nursing duties affects time that could be spent directly attending the patient. Non-nursing duties was also identified by Mooney (2007a) where there was a sense of resentment felt in this regard. The respondents in this study resented this demand from non-nursing duties at the expense of actual nursing and perceived negative impact on quality patient care.

5.4.3 Unmet patients' needs

Unmet emotional needs of patients were clearly highlighted by both groups as a cause of concern. Almost half of newly qualified nurses 'very frequently' felt that not enough time was available to provide emotional support to a patient. A slightly lower percentage had similar feelings in the student nurse group. Inherently when workload increases, owing to time spent on non-nursing duties or inadequate staffing levels,

there was a perception that the emotional needs of and communication with the patient were neglected.

Nursing as a profession is underpinned by the concept of caring (O' Brien *et al*, 2008), with emphasis on interpersonal relationships paramount (Treacy and Hyde, 2003). In assessment of clinical competence in general nursing students, An Bord Altranais (2005b) utilise an assessment model, which centres around five domains of competence, one of which is provision of holistic nursing care. Holistic nursing care includes emotional care in the overall care of the patient (Pearson *et al*, 2002). According to Walsh (1998), the approach must be patient centred, while Aggleton and Chalmers (2000) stress the importance of a partnership approach to care. Effective interpersonal and organisational communication is essential for ambient working conditions (Marquis and Huston, 2000). Moreover, communication with the patient is paramount in the care planning of patient care (Roper, Logan and Tierney, 2000, Gilbert, 2004; Barron, 2008). Despite abundant literature to support the need for and benefit of effective communication, many respondents remarked on this deficit in relation to lack of ward meetings, lack of communication with other staff and other disciplines and lack of emotional support for the patient.

What appeared to cause most concern was the inability to communicate with the patient due to excessive workload or lack of staff. This study revealed that time available to this lessens as the nursing course progresses due to allocation of time to perform other duties. The effect of this leads nurses both qualified and students to feel guilty and unfulfilled in their role as nurse. This study has highlighted this concern for both student nurse and newly qualified nurse. Touhy (2003) asserts that there does

not appear to be time for effective communication with patients. Effective communication can only be facilitated through the provision of adequate staffing, achievable workload for emotional needs of the patients to be met.

5.5 Death and dying

Death and dying is a very emotive experience regardless of the amount experience the nurse has. The first experience with death and dying is often very difficult, emotive and memorable for nurses. Death of a patient is considered as a contributory factor to stress (Bick, 2000; Timmins and Kaliszer, 2002b; O'Shea and Kelly, 2007). Student nurses scored slightly higher in this factor. The overall picture for both groups appears almost identical except for the latter item where student nurses frequently perceived stress in relation to the 'physician not being present when a patient dies'. When compared to Australian and New Zealand nurses their score was quite similar. This study revealed a higher score when compared to Hughes and Umeh (2005) in England. The score appears to be higher when compared to other countries, though in relation to other factors within the study, the rating is not as high. This is supported by the absence of comments on this topic in the open- ended question. Some spoke about their anxiety at not having experienced death and dying yet. This subject did not feature as a key stressor in this study, except for one student nurse who felt inadequately prepared to deal with the emotional stress of involvement with a patient dying.

5.6 Inadequate preparation

Newly qualified nurses scored higher than student nurses in relation to this factor in the Nursing Stress Scale. Hughes and Umeh (2005) score lower in this factor for psychiatric nurses and general nurses in England. Following analysis of the open – ended question, newly qualified nurses exclusively expressed a sense of inadequate preparation in the initial stages in their career developing a theme entitled 'lack of preparation and confidence in new role'. Newly qualified nurses also expressed dissatisfaction at not having time to learn new skills and felt unsure about new procedures. Working on different wards, was considered an obstacle in consolidating clinical skills. Certainly the perceived transience of the stress and stressors perceived by the newly qualified nurses was evident in this study. It appears, that in approximately six months the transition difficulties more or less concluded (Charnley, 1999). Mooney (2007a) coined the phrase 'facing trepidations' in relation to the transition perception of newly qualified nurses. In tandem with the feeling of lack of preparedness for their new role is also the sense of high expectations, increased responsibility and accountability. This is compounded by the new nurse's own sense of high expectations on themselves (Mooney, 2007a). However clinical nurse managers appear to have lower expectations of the newly qualified nurse than anticipated (Clark and Holmes, 2007).

Nursing theory, ought to provide the principles that underpin nursing practice and generate a knowledge base (Colley, 2003). The theory-practice gap is cited as a contributor to stress in the clinical environment (Evans and Kelly, 2004; Andrews *et al*, 2005; Maben *et al*, 2006). Landers (2001) assert that this gap exists in the Irish

context. This study highlights the effect of this perceived gap in what is taught and what is practiced are two different things with resulting confusion for the newly qualified nurse. There appears to be a perceived mismatch between what is taught in the classroom and what is practiced in the clinical setting.

Inadequate preparation is cited in many previous studies from either a clinical skills deficit perspective (Charnley, 1999; Bick, 2000; O'Shea and Kelly, 2007), knowledge deficit (Mooney 2007a) to inadequate emotional preparation and lack of confidence (Clark and Holmes, 2007) and lack management and organisational skills (Charnley, 1999; Gerrish, 2000; O' Shea and Kelly, 2007) or a combination of all three (Whitehead, 2001; Clark and Holmes, 2007). These findings are mirrored in this study for newly qualified nurses. However, this theme was not evident in the open responses of the student nurses. Charnley (1999) views the position of student nurses as being 'shielded' and indeed newly qualified nurses reflect on student days as being more protected and that skill deficits contribute to stress at this time.

5.7 Lack of support

Quantitative findings appear to associate accurately with the qualitative findings with the exception of 'Lack of support' featuring heavily in qualitative responses from student nurses, though rating lowest in the quantitative report. There was a strong correlation in this study between 'Lack of staff support' and 'Conflict with other nurses'. More particularly there was a strong correlation between 'lack of an opportunity to express to other personnel on the unit my negative feelings toward patients' and 'lack of an opportunity to share experiences and feelings with other

personnel on the unit'. 'Lack of staff support' compares higher in fourth-year student nurses to all previous studies outlined.

This was endorsed in the open-ended question with a large proportion of student nurses speaking about lack of staff support. The focus was generally negative from the student nurse responses as opposed to mixed opinions cited by newly qualified nurses. They felt unsupported in the clinical environment whereas the newly qualified nurses had mixed opinions ranging from a perception of little support to feeling very supported in the clinical environment. Support on clinical placement is paramount for the student to alleviate stress in the clinical environment (Timmins and Kaliszer, 2002a). In a previous study, clinical nurse managers perceive this support to be excellent (Begley and Brady, 2002). Students however held the opposite view in this study and in other studies (Ross and Clifford, 2002; Hutchings *et al*, 2005). Gerrish (2000) found that newly qualified nurses had experienced greater support than a similar cohort in 1985 in the UK. There is a need for support in the clinical environment for all nurses (Evans 2001), particularly in the first six months after qualification (Clark and Holmes, 2007). In order to provide optimum care, the nurse whether student or qualified, must feel confident and supported (Amos, 2001). Smith (1992) asserts that if the staffs feel cared for, they are more capable of caring for others.

5.7.1 Managerial support

Of those newly qualified who felt unsupported, attention was directed beyond ward level to the wider context from hospital management structures to the Health Service Executive. Rungapadiachy *et al* (2006) found that lack of managerial support impeded

the narrowing of the perceived theory-practice gap. Marquis and Huston (2000) cite that dissonance occurs when the subcultures such as nursing does not harmonise with the organisational culture, such as the HSE. Lack of managerial support can be lead to high turnover rates, low morale and high stress levels (Department of Health and Children, 2002b; McCarthy *et al* 2002). The open responses in this study revealed that the organisational structure was still considered hierarchical, nursing care often ritualistic and resistance to change remained a difficulty particularly noted by student nurses in this study.

Lessons on management have been learned from the "Hawthorne Effect" (Mayo, 1953 in Marquis and Huston, 2000) where production improves when attention is paid to the employee. Effective management endorses management *with* people rather than *of* people in a participatory, humanistic way as alluded to in Marquis and Huston (2000). The Department of Health and Children (2005c, p.7) views its employees as an internal customer in its vision for provision of quality and serve to 'Ensure staff are recognised as internal customers and that they are properly supported and consulted with regard to service delivery issues.' However, the recent employment ceiling occurred in 2007 in the health service despite call for better, staffing, working condition for nurses. This can have a negative effect on staff with possible resulting low staff participation and productivity. This negative role model can be damaging to learning (Henderson, 2002). Management is often seen as separate to nursing and is exemplified in the low nurse representation in the Health Service Executive (Hunter, 2005) despite nurses making up almost one third of the workforce (Department of Health and Children, 2008). This study has emphasised the feeling of distance from the

organizational structure and powerlessness felt by the respondents in matters relating to management issues.

5.7.2 Personnel support

This study did not focus on 'supporting personnel' either positively or negatively. There were no references made to supporting personnel except to clinical placement co-ordinators and nursing staff with no particular focus on their role. The literature endorses this presence of a supporting role in the clinical environment in Ireland (Lambert and Glacken, 2005) and the UK (Butterhurst and Thom, 2001) and internationally (Begat *et al*, 2005; Hopkins, 2008). Harvey *et al* (2002) suggest the appointment of a supporting role to facilitate the narrowing of theory –practice divide as is cited by many previous studies (Drennan, 2002; Maben *et al*, 2006). Supporting roles cited in previous literature ranged in title from clinical facilitator (Kelly *et al*, 2002), lecturer practitioner (Dearmun, 2000), clinical education facilitator (Lambert and Glacken, 2005) and clinical supervisor (Teasdale *et al*, 2001; Kilcullen, 2007), all of whom the collective remit is to facilitate learning in the clinical environment. What appears to be the main advantage of these supporting roles lies in the supporter's undivided attention towards the learning needs of the employee. These roles are supernumerary and patient needs don't need to compete with the learning needs of the student nurse as perceived in the responses of the student nurses in this study. Operational and strategic level personnel are required to provide learning support in the clinical environment (Hutchings *et al*, 2005).

Morgan and Collins (2002) assert that staff nurse roles are pivotal in the facilitation of education on the ward. Preceptorship, which dates back to the implementation of the

diploma programme for nurse education in 1994 is an effective method of teaching nursing students how to practice in a clinical placement (Myrick and Yongue, 2001; An Bord Altranais, 2003; Gleeson, 2008). This study revealed that some preceptor – student relationship was often a source of conflict and stress. However, the value of preceptorship is well documented (Maben and MacLeod Clarke, 1998; McCarthy and Higgins, 2003). While preceptorship is part of the nurses' responsibility (An Bord Altranais, 2000c), there is a need for adequate preparation, motivation and support in order for this to be effective (Timmins and Kaliszer, 2002a; McCarthy and Higgins, 2003; Evans and Kelly, 2004; Sorensen and Yankeck, 2008). Support was generally perceived by student nurses to be lacking whereas the newly qualified nurses had mixed opinions and cited both negative and positive comments on this concept. This study emphasised the need for support in the clinical environment with a strong sense from student nurses that this was lacking.

Those who were involved in facilitation of learning on the wards, namely nurses and clinical placement co-ordinators were also charged with supervisory involvement in student nurse assessment. There was a sense in this study that this impeded the supporting role that student nurses required. Student nurses were constantly aware of their clinical assessment and there appeared to be unfulfilled needs to express their concerns to someone that is completely impartial and not participating in their assessment. Other studies note that there is a compulsion to get on with work colleagues in order to gain favourable assessments (Spouse, 2000). This has implications for future research particularly in Ireland in relation to facilitator roles despite their undisputed merit. This study has focussed on support within the clinical

environment, notwithstanding the value of support outside the clinical environment such as family support (Lo, 2002)

5.8 Uncertainty concerning treatment

'Uncertainty concerning treatment' for both newly qualified nurses and fourth-year student nurses scored higher than previous studies. Respondents who scored high or low in this item did not expand on this in the open-ended question. The mean score for fourth-year student nurses was higher than their newly qualified colleagues in this study. This was higher than in hospice nurses in the UK (Payne, 2001). When compared in another study the scores were more alike for Australia and for New Zealand (Chang *et al*, 2006). Scores in this factor were slightly higher than those found in Japan, South Korea: Thailand and USA Hawaii. Hughes and Umeh (2005) score lower in this factor for psychiatric nurses and similar for general nurses in England. Nevertheless the scores indicate that uncertainty concerning treatment poses a problem particularly for newly qualified nurses.

This factor links closely with inadequate preparation. For example the 'functioning of specialised equipment' in this factor can also be associated with a perception of 'inadequate preparation'. There was a positive correlation between these factors. Both newly qualified nurses and students remarked on uncertainty concerning treatment, though this was mostly expressed as a concern for newly qualified nurses. This fear is often attributed in previous studies to limited clinical experience and exposure. This newfound accountability and responsibility associated with qualification was a cause for concern for newly qualified nurses and is echoed on previous studies (Gerrish, 2000; Mooney, 2007a; Nolan and Ryan, 2008).

This study highlighted that acceptance of responsibility associated with ward rounds and drug rounds that can only be developed through experience, time and support. In nursing there is a narrow gap between too much or too little responsibility in relation to exposure to new experiences and practices in nursing. As recently as 2000, there has been the introduction of the 'Scope of Nursing Practice Framework', which relates to 'the range of roles, functions, responsibilities and activities which a registered nurse or a registered midwife is educated, competent, and has the authority to perform' (An Bord Altranais, 2000b, p. 1). This provides a guide for all nurses both newly qualified and student nurses to assess every situation and determine whether it is within their remit and capability to perform in the best interest of patient safety. Respondents remarked on the scope of practice framework, which informs the researcher that they are aware of the guidance tool. There was discord in the allocation of responsibility as some felt they weren't allocated enough and others felt that they were given too much responsibility.

5.9 Conflict with physician

This focussed on the frequency of conflict with physician, fear of error in nursing care, conflict regarding appropriate treatment of the patient and perceptions of being left to make decisions in the absence of a physician. This score for fourth year student nurses was lower than that of the newly qualified nurses in this study. When compared to other studies Lambert *et al*, (2004) revealed a higher score from Japan and Hawaii but South Korea and Thailand were within the range from both cohorts in this study. New Zealand and Australian nurses were relatively similar (Chang *et al*, 2006). Hughes and Umeh (2005) score is slightly higher for general nurses in this factor in England. Despite newly qualified nurses scoring higher than student nurses

in this study, the score was similar or lower, relative to previous studies. Conflict with physicians scored higher in the newly qualified nurse group. This may perhaps be because newly qualified nurses have more contact with physicians particularly during ward rounds. Amos (2001) asserts the need to communicate with medical staff in effort to enhance patient care. Though there is a consistent lack of confidence to challenge any doctors decisions when not equipped with sufficient knowledge, experience and clinical skill as perceived by both student nurse and newly qualified alike.

5.10 Conflict with other nurses

Conflict with other nurses ranked lowest for both newly qualified nurses and fourth-year student nurses in the Nursing Stress Scale. The quantitative component of the study was concerned with the amount of times that the participants felt that they had disagreement with the supervisor, moving to work on other wards due to staff shortages and difficulty working with particular nurses. The score overall for newly qualified nurses was lower than the score from fourth-year student nurses in this study. Australian and New Zealand nurses yielded a much higher score (Chang *et al,* 2006). Lambert *et al* (2004) revealed a greater range in scoring from each country with Japan, South Korea, Thailand, and USA Hawaii. There was a strong correlation between 'lack of staff support' and 'conflict with nurses' and 'conflict with physicians' and 'conflict with nurses' in this study. Furthermore, there was a strong correlation between 'difficulty in working with a particular nurse (or nurses) on the unit' and 'conflict with a supervisor', which in turn was strongly linked with 'criticism from a supervisor'.

Despite this factor scoring lowest when compared to other factors in the scale, qualitative findings have shown that there is considerable concern about conflict with other nurses. Student nurses highlighted this in particular, though some newly qualified nurses also referred to this conflict. Conflict with other nurses was termed 'relationships with other nurses' in the theme developed from the open-ended responses as this elicited some mixed opinions regarding relationships with other nurses. Conflict is described as the internal or external discord that results from differences in ideas, values or feelings between two or more people, accounting for 20% of nurse manager's time (Marquis and Huston, 2000). Conflict can stem from the negative attitude that staff nurses have towards students. The students in this study felt that they were seen as extra work in an environment where workload is high, staffing levels are low and time is extremely limited.

Nurses in a study by Maben *et al* (2006, p. 472) were encouraged to 'fit in' and 'don't rock the boat'. This was echoed in this study where student nurses felt powerless in voicing their opinion. This is supported in a recent Irish study and coined 'without a voice' (Mooney, 2007b, p.78). The attitude of some qualified staff has been clearly sensed in this study. This is pertinent to student nurse learning as the attitude of the nurse towards to the student has great impact on clinical learning experience (Spouse, 2000; Condell *et al*, 2001; Morgan, 2002). This study revealed an imbalance of power between qualified nurses and student nurses. Evans and Kelly (2004) found that learning in the clinical environment was predominantly motivated by the concern of being assessed. This may have association with self esteem as cited by Begley and White (2003) where there is a negative correlation between negative feedback and self-esteem when exploring this phenomenon among final year student nurses in

Ireland. Powerlessness was not cited by any of the newly qualified nurses working in the same setting one year later.

The preceptor or mentor has an influential role in relation to the student's learning needs, socialisation on the ward and learning experience in the clinical environment (Maben and MacLeod Clarke, 1998; Evans and Kelly, 2004; Elcock *et al*, 2006). Conflict with the preceptor has been cited in this study. This is supported by previous studies emphasising the importance of adequate preparation for this role (Mamchur and Myrick, 2003). Negative attitude towards the student nurse were widely sensed by the student nurse. Reasons cited in this study were workload, lack of staff and time. This accords with the findings of Evans and Kelly (2004).

Nurses have a professional obligation to assist in the learning needs of student nurses (An Bord Altranais, 2000c). However some qualified nurses were not fulfilling this role (Evans and Kelly, 2004). The newly qualified nurses in this study commented on their lack of preparation for this supervisory role at such an early stage in their career. Newly qualified nurses felt ill prepared for this role as they still felt that they were still learning themselves. Further exploration of the reasons why nurses are not as actively involved than expected in this professional responsibility is needed. While student nurses appeared to focus on nursing staff at all levels, newly qualified nurses appeared to sense conflict with extended members of the multidisciplinary team and beyond ward level.

5.11 Feeling excluded

Closely related to the above theme, was a feeling of exclusion felt only by student nurses in this study. Students need to feel a sense of belonging in order to explore and gain from the learning environment (Timmins and Kaliszer, 2002a). Student nurses consistently expressed that they did not feel 'part of the team'. Student nurses were on rostered placement at the time of the study, therefore supernumerary status could not be indicated as contributing to the feeling of exclusion in this study. Previous studies have attributed the supernumerary status held by student nurses to this feeling of exclusion or isolation. This has been cited by previous studies as a contributory factor to conflict (Elcock *et al*, 2007) and inhibitory to learning (Downes, 2001) and inhibitory to socialisation of the student nurse on placement (Joyce, 1998; Hyde and Brady, 2002). Nevertheless there are both positive and negative attributes to supernumerary status on clinical placement (Gray and Smith, 1999; Spouse, 2000; O' Callaghan and Slevin, 2003; McGowan, 2006). This study group were on rostered placement at the time of the study, which warrants further exploration. Andrews at al (2005) also infer that the chance that the student will stay on a ward when qualified is attributed to their perceived experience when a student. There is evidence that if the learning experience is positive as a student that they are more likely to enhance their learning experiences in the same place also as a qualified nurse (Ross and Clifford, 2002).

5.12 Combining academic demands with clinical placement

'The aim of the clinical practice learning is to enable students develop the domains of competence and become safe, caring, for competent decision–makers willing to

accept personal professional accountability for evidenced–based nursing care'. (An Bord Altranais, 2005, p. 42). The clinical placement is monitored through audit by An Bord Altranais to ensure an acceptable standard to support the learning needs of the student nurse. This encompasses clear learning objectives and outcomes for the student and assignment of a named preceptor when on placement. The focus of the clinical placement is to integrate theory with the practice of nursing and to enhance the development of clinical skills, knowledge and competence (An Bord Altranais, 2005).

This study developed a theme exclusive to student nurses which remarked on the stress associated with combining academic needs of the course while on clinical placement. While this was considered extraneous to the study at the outset, it has clearly affected the student nurses while on clinical placement and is therefore considered part of the study findings. Academic stress is reported to contribute negatively to wellbeing of student nurses (Lo, 2002; Timmins and Kaliszer, 2002a; Evans and Kelly, 2004; Nolan and Ryan, 2008). Fourth-year student nurses are expected to work 39 hours rostered placement (An Bord Altranais, 2005). This is the first time in their preparation for nursing that they are no longer considered supernumerary.

Despite this, academic demands appear to continue to cause concern for the student nurse and academic assignments continue throughout the clinical placements. That is, that stress cannot be 'boxed' away. This is supported by extensive research by Edwards *et al* (2007), which is termed the 'spill over model'. This was a significant finding in this study, which in some ways explains why the hypothesis was not

rejected, and that the extraneous variables such as academic demands add to the stress perceived by the student nurse while on placement.

5.13 Unmet learning needs

An Bord Altranais have clear guidelines, which strive to meet an acceptable standard within the clinical environment to facilitate learning (An Bord Altranais, 2003). Unmet learning needs were of concern to student nurses. Newly qualified nurses also cited this as affecting their ability to gain knowledge and skills in their new role. There appeared to be dissatisfaction with the learning exposure on clinical placement. Student nurses expressed disquiet at not having the opportunity to learn more and were dissatisfied with the role of carrying out mundane tasks. In particular, they felt that routine observations appeared to be left to them and that their exposure to new experiences was limited. Also there was concern that learning targets specific to each ward, termed 'critical elements' ward were not being met causing concern for some students. While the clinical environment is considered a good method of learning for students (Gray and Smith, 1999; Condell *et al*, 2001), this study has revealed that it is not without difficulties.

Workload was considered to impede empowerment of students to learn in the clinical environment (Spouse, 2000; Maben *et al*, 2006). Fealy (2002) adds that service needs appeared to outweigh learning needs in relation to learning exposure. Morgan (2002, 2004) asserts the effect that nurse's attitudes have on student learning experience. Student nurses were no longer considered supernumerary in the clinical environment. This appears to cause concern for some student nurses, as they felt that learning needs were not met in the clinical environment and was a source of stress.

Facilitating factors in relation to learning in the clinical environment include leadership from the clinical nurse manager accompanied by a positive ward environment with supportive personnel. This is also associated with teamwork and inclusion of student nurses in decision making with nursing care delivered through team nursing (An Bord Altranais, 2003). The preceptor holds a pivotal role in facilitation of learning in the clinical environment. However, the preceptor's time is divided between patient care, student supervision and facilitation. This is clearly an additional workload, which is placed on an already heavy workload as perceived by both student nurses and newly qualified nurses. This was considered a reason why negative attitudes and relationship difficulties occur in this learning environment.

5.14 Moving wards

Newly qualified nurses found that moving wards contributed to stress. During the time of the study, the recruitment embargo, affected many newly qualified nurses' working arrangements. Some had short or informal contracts, worked for nursing agencies or were working on different wards, often referred to as 'relief work'. The demand for agency work has left dependence on relief work and lack of certainty regarding placement employment in one hospital not to mention one ward. This has impacted negatively on the newly qualified nurse's learning experience in the crucial first six months as a great deal of energy is spent on getting to know and becoming established in each ward. This not only affected the newly qualified nurses sense of stress, but also has greater implications for nurses in their intention to stay or in their choice of specialty. Job security was considered an attraction to nursing (Coombs *et al*, 2003) and was considered significantly related to job satisfaction (DATHS, 2000), though this is no longer associated with nursing as higher numbers are working on a

contractual or part time basis with little assurance of permanency in the near future. Job insecurity and dependence on agency work, was perceived to negatively affect newly qualified nurse's ability to settle into the new role.

5.15 Conclusion

Irish nursing has witnessed remarkable change over the past decade. Nurse education has undergone immense transformation influenced by the Commission on Nursing (Government of Ireland, 1998) and the Nurse Education Forum (Government of Ireland, 2000). These changes are not without their difficulties. Stress and stressors in the clinical environment in this study almost replicate the seminal work of Kramer over thirty years ago, with added stressors cited, particularly by student nurses who are amidst these changes.

Consistent with previous studies, stress remains a cause for concern in the clinical environment. Newly qualified nurses experience stress in the transition period and see this as a reality shock, however transient. This study has revealed that the student nurses are also under immense pressure in their final year. This study has compared levels of stress in each group. Perceived stress is not higher in newly qualified nurses compared to fourth-year student nurses for the following factors; death and dying, inadequate preparation, lack of staff support, uncertainty concerning treatment and conflict with other nurses. However, perceived stress in relation to workload and conflict with physicians is higher in newly qualified nurses compared to fourth-year student nurses. Stress frequency was considered high by both groups and comparatively high in relation to other studies. The overall mean score for newly qualified nurses was 44.95 compared to 45.69 from fourth-year student nurses out of a

range of 0-102. Overall, while stress levels were high in both groups, there was no significant difference between groups using the Nursing Stress Scale. This study, not only supported the notion that the transition from student to newly qualified nurse is stressful, but also looked upon the transition as a 'double edged sword' as depicted by Amos (2000). The transition was met with anxiety, though newly qualified nurses appeared to combine the negative experiences with some positive ones. This supports the recent findings by O'Shea and Kelly, (2007) referring to the experiences of newly qualified nurses in Ireland as 'highs and lows'.

In 1981, the Nursing Stress Scale was developed and is still relevant to study stress and stressors in nursing in modern society. Factors within this scale that were supported in the qualitative findings included workload, inadequate preparation, lack of staff support, uncertainty concerning treatment and conflict with other nurses in particular. Workload was considered to contribute to stress for both the student and newly qualified nurse. This attributed workload influenced in no small part to short staffing, time pressure, performance of non nursing duties all of which lead to unmet patients needs and unmet students learning needs. This was supported by the qualitative findings and also by previous literature.

Students also cited extraneous variables such as financial strain and academic pressure, particularly while working a 39-hour week. What was most interesting was their view that while these stressors were outside the clinical environment, the impact affected stress perceived within this environment. This was possibly the reason why the perceived stress was not higher in the newly qualified nurse as considered at the outset of the study. Student nurses often depicted stress and stressors exclusive to

their group in relation to the learning environment. This included dissatisfaction with preceptorship, learning exposure, and a feeling of a lack opportunity for hands-on learning. This was also associated with the perceived assignment of too much or too little responsibility. In particular, students highlighted the prominent stressor associated with not feeling part of the team or feeling excluded. 'Conflict with other nurses' or relationships with other nurses emerged as a significant stressor for student nurses, which has not been extensively supported in previous literature. Student nurses did not feel adequately supported and had difficulties with relationships with other nurses, from all levels and disciplines. This conflict appeared to be associated with time pressure and also with poor communication at all levels from within the clinical environment and throughout the organisation and the Health Service Executive. Relationship difficulties affect their clinical experience and limit their learning exposure. This was attributed to the nurses' negative attitude towards the student and reasons given were workload, short staffing and pressure on the wards to care for patient in limited time.

A number of additional themes not included in this scale were developed qualitatively, some of which were not supported in previous literature. These included 'moving wards' which is a relatively new phenomenon in Ireland and is associated with dependence on agency nursing and job insecurity. Two further themes were highlighted and were associated with the clinical environment as a place of learning. These included stress associated with 'unmet learning needs' and stress associated with 'combining academic demands with clinical nursing responsibilities'. The Nursing Stress Scale does not have particular provision for stress and stressors

associated with the clinical environment as a place of learning, which may be the reason why this was not supported quantitatively.

This study has focused on difficulties witnessed by newly qualified nurses and student nurses associated with a new education system. Cognisance of all of the difficulties on behalf of the stakeholders in nurse education may help to identify and pre-empt and manage difficulties encountered by student nurses and newly qualified nurses. Nurses must be aware of the possible consequences of the difference in power between themselves and the student nurse. It must be borne to mind, that the study only focused on the negative aspects of clinical placement, namely stress and stressors notwithstanding the many positive issues associated with nursing in the clinical arena which were only captured in the open-ended responses. It is hoped that the findings will contribute to the ongoing development and research into current education of Irish nurses in effort to produce and retain the graduate nurse that is competent, confident and hopeful about the future of Irish nursing.

Results can provide an insight for stakeholders in nursing clinical practice, nurse education and hospital administration in developing nurse education, practice and organisational workforce planning in effort to prevent, reduce or manage stress. This can lead to greater focus on stress awareness, management and prevention in the clinical environment. This will possibly lead to greater nurse satisfaction in the workplace and can influence staff retention and therefore better care in the provision of ‘A working environment where people feel valued, recognised and safe’ (Department of Health and Children, 2001 Quality and Fairness -A health system for you, p.123). Identification of the problem of stress and stressors can strive to improve

the clinical setting for these valuable members of our health service at a time when attrition in nursing is so prevalent (Muncey, 1998; Evans, 2001; Deary *et al*, 2003). While the findings of this study may not directly benefit the participants, they may indirectly benefit through the establishment of structures to support the transition of the newly qualified nurse.

Chapter 6 Limitations of the study and recommendations

6 Introduction

The findings revealed key issues that cause stress for both student nurses and newly qualified nurses, which contribute towards the identification of strategies to reduce stress and stressors within the workplace. Newly qualified nurses made a number of suggestions to prevent or manage stress in the clinical environment. This section comprises of the limitations of the study. This is followed by recommendations that were drawn from the study and integrated with recommendations from in previous literature. This is followed by recommendations for future research on this subject and concluding words.

6.1 Study limitations

Each research design has its general strengths and limitations (Watson *et al*, 2004). Limitations of the study are the restrictions or problems in a study (Burns and Grove, 2005) may compromise the generalisability of the findings. Limitations can be identified as threats to the internal or external validity of the study (Abbot and Sapsford, 1999).

6.1.1 Threats to internal validity

This refers to the "extent to which the effects that are detected in the study are a true reflection of reality rather than the result of extraneous variables" (Porter and Carter, 2000, p.30). The main threats to internal validity are:

History is an example of a possible internal threat to validity, which is described by Polit *et al* (2001) as being the occurrence of events concurrent with the study, which may independently cause stress. The disquiet expressed by nurses regarding pay and conditions in June 2007, which has received so much media attention, as outlined by the Health Service Executive (HSE, 2007; Wall, 2007) may have a confounding effect on stress levels of both groups. Also the embargo on appointment of new healthcare posts in the month preceding the study may have had a profound effect on participants who were most likely be in temporary employment or anticipating employment in the near future (HSE, 2007). But this limitation was also critical to the study, as the effects of this embargo need to be captured at this time. This not only had a possible affect on the level of stress, but also affected the distribution of questionnaires as some newly qualified nurses were working in different areas dependent on agency employment.

Effects of Selection: A matched group design would be more robust with more equivalent groups (Burns and Grove, 2005) such as ensuring student and newly qualified nurse work in the same area such as Accident and Emergency department. However this option was not chosen as there may be a recruitment drive in one clinical area which may attract newly qualified nurses which may be disproportionate to the number of fourth-year nurses in the same setting, therefore leaving the feasibility questionable. The problem with selection bias may affect the results, as this was a convenience sample. Reason for non-response is not known. The reason for participation may be due to being stressed or even a busy workload, which could add to stress. It may be the very reason why a questionnaire was not completed or for non-response. Interestingly in the UK, Harrison (2004) noted that staff were too

stressed into partake in a study on occupational stress in a healthcare facility. Paradoxically, there is evidence to account low return rate with work overload (Barr *et al*, 2008). Further evaluation in a larger sample size would be more beneficial. Because the questionnaires were sent to the hospital there is a possibility of participants completed them out together and 'group think' may affect the responses.

Instrumentation: The Nursing Stress Scale is a well-validated tool. However, given the different numbers of items in each factor, it was difficult to compare results from each factor. Some other studies that used the Nursing Stress Scale used a range from 1-4 as opposed to 0-3. This made comparison difficult with other studies. The wording of the open-ended question 'Do you have any comments or suggestions to make in relation to stress and stressors in the clinical environment' may have been leading. However, this wording was changed on the advice and conditions for access approval from one of the research ethics committee at one institution. Some written responses also included wording from the Nursing Stress Scale, thus suggesting that the scale may have led to some of the responses. There was no opportunity for the researcher to clarify the questions, nor was there an opportunity on behalf of the respondents to clarify their answers in closed-ended questionnaires such as The Nursing Stress Scale. Furthermore the dissonance between the results from this scale and the results from the open–ended question, particularly regarding relationships with other nurses exemplifies the weakness of the use of a single tool and therefore prompts further studies to incorporate mixed method and multi-instrument use. However, the return rate may be compromised if the questionnaires are too lengthy.

Subjectivity: Stress, being a subjective experience is by its nature difficult to assess. Innate variables within the participants regardless of the clinical setting may affect the outcome, for example an anxious student or nurse by nature or the responses may be affected by the workload on that particular day. Despite numerous stress scales, physiological tests and qualitative methods to explore assess and measure stress; the concept is always subject to conceptualisation by each individual. This has been explored by Haslam (2004). Studies on stress yield individualistic results making comparison between professions difficult. However, comparison of two groups in the same setting attempts to control this limitation somewhat. Non-verbal communication is lost in postal questionnaire, which may reveal pertinent information (Parahoo, 1997) and there is a tendency for superficiality in the responses (Polit *et al*, 2001). Threats such as mortality, testing and maturation would not occur owing to the once off study (LoBiondo-Wood and Haber, 2002).

6.1.2 Threats to External Validity

This refers to "the generalisability of the research findings in relation to other settings or samples" (Polit *et al*, 2001, pp194). The cross sectional, but open-ended 'once only' test may not be sufficient for credibility. The use of a number of instruments together could enhance validity of the responses and concomitantly test the validity and reliability of each tool therein. This was deliberately excluded as often-lengthy questionnaires lead to low return rate (Edwards *et al*, 2002). The open-ended question was included to address this limitation. It was anticipated at the outset to randomise the sample, however owing to the constraints relating to the Data Protection Act (Department of Justice and Law Reform, 2003); no names could be used to initiate the randomisation process. The size of returned questionnaires was predicted to be

smaller owing to the lack of personalising the information leaflet attached to the questionnaire.

Sampling was limited to a convenience sample. However, the small sampling frame left this opportunity difficult and also the gender could not be identified to ensure anonymity. It would be more representative though not feasible to randomly select. While this method obtains the maximum number of participants, this non-probability sampling technique could increase the risk of sampling bias, which would affect the representation of the findings (LoBiondo-Wood and Haber, 2002). Also, the fact that return of questionnaires were self selected the generalisability of findings could be compromised and increase the risk of bias affecting the results (Fain, 1999). Further evaluation in a larger sample size would be more beneficial with all branches of nursing included in the study. A longitudinal follow-up study of the cohort of student nurses when newly qualified would be interesting to compare findings with their previous results. Demographic data were not sought in the questionnaire because this was a requirement of the ethics committee due to concerns about anonymity. This was a limitation in this study as it meant that correlation studies to further explore some of the findings were not possible such as age, sex or amount of previous experience. Information was excluded relating to the size of hospital, type of ward, whether employed in a permanent temporary capacity or working with a nursing agency. Information associated with sociodemographic data could form the basis for addressing issues relating to stress and stressors in the clinical environment where patterns arose.

6.2 Recommendations: Stress prevention and management

Cooper and Locke (2000) assert that prevention of stress is better than cure. Stress must be considered a potential threat to the wellbeing of the person (Koslowsky, 1998), quality of patient care (Brown and Edelman, 2000), and effective running of the organisation (Le Blanc *et al*, 2005 in Chmiel, 2005). Stress management interventions in the form of supporting roles, stress management programmes and counselling services for staff could be of benefit the student and newly qualified nurse. The findings in this study have implications for nursing practice, nurse education and nurse management. This study has identified stress and stressors associated with the clinical environment in nursing. In an effort to address these stressors, recommendations will adopt the 'D-C-S Model' (Demand-Control-Support Model, Karasek and Theorell 1990) as a framework from which to manage and prevent stress. This model suggests that stress can be reduced when job demand is reduced, coupled with greater job control and social support within the workplace (Le Blanc *et al*, 2000 in Chmiel, 2000). This model closely fits with this study, despite having a number of limitations particularly given that this model is associated with all occupations. Therefore additional recommendations not included in this model will also be discussed. These will include initiatives that focus on the organisation, individual-organisation interface and on the individual (Le Blanc *et al*, 2000 in Chmiel, 2000).

6.2.1 Recommendations for demand factors

According to the D-C-S model, distress is greater when demand is too high (Le Blanc *et al*, 2000 in Chmiel, 2000). This is exemplified in this study, with the emergence of one dominant theme and which scored highly namely 'workload'. Workload was

rated highly both quantitatively and qualitatively as a stressor in the clinical environment in this study and is an echo of almost all previous studies on stress. Workload has been linked with retention difficulties nationally (McCarthy *et al*, 2002; McCarthy *et al*, 2007) and internationally (Wai Chi Tai *et al*, 1998). Recommendations include addressing this issue of excessive workload by increasing staffing levels and the assignment of non-nursing duties to non-nurses. It would be useful for nurse managers to be cognisant of this stressor when exploring service needs and allocating workload. Whenever possible non-nursing duties should be undertaken by other personnel and only undertaken by nurses as a last resort. The focus should be on ensuring that patients' needs are met holistically and this often means that nurses have to be flexible with regard to nursing duties and non-nursing tasks.

While there are obvious cost implications involved, the long-term effect may retain graduate nurses in whom four years of education and training have already been invested. It is also recommended that a measurement of workload be carried out to justify staff positions in the frontline (Department of Health and Children, 2005b). Acuity levels have been measured, though the nature of nursing makes this measurement complex and multifaceted (Hurst, 2005, 2007; Brady *et al*, 2007). Therefore it is recommended that following measurement of workload in nursing that staffing levels are increased to reduce the workload placed upon the nurse in the clinical environment.

The student nurse or newly qualified nurse may not be able to change staffing levels or workload content, though effective time management and prioritisation of

workload can greatly improve productivity at ward level. This can be facilitated through *team nursing* which involves the nursing care delivery through a team-nursing model within a ward where nursing care is planned for the span of duty and accountability is shared depending on the tasks and abilities of individual nurses. Therefore it is recommended that 'team nursing' be introduced to all clinical areas.

Excessive academic demands while on clinical placement ought to be avoided with a collaborative effort from academic staff. Therefore it is recommended that whenever possible submission dates for academic assignments should not occur within the clinical placement.

6.2.2 Recommendations for control factors

Karasek and Theorell (1990) propose that high levels of decision latitude predict high wellbeing. Enhancement of control within the clinical environment involves staff inclusion in decision-making, which is brought about through effective communication. Therefore it is recommended that both students and newly qualified nurses participate in ward meetings and strategic planning regarding education and are involvement in general decision making at ward level.

Communication can be enhanced by the development of a 'link nurse' programme where a nurse representative from each ward with an interest in student nurses education will act as an advisor to colleagues at ward level. This will ensure that each ward has a representative to keep abreast of new initiatives by An Bord Altranais and focus on proactively facilitating the learning of the student nurse and newly qualified nurse. This structured approach ensures that fellow colleagues are informed of new

events pertaining to nurse education and clinical practice with up-to-date evidenced-based practice striving to provide optimum care. Such a process is embedded in the quality improvement cycle whereby the link nurses participate in the quality circle aimed at improving the clinical environment for both student and newly qualified nurses. Therefore it is recommended that a link nurse programme aimed at improving the clinical learning environment be introduced to all hospitals.

Nurse education has undergone immense change, and preparation for the final year and supernumerary status of student nurses needs to be reviewed. This has been addressed in some way in the introduction of the internship in the final year. This has been introduced in 2005 with first year student nurses and will only be realised in 2009. However this step in preparing the final year student may also in some way address the feeling of isolation perceived by this group as internship may lead to greater participation on the team and also greater allocation of responsibility and acknowledgement of the final year. The uniform worn by final year student nurses should differentiate them from those that are more junior and clearly indicate that they are no longer considered supernumerary. Therefore it is recommended that in preparation for transition that the fourth year student nurse is identified differently from other students to highlight that this is an 'internship'.

In an effort to ease the transition, efforts to accommodate student nurses in their final year into placements in which they intend to stay when qualified could help ease the transition and be mutually beneficial to both the nurse and the organisation. The nurse will already be familiar with the environment, when qualified, therefore making the transition easier. Therefore it is recommended that the student nurse can put forward

their preference in relation to their final year clinical placement and that where possible, they remain when qualified for the first six months at least.

Newly qualified nurses have expressed concern with moving wards and having difficulty associated dependence on agency employment. In order for graduates to control their own employment conditions there is a need on behalf of health care management to provide more secure working contracts for newly qualified nurses particularly in the first six months. Therefore it is recommended that secure working contracts are given to newly qualified nurses upon qualification for at least six months and that employment is limited to a single ward rather than moving wards where possible.

6.2.3 Recommendations for support factors

Support is paramount in all occupations and is of particular importance in nursing given the interactivity between persons and the nature of the profession. An 'induction period', which received remarkable positive appraisal from newly qualified nurses in this study can provide the support for those who are newly qualified in the initial stage following graduation. The purpose of induction training is to enable the newly qualified nurse to focus on ones' own learning needs and to gradually ease into the role of staff nurse (Wangersteen *et al*, 2008,). This is supported by research overseas where supernumerary periods are established in the transition period (Gerrish, 2000). Those respondents who have experienced an induction period post-qualification have overwhelmingly endorsed this supernumerary status for the newly qualified nurse in the initial stages of their new career. **Therefore it is recommended that a structured**

induction period be provided after qualification is in all hospitals for at least six weeks.

A recurring theme identified in this study was that of lack of support for both newly qualified nurses and student nurses though the concern lay predominantly with the student nurse. The following recommendations attempt to address this issue. Preceptorship staff supporting roles are already in place (An Bord Altranais, 2005), though the role of supporting roles needs national clarification and national implementation again at a cost to the HSE. In order for nurses/preceptors to fully support student nurses with particular attention to facilitating learning at ward level, protected time is essential for qualified nurses to focus on the learning needs of the student. This will relieve the pressure on the nurse to try to focus on the needs of the patient and the needs of the student at the same time will enhance the quality of both. **Therefore it is recommended that 'protected time' be allocated to preceptors to focus on the learning needs of the student nurse.**

While the role of the clinical placement co-ordinator is pivotal in supporting the student nurse on clinical placement, support appears to be lacking for the newly qualified nurse. This has prompted a call for grater support in the initial months post-qualification. It is therefore imperative that health service provides supporting roles for qualified nurses to enhance performance and quality of care. **Therefore it is recommended that a supernumerary staff member be assigned to newly qualified nurses to facilitate learning and support staff in transition.**

Staff preparation for preceptorship is facilitated by a preparatory course on preceptorship and the role of the clinical placement coordinator is instrumental in supporting both staff nurse and student in the clinical environment (Drennan, 2002). **This needs to be further expanded to education on preceptorship on an ongoing basis.**

Respondents from the newly qualified cohort commented on the positive effect of having a 'buddy' in the first clinical placement as newly qualified. The 'buddy system' is in place in Australia (Walker *et al*, 2008). Effectively, the buddy is a registered nurse that is randomly chosen by the shift leader and assigned to a particular junior nurse or student nurse for whom to guide, support or 'shadow' during the shift. This person has no involvement with the student assessment, does not replace the preceptor, clinical placement coordinator or education facilitator. In light of the multiple comments advocating this role in the study, this role would be of great benefit to all student nurses and all newly qualified nurses. The value of this role is not only in its impartial involvement with the junior staff, but also in its deliberate exclusion from any assessment of that person. This provides an opportunity for student nurses to voice their opinion, express their ideas without fear of negative evaluation. This comes at a time when student nurses responses appeared focused on relationship difficulties with other nurses. **Therefore the introduction of an official 'buddy' system' is recommended for both student nurses and newly qualified nurses.**

Knowledge of the stress encountered by nurses both before and after qualification could inform the planners of the pre-registration programme in an effort to pre-empt

the difficulties that face nurses undertaking the degree programme in general nursing in Ireland. Clegg (2001) has endorsed the benefits of a multifaceted approach to stress management in the clinical setting. These include a transformational leadership style, occupational stress management and clinical supervision in stress management, which includes reflective practice. If stress is addressed in the final year of training, issues related to the transition may be ameliorated or prevented in adequately preparing the nurse for this transition from student to newly qualified nurse. Effective management and leadership are needed at ward level (Office of Health Management, 2005) with resulting retention of nurses, when effective ward leadership is in place (Kleinman, 2004). Clearly attention needs to continue on developing the clinical environment for both student nurse and newly qualified nurse to enhance skill, confidence and performance in nursing and to increased satisfaction in the workplace, reduce stress and retain nurses. Improved leadership and management styles serve to reduce conflict both within and beyond the profession (McVicar, 2003) by identifying the antecedent factors such as staff shortage or rapid change (Marquis and Huston, 2000). **Therefore it is recommended that management training be provided for all managers emphasising the value of transformational leadership style and that stress awareness, management and prevention is part of this training.**

This study has revealed valuable insights into the perceptions of nurses working in the clinical environment who are on both sides of the transition between student and newly qualified nurse. The findings can inform those who have the power to address these issues in effort to improve the wellbeing and retention of this precious resource at a critical period in their nursing career.

6.3 Recommendations for future research

It is recommended that repeating the study in other settings and in a larger sample size would be worthwhile to see if these conclusions can be generalised. If the sample is large enough it may be possible to include demographics in the study. A longitudinal study to follow the progress of these groups would enhance the findings. The use of more than one instrument could enhance the findings (Burns and Grove, 2005). Focus groups and other multi-method data collection methods from different hospital sites would help gain a multifaceted picture of stress and stressors in the clinical environment. This would be even more enhanced by extension of the study to different countries where different systems are in place in effort to seek the most effective way to pre-empt or prevent and effectively manage stress in this environment. Sampling could be more robust if more rigorous striated sampling was chosen (LoBiondo-Wood and Haber, 2002). Striation could take into account the number of male nurses, age distribution, and number of mature students in each group in an effort to enhance representation of sampling. This study has generated new themes that were not included in the Nursing Stress Scale. These themes could be included in a modified scale as undertaken by French *et al* (2000) and the instrument could be further developed to suit the Irish healthcare setting.

This study has revealed suggestions and interventions such as an induction period for newly qualified nurses, stress management interventions and counselling support. Yet there is a paucity of research to assess the efficacy of existing interventions. It would be beneficial to empirically evaluate the efficacy of these interventions such as induction programmes, buddy systems and stress management strategies in an effort to guide nurse education in Ireland with a firm body of knowledge in this area. The

recommendations for further research have been prompted by the acknowledgment of some of the following study limitations.

6.4 Concluding words

Despite the limitations reported above, this study has identified stress and stressors in the clinical environment as perceived by fourth-year student nurses and newly qualified nurses. The fundamental aim of this study was to explore and compare stress between two groups within a clinical environment who are on both sides of the transition from student to qualified nurse at a time when nurse education in Ireland has changed dramatically. The numerical data support the qualitative data which add to an existing body of knowledge on stress in the clinical environment and inform the relevant stakeholders in nurse education including hospital managers, nursing institutions, An Bord Altranais, nursing colleagues and nursing students where and how stress and stressors exist in the clinical environment. While findings from this study have echoed previous findings and identified similar stressors in both groups, this study has revealed differences in stressors perceived by both groups and provided insights into the perceptions of fourth-year student nurses that are relatively new given the recent introduction of the degree programme in Ireland. This needs further examination in order to facilitate the development of the graduate nurse, nurse education and nursing practice in the future. Findings may go a long way in alleviating stress and ensuring harmony within the workplace, retention valued nursing staff, which will transcend into the provision of quality care to the patient. The future of nursing depends on the nurses within. To value those people is to value the profession, to steer it forward in the provision of quality care to the people that matter most, namely the patient and their families.

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Appendix A

Information for Participants

Rockmarshall,
Jenkintown,
Dundalk,
Co Louth
Tel: 042 9376834
patriciasuresh@hotmail.com

Dear student nurse or newly qualified nurse,

I am currently a student undertaking a Research Master's Degree at Dublin City University.

The purpose of this study is to assess levels of stress in the clinical environment for nurses, both at student level and newly qualified to gain an insight as to what areas can be improved upon. You have been chosen to participate in the survey.

Your participation is voluntary and will be much appreciated. You may decline to participate without any consequence. The information collected in this research may be published but will be totally anonymous. There will be no reference to you personally or to your institution in the data collection and analysis and your identity cannot be traced. Your identity will not be revealed in any way except to identify you as either a student nurse or a newly qualified nurse by the colour of the questionnaire.

Please answer all questions and tick as appropriate in the questionnaire and respond to the open-ended question accompanying the questionnaire. It will take approximately ten minutes to complete. Please return both in the stamped and addressed envelope provided within three weeks. This research has received approval from your college and your place of employment. If you have any concerns you can contact myself at the above phone number without giving your name or location of employment to preserve anonymity. All information will be stored securely and will only be accessible to the researchers. All information will be stored securely.

By filling out this questionnaire and ticking the box at the beginning of the questionnaire, you are indicating that you have read this statement and have agreed to voluntarily participate, i.e. implied consent. If there are any queries please do not hesitate to contact me. If you want to discuss any issues raised on completion of this questionnaire, an existing counselling service, which is completely confidential, is available to you. The respective phone numbers are listed below

Thank you for your co-operation.

Yours sincerely,

_____
Patricia Suresh

Confidential Counselling Services are available from each hospital depending on where you are working

Hospital A phone number
Hospital B phone number
Hospital C phone number
Hospital D phone number
Hospital E phone number
Hospital F phone number

Appendix B

Thank-you for taking time to fill out this questionnaire.

Please take the time to fill out this questionnaire and to answer the open-ended question at the end as honestly as you can. It will take approximately ten minutes to complete.

By filling out this survey and ticking the box, you are indicating that you have read this statement and have agreed to voluntarily participate. Please Tick ☐

Nursing Stress Scale

(Adapted from Gray-Toft and Anderson, 1981a, p.641)

Below is a list of situations that commonly occur on a hospital unit. For each item indicate by means of a tick (√) how *often* on your present unit you have found the situation to be *stressful.* Your responses are strictly anonymous.

Four response categories are provided for each item:
Never (0), Occasionally (1), Frequently (2), Very frequently (3)

Item	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)
Factor i: work load				
Breakdown of the computer				
Unpredictable staffing and scheduling				
Too many non-nursing tasks required, such as clerical work				
Not enough time to provide emotional support to a patient				
Not enough time to complete all of my nursing tasks				
Not enough staff to adequately cover the unit				
Factor ii: death and dying				
Performing procedures that patients experience as painful				
Feeling helpless in the case of a patient who fails to improve				
Listening or talking to a patient about his/her approaching death				
The death of a patient				
The death of a patient with whom you developed a close relationship				
Physician not being present when a patient dies				
Watching a patient suffer				
Factor iii: inadequate preparation				
Feeling inadequately prepared to help with the emotional needs of a patient's family				
Being asked a question by a patient for which i do not have a satisfactory answer				
Feeling inadequately prepared to help with the emotional needs of a patient				

Item	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)
Factor iv: lack of staff support				
Lack of an opportunity to talk openly with other unit personnel about problems on the unit				
Lack of an opportunity to share experiences and feelings with other personnel on the unit				
Lack of an opportunity to express to other personnel on the unit my negative feelings toward patients				
Factor v: uncertainty concerning treatment				
Inadequate information from a physician regarding the medical condition of a patient				
A physician ordering what appears to be inappropriate treatment for a patient				
A physician not being present in a medical emergency				
Not knowing what a patient or a patient's family ought to be told about the patient's medical condition and its treatment				
Uncertainty regarding the operation and functioning of specialized equipment				
Factor vi: conflict with physicians				
Criticism by a physician				
Conflict with a physician				
Fear of making a mistake in treating a patient				
Disagreement concerning the treatment of a patient				
Making a decision concerning a patient when the physician is unavailable				
Factor vii: conflict with other nurses				
Conflict with a supervisor				
Floating to other units that are short-staffed				
Difficulty in working with a particular nurses (or nurses) outside the unit				
Criticism by a supervisor				
Difficulty in working with a particular nurse (or nurses) on the unit				

Thank you for your co-operation

Open-Ended question

Please take the time to answer this question. Your identity will not accompany this questionnaire.

Do you have any comments or suggestions to add relating to stress and stressors in the clinical environment?

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Appendix C

PURDUE
UNIVERSITY

DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY

December 8 2006

Patricia Suresh
Rockmarshall,
Jenkinstown, Dundalk,Co Louth
Republic of Ireland.

RE: Nursing Stress Scale

I have enclosed a copy of the Nursing Stress Scale. You have our permission to use the Nursing Stress Scale in your research. Please cite the original source in the Journal of Behavioral Assessment, Vol. 3, No. 1, 1981, pp. 11-23. Please note that six of the items were dropped on the basis of the factor analysis. I have checked the final 34 items that were included on the enclosed copy of the NSS.

Good luck. I would be most interested in receiving a copy of any of the publications that result from the research. Please call me at (765) 494-4703 if you have any questions.

Sincerely yours,

James G. Anderson, Ph.D.
Professor of Medical Sociology
Professor of Health Communication
(765) 494-4703
FAX: (765) 496-1476
e-mail: andersonj@.purdue.edu

College of Liberal Arts
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Appendix D

December 06	January 07	February 07	March 07	April 07	May 07	June 07	July 07	August 07	September 07	October 07	November 07
Granted approval to use nursing stress scale	Approval from School of Nursing Research and Ethics Committee	Approval from Directors of nursing and general managers in hospital A,B,C,D to access hospital Approval to conduct study from hospital E	Approval from Healthcare research advisory board to conduct study in hospitals A,B,C,D						Granted approval from Hospital F to distribute question-naires to clinical nurse managers in each ward	Postal question-naires sent to student and newly qualified nurses in hospital A,B,C,D.	Postal question-naire sent to student nurses. Distributed through a third party to newly qualified nurses in hospital E and F.
		Approval from higher level education institutes to conduct study on student nurses subject to conditions set out by ethics committee in each hospital site							Pilot study 5 fourth-year student nurses and 5 newly qualified nurses.		

Access and Ethical approval time scale

Appendix E

Information for Clinical Nurse Managers

Rockmarshall,
Jenkintown,
Dundalk,
Co Louth
Tel: +353 42 76834
patriciasuresh@hotmail.com

Dear Clinical Nurse Manager,

I am currently a student undertaking a Master's Degree Programme at Dublin City University.

The purpose of this study is to assess levels of stress in the clinical environment in fourth year student nurses and newly qualified to gain an insight as to what areas can be improved upon. The survey will be conducted in the Dublin/North East Region of the HSE. The survey is totally anonymous and neither ward nor hospital can be identified.

Your help will be much appreciated. You may decline without any consequence.
I am unable to obtain the names of participants in the study. Please distribute questionnaires to newly-qualified general nurses and fourth-year student general nurses on your ward. This research has received approval from (Blank)University and will not take place until it receives approval from (Blank) Ethics(Medical Research) Committee and Nursing Research Access Committee. If you have any concerns you can contact myself at the above phone number. I would be happy to meet you in person at a time of your convenience.

Thank you for your co-operation.

Yours sincerely,

_____
Patricia Suresh

Appendix F:

Audit Trail: Phase 1: Examples of open-coding.

Verbatim comments from fourth year student nurses	Coding
I believe the main stressors in the clinical environment relate to personal in many different aspects Lack/shortage of staff Conflict with staff nurses I generally having to back down no matter who is right or wrong, for the sake of maintaining adequate relationship Senior nurses having been affected by the power of their position	Personal stressors Lack/shortage of staff Conflict with staff nurses Feeling powerless Need to maintain relationship Senior nurses wield power
Shortage of staff is number one especially due to this freeze. Also lack of proper chairs and cushions for patients in order to provide the highest standard of care.	Shortage of staff Staffing embargo Lack of equipment
I feel that if the staffing levels were addressed it would get rid of some of the problems. I find that students can be given too much responsibility beyond their scope of practice	Staffing levels Given too much responsibility Beyond scope of practice
The biggest problems that I have encountered on my rostered clinical placement is not being made feel part of the team both from a social aspect when nurses exclude student colleagues and from a work aspect where nurses and other colleagues don't give me enough independence or responsibility or give me too much with no guidance	Not part of the team Not given enough independence Giving too much responsibility with no guidance Being excluded
The major stressor in the clinical environment is nursing staff unhappy in their job. A lack of interest shown by staff nurses reflects poorly on the education and help they provide to students. Often also feel unwanted within the clinical environment and staff nurses don't want to take them on as students and getting documentation signed off.	Fellow nurses being unhappy Lack of interest in students Lack of support for students Feeling unwanted Different hospital practices Seeing student documentation as a burden Hospital practices vary

Phase 2: Examples of coding condensed into categories

Codes	Categories
Lack of communication with other members of staff Lack of morale on ward Lack of positive feedback Lack of support for students Lack of support from preceptor Lack of ward meetings Lack/shortage of staff	Lack of support
Lacking time for academic work Difficulty combining academic work with clinical Difficulty combining full time work with academic demands Difficulty combining full time work with academic demands. Academic pressure impacts on work. Combining college workload with clinical	Combining academic demands with clinical placement
Feeling excluded from communication Feeling excluded from communication Feeling excluded from communication of relevant information regarding patients	Feeling excluded from communication
Staff too busy Heavy workload Heavy workload Difficulty managing workload Neglect of nursing duties and patient care Nurses are overworked Nursing care inadequate	Workload
Not being given enough responsibility High expectations of fourth year student nurses Feeling prohibited from certain duties Being placed beyond scope of practice Not given enough independence Giving too much responsibility with no guidance Given too much responsibility	Discord in allocation of responsibility
Conflict among staff Conflict with care assistants Conflict with nurses. Conflict with other nurses/ supervisors Conflict with relatives Conflict with staff nurses Conflict with staff nurses Coping with staff nurses moods Avoiding conflict	Conflict with others

Phase 3: Collation of categories into themes.

Categories	Themes
Being ignored Feeling powerless Conflict with others	Relationships with nurses
Lack of support	Lack of support
Not part of the team Feeling excluded from communication	Feeling excluded
Combining academic demands with clinical placement	Combining academic demands with clinical placement
Discord in allocation of responsibility Unmet learning needs	Unmet learning needs
Doing non-nursing duties Workload Lack of staff Unmet patients' emotional needs	Excessive workload

Appendix G: Table 11 Quantitative results in percentages

Percentage frequency for each item within each factor in nursing stress scale for newly qualified nurses and fourth year student nurses Item results displayed as percentages of respondents for clarity	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)
	Group A (n=31) Newly qualified Nurses in % of Group A				Group B (n=40) Fourth-year student nurses in % of Group B			
Factor 1: Work load Percentage score for overall factor	**6.8**	**29.5**	**31.5**	**32.6**	**11.6**	**30.4**	**37**	**20.8**
Breakdown of the computer	32	55	6	3	60	37.5	2.5	0
Unpredictable staffing and scheduling	3	32	39	26	2.5	37.5	45	15
Too many non-nursing tasks required, such as clerical work	0	22.5	32	45	2.5	22.5	47.5	27.5
Not enough time to provide emotional support to a patient	0	16	35	48	0	25	37.5	37.5
Not enough time to complete all of my nursing tasks	3	22.5	42	32	0	40	40	20
Not enough staff to adequately cover the unit	3	19	35	42	5	20	50	25
Factor 2: Death and dying Percentage score for overall factor	**12**	**47.4**	**32.2**	**8.7**	**9.2**	**45.3**	**29.5**	**11.4**
Performing procedures that patients experience as painful	6	42	48	3	10	55	35	0
Feeling helpless in the case of a patient who fails to improve	10	45	32	13	0	47.5	47.5	5
Listening or talking to a patient about his/her approaching death	13	55	26	6	15	50	25	7.5
The death of a patient	10	58	26	3	10	25	37.5	5
The death of a patient with whom you developed a close relationship	16	55	26	10	7.5	62.5	15	15
Physician not being present when a patient dies	29	35	22.5	13	17.5	42.5	12.5	27.5
Watching a patient suffer	0	42	45	13	5	35	40	20

Percentage frequency for each item within each factor in nursing stress scale for newly qualified nurses and fourth year student nurses Item results displayed as percentages of respondents for clarity	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)
Factor 3: Inadequate preparation Percentage score for overall factor	**2**	**47.3**	**42**	**8.3**	**2**	**47.3**	**42**	**8.3**
Feeling inadequately prepared to help with the emotional needs of a patient's family	0	45	42	13	0	40	37.5	22.5
Being asked a question by a patient for which i do not have a satisfactory answer	3	52	39	6	2.5	32.5	42.5	22.5
Feeling inadequately prepared to help with the emotional needs of a patient	3	45	45	6	12.5	40	30	17.5
Factor 4: Lack of staff support Percentage score for overall factor	**33.3**	**40.6**	**20.5**	**5.3**	**22.5**	**35**	**27.5**	**15**
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	26	42	22.5	10	17.5	30	35	17.5
Lack of an opportunity to share experiences and feelings with other personnel on the unit	32	35	26	6	15	37.5	30	17.5
Lack of an opportunity to express to other personnel on the unit my negative feelings toward patients	42	45	13	0	35	37.5	17.5	10
Factor 5: Uncertainty concerning treatment Percentage score for overall factor	**12.1**	**49.4**	**29.2**	**8.2**	**11.5**	**45.5**	**30.5**	**12.5**
Inadequate information from a physician regarding the medical condition of a patient	10	42	35	13	2.5	52.5	25	20
A physician ordering what appears to be inappropriate treatment for a patient	19	58	19	3	17.5	52.5	20	10
A physician not being present in a medical emergency	22.5	48	22	6	25	50	22.5	2.5
Not knowing what a patient or a patient's family ought to be told about the patient's medical condition and its treatment	3	35	48	13	5	27.5	47.5	20
Uncertainty regarding the operation and functioning of specialized equipment	6	64	22	6	7.5	45	37.5	10

Percentage frequency for each item within each factor in nursing stress scale for newly qualified nurses and fourth year student nurses Item results displayed as percentages of respondents for clarity	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)
Factor 6: Conflict with physicians Percentage score for overall factor	**20.3**	**51.4**	**19.3**	**7.6**	**32.5**	**44.5**	**17**	**6**
Criticism by a physician	32	48	13	6	57.5	30	10	2.5
Conflict with a physician	22.5	61	16	0	35	57.5	7.5	0
Fear of making a mistake in treating a patient	3	42	29	26	7.5	42.5	30	20
Disagreement concerning the treatment of a patient	19	58	22.5	0	27.5	45	22.5	5
Making a decision concerning a patient when the physician is unavailable	25	48	16	6	35	47.5	15	2.5
Factor 7: Conflict with other nurses Percentage score for overall factor	**43.6**	**26.7**	**8**	**4.8**	**35**	**30.4**	**10**	**23.7**
Conflict with a supervisor	71	22.5	6	0	47.5	35	5	10
Floating to other units that are short-staffed	48	19	16	16	70	17.5	2.5	10
Difficulty in working with a particular nurse (or nurses) outside the unit	52	32	13	3	40	40	15	2.5
Criticism by a supervisor	52	45	3	0	35	50	12.5	2.5
Difficulty in working with a particular nurse (or nurses) on the unit	39	42	10	10	17.5	40	25	17.5

Appendix H: Table 12 Frequency table for each item within each factor in Nursing Stress Scale

Frequency for each item within each factor in nursing stress scale for newly qualified nurses and fourth year student nurses	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)
Factor 1: Work load	Group A (n=31) Newly qualified Nurses				Group B (n=40) Fourth-year student nurses			
Breakdown of the computer	10	17	2	1	24	15	1	0
Unpredictable staffing and scheduling	1	10	12	8	1	15	18	6
Too many non-nursing tasks required, such as clerical work	0	7	10	14	1	9	19	11
Not enough time to provide emotional support to a patient	0	5	11	15	0	10	15	15
Not enough time to complete all of my nursing tasks	1	7	3	10	0	16	16	8
Not enough staff to adequately cover the unit	1	6	11	13	2	8	20	10
Factor 2: Death and dying								
Performing procedures that patients experience as painful	2	13	15	1	4	22	14	0
Feeling helpless in the case of a patient who fails to improve	3	14	10	4	0	19	19	2
Listening or talking to a patient about his/her approaching death	4	17	8	2	6	20	10	3
The death of a patient	3	18	8	1	4	10	15	2
The death of a patient with whom you developed a close relationship	5	17	6	3	3	25	6	6
Physician not being present when a patient dies	9	11	7	4	7	17	5	11
Watching a patient suffer	0	13	14	4	2	14	16	8

Frequency for each item within each factor in nursing stress scale for newly qualified nurses and fourth year student nurses	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)
Factor 3: Inadequate preparation								
Feeling inadequately prepared to help with the emotional needs of a patient's family	0	14	13	4	0	16	15	9
Being asked a question by a patient for which i do not have a satisfactory answer	1	16	12	2	1	13	17	9
Feeling inadequately prepared to help with the emotional needs of a patient	1	14	14	2	5	16	12	7
Factor 4: Lack of staff support								
Lack of an opportunity to talk openly with other unit personnel about problems on the unit	8	13	7	3	7	12	14	7
Lack of an opportunity to share experiences and feelings with other personnel on the unit	10	11	8	2	6	15	12	7
Lack of an opportunity to express to other personnel on the unit my negative feelings toward patients	13	14	4	0	14	15	7	14
Factor 5: Uncertainty concerning treatment								
Inadequate information from a physician regarding the medical condition of a patient	3	13	11	4	1	21	10	8
A physician ordering what appears to be inappropriate treatment for a patient	6	18	6	1	7	21	8	4
A physician not being present in a medical emergency	7	15	7	2	10	20	9	1
Not knowing what a patient or a patient's family ought to be told about the patient's medical condition and its treatment	1	11	15	4	2	11	19	8
Uncertainty regarding the operation and functioning of specialized equipment	2	20	7	2	3	18	15	4

Frequency for each item within each factor in nursing stress scale for newly qualified nurses and fourth year student nurses	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)	Never (0)	Occasionally (1)	Frequently (2)	Very frequently (3)
Factor 6: Conflict with physicians								
Criticism by a physician	10	15	4	2	23	12	4	1
Conflict with a physician	7	19	5	0	14	23	3	0
Fear of making a mistake in treating a patient	1	13	9	8	3	17	12	8
Disagreement concerning the treatment of a patient	6	18	7	0	11	18	9	2
Making a decision concerning a patient when the physician is unavailable	8	15	5	2	14	19	6	1
Factor 7: Conflict with other nurses								
Conflict with a supervisor	22	7	2	0	19	14	2	4
Floating to other units that are short-staffed	15	6	5	5	28	7	1	4
Difficulty in working with a particular nurse (or nurses) outside the unit	16	10	4	1	16	16	6	1
Criticism by a supervisor	16	14	1	0	14	20	5	1
Difficulty in working with a particular nurse (or nurses) on the unit	12	13	3	3	7	16	10	7