

**Students' academic expectations and experiences during the first
year of their undergraduate nursing programme**

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Table of contents

Students' academic expectations and experiences during the first year of their undergraduate nursing programme	i
Janice Grant	i
Table of contents	i
Figures	vii
List of Tables	viii
Appendices	xi
Acknowledgements	xii
Abbreviations	xiii
Glossary	xiv
Abstract	1
Chapter 1: Student nurse education: An overview	2
1.0 Introduction	2
1.1 Thesis aim and objectives	3
1.2 Context	3
1.3 Overview of trends in nurse education	4
1.3.1 Historical perspectives of nurse education	5
1.3.2 Nurse education: commissioning and funding	6
1.3.3 Expectations, attrition and retention	7
1.3.4 Widening participation and the recruitment of nursing students	8
1.4 Early theoretical perspectives on student attrition	9
1.4.1 Tinto's model of student integration	9
1.4.2 Bean and Metzner's model of non-traditional undergraduate student attrition	12
1.4.3 Dopfer et al's model for evolutionary economics	14
1.5 Summary	14
1.6 Overview of thesis	15
Chapter 2: A structured literature review	16
2.0 Introduction	16
2.1 Aim and objectives of the literature review	16
2.2 Review design	17
2.3. Search strategies	18
2.3.1 Inclusion criteria	18
2.3.2 Exclusion criteria	19

2.4. Synthesis of study findings	21
2.4.1 Quality appraisal	21
2.4.1.2 Detailed questions	22
2.4.1.3 Screening questions for quantitative studies (Cho et al., 1994; Timmer et al., 2003)	22
2.5 Findings of the literature review	23
2.5.1 Overview of review studies	23
2.5.2 Summary of the quality appraisal assessment	30
2.6 Synthesised findings	31
2.6.1 Micro factors associated with student nurse retention and attrition	31
2.6.1.2 Age	32
2.6.1.3 Gender	32
2.6.1.4 Entry qualifications	34
2.6.1.5 Preparedness	35
2.6.1.6 Financial hardship	37
2.6.1.7 Health issues	38
2.7 Meso factors associated with student nurse retention and attrition	38
2.7.1 Branch of nursing	39
2.7.2 Academic and/or clinical skills failure	40
2.7.3 Personal and family issues	41
2.7.4 Clinical placement experience	42
2.8 Macro factors associated with student nurse retention and attrition	43
2.8.1 Factors linked to organisational and programme issues	43
2.8.2 Effective recruitment and selection processes	44
2.8.3 Student expectations and realities of a nursing programme	45
2.8.4 Recruitment, selection and widening participation strategies	47
2.9 Discussion	48
2.9.1 First year nursing students	48
2.9.2 First year students on non-nursing courses	49
2.9.3 Issues in student retention and attrition: Similarities between general students in HE and nursing students	50
2.9.3.1 Students in HE	50
2.10 Conclusion	51
Chapter 3: Research methods	54
3.0 Introduction	54
3.1 Overall aim	54
3.1.1 Study objectives	54
3.2 Research design	55

3.3 Study setting and sample	55
3.3.1 Study Setting	55
3.3.2 Study Sample.....	56
3.4 Data Collection	57
3.4.1 Recruitment Procedure	57
3.4.1.1 Time period one	57
3.4.1.2 Time period two.....	58
3.4.2 Data Collection from institutional records.....	58
3.4.2.1 Time period three	58
3.4.2.2 Time Period Four.....	59
3.5 Instruments.....	59
3.5.1 The College Students' Expectations Questionnaire (CSXQ)	59
3.5.1.1 Background characteristics	60
3.5.1.2 Student activities	60
3.5.1.3 University environment.....	61
3.5.2 The College Students' Experience questionnaire (CSEQ).....	61
3.6 Psychometric properties of the CSXQ and the CSEQ.....	62
3.7 Pilot testing of the instruments	66
3.7.1 Cognitive debriefing	66
3.7.2 Pilot test one - sample and process.....	66
3.7.3 Pilot retest.....	68
3.8 Data analysis procedures	68
3.8.1 Descriptive statistics	68
3.8.2 Inferential statistics	69
3.8.3 Analysis of institutional data (individual and cohort completion)	71
3.9 Ethical considerations.....	71
3.9.1 Introduction.....	71
3.9.2 The risk of perceived coercion.....	72
3.9.3 The risk of breach of confidentiality	72
3.9.4 Formal ethics approval.....	73
3.10 Chapter summary	74
Chapter 4: Results.....	75
4.0 Introduction.....	75
4.1 Student characteristics	75
4.1.1 Sources of income and financial support	77
4.1.2 Accommodation	79
4.2. Comparisons between expectations and experiences (H ₀ :1).....	79

4.2.1	Expected versus reported marks	80
4.2.2	Expected vs reported study hours	82
4.2.3	Expected vs reported paid work.....	84
4.2.4	Expectations vs experiences of HE relationships - overview	85
4.2.4.1	CSXQ vs CSEQ – HE relationships – statistical analysis.....	86
4.2.5	Expectations vs experiences of the university environment.....	87
4.2.6	Expectations vs experiences of academic effort - overview	89
4.2.6.1	Statistical analysis of the CSXQ vs CSEQ - academic effort.....	91
4.3.	Comparison between characteristics of stayers and leavers (H ₀ 2)	92
4.3.1	Stay vs leave: Age	94
4.3.2	Stay vs leave: Domicile.....	95
4.3.3	Stay vs leave: Finance.....	96
4.3.4	Stay vs leave and parental academic history	97
4.3.5	Stay vs leave: Paid work.....	99
4.4	Comparison of academic effort of stayers and leavers (H ₀ 3)	100
4.4.1	Stay vs Leave: Academic effort - Descriptive Summary	100
4.4.2	Stay vs leave: Academic effort - statistical analysis	102
4.5	Comparison of social activities of stayers and leavers (H ₀ 4)	103
4.5.1	Stay vs Leave – Social integration - Descriptive summary	104
4.5.2	Stay vs Leave: Social integration - statistical analysis	105
4.5.3	Stay vs leave: University environment and relationships	106
4.6	Comparison between estimated gains and final grade (H ₀ 5).....	108
4.6.1	Descriptive summary of Estimated Gains	108
4.6.2	Statistical analysis of estimated gains vs final grade	110
4.7	Investigation of non-hypothesised areas of interest	111
4.7.1	Stay vs Leave: Search for Predictor Variables.....	111
4.7.2	Expectations and experiences of social activity	113
4.7.3	Expectations and experiences of diversity	115
4.7.4	Expectations and Experiences of Topics of discussion.....	115
4.7.5	Effect Of Age On Academic Expectation and Experience.....	116
4.7.6	Institutional data.....	118
4.7.6.1	Reasons for Leaving	118
4.7.6.2	Degree classification by expected marks	118
4.7.6.3	Degree classification by age	119
4.7.6.4	Degree classification by Entry Qualifications.....	120
4.8	Results from the five null hypotheses	121
4.9	Results from non- Hypothesised Investigations.....	123

4.9.1. Stay vs leave Issues	123
4.9.2 Social Expectation vs Experience Issues.....	123
4.9.3 Degree Classification Issues.....	123
Chapter 5: Discussion	125
5.0 Introduction.....	125
5.1 Impact of selected individual characteristics on student nurse retention and attrition	125
5.1.1 Age, expectation and experiences.....	125
5.1.2 Gender role retention and attrition	127
5.1.3 Ethnicity	128
5.1.4 Pre-entry academic qualifications	129
5.1.5 Parental academic history.....	129
5.1.6 Sources of financial support and impact on retention	130
5.2 Relationships between academic expectations, academic effort, experiences and student retention.....	132
5.2.2 Study hours and academic success.....	132
5.2.3 Living arrangements and impact on social integration	133
5.3 Reasons for leaving and characteristics of leavers in the first year	135
5.3.1 Characteristics of leavers.....	135
5.4 Expectations of perceived gains and degree attainment	136
5.5 Development of a framework for nursing student retention based on Tinto's (1997) model	137
5.6 Methodological issues impacting on the study	142
5.6 Chapter summary.....	142
Chapter 6: Conclusions and recommendations.....	144
6.0 Introduction.....	144
6.1 Limitations of the study.....	144
6.1.2 Collection of data from institutional records	146
6.2 Key Findings and their relationship to the thesis objectives	146
6.3 inter-relationships between the key findings, Dopfer et al's (2004) model and Tinto's (1997) model.....	151
6.4 Conclusions.....	153
6.5 Implications and recommendations	154
6.5.1 Recommendations for educational policy	154
6.5.2 Recommendations for educational practice.....	155
6.5.3 Recommendations for further research.....	156
References	157

Figures

Figure 1	Tinto's model of student integration	13
Figure 2	Bean and Metzner model	15
Figure 3	Flow chart of study selection process	22
Figure 4	Students' accommodation	82
Figure 5	Categorical summary of university environment emphasis	91
Figure 6	Grant's (2012) framework for nursing student retention incorporating Tinto's (1997) model	141

List of Tables

2.1	Summary of articles Included in the review	26
2..2	Micro, meso and macro factors associated with student nurse retention and attrition	33
3.1	Cronbach's Alpha coefficients and mean inter-item correlations - CSXQ	67
3.2	Cronbach's Alpha coefficients and mean inter-item correlations - CSEQ	68
4.1	Student characteristics by Branch of Study	79
4.2	Sources of Income and Financial Support by Age Group	81
4.3	Reported Marks for each Expectation Range	84
4.4	McNemar Test - Expected vs Reported Marks (Re-coded)	84
4.5	Reported Study for Each Expectation Range	86
4.6	McNemar Test - Expected vs Reported Study Hrs (Recoded)	86
4.7	Reported Paid Work for each Expectation Range	87
4.8	McNemar Test - Expected vs Reported Paid Work (Recoded)	88
4.9	CSXQ vs CSEQ - Summary of Higher Education Relationships	89
4.10	CSXQ vs CSEQ – HE Relationships - Wilcoxon Signed RanksTest	90
4.11	CSXQ vs CSEQ - University Environment Summary and Wilcoxon Signed RanksTest	91
4.12	Summary of Academic Effort CSXQ vs CSEQ	93
4.13	CSXQ vs CSEQ – Academic Effort - Wilcoxon Signed Ranks Test	95
4.14	Characteristics of Students – Stay vs Leave	97
4.15	Time Usage and Marks – Stay vs Leave	98
4.16	Crosstabulation of Persistence vs Age (re-coded)	99
4.17	Re-Coding of Student Domicile	100
4.18	Crosstabulation of Persistence vs Domicile (re-coded)	100

4.19	Crosstabulation of Persistence vs Finance (re-coded)	101
4.20	Re-coding of Parental Academic History	102
4.21	Crosstabulation of Persistence vs Parental Education (re-coded)	102
4.22	Crosstabulation of Persistence vs Paid Work (re-coded)	103
4.23	CSXQ Academic Effort Summary – Stay vs Leave	105
4.24	Mann Whitney U Test – Stay vs Leave – Expected Academic Effort	107
4.25	CSXQ Social Integration Summary – Stay vs Leave	109
4.26	Mann Whitney U Test – Stay vs Leave – Expected Social Integration	110
4.27	CSXQ Environment and Relationships Summary – Stay vs Leave	111
4.28	Mean Estimated Gains in Benefit Order	114
4.29	Mean Estimated Gains vs Final Grade	114
4.30	Summary of Total Estimated Gain vs Final Grade	115
4.31	Logistic Regression Analysis of Stay vs Leave Factors	116
4.32	Logistic Regression - Stay vs Leave – Variables in the Equation	117
4.33	Campus Social Activities Summary CSXQ vs CSEQ	118
4.34	Student Acquaintances and Discussion Topics CSXQ vs CSEQ	119
4.35	Expected And Reported Marks By Age	121
4.36	Recorded Reasons for Leaving by Age	122
4.37	Crosstabulation of Expected Marks vs Degree Classification	123
4.38	Crosstabulation of Age vs Degree Classification	123
4.39	Crosstabulation of Entry Qualification vs Degree Classification	124
5.1	Expected marks and final year course outcomes	136
6.1	Relationships between key findings and models used in this study	152

Appendices

- Appendix 1 Quality appraisal tool for qualitative papers (based on CASP) tools
- Appendix 2 Quality appraisal tool quantitative studies
- Appendix 3 College Students' Expectations Questionnaire (CSXQ)
- Appendix 4 College Students' Experiences Questionnaire (CSEQ)

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Abbreviations

CASP	Critical Appraisal Skills Programme
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CSEQ	College Students' Experience questionnaire
CSXQ	College Students' Expectations Questionnaire
CRD	Centre for Reviews and Dissemination
DH	Department of Health
DHA	District Health Authorities
BSc	Bachelor of Science degree
ENB	English National Board for Nursing and Midwifery
GCE	General Certificate of Education
HE	Higher education
HESA	Higher Education Statistics Agency
NAO	National Audit Office
NHS	National Health Service
NMC	Nursing and Midwifery Council
P2000	Project 2000
RCN	Royal College of Nursing
UCAS	Universities and Colleges Admissions Service
UK	United Kingdom
UKCC	United Kingdom Central Council for Nursing

Glossary

Attrition: leaving University prior to completion of a degree programme. Attrition will refer to either voluntary or compulsory withdrawal of a student from an undergraduate nursing programme before completion of the course of study.

Retention: Referring to students whose enrolment at the same institution continues without interruption of the period of study

Student: An undergraduate student currently enrolled on a programme of study leading to the title of registered nurse with Bachelor of Science in nursing.

Non-traditional student: A student who does not meet the standard university entrance criteria in terms of age or academic qualifications

Traditional student: A student (usually aged 18 years) who enters university directly from a Further Education College having completed advanced General Certificate of Education

Stayer: One who continues enrolment at the same institution for the duration of the programme's period of study (Tinto, 1987).

Academic Effort: Positive, formal and informal interactions between the student and the university related to degree requirements and coursework (Tinto, 1993).

Social Integration: Positive formal and informal interactions of the student with the socialisation agents of the institution, academic staff and peers (Tinto, 1993).

Background characteristics: refer to educational background, age, ethnic background, marital status, habitus and parents' previous experience of higher education (Tinto, 1993).

Abstract

The thesis examines why first year nursing students leave their programme of study and the factors that influence whether they stay or leave. A descriptive, exploratory study design was undertaken using two survey instruments, the College Students Expectations Questionnaire and the College Student Experiences Questionnaire. Data about the expectations and experiences of one cohort of nursing students were collected at the beginning and compared with experiences the end of their first year of study. Additional data obtained from institutional records.

There was a preponderance of first generation university students who entered the university through completion of an Access to Health Studies course. This group entertained similar high expectations of academic achievement to the school leavers. These expectations were not that was not matched by their experiences in the main. The most successful students being those in the 30 to 39 age group. Overall, students' degree classifications did not match their expected performance. The findings show that most students who left the programme intended to return but did not do so.

Identifying predictors of success for nursing students remains a key issue for the nursing profession. The findings indicate that although student attrition is multi-factorial, focussing on the predictors of success can overshadow the need to identify and support students who possess the potential for success if additional support is provided. The findings also underline the importance of helping students connect with their learning environment during the first year and to develop self efficacy skills early.

1.0 Introduction

This chapter presents the rationale underpinning a quantitative empirical study exploring the expectations and experiences of a cohort of students during the first year of their undergraduate nursing programme. In order to investigate the impact of expectations on the student experience, the survey was undertaken at two time periods: in the first week of the programme and at the end of the common foundation prior to students entering into their specific field of practice.

This chapter provides the background context to the student experience in nursing and higher education. The historical background of the development of nursing, tracking its integration into higher education (HE) in the United Kingdom (UK) will be outlined. Over the past twenty years, nursing education in the UK has undergone many changes. Over this same period HE in the UK has also undergone many changes, shifting from a highly selective system to one of mass education. Shifts in the nature of the HE provision have changed the context of the student decision to leave the educational arena and given greater salience to student dropout as a policy problem. These changes and their implications for student retention and dropout will be presented.

In addition, the leading social scientific approaches to understanding and explaining student dropout will be outlined. Central to the investigation undertaken in this thesis is the model developed by Tinto (1987, 1993) that emphasises 'the intricate web of reciprocal relationships which binds students to the communal life of the institution' (Tinto, 1993, p. 205). This theory is considered in detail and it becomes possible to state more clearly the aims of this thesis and to outline the plan of the thesis, chapter by chapter. A critical review of Tinto's theory is relevant because it shaped the design of the questionnaires and it is drawn upon to explain the findings.

1.1 Thesis aim and objectives

The aim of this thesis is to explore student nurses' retention, attrition and their academic expectations and experiences during the first year of their programme of study.

The specific objectives were to:

- Explore whether the expectations of first year undergraduate nursing students align with their experiences;
- Identify the similarities and differences in (a) the characteristics, (b) expectations and (c) academic experiences between students who stay and students who leave their programme of study;
- Isolate factors in relation to expectation, experience, or the mismatch between these concepts that are predictive of students completing the first year of their programme or leaving it;
- Explore possible factors that could be used to develop strategies to optimise the expectations and experience of the first year.

1.2 Context

Government health policy within the UK is driven by the need to ensure patient care is of a high quality, delivered by a workforce that can respond effectively to change and new ways of working, while ensuring value for money (Department of Health [DH], 2000, 2008). Quality improvement, innovation, and best value for money will only be achieved if health professionals have the skills and competencies necessary to deliver care that meets patients' needs and expectations (DH, 2008). Nurses make a significant contribution to the care of patients and are by far the largest professional group working within the National Health Service (NHS) (NMC, 2007). Maintaining and developing an effective nursing workforce is central to the functioning of the NHS (National Audit Office [NAO], 2001). As a consequence, nursing and nurse education continue to have a high political profile. In the current economic climate, scrutiny of spending in public sector services is inevitable. The rate of student dropout in 2010 was 27.6% (Buchan & Seccombe, 2010) and the cost of student attrition in the UK reported to be over £108 million in 2010 alone (Waters, 2010). Consequently, student nurse retention is significant both in terms of the financial implications and future workforce planning.

As a nurse lecturer, with over 20 years experience, including close involvement in student recruitment and selection, I have developed a personal interest in student retention and attrition, and appreciate that the reasons student leave nursing programmes of study are multi-factorial. A study I undertook in 2003 explored the factors that contributed to students' leaving an undergraduate nursing programme and found cycles of high and low attrition levels both nationally and internationally at regular intervals. Students who left before completing their programme of study were more likely to be younger than those who stayed (Grant, 2005). The study also highlighted that students over 20 years of age who had entered university via the widening participation initiative because they did not have the standard entry qualifications or had not undertaken any recent study were more likely to stay in the programme. These findings also supported the assumption that nursing students did not make use of university-wide student support services (Grant, 2005). Explanatory factors included a reluctance to admit the need for additional academic support, proximity of the services, and unrealistic images of nursing. This led me to question the extent to which students' expectations of a nursing course experiences predict their behaviour and their experiences. An overview of nurse education and key issues pertinent to this thesis are presented in section 1.3.

1.3 Overview of trends in nurse education

Prior to 1989 when Project 2000 commenced, the model for nursing education, with a few exceptions, was located either in or close to NHS hospitals (Burke, 2005 and Roxburgh et al., 2008). An elite group of students were trained in the few university departments of nursing but most nurses received their professional training in hospital-linked schools or colleges of nursing which maintained close links to NHS employers (Roxburgh et al., 2008). The development of a new national programme of nursing education, Project 2000, began the transition of nurse education from hospital schools of nursing to university institutes (Roxburgh et al., 2008). Prior to this only an elite group of students undertook their nurse education in universities (Roxburgh et al., 2008). This section will provide an overview of reasons for the shift of nurse education from hospital based schools of nursing to universities: the commissioning and funding of nurse education; retention, attrition and academic

success in relation to nursing programmes of study; and widening participation and the recruitment of student nurses.

1.3.1 Historical perspectives of nurse education

Prior to 1989 the dominant model for nursing education was a skills based training managed and delivered within schools of nursing which were typically located within hospitals (Burke, 2005 and Griffiths, 2010). Student nurses worked as apprentices and were funded by the NHS as hospital employees. Changes in the social, political and economic landscape during the 1980's resulted in the development of a new national programme of nursing education, 'Project 2000'. Project 2000 aimed to facilitate higher academic achievement than previously offered to nursing students, where there was greater emphasis on the integration of theory with clinical practice. Furthermore, it was intended to produce a flexible practitioner equipped to work in a variety of settings and meet projected healthcare needs in the 21st century (Magnusson & Amundson, 2003 and Ousey, 2011). The apprentice model of training was replaced by a programme that aimed to prepare nurse with the critical analytical and evaluation skills required to meet the rapidly changing health and social care needs of the population (UKCC, 1987b). The student contribution to service was 20% and students were supernumerary (Ousey, 2011). Hospital based schools of nursing had to respond quickly to changes in the delivery of nurse education and become integrated with higher education institutes (Kevern et al., 1999). Universities faced the challenge of meeting the needs of the large student numbers in nursing programmes, who were predominantly studying at diploma level (Gillett, 2010). Although Project 2000 was politically, socially, economically, and educationally desirable at the time of its inception, the supernumerary student status of nursing students, and the move of nurse education into higher education institutes, had a significant impact on the NHS workforce (Roxburgh et al., 2008). There was widespread criticism from NHS managers that students were not being prepared effectively for professional practice as a consequence of the reduction in time students spent in clinical practice (DH, 1999 and Farrand et al., 2006).

Although Project 2000 (UKCC, 1987) was the first significant and most radical change to nurse education in the UK, the late 1990s heralded a number of changes

in the education of nursing students that have superseded Project 2000. Evaluations of Project 2000 after the first wave of completions, recommendations from the Dearing Report on higher education (DoE, 1998), Making a Difference (DH,1999) and the report of the Peach Commission (UKCC, 1999) all contributed to ensuring that nurse education had closer links with the NHS and clinical practice. These modernisation reforms have been driven by both a desire to improve the professional standing of nurses within the UK and to improve the retention of student nurses and newly qualified staff. Evolutionary reforms have continued and the current challenge is the move to an all graduate profession and by 2013, all nursing curricula will be offered at degree level (NMC, 2009). The latest review of standards of nurse education are intended to better reflect the current and future changes in health care delivery and equip newly qualified nurses to work competently and flexibly across a variety of health care settings (NMC, 2010).

1.3.2 Nurse education: commissioning and funding

Integrating hospital schools of nursing into higher education institutes occurred within the context of reorganisation and change in the NHS and the introduction of purchasing consortia for nursing educational programmes (Corbett, 1998; Humphreys, 1996a and Francis & Humphreys, 1998). Prior to the implementation of Working Paper 10 in 1989, the funding of the education of nurses and allied health professionals was complex and locally managed by District Health Authorities (DHA). Funding for nurse education, although based on workforce planning, was not ring fenced and could be used, if necessary, by DHA to meet service shortfalls (Cox, 1992). Following a decade of debate, the Department of Health's (DH) policy for the contracting of non-medical education and training (NMET) was outlined in the government's Working Paper 10 document (DH, 1989a). The purpose of Working Paper 10 was to maintain the NHS workforce and ensure that contracted education places for nurse and allied health professionals were sufficient to meet local needs and prevent staff shortages.

The move into higher education provided clarity on the complexities of funding arrangements for nurse education highlighting that the two recipients of funding

were the educational institutions and the student (Francis & Humphries, 1997). The relationship between funding and student attrition has been brought into sharp economic focus as a result of the escalating costs of the NHS over the years (Waters, 2010). Current estimated cost of attrition is approximately £108 million per year resulting from wasted education fees, funded by the NHS for nursing students who left before completion of their studies (Waters, 2010). The DH proposes to review student funding in a bid to tackle attrition by working with SHAs and universities to address problems at a local level (DH, 2010). This is very timely as the burden to the taxpayer will rise dramatically as the government cap on tuition fees is removed from 2012, unless strategies are put in place to address student attrition as a matter of urgency. Reducing the attrition of students from nursing programmes is important because of the rising financial cost of pre-registration nurse training, and the need to manage public resources efficiently particularly at times of economic instability. The reforms of the National Health Service will require a new health professional who will be able to work within the new health milieu (DH, 2012). The report from the NHS Future Forum comments on the importance of selection and reduction of significant dropout rates (Moore et al., 2012).

1.3.3 Expectations, attrition and retention

Student expectations create the frame of reference for satisfaction, which occurs when expectations are fulfilled, whether these expectations are reasonable or not (Oliver, 1996 and Higgs et al., 2005). There is evidence that students who experience dissonance between expectations and experiences are more at risk from leaving their course of study (Laing et al., 2005 and Smith & Hopkins, 2005). Therefore, understanding the relationship between student expectations and attrition is important because of its link to progression, one of the indicators of HE organizational quality and effectiveness (Johnes & McNabb, 2004).

The relationship between student attrition and retention is complex; student nurses are commissioned to meet the projected workforce needs of the NHS and are central to care delivery but their education must ensure they are fit for purpose, meet professional requirements, and the academic requirements for higher education academic achievement (NMC, 2010).

Despite the implementation of different models of delivery of nurse education, the retention of nursing students both within the UK and internationally is a perennial problem and remains a cause for concern (Robshaw & Smith, 2004). In 2009, the nursing student attrition rate was calculated at 27% nationally though there were some universities that were well below this level (Waters, 2010). Concerns about high attrition from nursing programmes have resulted in a significant number of studies that has explored the reasons why students leave nursing programmes of study. A critical analysis of this body of research is presented in Chapter 2.

1.3.4 Widening participation and the recruitment of nursing students

The demographic changes in the population have resulted in a projected decline in young people to 600,000 by 2020 (DH, 2010). Widening participation has been a reasonably successful recruitment strategy for higher education establishments in the past as the number of students from diverse backgrounds has increased (Rhodes & Nevill, 2004). However, it is not sufficient that non-traditional students gain access to HE; they must also stay, progress, and successfully complete their degree programme. The challenge is that institutions may possibly have to work in new ways to minimise factors that militate against academic and social integration, thereby improving the student experience and consequently student retention (Rhodes & Nevill, 2004). The Nursing and Midwifery Council's (NMC) decision to move to an all graduate profession by 2013 (NMC, 2010) may have implications for people who previously accessed nursing programmes. In the current economic downturn, the increase in university fees may attract entrants who are more academically able or existing graduates and disadvantage applicants with non-standard qualifications (Glasper, 2010). The threat would arise if institutions increased their entry criteria as a way of filtering out the most able applicants at the expense of non-standard entrants. One critic of the NMC suggests that this potential lack of diversity may have negative implications for nursing practice, caring, and compassion (Murphy, 2009). In order to counter the criticism that highly qualified entrants may not remain by the bedside the government has developed

five widening participation models to facilitate flexible entry and exit points on pre-registration nursing programmes (DH, 2010).

1.4 Early theoretical perspectives on student attrition

Theoretical frameworks are useful to guide the development of a study because they can provide a link between existing concepts and help explain complex phenomena, such as student retention and attrition (LoBiondo-Wood & Haber, 2010 and Polit & Hungler, 1998). There are a range of theoretical frameworks and concepts that attempted to explain the multi-factorial nature of student retention and attrition. Although these frameworks are not specific to nursing students, they are likely to be relevant when considering why students' nurses leave their programmes of study and the findings of the empirical study undertaken as part of this thesis. Two theoretical frameworks that had particular relevance to this thesis are Tinto (1997) and Bean & Metzner (1985). An outline of these frameworks is now presented.

1.4.1 Tinto's model of student integration

Tinto (1987) developed a theory that explained the reason for student departure from higher education through social anthropological studies in terms of rites of passage. Such rites are characterised by separation, transition, and incorporation, which can Tinto uses these insights to facilitate understanding of the longitudinal processes of student departure from HE (Tinto, 1987). Tinto, (1975) was based Durkheim's (1951) work on suicide. Theoretical parallels between suicide and departure were drawn by Tinto, (1975) because both represent voluntary withdrawal from local communities (Wagenaar, 1988). Tinto uses Durkheim's notion of egoistic suicide, which occurs when people fail to become integrated and establish membership of local communities. Durkheim stressed the social and intellectual forms of integration necessary to reduce the rate of egoistic suicide. Tinto drew parallels between student departure, the academic and social systems of the university, the role of external communities and individual student characteristics (Tinto, 1987).

Tinto's (1987, 1993) theory of student persistence and his focus on student integration is one of the most central theoretical frameworks on which empirical research studies have been based (Metz, 2004). Tinto has acknowledged that there are limitations in his work in that the theory is based largely on traditional university students and that it does not address the experience of students from ethnic minorities or mature students (Tinto, 1993). However, there are relevant practical applications of the model, for example, Tinto (1997). He postulated that retention rates could be improved by using the model as a predictor of student persistence. While these results are useful the findings only represent one study in one institution and may not produce similar results if applied to other institutions. Research studies using Tinto's model, found little evidence that the model had practical applications in reducing actual student attrition rates (Duquette, 2000 and Torres & Solberg, 2001). However, it contributes to the understanding of it.

Criticisms of Tinto's modified model suggest that it needs to be tested on a sample of students over an entire academic year from pre-enrolment for its composition both in terms of surface variables such as age, sex, ethnicity, and deeper factors like academic proficiency, intelligence, personality and commitment to the institution and to the course (McCubbin, 2003). Calls for modification of Tinto's theory, rather than a complete replacement of it, focus on the need to address experiences of first-generation students and students who are racially and socioeconomically diverse (Steiha, 2010). There is broad agreement that Tinto's model explains the attrition/persistence process in general but some aspects of the model are more important than others to individual students. The main issue appears to be that researchers are unable to pinpoint which experiences are the most important facilitators of persistence for particular types of students. Minority ethnic groups are missing from wide inclusion in the literature, and sub-groups of non-traditional students (e.g., students over a specific age or students deemed at risk) have also been excluded from Tinto's model (Braxton et al., 2000). Other researchers appear to recognise that there are gaps in the theory and suggest that student satisfaction, students' sense of personal usefulness and stress be included in a detailed examination of the theory (Elkins et al., 2000 and Smith, 1999). The model is demonstrated in Figure 1.

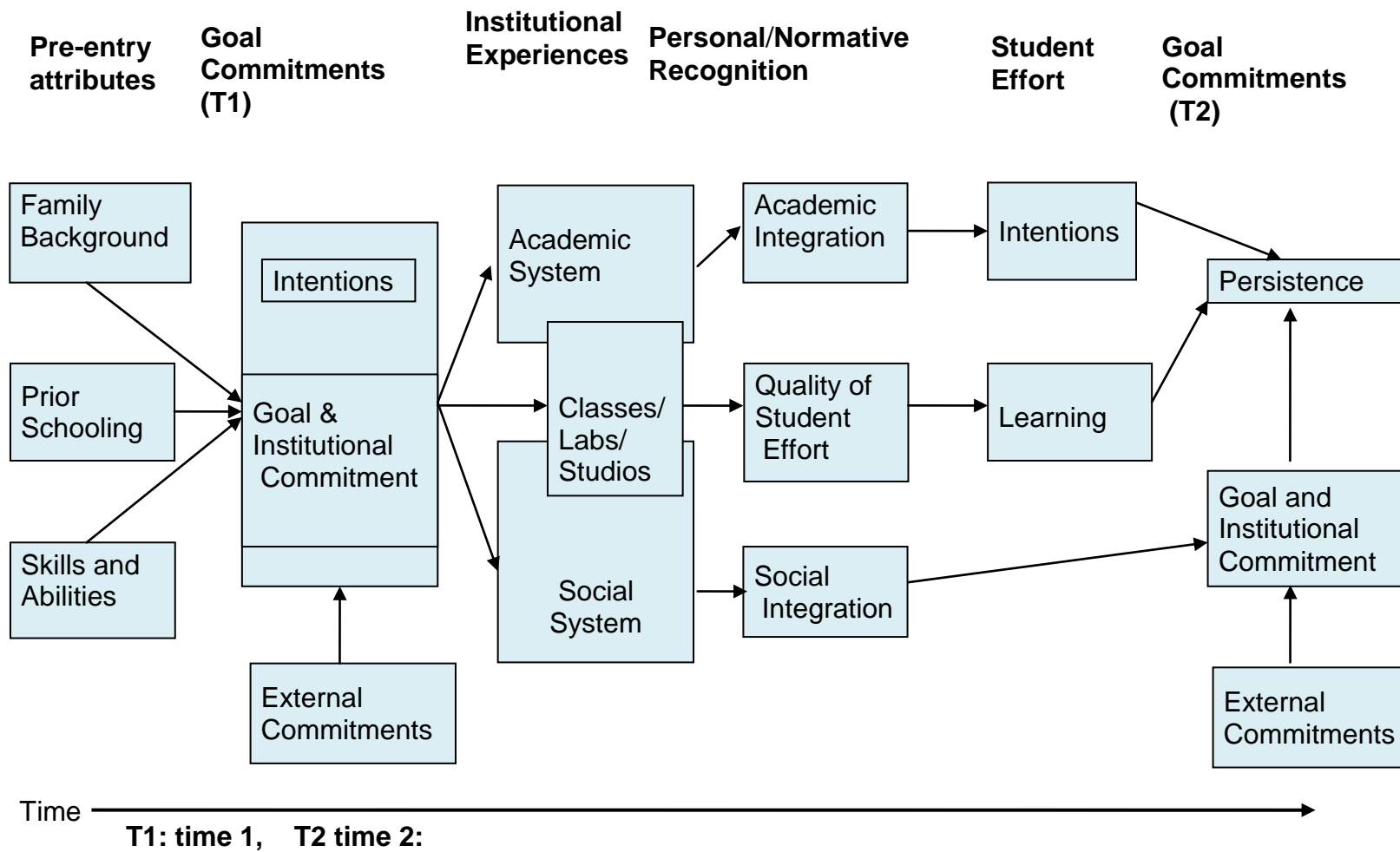


Figure 1: Tinto's model of student integration (adapted from Tinto, 1997)

1.4.2 Bean and Metzner's model of non-traditional undergraduate student attrition

This model has been included for comparison with Tinto's (1997) model as it addresses the trajectory of non-traditional students. In the Bean & Metzner (1985) model the drop-out decision for non-traditional students is based upon four sets of variables: background and defining variables, academic performance, environmental variables, and the intention to leave. The environmental variables consist of items such as finances, hours of employment, outside encouragement, family responsibilities, and opportunities to transfer-all of which are external to the university (Bean & Metzner, 1985). Students with poor academic performance drop out at higher rates than students who perform well (Bean & Metzner, 1985). The second major factor is intent to leave, which is influenced by both the psychological outcomes and the academic variables. The third group of variables that affect attrition are the background and defining variables-primarily high school performance and educational goals. These effects, however, may be mediated by other endogenous variables in the model such as environmental variables which are predicted to have substantial direct effects upon dropout decisions.

In this model, social integration variables are predicted to have only minimal effects on retention, partly due to the way non-traditional students were defined and partly because social variables from the outside environment are expected to be of greater importance than college social integration variables. In addition, other environmental variables, such as family responsibilities can play a significant role in the attrition process for non-traditional students. This model has been successfully adapted for nurse education and demonstrates the complex web of interacting factors that are implicated in whether nursing students drop out or not (Jeffreys, 2004). The Bean & Metzner (1985) conceptual model is presented in Figure 2.

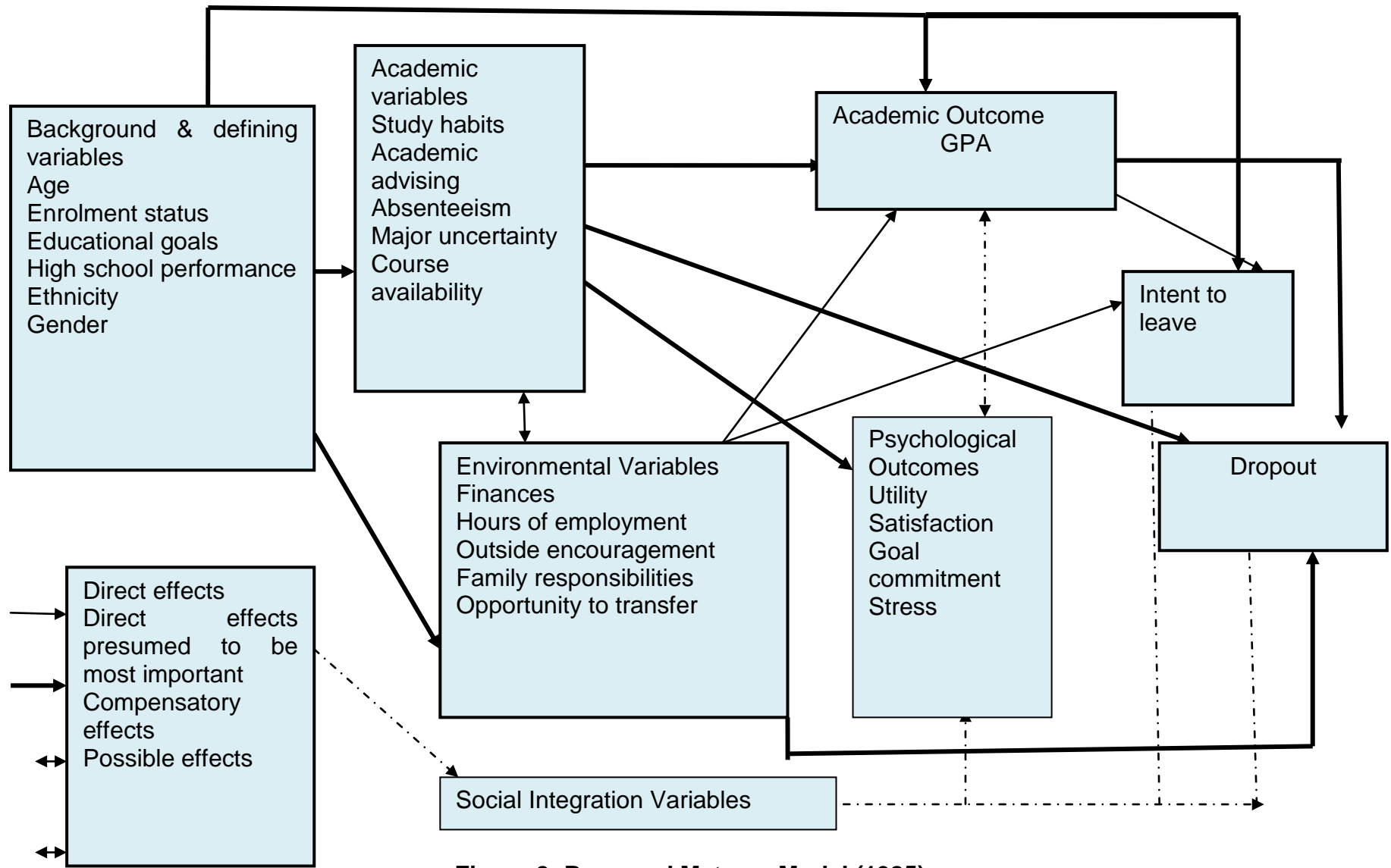


Figure 2: Bean and Metzner Model (1985)

1.4.3 Dopfer et al's model for evolutionary economics

Dopfer et al. (2004) developed a model in evolutionary economics that is divided into 'micro', 'meso' and 'macro' elements. The term 'meso' was coined in an effort to explain economic concepts. This model has been adapted for this study to represent the multi-factorial nature of student attrition and provide a framework for grouping the explanatory factors for students leaving nursing programmes of study. The factors that influence student attrition were categorised into three areas namely 'micro', 'meso' and 'macro'. 'Micro' in this context refers to factors that are individual to students such as age, gender, personality. 'Meso' refers to factors that may be related to student characteristics but may be controllable and or attributable to activities in and around the institution. 'Macro' factors in this context refer to professional requirements, university or national policy that may be influential on students' experience and persistence on their programme of study. This model does not appear to have been used in this way to categorise factors associated with student attrition but was thought to be useful in managing the plethora of factors associated with student attrition in the literature.

1.5 Summary

Studies of student persistence continue to evolve and incorporate new variables into the research reflecting the changing dynamic in higher education. Results of persistence studies suggest that influences on student departure remain multi-factorial and may originate from the student characteristics, internal factors, government or university policy. Meanwhile, the focus on internal and external accountability by consistency in all facets of higher education will continue to dominate policymakers' agendas and force personnel in higher education institutions to provide evidence of successes (student retention) and accountability for failures (student departure). Theories of student persistence such as Tinto (1993) and Bean & Metzner (1985) have proved to be useful in providing a lens through which to view student persistence. The framework of micro, meso, macro adapted from Dopfer et al.'s (2004) model from evolutionary economics will be used to categorise the literature reviewed in relation to

student attrition, presented in chapter 2. This model is useful because it provides a structure for considering the plethora of reasons why students leave nursing

1.6 Overview of thesis

This section provides an overview of this thesis. A narrative review of the literature that explored the reasons student nurses leaving their programme of study before completion is presented in chapter 2. The findings from this literature review will be used to contextualise the findings from the empirical study undertaken as part of this thesis. Chapter 3 explains the methods used to conduct of a two part survey and examination of institutional data.

In chapter 4 the data are explored using descriptive statistics and five null hypotheses are tested using inferential statistics. Chapter 5 presents a summary, critical discussion and evaluation of the findings of the study within the context of current literature and the contribution of the study to the body of knowledge on student expectations, experience, retention, attrition and the student experience. In Chapter 6, conclusions, key messages and recommendations for future research are presented.

Chapter 2: A structured literature review

2.0 Introduction

This chapter presents a review of research that has explored the reasons student nurses leaving their programme of study before completion. An initial survey of the literature undertaken in preparation for this thesis suggested that student attrition is a global issue both in higher education and in nursing. Chapter 1 provided an overview of the move of nursing into higher education and the political and professional changes that underpinned the move to full student status and nursing education to diploma and degree levels. There are ongoing concerns about student retention and attrition within nursing programmes of study for many years, with many students not completing their programmes of study both nationally and internationally (Jeffreys, 2007; Yorke & Longden, 2008 and Prymachuk et al., 2009).

In the context of the UK, understanding why students leave nursing programmes is both a political and financial necessity; insufficient nursing numbers is often associated with the failings of NHS to deliver quality care (Currie et al., 2005), and the current financial climate requires an even greater need to ensure resources are being used effectively (Carr-Hill et al., 2003 and DH, 2010). A review of the literature pertaining to nursing students' experiences, expectations, and decision to stay or leave their programme of study will enable the empirical study undertaken as part of this thesis to be contextualised.

2.1 Aim and objectives of the literature review

This review aimed to summarise and critically evaluate the literature relating to the factors that influence student nurses' decisions to stay or leave their programme of study. The specific objectives were to:

1. Categorise the reasons for student attrition in nursing programmes of study into micro, meso, and macro factors;

2. Summarise the literature pertaining to student nurse expectations of nursing programme of study;
3. Explore the reasons why student nurses choose to stay or leave their programme of study;
4. Identify gaps in current knowledge in relation to student retention and attrition.

2.2 Review design

Literature reviews are undertaken for a range of reasons, including identifying and summarising existing literature about the topic of interest that may involve synthesising research findings, assessing the quality of existing literature and to identify gaps in the literature that may assist in planning future research (Baumeister & Leary, 1997). There are two main types of literature reviews: namely, narrative and systematic review (Jones, 2004). Narrative and systematic reviews differ in their use of research methods. Narrative reviews tend to provide a summary of research in order to support an empirical study and usually report on a small selection of studies (Petticrew & Roberts, 2006). In contrast, in systematic reviews there is an extensive literature search and where appropriate synthesis of the study findings (Armitage & Keeble-Ramsay, 2009). However, narrative review needs to be as comprehensive as possible within the given constraints and undertaken in a systematic manner (Centre for Reviews and Dissemination [CRD], 2009).

A narrative design was appropriate in this review, which aims to provide a broad overview of the literature relating to student nurse retention, and will be used to contextualise findings from the empirical study undertaken as part of this thesis. In addition, narrative reviews are used widely in social scientific research because they place an emphasis on identifying the key concepts and theoretical approaches that help understanding of a phenomenon (Armitage & Keeble-Ramsay, 2009). The methods used to conduct the review were informed by guidance from the CRD methods for undertaking systematic reviews (CRD, 2009).

2.3. Search strategies

Studies were identified by searching four health and social sciences bibliographic data bases, MEDLINE, CINAHL, EMBASE, and SWETSWISE, which routinely index a wide range of subject matter (CRD 2009). The key search terms were 'student nurse', 'nursing education' 'nursing in higher education', 'Project 2000', which were combined with 'retention' or 'attrition' or 'wastage' or 'dropout'. A 10-year period, January 1999 to December 2010, was chosen because studies within this period are more likely to capture the increased research activity in the UK in relation to student retention and attrition. Furthermore, prior to 1999 it was difficult to make comparisons between nursing students and programmes before Project 2000 programmes because of the longer common foundation programme and introduction of means tested bursaries. A small number of international studies from the USA, Australia and Eire have been included in the literature review in recognition of the global nature of student attrition irrespective of the educational and cultural context.

In order to reduce sampling bias, hand searching of *Nurse Education Today*, *Journal of Nurse Education*, *Nursing Standard* and *Journal of Advanced Nursing* between 2000 and 2010 was undertaken. These journals were selected because of their relevance to nursing educational issues. In addition, grey literature which was not included in bibliographic databases was identified by searching SIGLE. Reference lists and bibliographies of key papers were also perused to identify studies not identified in database searches.

The studies considered relevant included research from both quantitative and qualitative paradigms.

2.3.1 Inclusion criteria

- Studies published in English language;
- Studies related to pre-registration student nurse attrition, dropout, wastage, discontinuation;
- Both retrospective and prospective studies;

- Studies undertaken during any stage of the programme.

2.3.2 Exclusion criteria

- Professions allied to medicine as these programmes were not comparable to nursing;
- Review articles, commentaries and individual case studies;
- Opinion articles.

The stages of identifying studies to include in the review are presented in Figure 3 (CRD, 2009). The electronic data base searches yielded a total of 356 records. The title of each record was examined to establish whether the study related to the focus of the review. Seventy titles related to the review focus; the abstracts of these papers were accessed and reviewed to establish whether the studies met the inclusion criteria. Fifty full studies were retrieved and assessed against the inclusion criteria and thirty four papers were excluded because they did not meet the inclusion criteria. One additional paper was identified from the hand search and five papers were identified from references of papers included resulting in twenty-two studies being included in the review.

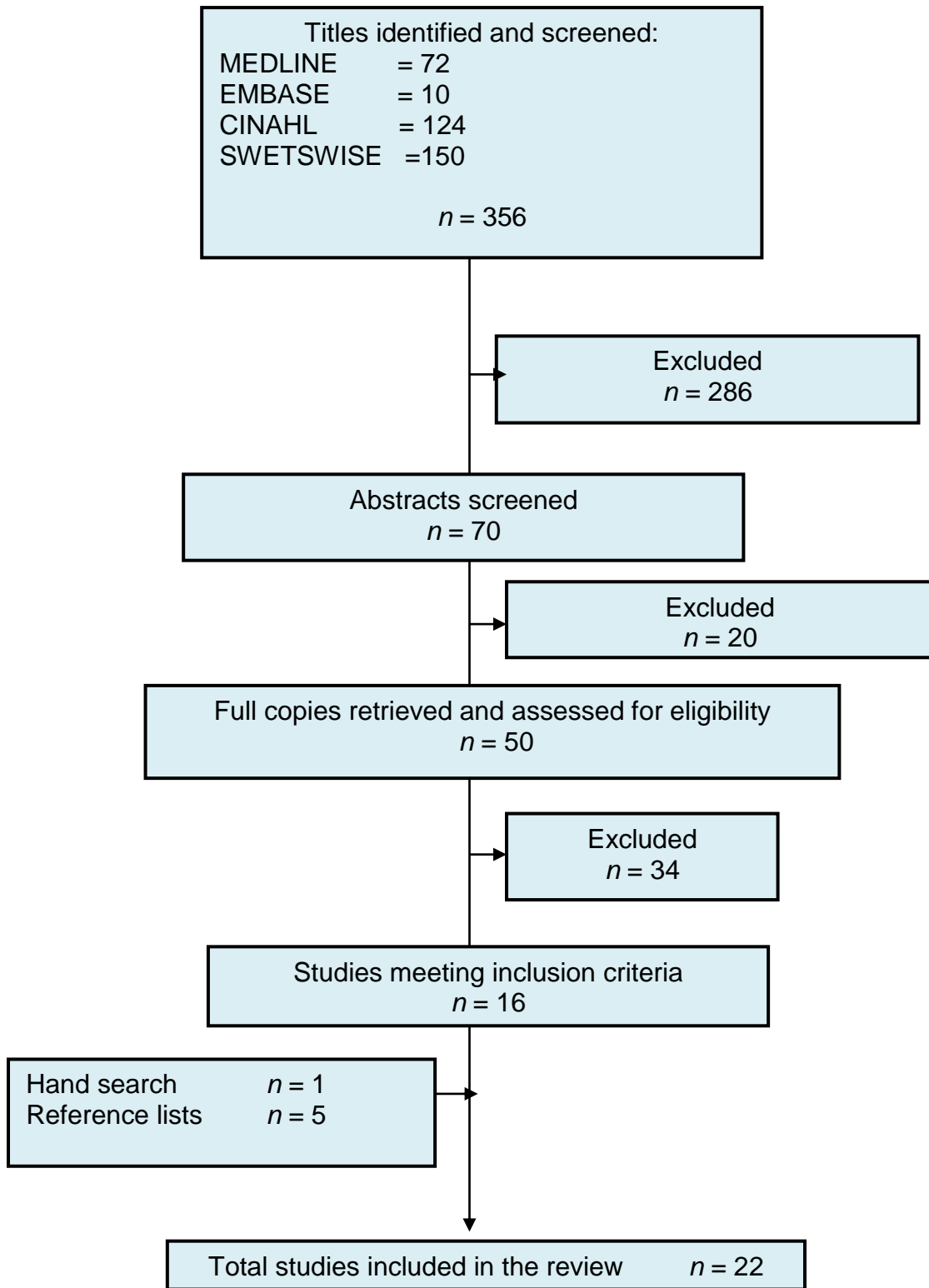


Figure 3: Flow chart of study selection process for literature review

2.4. Synthesis of study findings

Integrative analysis based on thematic analysis was used in order to incorporate the 'micro, 'meso', macro' categorisation of reasons for student attrition. Appraising the quality of evidence is central to the credibility of the review. Quality appraisal was challenging because of the diversity of included studies in terms of design and outcomes. The tools used to appraise studies are summarised below.

A meta-analysis was not considered to be appropriate because of the differences in study designs and data cohesion outcome measures of the studies selected for review.

Student attrition is multi-factorial and as outlined in Chapter 1 and has been categorised in terms of 'micro', 'meso' and 'macro' factors (Dopfer et al., 2004). In summary, 'micro' are the factors that are individual to students such as age, gender, personality'; 'meso' factors are related to student characteristics which may be controllable and/or attributable to activities driven by the institution or associated with it and 'macro' factors relate to university or national policy that may influence the student experience in the educational setting or in clinical practice. These factors are considered in relation to their bearing on the students' experience and in the context of the nursing profession. These terms were used to organise the studies included in the review in relation to the reasons why students stay on their programme of study or leave.

2.4.1 Quality appraisal

2.4.1.1 Screening questions for qualitative research (CASP 1999)

1. Were the aims clear?
2. Is qualitative methodology appropriate?
3. Is it worth continuing?

2.4.1.2 Detailed questions

4. Was the research design appropriate? To address aims?
5. Was the recruitment strategy appropriate for the aims?
6. Did the data collection procedures address the research issue?
7. Has the relationship between researcher and participants been adequately considered?
8. Have ethical issues been taken into consideration?
9. Was the data analysis sufficiently rigorous?
10. Is there a clear statement of findings?
11. How valuable is the research?

2.4.1.3 Screening questions for quantitative studies (Cho et al., 1994; Timmer et al., 2003).

1. Was the question / objective sufficiently described?
2. Study design evident & appropriate?
3. Method of subject / comparison group selection or source of information / input variable described and appropriate?
4. Subject (& comparison group, if appropriate) characteristics sufficiently described?
5. If interventional & random application was possible was it reported?
6. If interventional & blinding of investigations was possible, was it reported?
7. If interventional & blinding of subjects was possible, was it reported?
8. Outcome and (if applicable) exposure measurements well defined & robust to measurement / misclassification bias? Means of assessment reported?
9. Sample size appropriate?
10. Analytic methods described / justified?
11. Some estimate of variance is reported for the main results?
12. Controlled for confounding?
13. Results reported in sufficient detail?
14. Conclusions supported by results?

2.5 Findings of the literature review

This section presents an overview of review studies, findings from the quality appraisal assessment and the themes and categories that emerged from the data synthesis.

2.5.1 Overview of review studies

The literature reviewed originates from the United Kingdom, Ireland, the United States of America and Australia where a significant body of knowledge has emerged surrounding the attributes of students who leave and possible explanatory models for early departure from higher education institutions (Bean & Metzner, 1985; Tinto, 1987; Benda, 1991; Aber, 1996; Tinto, 1997; Astin, 1997 and Jeffrey, 1998, 2002, 2007).

The survey of the literature suggests that while a number of studies have been undertaken in the United Kingdom on student nurse attrition, very few have examined the similarities and differences between the expectations and experiences of the academic experience and their impact upon student retention. Furthermore, it is helpful to look at student retention and attrition through a multi-factorial lens that is, identifying a number of factors associated with attrition rather than any single factor responsible for students leaving (Prymachuk et al., 2009). A summary of the studies reviewed is presented in Table 2.1.

Table 2.1: Summary of articles included in the review

AUTHOR	COUNTRY OF ORIGIN	STUDY AIM	SAMPLE	METHODS	FINDINGS	Constructs of Tinto's model
Bowden (2008)	UK	To explain attrition from the point of view of students who considered leaving and students who stayed	N = 101	Mixed methods qualitative and quantitative survey	<i>Micro Factors</i> 22% of students had considered leaving the course during the programme. Academic, placement, financial and personal issues were cited as the reason for considering leaving. Main facilitators for staying on the programme were – academic and support staff, peers, friends, family, self help, personal tutors, clinical teachers and University support mechanisms.	Pre-entry attributes External commitments Goal commitment
Christie et al. (2004)	UK	To identify reasons for non-completion of nursing programmes	N = 169	Quantitative survey	<i>Micro Factors</i> Students who left felt loneliness, isolation, and had negative perceptions of university. Additional factors included personal and family issues poor choice of programme and debt.	Social integration External commitments
Donaldson et al., (2010)	UK	To gain an understanding of patterns of retention and attrition for student nurses on the Dip HE/ B.Sc. adult on completion of the common foundation programme	N = 638	Mixed methods Quantitative survey Qualitative interviews	<i>Micro Factors</i> From the characteristics noted at interview on the ISS, the most reliable predictor of success was age. Younger students needed more support and clinical placement was a source for anxiety. Age of student and content of work were better predictors of success than other variables 118 (18%) were unsuccessful and 520 (82%) were successful completers of the CFP. The total score achieved on the ISS was shown not to be a reliable predictor of success.	Pre-entry attributes Intentions Skills and abilities

AUTHOR	COUNTRY OF ORIGIN	STUDY AIM	SAMPLE	METHODS	FINDINGS	Constructs of Tinto's model
Glackin & Glackin, (1998)	Ireland	To investigate experiences of older students	N = 86	Quantitative survey	<i>Micro/Meso Factors</i> University not meeting the needs of older students. Older students fear academic failure and experienced difficulty with life sciences. Experience and maturity not recognised in practice. Students were more motivated but had financial and family issues, difficulties in adapting to the course and the speed required to learn new skills.	Academic system External commitments Pre-entry attributes Learning Social system
Glossop, (2000)	UK	To explore attrition in one school of nursing	N = 178	Qualitative interviews	<i>Micro Factors</i> Reasons for leaving- personal or family difficulties, academic, financial, health, wrong career, poor attendance, travel difficulties. Poor course organisation and negative staff attitudes accounted for very small percentages of leavers.	Learning External commitments
Jeffreys, (2007)	USA	To track students through retention pathways	N = 112	Retrospective study of academic outcomes, progression, completion and licensure	<i>Micro Factors</i> Successful students had good entry grades. Students at risk scored low grade on the first assignments, failed a module. Recommended mandatory study skills time and stress management. Other successful strategies like peer mentoring and support strategies for older students, women and minority students as they were perceived to be at risk.	Pre-entry attributes Academic integration Quality of student effort

AUTHOR	COUNTRY OF ORIGIN	STUDY AIM	SAMPLE	METHODS	FINDINGS	Constructs of Tinto's model
Kevern & Webb (1999)	UK	To identify biographical characteristics of pre registration students, role of organisational factors in retention	N = 355	Audit of institutional data	<i>Micro/Meso Factors</i> 34% of students left in the first year. Educational background and age were predictors of success. Younger students with modest qualifications did less well on theory tests. Younger students more likely to leave. Organisational and course characteristics can be influential in relation to location, type of clinical experience.	Pre-entry qualifications Prior schooling Academic system Learning
Kevern et al., (2004)	UK	To gain an understanding of mature students experiences and consider ways to meet their needs	N = 32	Qualitative focus groups	<i>Micro/Meso/Macro Factors</i> Students did not know what to expect on starting the programme. Reality shock about nursing practice. Learning the game in relation to academic study, practice placements and shift work, managing the effect of academic work on family roles, personal growth and relationships.	Goal & institutional commitment Social system Social integration External commitments
Kotecha, (2002)	UK	To explore interactions between levels of integration achieved and decision to stay	N = 30	Quantitative-questionnaire Qualitative-Interviews	<i>Meso Factors</i> Dichotomy between two discourses ; apprentice – which expected the learner to be “a compliant doer” subject to the rules in practice; autonomous discourse- full academic integration into higher education with self direction, reflection, assertion and knowledgeable doer.	Social system Academic system Academic integration Social integration
Last & Fulbrook, (2003)	UK	To explore why students leave pre registration programme	N = 47	Mixed methods Interviews Focus group Delphi study	<i>Meso Factors</i> Reasons for student leaving were varied but too much emphasis on academic work, insufficient clinical skills teaching, lack of confidence and knowledge in practical nursing. Students needed more guidance and structure in the first year. Large class numbers were inhibitors, academic work stressful and caused feelings of overload. Poor clinical experiences and lack of support in practice were significant. Financial problems, travelling and unmet expectations were implicated in withdrawal.	Quality of student effort Academic system Skills and abilities Social system External commitments

AUTHOR	COUNTRY OF ORIGIN	STUDY AIM	SAMPLE	METHODS	FINDINGS	Constructs of Tinto's model
Lowe & Cook, (2002)	UK	To elicit expectations of pre-enrolment first year students of social & academic expectations of university	N = 16,000	Quantitative	<i>Meso Factors</i> Most students managed the transition to university without difficulty. 20-30% constantly experienced academic and personal problems and university was a negative experience. Disengagement was due to inaccurate prior perceptions.	Academic system Academic integration Goal commitments
McCarey et al., (2007)	UK	To explore the predictive relationship between entry qualifications, age, gender, attendance and academic performance	N = 154	Mixed methods Audit of institutional data Qualitative interviews	<i>Micro Factors</i> Students with higher academic entry qualifications and aged over 26 performed better academically than younger students. Year one academic performance predicted performance in year 3. High absenteeism correlated with poor academic achievement.	Pre-entry attributes Quality of student effort Academic integration Intentions
McLaughlin et al., (2008)	UK	To examine the role of personality and self efficacy in predicting academic performance & student attrition	N = 384	Quantitative – longitudinal survey questionnaires at the beginning of 1 st year and end of 3 rd year	<i>Micro / Meso Factors</i> Students who were introverted had a better chance of achieving higher marks in assessments. Students with higher self efficacy beliefs were more likely to complete their studies.	Pre-entry attributes Persistence Learning
Mooney et al., (2008)	Eire	To identify why mature students choose nursing as a career. To determine what factors influence this decision	N = 23	Qualitative – focus group interviews	<i>Meso Factors</i> Participants identified an intrinsic need to care as the primary reason for choosing nursing as a career. For 30% nursing was not their first choice. Family, friends and society influential in the recruitment process. The media was not an influencing factor.	Pre-entry attributes Intentions

AUTHOR	COUNTRY OF ORIGIN	STUDY AIM	SAMPLE	METHODS	FINDINGS	Constructs of Tinto's model
Moseley & Mead, (2008)	UK	To predict which students drop out of nursing courses	N = 528	Quantitative analysis of student records	<i>Micro Factors</i> Age, gender, entry qualifications, branch and performance were used to predict dropout with reasonable accuracy.	Pre-entry attributes
O'Brien et al., (2009)	Dublin	To explore experiences of mature students To examine gender differences in types & extent of experiences	N = 115	Qualitative focus groups	<i>Micro/Meso Factors</i> Mature women students found it difficult to adjust to full time study. Supported by partners if they adhered to gender roles. Balancing home and university was a constant juggling act for students with children and the dual roles of parent and student caused role strain. Essay writing, study skills, time management and support would have been helpful.	External commitments Skills and attributes Academic system
O'Donnell, (2009)	UK	To identify reasons for voluntary attrition in pre-registration nursing students	N = 15	Qualitative interviews	<i>Micro Factors</i> Students who leave nursing undergo a process of disengagement before leaving. Non-attendance may be an early warning. Former students experienced significant pain and emotional distress prior to leaving but did not make their tutors aware of their distress.	Academic integration Social integration

AUTHOR	COUNTRY OF ORIGIN	STUDY AIM	SAMPLE	METHODS	FINDINGS	Constructs of Tinto's model
Ofori (2000)	UK	To compare entry qualifications as predictors of performance	N = 222	Quantitative survey	Micro Factors Academic entry qualifications made no difference to assessment outcomes. Students over 34 years of age performed better than younger students despite non-standard entry criteria	Pre-entry attributes
Pryjmachuk et al.,(2009)	UK	To identify factors having an impact on student completion rates in a pre-registration students	N = 1259 students	Quantitative retrospective analysis of course data	Micro Factors Mature students with higher entry qualifications were most likely to successfully complete their programme. Leavers were younger, had basic qualifications were likely to be from the child branch and from an ethnic minority.	Pre-entry attributes
Stott, (2007)	Australia	To investigate reasons for male student attrition	N = 8 male students	Qualitative Diary record analysis	Meso Factors Students felt isolated and excluded in both academic and clinical environments. Preference for more technical aspects of nursing.	Social integration Academic integration Intentions
Wharrad et al., (2003)	UK	To determine relationship between academic outcomes and pre-entry qualifications To discuss progress of students different qualifications	N = 181	Quantitative Institutional data analysis	Micro Factors Pre-entry qualifications predicted success. AS levels may be a better indicator of performance because choice was wider. Students with non-conventional qualifications achieved lower marks and higher attrition rates.	Pre-entry attributes
White et al., (1999)	UK	To compare perceived and actual reasons for leaving	N = 315	Quantitative Survey 1. Satisfaction survey 2. Exit questionnaires	Micro Factors Reasons for leaving included 53% personal, 39% academic reasons. More male students left than female. Reasons included course related problems such as lack of organisation, too high an academic level and too much work were identified as contributing factors to leaving. These reasons were not identified in the satisfaction study	Academic system Social system

2.5.2 Summary of the quality appraisal assessment

The studies included in this review used a range of methods to address the reasons why student nurses leave nursing. Some studies used quantitative approaches and age, gender, attrition, and qualifications were found to be statistically significant (Kevern et al., 2004; Mulholland et al., 2008; Pryjmachuk et al., 2009 and McLaughlin et al., 2010). Where studies did not provide data on statistical significance, the findings were included as they offered insights into explanatory reasons for student retention and attrition and suggest areas for future research. All of the studies focused on pre-registration nursing students with the exception of Christie et al. (2004) which relates to higher education students in general and used a stratified sample of students.

Several limitations of study methods were identified such as small sample size (Spouse, 2000; Stott 2007; O'Brien et al., 2008 and O'Donnell, 2009); incomplete routinely collected data (Kevern et al., 1999; Glossop, 2002; McCarey et al., 2006; Mulholland et al., 2008 and Pryjmachuk et al., 2009). The studies primarily used either convenience sampling or documentary analysis, and the validity of data for these studies could not be established. Where exit interviews were conducted or questionnaires used, the number of students who completed them were small (Last & Fulbrook, 2003). Response rates to invitations to participate in retention research were also poor (Pryjmachuk et al., 2009), and most of the studies were conducted in single institutions, which reduced the ability to generalise the findings to other institutions. However, despite differences in institutions and populations of students there were a number of common threads that ran between studies which suggested that they measuring similar constructs among similar populations.

There were methodological problems such as how attrition was categorised (Cameron et al., 2010). However, this did not detract from the utility of the paper as the research provided helpful insights into why students leave nursing and the categories used by can be tested by other studies.

In other studies, omission of explanations for missing data concerning participants in the studies was a drawback in terms of drawing conclusions from studies such as Glossop (2002) and Prymachuk et al., (2009).

The quality appraisal tools are presented in Appendix I.

2.6 Synthesised findings

A range of factors were identified that appear to influence student nurses retention and attrition from their programme of study. These have been grouped into ‘micro’, ‘meso’ and ‘macro’ factors. The factors and associated categories, presented in Table 2.2, will now be described.

Table 2.2: Micro, meso and macro factors associated with student nurse retention and attrition

MICRO FACTORS	MESO FACTORS	MACRO FACTORS
Preparedness	Branch of nursing	Inter-organizational
Age	Academic/clinical skills	working relationships
Gender	failure	Recruitment and
Academic background	Academic support	selection
Financial hardship	Clinical placement	Widening participation
	experience	
	Student support	

2.6.1 Micro factors associated with student nurse retention and attrition

Micro factors are personal to the student such as personal characteristics, personal or family reasons, wrong choice of career, academic failure, financial problems, ill health, and preparedness.

2.6.1.2 Age

The review studies varied in relation to age as a factor that contributed to student attrition. Some studies reported no correlation between age and attrition (White et al., 1999; Kevern et al., 1999 and Pryjmachuk et al., 2009). In contrast, other studies report a correlation between age and attrition, with students over 24 years of age more likely to leave nursing courses (Deary et al., 2003 and McLaughlin et al., 2008). McLaughlin et al. (2008) found that in a sample comprised of similar numbers for each age range, students under the age of 26 were more likely to withdraw. The greater number of students who withdrew in this group may have been related to the composition of the group as most of the participants came from this age range. Age was found to be statistically significant for students under the age of 21 (McLaughlin et al., 2010). Recent studies have indicated that age was a better predictor of student success than other variables in determining student success which is a more positive emphasis on retention than attrition (Moseley & Mead, 2008; Donaldson et al., 2010).

2.6.1.3 Gender

Seven studies from the United Kingdom found that being male was a contributory factor for student attrition (Kevern et al., 1999; White et al., 1999; Jeffreys, 2007; Stott, 2007; Mulholland et al., 2008; Pryjmachuk et al., 2009 and McLaughlin et al., 2010). Males were more likely than females to leave their programme as a result of poor academic performance (Pryjmachuk et al., 2009) and were also more likely to leave their programme before completion, for non academic reasons (McLaughlin et al., 2008). Some studies found that the decision to leave, although associated with gender, was the result of differing expectations and failure to meet individual learning needs (McLaughlin et al., 2008). The inclusion of the specific learning needs referred to would have enhanced the study and is an area for possible further study. It was also reported in one Australian study that male students also felt isolated and excluded in both the academic and clinical environments and this was a contributory factor to them leaving their programme (Stott, 2007). However, no definitive explanation was found for males leaving nursing programmes that set them apart from female students and two studies reached the conclusion that leaving the course early was not gender specific in nursing (White et al., 1999 and Kevern et al., 1999).

Nevertheless, gender role identity and the female dominance of nursing may be an issue related to whether students stay on their course or withdraw before completion of the programme. For female students in particular, balancing home life and university was seen as a constant juggling act for students with children, causing role strain and divided loyalties between home and the programme (O'Brien et al., 2009). Furthermore, as women are still seen as natural carers, in order to participate in higher education, other studies indicate that women were need to adopt a number of coping strategies and support systems for management of both their academic workload and their domestic role in order to continue their studies (Kevern & Webb, 2004). The duality of roles and the accompanying stresses may contribute to the number of women who do not complete their studies (Andrew et al., 2007 and Mulholland et al., 2008). However, missing data relating to the total numbers of both males and females leaving nursing was a limiting factor in making cross study comparisons.

Greater numbers of women leaving nursing programmes is indicative of the proportionate difference between the numbers of both sexes recruited into nurse education. Jeffreys (2007) encountered this disparity when making comparisons between men and women in relation to either retention and/or attrition and she concluded that gender and its relationship to attrition was equivocal. Similar conclusions emerged from another study where no statistical significance was found when comparisons were made using gender versus completion or non-completion alone (Prymachuk et al., 2009). However, when comparisons were made between completion categories (which encompassed completed on time or late, did not complete, resigned, removed) a statistically significant number of men were shown to have been removed from the programme in comparison with women.

There does not appear to be a clear indication of how many male students left as a result of academic failure alone or whether there was a relationship between academic failure, leaving and failure of the institution to meet students' learning needs (McLaughlin et al., 2008).

Gender was a significant factor in relation to attrition, with male students more likely to leave nurse training than female students. This finding was congruent with those

of Mulholland et al., (2008) who also found that men were less likely to complete their course. As the number of women outweigh the number of men in nursing, when considering the attrition rates in relation to gender the percentage differences for each gender recruited must be taken into account.

2.6.1.4 Entry qualifications

Across studies students' entry qualifications were diverse and there were conflicting findings in relation to academic entry qualifications as some studies found that entry criteria made no difference to assessment outcomes, students with non-standard entry qualifications performed better than younger counterparts while students under 21 were more likely to experience academic failure (Ofori, 2000). The majority of diploma students entered their programme with the minimum entry requirements of five GCSE passes at Grade C and above. Furthermore, a significant proportion of students entered their pre-registration nurse education programme with either a BTEC or Access course qualification (Kevern et al., 1999; Mulholland et al., 2008 and McLaughlin et al., 2008). Students with minimum entry qualifications were more likely to drop out of university (Kevern et al., 1999; Wharrad, 2003; Mulholland et al., 2008; McLaughlin et al., 2008 and Pryjmachuk et al., 2009).

Across research studies, the majority of the respondents who entered with two 'A' levels completed the common foundation programme (McCarey et al., 2007). In this study, the association between academic attainment and completion of the common foundation programme was not statistically significant. However, this may have been attributable to the omission of data relating to the impact of entry via the Dennis Child Test (DC test) on the results, would have enriched the findings. Nevertheless, it would not have enhanced the generalisability of the findings, as the DC Test is a UK specific test for those non standard entrants over the age of 21 years, who do not have the required entry requirements.

The high levels of completion noted within those with 'A' levels is possibly resulting from the higher number of participants entering nurse training with this qualification. Pryjmachuk et al., (2009) concluded that entry qualifications have a small but

statistically significant effect when predicting completion. Furthermore, a higher incidence of attrition was associated with GCSEs as entry qualifications may also be related to age as students with these qualifications are usually school leavers and are therefore the youngest entrants.

The findings of this review indicated that academic entry qualifications were a statistically significant factor in attrition and four studies have associated a high incidence of student attrition with lower entry qualifications of GCSEs, BTEC and access to higher education courses. These findings are congruent with earlier research by the DH (2006 no author) where the findings indicated that those students who entered with GCSE's were 20% more likely to leave than those with A level GCEs.

2.6.1.5 Preparedness

In order to maximise their experience of the HE environment and gain some satisfaction from them, students need to be both motivated and have some idea about the institution, what they expect and what is expected of them. Preparedness is not simply a question of knowledge and understanding of university life, but it is also related to adjustment or the process by which students make the social, academic, emotional, and geographic changes necessary for them to become familiar with the HE environment and the expectations of the university (Harvey et al., 2006).

Several studies examining preparedness of students entering university have concluded that lack of preparation for HE was associated with unrealistic expectations of university life and implicated in disengagement from the educational aspects of it. Lack of preparedness was manifested by a lack of understanding of the workload required, the parameters of independent learning which led to students subsequently withdrawing from their course of study (Ozga & Sukhnandan, 1998; Lowe & Cooke, 2003; Fitzgibbon & Prior, 2006 and Ramsden, 2008). A study by the National Audit Office involving 12 higher education institutions found that lack of preparedness and poor integration were implicated in student withdrawal (National Audit Office [NAO], 2007). A survey of 7,000 first-year students in 23 higher

educational institutions identified that lack of preparation related to poor information about their course or institution, financial concerns and the social aspects of higher education and was a significant factor in relation to whether students considered withdrawing from their programme (Yorke & Longden, 2008). Lack of preparedness was found to be associated with students having little or no information relating to the course and or the institution (Yorke & Longden, 2008 and Andrew et al., 2008)

A salient feature across studies that impacted upon students considering nursing was a lack of preparedness for their chosen course which in many cases was related to a lack of appreciation of the academic content of the programme and impact of the programme on their domestic arrangements (Glackin & Glackin, 2008). Students who left in the first six weeks of the course recognised their lack of preparation for university which engendered feelings of disappointment in themselves, the course and their inability to juggle their roles external to the university (Andrew et al., 2008). Students who left later in the first year would have preferred to stay on their programme but felt they had reached crisis point; they felt unable to cope with their life events and feared academic failure (Andrew et al., 2008).

Lack of preparedness to undertake nursing course is not confined to the university experience and it may be linked to a number of issues. For example, the findings of a study of 110 third-year students indicated that students experienced stress both in the academic and practice placement arenas. Financial and academic related issues were identified as the most stressful for the students in the study (Timmins & Kaliszer, 2002).

In the literature, students leave their programme of study for a number of reasons, including family difficulties, academic failure, financial problems, wrong choice of career, and travel difficulties (Glossop (2002). These factors suggest that students may not have considered or been suitably prepared for their nursing experiences. The majority of the nursing students, in the same study, who left their programme did so in the first twelve months but students continued to leave throughout their programme of study (Glossop, 2002). Many respondents in the same study cited at least two reasons for leaving their programme of study while other students gave no particular reason for their departure (Glossop, 2002).

2.6.1.6 Financial hardship

Across studies, financial difficulty emerged as an important factor that was influential in students' intentions to stay on their programme (White et al., 1999; Finlayson et al., 2002; Glossop 2002; Christie et al., 2004; RCN, 2008; Andrew et al. 2008; Green & Baird 2009 and Griffin et al., 2009). However, low response rates and non-return of questionnaires limited the data related to all those who discontinued their studies. However, comparisons cannot be made as a result of differences in the composition of the samples within both studies (midwifery, adult, child, mental health, and learning difficulties). The provision of ordinal data would have enhanced understanding and allowed for possible transferability of the findings.

In one Australian programme of study, students who left were all engaged in paid part time employment (Andrew et al. 2008). However, in the Australian context, where this study was located, all students were self-funding so it is perhaps not surprising that leavers were in paid employment. Furthermore, even if students do not leave as a result of financial difficulties, other research in Australia has shown that there is a negative relationship between engaging in paid work and academic performance (Salamanson, 2011). It is difficult to make comparisons between studies by Andrew et al. (2008), Glossop 2002, White et al. 1999 and Green & Baird (2009), as currently all student nurses within the United Kingdom, benefit from paid university course fees funded by the National Health Service and in addition receive a bursary (means tested for students undertaking undergraduate nursing degrees). Despite students having a non-means tested bursary on the diploma programme, many students still undertook paid work to meet their living expenses, and resolve financial difficulties. Problems often arose as a result of delays in payment of bursaries and/or student loans (Christie et al., 2004 and McCarey et al., 2007). Furthermore, having received financial support, students needed to have the management skills to ensure that they had sufficient funds to keep afloat between bursary payments. However, financial problems are not a new development for nursing students; even when student nurses were part of the workforce and salaried, financial difficulties were still found to be contributing factors to student non-completion (Lewis, 1980; Lindop, 1987 and Price Waterhouse, 1988). Furthermore, while financial difficulties may arise as a result of inexperience with money or the

rising costs of living within the university catchment area, mature students may have left paid employment in order to undertake a nursing (Waters, 2010).

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2.6.1.7 Health issues

A number of studies identified ill health as a contributory factor to student attrition and the emphasis on health as a reason for leaving varied across studies; ranging from one percent to 12% (White et al., 1999; Kevern et al., 1999 and Glossop 2002). Coincidentally, similar percentages of students left their programme for financial reasons but it is unclear whether there was any relationship between financial difficulty and ill health. The possibility of the interrelationship between both factors is very real as limited funds may contribute to poor diet, stress and associated mental health problems. In an Australian study, the deleterious effects of financial hardship were demonstrated by a small number of study participants who were suffering from both depression and malnutrition (Andrew et al., 2008). In addition, students attempting to cope with the demands of their course and ill health concurrently could not meet both challenges and left citing ill health as the reason for their departure (Green and Baird 2009). Although illness is not generally perceived as a major problem in student nurse attrition, it has been identified as a contributory factor for students leaving their programme of study before completion (DH, 2006). Furthermore, regardless of the significance of ill health as a catalyst for student attrition, greater understanding of the part played by the interactions between illness and persistence; particularly those related to stress and mental well being, is necessary.

2.7 Meso factors associated with student nurse retention and attrition

'Meso' refers to factors that may be related to student characteristics but may be controllable and or attributable to activities in and around the institution such as branch of nursing, academic support strategies, clinical placement experience.

2.7.1 Branch of nursing

There were conflicting findings among the review studies in relation to the impact of branch choice on attrition from nursing programmes. Whereby some studies found significant similarities and differences between branches in terms of attrition rates while others did not. Higher attrition rates were associated with the mental health and child health branches (White et al., 1999; Prymachuk et al., 2009) and a particularly high rate of attrition within the learning disabilities branch (Glossop, 2002). The possible explanations for these findings may have been either because nursing programmes placed more emphasis on the adult branch, related to the dissatisfaction of students in other branches or may have been attributable to the younger age of students entering the child branch. The higher rate of attrition in the learning disabilities branch may have resulted from students choosing this branch of nursing tactically in anticipation of transferring to the adult branch when opportunities to change branch arose at the end of the common foundation programme. Alternatively, attrition may have been as a result of students selecting the wrong branch initially, either by personal choice or lack of awareness of the demands of the demands of the field of practice prior to starting (Owen & Standen, 2007).

In addition to branch choice, studies reviewed also highlighted that attrition declined once students entered the branch programme, that is, after students had completed a third of the programme (Kevern et al., 1999). These findings were not replicated congruent with the findings of another study which found similarities in attrition rates between the three main branches of nursing; child branch, mental health and adult branch (Mulholland et al., 2008).

This review has highlighted that the incidence of attrition is higher in the child branch, which may point to the younger age of students undertaking the child branch of nursing (Buchan & Seccombe, 2005; DH 2006 and Shepherd, 2008).

2.7.2 Academic and/or clinical skills failure

A number of studies have cited academic failure as a reason for students leaving their programme of study (Kevern et al., 1999; White et al., 1999; Glossop, 2002; Andrew et al., 2008; Pryjmachuk et al., 2008 and Donaldson et al., 2010). Differences in academic performance were highlighted between diploma and degree students in that higher proportions of students left for academic reasons on the diploma programme than did on the nursing degree (White et al., 1999). Other factors associated with academic failure included difficulties with examinations and lack of interest (Kevern et al., 1999 and Fulbrook et al., 2000), external commitments and lack of preparation for examinations which detracted from students' focus on their academic work (White et al., 1999). In contrast, other studies found that academic failure was not a significant explanatory factor in student attrition (Jeffreys, 2007); but students who left cited personal reasons included inability to cope with course work (Green & Baird, 2009). In addition, one study highlighted that students left because they pre-empted failure and left before this could be confirmed (Andrew et al., 2008).

Across the studies reviewed there was a distinction between students who left the course of their own volition and those who were asked to leave by the institution. Where students were asked to leave by their university, male students were asked to leave more frequently than females and lower numbers of leavers came from the child branch (White et al., 1999; Pryjmachuk et al., 2009). It is unclear whether removal from the programme resulted from disciplinary issues, academic or clinical skills failure.

A number of studies have attempted to establish whether academic or clinical skills failure is a causative factor in attrition. It appears that academic failure (including examination failure) does contribute to student attrition. However, a lack of sufficient data prevents clarity as to whether the reason for this is solely academic or a combination of both academic and clinical practice issues.

The above findings are supported by one study which reported that 25% of nursing student attrition resulted from both academic and clinical skills failure (NAO, 2001).

However, there was wide variation in the percentages of students who indicated that either academic or clinical skills failure was the reason for leaving, which indicates that further research, is advocated in this area.

2.7.3 Personal and family issues

Across studies, one of the most frequently cited contributing reasons for student withdrawal was personal and or family problems (White et al., 1999; Glossop, 2002 and Donaldson et al., 2010). Child branch students were less likely to cite personal reasons for leaving their course, but this may be related to the lower number of recruits to the child branch and the younger age of those participants (DH, 2006, Pryjmachuk et al., 2009 and Donaldson et al., 2010).

Mature students in particular found it difficult to adjust their work life balance to enable them to continue their programme of study (Andrew et al., 2008 and Green & Baird, 2009). The following extract represents an example of students' comments:

'the whole family was whinging. I didn't have time for the kids and that was all..I'm not spending time with my children, I was always studying, that was the my main reason for leaving' (Andrew et al., 2008 p.869)

Regardless of programme or branch of nursing the studies within this review identified personal circumstances including family commitments as contributing factors. The National Audit Report (2001) supports this, indicating that personal circumstances account for 27.8% of the overall attrition, within their study.

Many students who leave cite personal reasons, however, several studies have identified that the issue may be perceived lack of institutional support rather than the personal problem *per se* that accounts for whether students stay or leave their programme of study (Glackin & Glackin, 1998; Christie et al., 2004; Kevern et al., 2004; O'Brien et al., 2009).

2.7.4 Clinical placement experience

Several studies have highlighted issues in clinical practice as a contributory factor in student attrition. Specific issues relate to interactions with clinical staff such as patronising, dismissive or unhelpful attitudes were identified (White et al., 1999). Other studies found that students identified lack of support from mentors, lack of awareness of their impending arrival and feeling ill prepared with sufficient knowledge and skills to function within the clinical environment (Owen & Standen, 2007).

Mature students, in one study identified that the previous life experiences of mature students were not recognised in clinical practice (Glackin & Glackin, 1998). The issue of non-recognition of previous experience was particularly applicable to non-standard entrants who brought varied levels of maturity and experience from their diverse backgrounds and experiences.

Poor attendance in clinical practice was also associated with student attrition but the students studied did not verbalise why they opted out of attending practice (Glossop, 2002). Additional information on the students' perspectives of practice would have enriched the understanding of this finding. However, it is possible that poor attendance in practice was attributable to poor clinical support and lack of awareness of student needs.

It is difficult to ascertain the role clinical practice in student attrition as although clinical practice placements have been cited as a reason for student attrition, there are wide variations in their type, location and quality of such placements. Furthermore, some research studies identified both strengths and limitations associated with clinical practice (Kevern et al., 1999; Bowden, 2008; and Pryjmachuk et al., 2009) which resulted in students having ambivalent feelings about their placements. It is conceivable that student satisfaction with clinical practice was predicated upon the nature, location and type of placement (Kevern & Webb, 1999; Kotecha, 2002; Pryjmachuk et al., 2009).

Pre-registration student midwives cited the emotional burden of caring for the emotional needs of patients and lack of mentor support as catalysts for leaving their programme of study (Green & Baird, 2009). Pre-registration midwifery students also cited lack of recognition for their previous experience and the added stress of travelling to and from clinical placements as contributory factors to their leaving their programme before completion of their studies (Green & Baird, 2009).

Travel to and from clinical placements which is a feature of nursing students' clinical placement has the potential to impact negatively on the student experience and precipitate student attrition by increasing financial pressure, interfering with family commitments and difficulties with viable transport options to meet shift patterns (White et al., 1999; Glossop, 2002 and Fulbrook et al., 2000).

Clinical placement experience appears to be pivotal in determining whether students stay on their programme of study or not. Factors implicated in negative experiences of clinical placements included lack of respect for students by mentors, particularly mature students whose previous experience went unrecognised and untapped. Other stressors were travelling long distances to placements, variable quality of placements and the emotional labour of demonstrating caring behaviours.

2.8 Macro factors associated with student nurse retention and attrition

'Macro' factors in this context refer to professional requirements, school, university or national policy that may be influential on students' experience and persistence on their programme of study.

2.8.1 Factors linked to organisational and programme issues

Several studies identified a variety of issues associated with programme structure and delivery (Kevern et al., 1999; White et al., 1999 and Last and Fulbrook, 2003). Lack of information about their programme, lack of guidance, too much emphasis on

the academic workload were all reported to have had a combined influence on the student experience (Glossop, 2002; Lowe & Cooke, 2002; Kevern et al., 2004 and Andrew et al. 2007). These features of course design have been quoted in the earlier literature (Jowett et al., 1994 and Braithwaite et al., 1994).

Students' perceptions of too great an emphasis on theoretical rather than practical content, lack of academic support and teaching aimed at too high an academic level continue to be precipitating factors in student attrition (White et al., 1999; Last & Fulbrook, 2003). Dissatisfaction with course content and support within practice and academia, have contributed to student attrition within this review which concurs with research conducted by the DH, (2006).

Across studies there was a common thread of differing levels of student attrition based on programme location and dialogue between the university and practice placement (Kevern & Webb 1999 and Owen & Standen, 2007). However, many students left as a result of placement issues. For example, not being expected in clinical practice areas on arrival, inappropriate practice placements and last minute changes to placement locations. These issues resulted in some hospitals trusts being perceived less favourably by students (Pryjmachuk et al., 2009). Perhaps these occurrences resulted from a lack of communication between the university and the clinical practice areas.

It was noted that little has been written on the impact of organisational issues relating to placement providers, an area which warrants further research.

2.8.2 Effective recruitment and selection processes

White et al., (1999) recommended the use of thorough selection procedures, using the strength of a student's self-efficacy, (as manifested by determination and belief in completing the course), as a predictive factor for completion. Sadler, (2003) proposed that analysing the content of essays for evidence of internalization of the role of the nurse, as a prediction strategy. She also advocated additional research in emotional intelligence and its use in selection processes. This suggestion resonates

with the Nursing and Midwifery Council [NMC], (2008a) which advocates that all nurses should have the qualities of self awareness, motivation, empathy, along with social skills. However, it would be difficult for candidates to demonstrate these attributes by completing pre-admission assessments. In addition, the NMC, (2009) stipulates that interviews should be face to face, although the content and approach are open to interpretation. The value of face to face interviews is its effectiveness in providing the opportunity to converse with the student directly and ascertain their perceptions of the programme and their prospective students' perceptions of nursing (Donaldson et al., (2010). Current workforce planning strategies to meet the needs of the NHS in the future have embraced the need for training nurses who will be compassionate, caring and effective in clinical practice (Moore et al., 2012)

2.8.3 Student expectations and realities of a nursing programme

Several studies have highlighted the support needs of students in university, in clinical practice and outside of university as significant for both student retention and student attrition (White et al., 1999; Mulholland et al., 2008; Prymachuk et al., 2009). The support issues highlighted relate to three different aspects of student life, namely, general academic support; issues associated student characteristics and issues emanating from outside the university.

General academic support included help with 'learning the game' in academic study (Kevern et al., 2004), guidance and structure in the first year (Last & Fulbrook, 2003) and adjustment to full time study (O'Brien et al., 2009). These issues were generally applicable to all students and were linked to expectations of the academic demands of the course, the academic milieu, and perceptions of nursing (Last & Fulbrook, 2003).

In addition, students at both ends of the age spectrum appear to need support albeit of different kinds of support. The demographic changes in the population also give rise to higher numbers of older students some of whom have delayed their post secondary education by at least a year and more likely to have dependents other than a spouse (Wray et al., 2010). Furthermore, support from a variety of sources such as academic and support staff, peers, friends, family, personal tutors and

university support mechanisms have been shown to be enablers for students remaining on their course (Bowden, 2008).

There is evidence that mature female students have difficulty in adjusting to full time study and have expressed the need for support with essay writing, study skills and time management skills (O'Brien et al. 2009). In addition, mature female students experienced additional difficulties with balancing their home lives, as partners only remained supportive if they maintained their gender roles (O'Brien et al., 2009). Suggested strategies for enabling mature students to maximise their learning included conducting a rigorous assessment of the type of support students needed in terms of their individual learning needs along with student-centred assessment strategies (O'Donnell 2010).

The need for support in relation to age is not confined to older students as younger students also require specific educational support to make the adjustments required for integration into university life, understanding the rules in clinical practice, self direction and become a knowledgeable doer (Kotecha, 2002; Mulholland et al., 2008; Prymachuk et al., 2009). The role of the personal tutor is also seen as pivotal in providing support for students and determining whether students stay or leave their programme of study. However, it was reported in one study that students who were significantly distressed as a result of course issues did not inform their tutors and this only came to light in data gathered from exit interviews with students who had already left their programme (O'Donnell, 2009).

One conclusion with regard to how to address the educational support needs for nursing students is to increase entry level qualifications (Prymachuk et al., 2009). The suggestion of increasing entry level qualifications is based on findings that mature students with higher entry level qualifications were more likely to be retained on their programme of study (Prymachuk et al., 2009). However, recruiting students with higher entry level qualifications such as degrees does not necessarily result in the need for less support students may be better equipped academically but nursing courses have different pressures and demands such as practice and knowledge application (McCarey et al., 2007; Mulholland et al., 2008).

2.8.4 Recruitment, selection and widening participation strategies

As a result of the positive evidence concerning the retention of mature students, one of the recommendations made by researchers is to specifically target mature students during recruitment initiatives because it has been shown that with the right support they perform well and persist (Glossop, 2002; DH, 2006 and Donaldson et al., 2010). The attraction of this approach is that it supports the widening participation agenda (DH, 2006b) and this contributes to the achievement of one of the key strategies proposed by HEFCE, (2006).

Across studies the issue of diversity has been one variable that underpins a range of characteristics including age, gender, ethnic background, educational qualifications and disability. The focus on support for widening participation is reflected in key government (DH, 2006) and HEFCE, (2006) strategies.

Several studies in recognition of the value of previous health care experience, have suggested that well-qualified entrants with pre-nursing qualifications or practical caring experience either as relatives of patients or as carers themselves were more likely to remain on their programme of study (Kevern et al., 1999 and Sadler, 2003). Furthermore, others suggest that branch specific experience prior to starting nursing programmes in either a paid or a voluntary capacity was advantageous in facilitating student nurse retention (Owen and Standen 2007; Jeffreys, 2007 and Pryjmachuk et al., 2009). However, this is a double edged sword as it emphasises caring qualities and the practical realities of nursing but does nothing to mitigate the assimilation into HE and the demands of academic performance as identified in previous studies (Lowe & Cook, 2002 and Last & Fulbrook, 2003).

It is important that students joining the workforce should reflect the diversity of the patients for whom they care, however, culturally congruent approaches require the initiation of effective support strategies for students from black, south Asian and other minority ethnic groups (Jeffreys, 2007 and Mulholland et al., 2008). Furthermore, in relation to student retention, mature, female overseas students were found to be more likely to stay (Mulholland et. al., 2008). However, it is not simply a matter of increasing the diversity of the student body, students must be able to communicate

clearly and understand the context of nursing and students may require multi-level support in English, science, and mathematics especially for those whom English is not their first language (Prymachuk et al., 2009).

2.9 Discussion

In this section the findings from the literature will be discussed by drawing upon the theoretical concepts outlined in Chapter 1 in relation to the significance of the first year of the programme for nursing students. In addition, the similarities and differences between the review findings that relate to nursing students with research relating to retention and attrition in the wider student body in HE will be highlighted.

2.9.1 First year nursing students

The retention of nursing students presents a significant challenge to HE institutions not only in the UK but also in other developed countries such as Australia and the USA (Buchan & Seccombe, 2006). Nursing students enter their programmes with perceptions of nursing that have been influenced and developed by the general view of nurses, personal experience of caring activities and society's image of nursing (While & Blackman, 1998). Many new nurses have a limited understanding of the complexity of nursing and perceive the role of the nurse as involving minimal academic study and being mainly concerned with nurturing and compassionate skills (Collings, 1997; While & Blackman, 1998; Helmsley-Brown & Foskett, 1999; Spouse, 2000 and Mackay & Elliott, 2002). Some students do not know what to expect when they start a nursing programme and refer to 'reality shock' when realisation of what clinical practice entails dawns upon them (Kevern et al., 2004). Furthermore, the student's frame of reference for the nurse is the 'knowledgeable doer' as opposed to the reality of the autonomous student in higher education, self directed, reflective and also a knowledgeable doer (Kotecha, 2002). Unrealistic expectations and the related disillusionment are inextricably linked with dissatisfaction and reasons for students leaving nursing courses (Glossop, 2002 and Last & Fulbrook, 2003). Furthermore, a mismatch between expectations and reality can lead to personal disillusionment and possible withdrawal from the course (Diekelmann, 1992; Clarke & Ruffin, 1992; Spouse, 2000 and Fleming & McKee, 2005).

There is evidence that nursing students' first year in university is significant in relation to engaging with the institution and acquiring the requisite skills for survival on their programme of study (Glackin & Glackin, 1998). In addition, there is a lack of evidence in relation to the extent to which nursing students' expectations of the first year are congruent with the institution's expectations. The development of benchmarks would be an extremely powerful tool in persuading both academic staff and administrators to focus upon areas that can make a demonstrable difference in the quality of the first-year experience (Jeffreys, 2004). Benchmarks would provide indicators for prospective students, existing students and staff as to what the parameters of expectations were and reduce the chance of dissatisfaction for new students.

2.9.2 First year students on non-nursing courses

Students' expectations of university, their actual experiences and how they use the institution's resources for learning appear to be critical to their success which in this context means academic achievement, student satisfaction, and persistence on their programme of study (Kuh, 2000). Students' academic and social experiences are enhanced by their ability to develop the skills to apportion time to a balance between academic and recreational activities. Academic activities include studying, interacting with academic staff, student advisors, and like minded peers, engaging in community service, and participating in activities that are complementary to their programme of study (Kuh, 2000). Evidence suggests that place of residence is a significant factor in relation to student integration; but it is unclear whether there is a difference between students who are resident on campus, living at their parental homes or with their families as these factors may significantly affect the results (Tinto, 1997). An additional factor that may play a significant part in student behaviours is how students spend their time while at university and how universities can inculcate the desired academic attitudes and behaviours to facilitate engagement and adaptation. The first step may be to determine how students spend their time during the critical first year of university and whether external activities influence successful completion of programmes of study.

2.9.3 Issues in student retention and attrition: Similarities between general students in HE and nursing students

2.9.3.1 Students in HE

Significant numbers of students in higher education and across a variety of programmes of study have unrealistic expectations of the reality of study demands in higher education (Miller & Lloyd, 1991; McInnes et al., 2000 and Smith & Hopkins, 2005). Student expectations are generally informed by prior educational and life experiences and as a result of these experiences students anticipate a comprehensive range of social engagement opportunities with limited need for intensive academic study (Ozga & Sukhmandan, 1998 and Cook & Lecky, 1999). Significant numbers of new students in higher education have been found to experience difficulties with workload and time management skills and early dropout of students has been attributed to these problems (Cook & Lecky, 1999). A deficit in transferable skills resulting in poor performance has been identified by several researchers (Tinto, 1987; 1993; Lowe & Cooke, 2003; Laing et al., 2005 and Yorke & Longden, 2008). Furthermore, the inability to transfer skills learnt in one situation, to another will impact negatively on students' ability to cope with novel situations. There is evidence to suggest this is the case, as students who demonstrate deficits in learning skills continue to experience academic adjustment problems in subsequent years of higher education study (Tinto 1993) as problem solving becomes more difficult if the student does not acquire the skills to transfer learning from one situation to another.

Flawed decision making in course selection has also been implicated in student attrition in higher educational institutions. Research studies have shown that students get limited information before starting in relation to the academic content and intensity of their course (Underwood et al., 1990; Yorke, 2000; Connor et al., 2001 and Musselbrook & Dean, 2003).

2.10 Conclusion

Although there is evidence that single personal factors may be associated with nursing student attrition, there is inevitably some interaction between several of these factors that result in students leaving their course before completion. Some of the factors identified were travelling difficulties, financial hardship, personal or family problems, disparity in perceptions of the course, disillusionment and overwhelming challenges associated with the educational programme, and clinical placements (Brodie et al., 2004). These findings were similar to those found five years later by Griffin et al. (2009) who found that contributory factors to student attrition included family reasons, academic pressures, financial considerations including employment, wrong choice of course, health issues, child care, and the absence of role models (Griffin et al., 2009). In common with other higher education students, preparedness, appropriateness of course choice, adjustment to the university, family circumstances, financial issues, personal circumstances, and financial issues are among the contributory reasons for students leaving their programme of study. The first year at university for all students is a time of adjustment, engagement with the institution and acquiring the requisite skills for survival on their programme of study (Trotter & Cove, 2005). In addition, nursing students must gain skills in the practice of nursing, and learn to engage with their peers, interact with the institution and come to learn the rules of the game (Kevern et al., 2004).

The findings of the literature review indicate that there is a wealth of research on student retention and attrition most of which consider factors that contribute to attrition (Christie et al., 2004; Glossop, 2000; Kevern et al., 1999 and Last & Fulbrook, 2002). However, the key issues that have emerged across studies are the 'micro' factors that have been cited much more frequently than others. These factors are difficult to change as they reflect characteristics and individual circumstances. Nevertheless, they are important as they may interact with other factors to magnify areas of dissatisfaction.

In terms of 'meso' factors the review identified that many students were not aware of the expectations of the university and when their performance fell below their own

expectations, they left the programme early feeling personal disappointment and failure (Andrew et al., 2008). Issues such as academic workload and travel to clinical placements impacted upon students negatively (Glossop, 2000; Bowden, 2008; Donaldson, 2010). Many of the contributory factors identified for student attrition are background characteristics of the students such as age, gender, personality, entry qualifications and financial issues are common elements across studies (Deary, 2003; Kevern & Webb, 2004; Andrew et al., 2008 and Pryjmachuk et al., 2009). Issues such as lack of preparation for higher education, nursing practice and the duality of being a student in both arenas, can impact negatively upon students and unless students develop early coping strategies and resilience they are unlikely to complete their programme of study (Kotecha, 2002; Lowe & Cook, 2002; Kevern et al., 2004).

The most significant 'macro' factor in the review was the variety and variability of clinical placements and the support provided by mentors and practice educators (Kevern & Webb, 1999; Last & Fulbrook, 2003; Donaldson, 2010). Even though placements are outside of university control, the development of inter-organisational relationships, monitoring of the student experience and the provision of student support systems in practice may help to reduce the effect of these variables.

Students across the age spectrum required some form of support whether it was to learn the ropes quickly, cope with the academic content, self efficacy or the emotional labour of nursing (Kevern et al., 2004; Bowden, 2008; McLaughlin et al., 2008). The review has highlighted that students did not recognise and use transferable skills which was to their detriment.

Students enter nursing with unrealistic expectations based on personal experience of illness or caring, or perceptions of nursing gleaned from family, friends or the media (Mooney et al 2008). However, these contextual beliefs were not grounded in current nurse education or practice and set the stage for disillusionment and dissatisfaction.

Student nurse expectations have been shown to be developed and refined by a number of personal and institutional characteristics and issues; which taken either singly or together may have a predictive function for whether students stay or leave

their programme of study before completion. These expectations centre on academic effort, the university environment, interactions with other students and staff and the effort that they need to expend in order to succeed on their programme of study (Kuh, 2000).

The reality is that most students will contemplate leaving at some point during their programme of study, so available support systems need to be accessible and students must be aware of them. However, HEIs can do very little to control background student characteristics or attributes or events external to the university but concentrate on areas of the student experience that are within institutional control such as provision of multi-level support and a facilitative learning environment (Prymachuk et al., 2009).

Studies on predictors of student attrition help nursing schools select students who will be successful when they enter, but they neglect students who possess the potential for success if additional support or instructional methods are provided. It is imperative that universities begin to utilise the results of predictive studies to identify the variables that place students at risk for attrition and, and develop early warning systems to identify students 'at-risk' early to assist them and prevent avoidable attrition (Donaldson, 2010).

The findings of the review indicate the importance of measuring nursing students' expectations and experiences and in chapter three, the research objectives, null hypotheses and methods of each for measuring first year student expectations and experiences in the academic milieu are explained.

3.0 Introduction

The literature review has set out the uncertainties within the current debates surrounding expectations and experiences of first year undergraduate nursing students and this chapter details how these issues were explored using survey research. In this chapter the research design is detailed, the research questions and hypotheses are made explicit, and ethical considerations are discussed. Data collection procedures, statistical analysis and limitations of the methods are considered in detail in relation to the CSXQ (administered at the beginning of the first year in September 2004) and the CSEQ (administered at the beginning of the second year in October 2005). Additional data gathering from institutional records comprising collection of exit data from leavers in the first year occurred in January 2006 and on degree classifications of the students for the members of the study population who completed their three year programme in July 2007.

3.1 Overall aim

The aim of this thesis is to explore student nurses' retention, attrition and their academic expectations and experiences during the first year of their programme of study.

3.1.1 Study objectives

This study had four objectives:

- To explore whether the expectations of first year undergraduate nursing students align with their experiences.
- To identify the similarities and differences in (i) the characteristics, (ii) expectations and (iii) academic experiences between students who stay and students who leave their programme of study.

- To isolate factors in expectation, experience or the mismatch between these which are predictive of completing the first year of the programme or leaving it.
- To identify possible factors that could be used to develop strategies to optimise the expectations and experience of the first year.

3.2 Research design

The design was a descriptive, comparative survey, the purpose of which was to assess the relative incidence, distribution and interrelationships between naturally occurring phenomena (Kerlinger & Lee, 1999). Two survey instruments, the CSXQ (Kuh & Pace, 1999) and the CSEQ (Pace & Kuh, 1998), were used to collect descriptive data in relation to background characteristics, intentions, opinions and experiences of one cohort drawn from the total population of nursing students in one school of nursing in the north west of England. The cohort comprised of several sub-groups of participants including age group, sex, educational background and fields of practice (branches) of nursing.

The survey method was chosen as it was considered to be the most feasible method of data collection to address the research problem and would obtain the answers required and yield valid conclusions (Sapsford, 2002). The structured design of the survey increased reliability (Burns 2010) and the low administrative costs were an added attraction. In order to enhance understanding of the reasons for student attrition, institutional data were collected from records of students who left in the first year and those who completed the programme.

3.3 Study setting and sample

3.3.1 Study Setting

The research was conducted in a large school of nursing within a university in the north west of England offering adult, mental health and child health branches of pre-registration nursing education. At the time of recruitment, the entire population of undergraduate pre-registration nursing students in the school comprised of 1,950

students including the cohort from which the study population was drawn. Participants were undertaking the three year Bachelor of Science in Nursing programme which was offered in September of each year.

3.3.2 Study Sample

The sample comprised of first year student nurses undertaking a full-time university programme and studying one of the three fields of nursing namely adult, mental and child health. The first year was a common foundation where students shared a common educational experience before being streamed into their specific fields of practice. First year first semester students were chosen as the issue of immediacy was critical to ascertaining reports of expectations of university before experience contaminated the data. Research studies have identified the first year as being critical to student satisfaction and persistence (Kuh, 2000; Jeffreys, 2004; Yorke & Longden, 2004; Trotter & Cove, 2005 and Watson, 2009). The entire cohort of 149 students was the study population, of these potential recruits 130 students participated in time period one and 89 participated in time period two. The sample size was important in order to increase the likelihood of identifying statistical differences and determining how well the sample represents the population as the bigger the sample size the more representative it becomes (Burns, 2010).

Students were invited to participate in the research at the beginning of the programme (within the first week of semester one of the first year) and for the second data collection period at the beginning of semester one of the second year.

In time period one the inclusion criteria were that students were:

Within the identified cohort

Undertaking an undergraduate nursing degree for the first time

Both male and female

Aged 18 years or older

Enrolled using both standard and non-standard university entry criteria

From all fields of practice of nursing (branches) offered at the school (adult, mental health and child health)

Inclusion criteria ensured that the sample was as homogenous as possible within a cohort of university nursing students, and that all participants are exposed to similar conditions (LoBiondo Wood & Haber, 2010). The only additional inclusion criterion for time period two was that participants must have completed the survey in time period one.

The exclusion criteria for time period two were:

Students from a different cohort who had interrupted their studies previously or had transferred from another programme or university

Students who had not completed the student expectations questionnaire at the beginning of their course (since comparison between their responses for both time periods would not have been possible).

3.4 Data Collection

Data were collected using two instruments, the CSXQ which was completed at the beginning of the first year, and the CSEQ which was completed at the end of the first year. Data students who had left were collected from institutional records at the beginning of the second year for. Institutional data relating to completion and academic achievement for all other students in the cohort were collected in July 2007. The procedure and data collection instruments are described in this section.

3.4.1 Recruitment Procedure

3.4.1.1 Time period one

Arrangements for access to participants were negotiated with the programme leaders who identified time tabled sessions when students would be available to participate in the research. These potential participants were given verbal information which included the name of the researcher, assurances that participants would not be identified in any way in the data or the published research, and that there would be no negative consequences associated with opting out of the research. Verbal information was supported by written information sheets, and prospective

participants were given the opportunity to ask questions and clarify any issues. The explanation was undertaken by a member of the researcher's supervisory team who operated as an informed proxy. The researcher was present to field questions, clarify any misconceptions and assist in the distribution and collection of questionnaires. This approach enabled respondents to have personal contact with the researcher which was a possible contributory factor to the high level of participation and questionnaire return (McGregor et al., 2010).

3.4.1.2 Time period two

The procedure described for time period one was duplicated in time period two. In addition, the researcher ascertained that all the participants had completed the first questionnaire and none of them were joining the programme in the second year. Any students who did not meet the inclusion criteria and those who declined to participate in the study were given the opportunity to see the questionnaire. All students excluded from the study were asked to spend the time exploring the library.

3.4.2 Data Collection from institutional records

3.4.2.1 Time period three

Exit data for all students who left in the first year of their study were extracted on a continuing basis from questionnaires collected routinely by the institution. This information includes reasons for leaving and whether they left the institution altogether voluntarily, were asked to leave, left as a result of academic failure or left as a result of interruption of their studies. Students who left on interruption of studies did not complete exit questionnaires although many did not return to their studies at a later date.

3.4.2.2 Time Period Four

Data pertaining to number of students who completed the course, degree classification and numbers of students who left in the second and third years from the study cohort were collected from institutional records.

3.5 Instruments

Although both the CSXQ and the CSEQ instruments were created for the American market, their particular strength lies in their continuing extensive use across the American higher education sector to determine student satisfaction with the educational provision of a wide variety of institutions. These two instruments were selected for their ability to address the research questions about nursing students' expectations and experiences of university life and the relationship of these to students staying to complete their programme of study or not. The attraction of both the CSXQ and the CSEQ was that they were companion instruments and the CSEQ was initially developed in the early 1980s by Pace as a measure of Tinto's student integration model. The CSEQ has been refined on several occasions, the most recent of which was in 1998. At the time of the research, Indiana University was contacted to explore the possibility of using the questionnaires electronically. This service was offered but changing of items could not be accommodated as a bespoke service would be prohibitively costly. Permission was given to use the paper versions of the questionnaires and adapt them as appropriate for the study.

3.5.1 The College Students' Expectations Questionnaire (CSXQ)

The CSXQ was specifically developed for use in an American research project in 1998 and measures new students' expectations of studying at a university, including their beliefs and attitudes about how they expect to spend their time during the first academic year (Kuh et al., 2005 and Kuh & Pace, 1999). The CSXQ emphasises process or behavioural indicators more strongly than what students expect to learn in university (Kuh, Pace & Vesper, 1997) and, although widely adopted, its use is limited in comparison to the use of the parent instrument (the CSEQ). The CSXQ

was selected because of its congruence with the aims of this study and the premise that students' expectations and experiences individually and together affect key university outcomes including academic performance and persistence (Kuh et al., 2005).

The current edition of the CSXQ was first published in 1999 and has been administered to approximately 61,000 students in 50 institutions in the United States of America (USA). However, the CSXQ has been comparatively less widely used than the CSEQ as the interest in student experiences appears to be more well-developed than interest in expectations. Nevertheless, it has made a notable contribution to the body of knowledge associated with students' expectations of university. The 101 items of the CSXQ include 14 background items that ask students to self-report expected levels of interaction with people, activities and services on campus. It is divided into three major sections: background characteristics, university activities and university environment. Each includes a number of subscales. The sections of the questionnaire are outlined below.

3.5.1.1 Background characteristics

Participants are asked to provide background information including the following: age; gender; ethnic background; marital status; entry qualifications; financial arrangements; parental academic history.

Ascertaining the characteristics of participants was important in order to facilitate accurate description of the survey sample and enable exploration of these characteristics in terms of expectations.

3.5.1.2 Student activities

Student activities items measure students' expectations of participating in educationally purposeful activities. These activities refer to a wide range of activities that underpin university attendance and are summarised here. Student activities are categorised as academic effort (21 items) including use of the library, computers writing, reading textbooks and using the lecturer as a resource and (nine) general academic activities which encompass taking detailed notes in class, hours

spent studying each week, joining in a class discussion and assignment work (Pace, 1995; Ewell & Jones, 1993 and Pace 1984).

3.5.1.3 University environment

This section of the CSXQ requires students to use a semantic differential scale to rate their expectations on a scale of 1-7 where 1 indicates weak expectation and 7 indicates strong expectation. Seven items assess student perceptions of the emphasis placed by students on the university environment and on relationships within the environment or social climate. Items deal with emphasis on academic, scholarly and intellectual qualities; vocational and occupational competence; and relationships with academic staff, administrative staff and other students. Students are asked to report the frequency with which they expect to engage in the above activities as an indication of anticipated scholarly qualities, relationships with other students, academic and administrative staff (Kuh et al., 2005).

3.5.2 The College Students' Experience questionnaire (CSEQ)

The CSEQ was first conceptualised and developed by Pace, (1984) and has subsequently been tested extensively and refined and is currently undergoing a fifth edition (Kuh, 2010). The CSEQ was based on the concept of "Quality of Effort" which relates to the principle that what a student gets out of university is related to the effort that that student expends thus education is conceptualised as both a process and a product (Pace, 1995; Ewell & Jones 1993 and Pace 1984). Educational programmes are typically evaluated in terms of the product, for example, knowledge acquisition, skill improvement, modified attitudes and values and the development of personal qualities (Laanan, 2004). However, Pace, (1984) took the position that it was equally important to measure the quality of the educational experience or process as well as the product. This resulted in the development of the CSEQ as a multi-institutional survey tool in 1979. It has been used with over 350,000 students in more than 200 American universities, and the psychometric properties have been evaluated after each revision and found to be excellent as indicated by Cronbach's Alpha coefficients of 0.8 or above (Kuh et al., 1997 and Ewell & Jones, 1996).

The CSEQ assesses both the process of learning (for example, interactions with academics, collaboration with peers and writing experiences) and progress towards desired outcomes of study at university (such intellectual skills, interpersonal competence and personal values) (Borden & Owens, 2001). The CSEQ also measures the quality of undergraduate experience in relation to student activities or quality of effort, the university environment and estimate of gains. The CSEQ shares 87 items with the CSXQ and contains the same categories of background characteristics, university activities and the university environment. However, the CSEQ has been expanded to include estimate of gains which is put into context below.

The properties of the CSEQ have been explained earlier and the items mirrored in the CSXQ identified. Therefore, these descriptions have not been duplicated but the main difference between the two instruments is the section on estimates of gains an additional section of the CSEQ which is not mirrored in the CSXQ, and in it respondents are asked to estimate the extent to which they have made progress towards 25 areas of gain. Seven items relate to general educational development, four items relate to development of skills or attributes in science and technology, three items relate to vocational preparation, five items relate to personal-social development, and six relate to development of intellectual skills such as writing, quantitative thinking and familiarity with information technology (Gonyea, 2001).

3.6 Psychometric properties of the CSXQ and the CSEQ

Successful survey data collection is dependent on well-designed, precise instruments, and psychometrics provides a way for ensuring that qualitative concepts such as expectation and experience can be captured as accurately as possible (Litwin, 2003). The psychometric properties of the CSXQ and the CSEQ have been tested extensively in research co-ordinated by the Centre for Postsecondary Research at Indiana University (CPRI) (Williams, 2007). Specifically, Cronbach's alpha coefficients for both the CSXQ and CSEQ have been reported by the CPRI as ranging from good to excellent. The recorded scale reliability for the CSXQ as measured by Cronbach's alpha coefficients, ranged from 0.73 (library and

information) to 0.90 (student acquaintances). Cronbach's alpha coefficients for most of the other groups of items were above 0.80 (Williams, 2007). The reliability for the CSEQ (as tested by the CPRI) demonstrated Cronbach's Alpha ranges from 0.73 (campus facilities) to 0.92 (scientific and quantitative experiences); Cronbach's Alpha coefficients for most of the items were above 0.80 (Williams, 2007). According to these values the scale reliability for the CSXQ and the CSEQ for the CPRI sample was satisfactory as Cronbach's alpha coefficient is satisfactory at 0.7 or above (Pallant, 2010).

The measurement of the reliability of a scale of variables in both questionnaires is dependent on the sample, therefore, although the CPRI readings showed good to high Cronbach's Alpha coefficient the reliability of the CSXQ and the CSEQ was measured for the current sample (Pallant, 2010). The scale reliability for the CSXQ and CSEQ groupings used in this study are demonstrated in Table 3.1.

Inter-item scores indicate the degree to which each item correlates with the total score. Low values of less than 0.3 indicate that the item is measuring something different from the scale as a whole (Pallant, 2010). Where scales contained less than 10 items and the Cronbach's Alpha scores were less than 0.7 the mean inter-item correlations were evaluated and most fell in the optimal range of between 0.2 and 0.4. This is demonstrated in Tables 3.1 (CSXQ) and 3.2 (CSEQ).

**Table 3.1 Cronbach's Alpha coefficients and mean inter-item correlations-
CSXQ**

Scale Description	No. of scale Items	Cronbach's Alpha (CSXQ)	Mean Inter-Item Correlation
University Environment			
Areas of Emphasis	7	0.78	0.35
Relationships (Staff & Other Students)	3	0.55	0.31
Academic Effort			
Course learning	8	0.64	0.24
Library and Computers	6	0.72	0.30
Reading & writing	9	0.64	0.18
Academic integration	8	0.72	0.25
Total academic effort	31	0.87	0.19
Social Integration			
Acquaintances	7	0.89	0.53
Use campus facilities	7	0.65	0.22
Clubs & organisations	4	0.76	0.46
Total social integration	18	0.81	0.20

Cronbach's Alpha coefficients of 0.7 and above demonstrate satisfactory to good. Where scores fall below 0.7 the mean inter-item correlation scores were used to determine reliability. The optimal range for the latter is 0.2-0.4. Only reading and writing scored low reliability on both measures.

Table 3.2 Cronbach's Alpha coefficients and mean inter-item Correlations - CSEQ

Scale Description	No. of scale Items	Cronbach's Alpha (CSEQ)	Mean Inter-Item Correlation
University Environment			
Areas of Emphasis	7	0.82	0.41
Relationships (Staff & other Students)	3	0.55	0.31
Academic Effort			
Course learning	15	0.75	0.19
Library & computers	14	0.57	0.08
Reading & writing	10	0.60	0.14
Academic integration	8	0.52	0.13
Total academic effort	47	0.83	0.10
Social Integration			
Acquaintances	5	0.57	0.08
Use campus facilities	6	0.60	0.14
Clubs & organisations	3	0.23	0.10
Total social integration	14	0.58	0.08
Estimates of Gains			
Personal	5	0.78	0.43
General	6	0.73	0.32
Intellectual	6	0.82	0.43
Professional	6	0.78	0.37
Gains total	23	0.92	0.34

Cronbach's Alpha coefficients of 0.7 and above demonstrate acceptable to good reliability. Where scores fall below 0.7 the mean inter-item correlation scores were used to determine reliability. The optimal range for the latter is 0.2-0.4. Italicised items show low Cronbach's Alpha and inter-item reliability.

Face validity was measured by pre-testing the instruments with a representative group of students and two lecturers. As changes were made to existing pre-validated instruments, face validity was established by checking the instruments with experienced researcher colleagues who were able to assess whether the instruments appeared to measure the constructs that they were intended to measure (Litwin, 2003).

3.7 Pilot testing of the instruments

3.7.1 Cognitive debriefing

Cognitive debriefing provides insights into the nature of any problems encountered during pre-test administration and provide suggestions for improvement (De Maio & Rothgeb, 1996), and it was used to evaluate the face validity of the questionnaire. A modified form of cognitive debriefing was used to gain a better understanding of how respondents interpreted the questions framed in the questionnaires before their administration in the study. The greatest advantage of using cognitive debriefing in this study was that it is more effective with larger groups than other methods of questionnaire pretesting. The considerations fell into three broad categories: participant comprehension, degree of difficulty experienced in completing the questionnaire, and interest in the research.

Cognitive debriefing questions were used to accomplish the following goals.

- (a) To identify words, terms or concepts that respondents did not understand, did not interpret consistently or did not interpret as the researcher intended.
- (b) To identify questions that respondents could not answer accurately.
- (c) To obtain suggestions for revising questions or the questionnaires.

The process was used on two separate occasions: first to fulfil these three objectives, and second to test out the modifications that resulted from participant feedback.

3.7.2 Pilot test one - sample and process

It was decided to pilot test only the CSEQ because it was the more comprehensive instrument, and because the CSXQ had been derived from the CSEQ this would mean that any revisions would apply to both instruments. The selected participants were considered to be representative of the study population as they were in their first year of study and comprised of students from the three fields of practice (adult,

mental health and child health) and across a range of age groups. The participants were not included in the main research study and were asked to complete the CSEQ during classroom time. The purpose of the questionnaire was explained by the researcher, and this was supported by the written information sheet. Participants in the pilot test were asked to attempt all questions and note any words or terms that were unclear or unfamiliar. Participants were encouraged to ask questions individually.

Feedback from the pilot testing was obtained from respondents immediately after administration of the questionnaire. The instruction factors highlighted by Cohen *et al.*, (2003) were taken into account and information elicited from participants who gave valuable qualitative feedback on the language used, completion time and their understanding of the instructions. Participants felt that the questionnaire was difficult to read because of the number of items. The fastest rate of completion of the questionnaire was 30 minutes and the maximum time any student required for completion was 35 minutes. This length of time was acceptable, however, the recommended time for completion of the CSEQ was 25 to 30 minutes and anticipated completion time of 25 would prevent students losing interest towards the end of the questionnaire.

The revisions to the instrument as a result of respondent debriefing included substituting the UCAS terminology for ethnic groupings for the American nomenclature. The term "Faculty" was an unfamiliar concept for participants and this was changed to "academic staff". The question related to students "major" was removed and replaced by "branch of nursing". In response to comments on readability, alternate items were shaded to separate them, the font size was changed to Arial 12 point, and the questionnaires were printed on yellow paper. Although there is some debate about the usefulness of coloured overlays and paper the British Dyslexia Society, (2000) recommends that some students with specific learning disabilities, such as dyslexia, may benefit from reading text printed on coloured paper.

3.7.3 Pilot retest

The revised CSEQ was retested using exactly the same process as in pilot test one with a different student seminar group from the previous cohort and different to those recruited for the actual study. The group comprised of 15 participants who were asked to complete the revised CSEQ during classroom time and were asked to comment upon comprehension and clarity. The time students required to complete the questionnaire was also assessed and probably as a result in the improvement in comprehension and clarity the maximum time required for completion was reduced from 30 to 20 minutes as improvements in the rubric resulted in speeding up of the completion process.

In summary, after the pilot test and retest were undertaken the refined instruments were given to three experienced researchers for critical comment. When all the final adjustments to the presentation and content were made the completed questionnaires were reproduced for administration (Appendix 2 and appendix 3 respectively).

3.8 Data analysis procedures

Data collected at the four time points were analysed using the Statistical Package for the Social Sciences (SPSS) version 16. Statistical significance was accepted at $p \leq 0.05$. Descriptive and inferential statistics were used to summarise the data and address the research questions. The application of the different tests is shown below.

3.8.1 Descriptive statistics

Descriptive statistics were used to summarise the study population derived from the CSXQ and the CSEQ and time point one and time point two, respectively. Categorical data (for example, age, sex, ethnicity, place of residence and family academic history) were summarised using frequency counts and percentages.

Participant responses to questionnaire items and sub-scale scores were summarised using frequencies, mean, median, standard deviation and range as appropriate. Data collected at time points three and four were summarised using frequency counts and percentages.

3.8.2 Inferential statistics

Inferential statistical tests were used to draw conclusions from the data and address the research questions. Non-parametric tests were applied to the non-random sample and many variables not being normally distributed. This analysis was guided by a set of null hypotheses detailed below. Categorical data were transferred into cross tabulation Tables and chi-square analysis was used to test for association between appropriate variables (Greasley, 2008). In this study, the Wilcoxon signed rank test was used to test for differences between sub-scale scores for the CSXQ and the CSEQ. The Mann-Whitney U test is applied to test for difference in a continuous score between two independent groups (Pallant, 2010). In this study, the Mann-Whitney U was used to test for differences in variables between students who stayed and students who left in the first year of study. To assess whether or not the total score for 'estimates of gains' derived from the CSEQ was associated with final awards, the Kruskal-Wallis test was applied. The Kruskal-Wallis test is a non-parametric test for differences between three or more independent groups. The groupings were those students who achieved class one, class two or class three honours degrees. The Kruskal-Wallis test is a statistical technique that estimates the significance of differences between a set of means (Tabachnick & Fidell, 2007, Pallant, 2010).

The null hypotheses were:

H₀1: that there is no difference between the *expectations and experiences* of nursing students in their first year of university study.

The Wilcoxon Signed Rank test was used to test for expectations and experiences for the following sub-scales library use, relationships with other students and staff, academic effort, university environment.

H₀2: that there is no difference in *characteristics* between students who stay and students who leave.

The Chi- square statistic was used to test for associations between the study variables including age group, living and financial arrangements and parents' academic history of students who stayed and students who left.

H₀3: that there was no difference in the level of expected *academic effort* for students who stayed and students who left in the first year of study.

The Mann-Whitney U was used to test for differences between students who stayed and students who left in sub-scale total scores for library use (3 items) learning (9 items); writing (4 items); university environment (7 items); general participation (6 items); use of computers (3 items).

H₀4: That there is no difference in expected *social integration* between students who stay and students who leave.

The Mann-Whitney U test was used to test for differences between students who stayed and students who left. In relation to scale scores for campus facilities (7 items); clubs and organisations (4 items); student acquaintances (7 items); academic effort (31 items); relationships with staff and students (2 items).

H₀5: that there is no association between the level of *estimated gains* and the final grade awarded.

The Kruskal-Wallis test was used to test for an association between the total score for estimated gains and the final grade awarded.

Model testing for students who stay and students who leave.

Logistic regression was used to predict the discrete outcomes 'stay' or 'leave'. The predictor variables were age, educational qualifications, academic effort, interaction

with staff, campus activities and university environment (Tabachnick & Fidell, 2005). Logistic regression enabled assessment of how well the predictor variables explained the categorical dependent variable (Pallant, 2010). Probabilities were used to assess how much each variable contributed to the odds of belonging to the categories of 'stay' or 'leave', probability level was set at 0.05 (Sapsford, 2002). The logistic regression model also presents the chi-square value, degrees of freedom and the N value. The result of the predictors and odds ratio will be presented in chapter four.

3.8.3 Analysis of institutional data (individual and cohort completion)

The school of nursing and midwifery collects information routinely for all students on completion or exit from their programme of study. For this study, the required data was held on the school database and in the student records. Student records and the institutional tracker database were accessed to ascertain why students left the programme. The majority of students who left took an interruption in their studies with a view to resumption at a later date; therefore they did not complete exit questionnaires. The records of degree outcomes for the successful students of the September 2004 cohort were accessed and individual students were matched with their first year data by means of their roll numbers.

3.9 Ethical considerations

3.9.1 Introduction

While the risk to participants in this study was small, issues which could relate to potential harm had to be identified and addressed effectively in order to ensure that the study was conducted ethically and with due respect for participants. A risk-analysis approach was adopted as proposed by Long & Johnson, (2007).

3.9.2 The risk of perceived coercion

Research in an educational institution, as with research in other large organisations which incorporate levels of authority, carries inherent risks of either actual or potential exploitation of the power differential. In this study, the researcher was in a senior academic position and was associated with the development, presentation and management of the programme for which students were registered. It would be possible for students to believe that they were required to take part or that they would suffer disadvantage if seen to decline.

The principles of voluntary participation and informed consent required that participants in the research were not coerced into participation. This was particularly relevant as the researcher was a member of staff and as university students could be construed as 'captive' audiences (McQueen & Knussen, 2002).

To reduce the possibility of this perception of coercion the introductory address was undertaken by a member of the researcher's supervisory team who was an informed proxy. The researcher remained in the room to help field questions, clarify any misconceptions and assist in the distribution and collection of questionnaires. This approach enabled respondents to have personal contact with the 'researchers' which possibly contributed to their willingness to participate (McGregor et al., 2010), but which also allowed for direct, first-hand communication.

Before any data collection took place, verbal and written information was given to students and they were informed that they could withdraw from the study at any time after agreeing to take part. They were also given an assurance of no negative consequences associated with non-participation or withdrawal from the study (Burns, 2010; Williams, 2006 and Punch 2005). Students who did not wish to participate were given the option to either to leave the room or to remain but leave the questionnaires blank rather than having to actively opt out.

3.9.3 The risk of breach of confidentiality

Participants were asked to provide information which could be regarded as personal and in some cases sensitive. The university records of those who left could also be considered to be personal and confidential. It was essential to ensure that

confidential information was not inadvertently divulged and that it was not possible to identify individual participants from the findings either in the thesis, or during later dissemination activities.

Confidentiality was maintained by assuring participants that they would not be identified by name and that the questionnaires were only identifiable by roll numbers. Secure identification of participants was particularly important as questionnaires from data collection period one would be compared with data collected from the same participants in data collection period two.

Participants were asked to complete the questionnaires without conferring in order to keep responses private. Data was stored on computer files which were password protected and paper files stored in a locked filing cabinet in a single-user office which was also kept locked when not in use. Access was restricted to the researcher and the members of the supervisory team.

The issue of follow-up was raised by one participant who related this to a past negative experience. She asserted that she did not want to be contacted at any point. Other students took their cue and also declined to be contacted in the future. The researcher concurred with the request and exit data was not collected by telephone as planned in deference to participants' rights not to participate (Burns, 2010).

3.9.4 Formal ethics approval

Approval was gained from the University of Salford Research Governance and Ethics Committee, and local access was then secured through discussion with the Head of School.

3.10 Chapter summary

The methods chapter justified the empirical stance and theoretical perspective on students' expectations and experiences in the first year. The quantitative approach was justified for a survey using the CSXQ and CSEQ and the reliability of the two instruments was established using Cronbach's Alpha coefficient. The data collection process has been explained, the methods of analysis outlined and the congruence between the research philosophy and the principles of ethical behaviour have been discussed. The findings are presented in chapter four.

4.0 Introduction

This chapter presents the results of the analysis of the students' expectations and experiences questionnaires (CSXQ and CSEQ). The results will be presented in three themes, which relate to the study aims (Chapter 1, Section 1.1) and the null hypotheses (Chapter 3, Section 3.7.2); *the impact of individual characteristics on student nurse retention and attrition; the relationship between academic expectations and experiences during the first year of their programme of study; and the impact of academic achievement and social integration on nurses' decisions to stay or leave their programme of study*. First, demographic data and the characteristics of the students who participated in the study are presented.

4.1 Student characteristics

The sample frame was a cohort of 145 students at the beginning of the first year of the nursing programme. Not all students were present at the time of data collection; however, of the 130 students offered the choice of completing the CSXQ, 100% participated. Students were predominantly undertaking the adult branch of the programme (55%), with 26% undertaking the child branch and 19% on the mental health branch. The characteristics of the students in relation to age, gender, ethnicity, and the differences between branches are presented in Table 4.1. Briefly, the age of the students ranged from 18 to 47 years, with the youngest students undertaking the child branch. Most of the students (95%) were female, single (72%), and were from a White-British ethnic background (89%). Just over half of the students (56%) had undertaken an Access to Higher Education course in order to achieve the minimum required programme entry qualifications. For three quarters of the students, neither parent had attended a higher education institute.

Table 4.1 Student characteristics by branch of study

	All branches (N = 130)	Adult Branch (n=72)	Child Branch (n=34)	Mental Health (n=24)	National Data (N=4,547) (RCN, 2008)
Age (years)					
18-20	30(23%)	12(17%)	17(50%)	1(4%)	35%
21-29	49(38%)	26(36%)	8(23%)	15(63%)	18%
30-39	40(31%)	27(37%)	7(21%)	6(25%)	17%
40-49	11(8%)	7(10%)	2(6%)	2(8%)	19%
Mean age	28.4yrs	29.7yrs	25.2yrs	28.9yrs	
Median	26.4	28.3	2.0	26.6	
Sex					
Male	7(5%)	6(8%)	1(3%)	0(0%)	11%
Female	123(95%)	66(92%)	33(97%)	24(100%)	89%
Marital status					
Single	94(72%)	49(68%)	28(82%)	17(71%)	
Married	21(16%)	15(21%)	4(12%)	2(8%)	
Divorced/ separated	13(10%)	7(10%)	2(6%)	4(17%)	
Widowed	2(2%)	1(1%)	0(0%)	1(4%)	
Ethnic group:					
White	116(89%)	63(88%)	32(94%)	21(87%)	
Black	10(8%)	6(8%)	1(3%)	3(13%)	
Asian	3(2%)	2(3%)	1(3%)	0(0%)	
Mixed	1(1%)	1(1%)	0(0%)	0(0%)	
Entry Qualifications					
Access course	73(56%)	49(68%)	12(35%)	12(50%)	
A levels	32(25%)	11(15%)	15(44%)	6(25%)	
GNVQ	6(5%)	5(7%)	0(0%)	1(4%)	
Other*	19(14%)	7(10%)	7(21%)	5(21%)	
Parents attended a higher education institute					
Neither parent	98(75%)	58(80%)	27(79%)	13(54%)	
Both parents	6(5%)	2(3%)	1(3%)	3(12%)	
Father only	9(7%)	5(7%)	2(6%)	2(8%)	
Mother only	11(8%)	5(7%)	2(6%)	4(17%)	
Not known	6(5%)	2(3%)	2(6%)	2(8%)	
Domicile					
Student accommodation	16(12%)	6(8%)	8(24%)	2(8%)	
Shared hse-walking dist.	5(4%)	4(6%)	0(0%)	1(4%)	
Shared hse-driving dist.	6(5%)	2(3%)	2(6%)	2(8%)	
Own house + family	70(54%)	45(63%)	10(29%)	15(63%)	
With parents	33(25%)	15(21%)	14(41%)	4(17%)	

* includes non-standard entry, overseas qualifications, or UK qualifications not from England

4.1.1 Sources of income and financial support

Table 4.2 summarises the sources of financial support reported by students. Financial support in this context refers to living expenses as nursing students' fees are funded by the National Health Service and participants were eligible for means-tested bursaries. Although most students (70%) reported some element self financing, only a few (12%) were financing themselves completely and most (7 out of 16) of those who did so, were in the youngest (18 to 20) age group. Parental contribution to students' financial support was low, with only 34% receiving any at all. Only 8% of students reported receiving a substantial amount (half or more) of their living expenses from parents and, most of these students (8 out of 10) were in the lower age groups (18 to 29 years old). Partners contributed to the financial support of 26% of the respondents with the great majority (12 out of 15) of those receiving the most substantial level of support being in the 30 to 39 age group. Income from secondment was rare, with only 5% of students reporting any income from this source, none of whom were in the youngest (18 to 20) age group. The majority of students (70%) received some income from grants or scholarships, with a considerable number (41%) receiving all or more than half of their living expenses from this source. The youngest and oldest students were less likely to receive grant/scholarship income with 44 out of 54 of those receiving the highest amounts being in the 21 to 39 age group. As shown in Table 4.2, most of the respondents (71%) expected to derive extra income from part-time working.

Table 4.2 Sources of Income and Financial Support by Age Group

Source of finance	Age Group				Total	National Data (RCN 2008)
	18-20 (n=30)	21-29 (n=49)	30-39 (n=40)	40-49 (n=11)		
Self finance					Total (N=130)	64%
None	3	15	17	3	38 (30%)	
Very little	8	16	12	6	42 (32%)	
Less than half	2	8	5	1	16 (12%)	
About half	7	3	1	0	11 (9%)	
More than half	3	3	1	0	7 (5%)	
All/nearly all	7	4	4	1	16 (12%)	
Parent finance						
None	12	30	36	8	86 (66%)	
Very little	8	14	3	1	26 (20%)	
Less than half	4	3	0	1	8 (6%)	
About half	4	0	0	1	5 (4%)	
More than half	0	1	0	0	1 (1%)	
All/nearly all	2	1	1	0	4 (3%)	
Partner finance						27%
None	28	38	22	8	96 (74%)	
Very little	0	5	3	1	9 (7%)	
Less than half	1	4	3	0	8 (6%)	
About half	1	1	0	0	2 (1%)	
More than half	0	1	3	0	4 (3%)	
All/nearly all	0	0	9	2	11(9%)	
Income from Secondment						
None	30	47	38	9	124 (95%)	
Very little	0	0	2	0	2 (2%)	
Less than half	0	0	0	1	1 (1%)	
More than half	0	2	0	1	3 (2%)	
Grant/Scholarship						
None	12	14	8	4	38 (30%)	
Very little	5	3	4	1	13 (10%)	
Less than half	1	5	4	2	12 (9%)	
About half	6	5	2	0	13 (10%)	
More than half	3	5	10	1	19 (14%)	
All /nearly all	3	17	12	3	35 (27%)	
Other						13%
Part time job	22	35	29	6	92 (71%)	
Savings	4	4	4	4	16 (12%)	
Personal loan	0	1	2	0	3 (2%)	
Benefits	4	2	2	0	8 (6%)	
Benefactor	0	1	1	0	2 (2%)	
Bequest/lottery win	0	6	2	1	9 (7%)	

4.1.2 Accommodation

Figure 4 indicates where participants expected to live during the academic year. Slightly more than half (54%) of the participants lived in their own homes either with their partners alone or including children as a family unit. A quarter of the sample (25%) was still living at the parental home. Smaller proportions lived in student accommodation or in privately rented accommodation within walking/driving distance of the university.

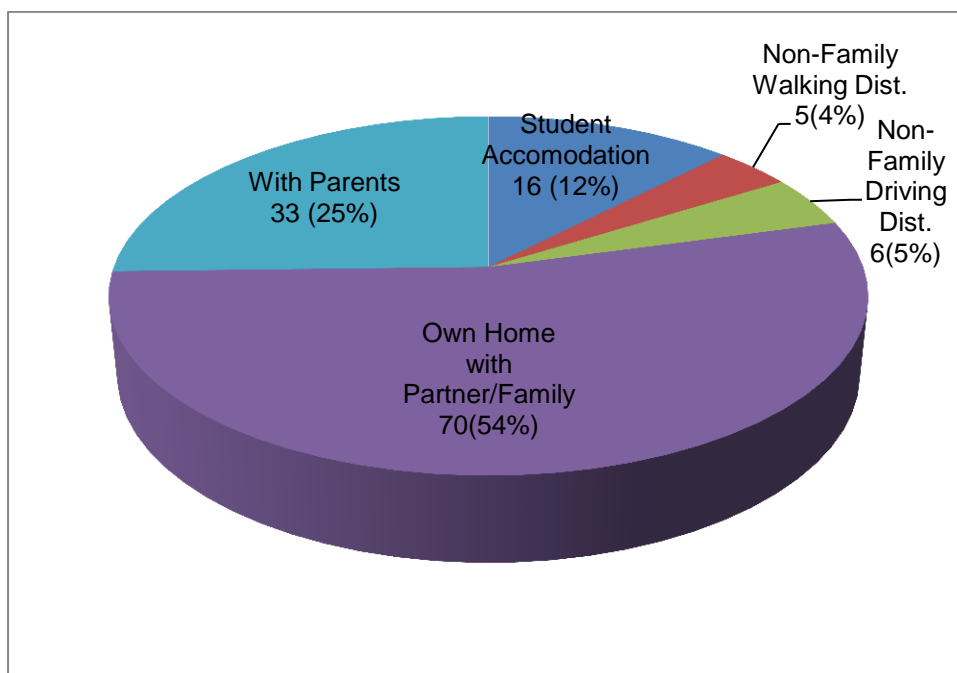


Figure 4 Student Accommodation

4.2. Comparisons between expectations and experiences (H₀:1)

This section investigates the data relating to null hypothesis 1: That there is no difference between the expectations and experiences of nursing students in their first year of university study. The areas considered are marks, time spent in paid work and private study; relationships with staff and other students, academic effort and perceived emphases of the university environment. Note that for all statistical analysis, only data relating to the 89 students who completed both questionnaires (CSXQ and CSEQ) was used.

4.2.1 Expected versus reported marks

Table 4.3 cross-tabulates expected and reported marks using the five coded ranges, with the highlighted diagonal indicating when the reported mark matches the expected mark. Below the highlighted diagonal the expected mark was not achieved and above the diagonal, it was exceeded. In general, the data indicates a widespread over-estimation by students of the marks they were likely to achieve. From the group of 89 students, 60 (67%) expected marks of 60% or more but only 13 (15%) achieved this grade. Considering performance within each expectation range, although 8(9%) students scored higher than they expected, only 18 (20%) achieved their expected grade and 63 (71%) scored less than expected.

Prior to further analysis (to avoid low cell counts issues) both the expected and reported data were first re-coded into three categories as follows:-

- 1) Average mark of less than 50%
- 2) Average mark of 50% to 59%
- 3) Average mark of 60% or more

The statistical significance of the observed differences was investigated using the McNemar test, one of the chi square family of cross-tabulation tests, used for two repeated measurements (before and after) of the same categorical variable. The result shown in Table 4.4 indicates that a significant difference exists between expected and reported marks ($p < 0.0001$).

Table 4.3 Reported Marks for each Expectation Range

Expected Average Mark	Reported Mark					Total
	40-49%	50-59%	60-69%	70-79%	80%+	
40-49% Count	2	1	1	0	0	4(4.5%)
50-59% Count	9	13	3	0	0	25(28.1%)
60-69% Count	4	15	0	2	0	21(23.6%)
70-79% Count	10	12	2	3	1	28(31.5%)
80%+ Count	2	8	1	0	0	11(12.3%)
Total	27 30.3%	49 55.1%	7 7.9%	5 5.6%	1 1.1%	89 100%
Marks – Personal Achievement Summary						
Lower marks than expected		As expected		Higher marks than expected		
63 (71%)		18 (20%)		8 (9%)		

In table 4.3 the diagonals indicate where students achieved the marks they expected. The areas below the diagonals indicate the students who achieved less marks than they expected and the areas above the diagonals indicate the students who achieved higher marks than they expected.

Table 4.4 McNemar Test - Expected vs Reported Marks (Re-coded)

Expected Mark		Reported Mark			Total
		below 50%	50 to 59	60% or more	
below 50%	Count	2	1	1	4(4.5%)
50 to 59	Count	9	13	3	25(28.1%)
60% or more	Count	16	35	9	60(67.4%)
Total		27	49	13	89
		30.3%	55.1%	14.6%	100.0%
Significance of result					
		Value	df	Asymp. Sig. (2-sided)	
McNemar-Bowker Test ^(a)		46.583	3	$p = 0.000$	
Number of Valid Cases		89			

^(a) The McNemar test only applies for dichotomous variables.

Where the variable has more than 2 values, the McNemar-Bowker test is used instead of the McNemar test. The asmp. Sig reading is equivalent to the probability score, therefore, an Asymp. Sig. value of 0.000 is highly significant.

4.2.2 Expected vs reported study hours

Table 4.5 cross-tabulates expected and reported study hours using the seven coded ranges, with the highlighted diagonal indicating when the reported hours match the expected hours. Below the highlighted diagonal of Table 4.5, less study than expected was done and above the diagonal, more time was spent in study than expected. The data shows that overall, students spent less time in private study than they expected. From the group of 89 students, 31 (35%) expected to study for less than 10 hours per week but in fact 54 (60%) did this modest level of private study. Conversely, at the high end of effort, 16 (18%) students expected to engage in private study for over 21 hours per week, but only 9 (10%) reported doing so. Table 4.5 also shows that overall, 19 (21%) students spent more time studying than they expected and 47 (53%) spent less time than they expected.

Prior to further analysis (to avoid low cell counts issues) both the expected and reported data were first re-coded into three categories as follows:-

- 1) Up to 10 hours study per week
- 2) 11 to 20 hours study per week
- 3) Over 20 hours study per week

The statistical significance of the observed differences was investigated using the McNemar test for two repeated measurements (before and after) of the same categorical variable. The result shown in Table 4.6 indicates that a significant difference exists between students' expected and reported hours of study per week, ($p = 0.004$).

Table 4.5 Reported Study for Each Expectation Range

Expected Study (hours per week)		Reported Study (hours per week)							Total
		≤ 5	6-10	11-15	16-20	21-25	26-30	≥ 31	
≤ 5 hrs	Count	3	1	2	0	0	0	0	6(6.7%)
6-10	Count	5	13	3	3	0	1	0	25(28.1%)
11-15	Count	6	11	5	3	3	0	1	29(32.6%)
16-20	Count	3	6	1	2	0	1	0	13(14.6%)
21-25	Count	0	3	4	0	0	1	0	8(9.0%)
26-30	Count	0	1	2	0	1	0	0	4(4.5%)
≥ 31 hrs	Count	1	1	1	0	1	0	0	4(4.5%)
Total		18	36	18	8	5	3	1	89
		20.2%	40.4%	20.2%	9.0%	5.6%	3.4%	1.1%	100.0%

Hours Study per Week – Case by Case Summary		
Less study hours than expected	As expected	More study hours than expected
47 (53%)	23 (26%)	19 (21%)

In table 4.5 the diagonals indicate where students reported that they engaged in the number of study hours they expected to in each week. The areas below the diagonals indicate the students who studied less than they expected and the areas above the diagonals indicate the students who spent more time in private study than they expected.

Table 4.6 McNemar Test - Expected vs Reported Study Hrs (Recoded)

Expected Study Hours		Reported Study Hours			Total
		10 or less	11 to 20	21 or more	
10 or less	Count	22	8	1	31 (34.8%)
11 to 20	Count	26	11	5	42 (47.2)
21 or more	Count	6	7	3	16 (18.0%)
Total		54	26	9	89
		60.7%	29.2%	10.1%	100.0%

Significance of Result			
	Value	df	Asymp. Sig. (2-sided)
McNemar-Bowker Test ^(a)	13.434	3	0.004
Number of Valid Cases	89		

^(a) The McNemar test only applies to a dichotomous variable. When the variable had more than 2 values, the McNemar-Bowker test was used instead. The asmp. Sig. reading is equivalent to the probability score which at 0.000 is highly significant.

4.2.3 Expected vs reported paid work

Table 4.7 cross-tabulates expected and reported paid work using the three coded ranges, with the highlighted diagonal indicating when the reported and expected paid work are the same. Below the highlighted diagonal less paid work than expected was done and above the diagonal, more paid work than expected was undertaken.

The data shows that the level of paid work reported by students was slightly higher than their expectations. From the group of 89 students, 12 (14%) expected to work for 11 or more hours per week, but 18 (20%) actually undertook this amount of paid work. Table 4.7 also shows that overall, 9 (10%) students did less work than they expected and 14(16%) did more work than they expected.

Prior to further analysis both the expected and reported data were first re-coded into the following two categories-

- Up to 10 hours paid work per week
- 11 or more hours paid work per week

Table 4.7 Reported Paid Work for each Expectation Range

Expected Paid Work (hours per week)	Reported Paid Work (hrs/wk)			Total
	≤10	11 to 20	≥ 21	
≤10 hrs Count	66	8	3	77(86.5%)
11 to 20 Count	5	0	3	8(9.0%)
≥ 21hrs Count % within Expected	0	4	0	4(4.5%)
Total	71	12	6	89
	79.8%	13.5%	6.7%	100.0%
Paid Work – Case by Case Summary				
Less Than expected	As expected		More Than expected	
9 (10%)	66 (74%)		14 (16%)	
<div style="display: flex; flex-direction: column; gap: 5px;"> <div> Indicates the students who worked less hours than expected;</div> <div> indicates where students worked the hours they expected</div> <div> indicates where students worked more hours than they anticipated</div> </div>				

The statistical significance of the observed differences was investigated using the McNemar test for two repeated measurements (before and after) of the same categorical variable. The result shown in Table 4.8 indicates that the difference between expected and reported paid work was not statistically significant ($p = 0.21$).

Table 4.8 McNemar Test - Expected vs Reported Paid Work (Recoded)

Expected Paid Work		Actual Paid Work		Total
		≤10 hrs	≥11 hrs	
zero to 10 hrs	Count	66	11	77(86.5%)
11 hrs or more	Count	5	7	12(13.5%)
Total		71	18	89
		79.8%	20.2%	100.0%
Significance of Result				
		Value	Exact Sig. (2-sided)	
McNemar Test			0.210	
N of Valid Cases		89		

The Exact Sig reading is equivalent to the probability score which at 0.210 is not significant.

4.2.4 Expectations vs experiences of HE relationships - overview

The quality of Relationships with academic staff, administrative staff and other students was captured as ordinal data (from 1 to 7), with higher values being better perceived than lower values. Hence, responses from the 89 students who completed both the CSXQ and the CSEQ questionnaires were suitable for being compared using both categorical and scale-based tools. Table 4.9 presents a categorical overview by counting the negative (1 to 3), neutral (4) and positive (5 to 7) responses. To aid comparison, the frequencies are also expressed as percentages.

The main feature of this data is that expectation scores are consistently more positive than the scores based on experience. In addition, the ranking order changes between expectation and experience. For the expectation scores, other students (92% positive) scored best with academic staff (78% positive) being lowest rated.

For the experience scores, other students (84% positive) again scored best, however, administrative staff (69% positive) had the lowest rating.

Table 4.9 CSXQ vs CSEQ - Summary of Higher Education Relationships

Relationship Categories	CSXQ (n=89)	CSEQ (n= 89)
Other Students		
Positive (score of 5 to 7)	82 (92%)	75 (84%)
Neutral (score = 4)	4 (5%)	6 (7%)
Negative (score of 1 to 3)	3 (3%)	8 (9%)
Academic Staff		
Positive (score of 5 to 7)	70 (78%)	64 (72%)
Neutral (score = 4)	13 (15%)	14 (16%)
Negative (score of 1 to 3)	6 (7%)	11 (12%)
Administrative staff		
Positive (score of 5 to 7)	73 (82%)	61 (69%)
Neutral (score = 4)	9 (10%)	11 (12%)
Negative (score of 1 to 3)	7 (8%)	17 (19%)

4.2.4.1 CSXQ vs CSEQ – HE relationships – statistical analysis

For statistical analysis, the ordinal responses (from 1 to 7) to the three relationship questions (academic staff, other students and administrative staff) were processed as scale data. For each relationship, responses from the 89 students who completed both the CSXQ and the CSEQ questionnaires were compared using standard scale data calculations (mean and median) as well as the Wilcoxon Signed Ranks Test for repeated measures of non-parametric data. The results for all three relationships are summarised in Table 4.10. The Wilcoxon signed ranks test revealed that there were significant differences between expectations and experiences for relationships with academic staff and administrative staff ($p < 0.018$ and 0.000 respectively).

Table 4.10 CSXQ vs CSEQ – HE Relationships – Wilcoxon Signed Ranks Test

Scales being compared		Median	Mean	Result - Wilcoxon Signed Ranks Test
Relationships with Academic Staff	CSXQ	6.00	5.55	z = -2.368 p = 0.018
	CSEQ	5.00	5.12	
Relationships with Other Students	CSXQ	6.00	6.11	z = -1.567 p = 0.117
	CSEQ	6.00	5.80	
Relationships with Administrative Staff	CSXQ	6.00	5.64	z = -3.621 p = 0.000
	CSEQ	5.00	4.84	

4.2.5 Expectations vs experiences of the university environment

Students were asked how much emphasis they expected the university to place on the seven areas of personal/professional/scholarly development shown in Figure 5 Responses were captured on an ordinal scale which ranged from 1 (very weak emphasis) to 7 (very strong emphasis). For a descriptive overview the seven categories were collapsed into three to enable the data to be displayed with improved clarity. The three grades of strong emphasis were combined as were the three grades of weak emphasis to provide one category for weak, one category for neutral and one for strong.

For statistical analysis the seven ordinal responses from each student were added to produce a single score on a scale from a minimum of 7 (1 x 7) to a maximum of 49 (7 x 7). The two sets of scores from the 89 students who completed both the CSXQ and the CSEQ were compared using standard scale data calculations as well as the Wilcoxon Signed Ranks Test. The descriptive summary given in table 4.11 confirms that scores based on experience (median = 37.0, mean = 36.8) were lower (i.e. less emphasis) than the expectation scores (median = 42.0, mean = 41.6). The Wilcoxon Signed Rank Test showed that the observed descriptive difference was statistically significant ($z = -5.54$, $p < 0.001$).

Table 4.11 CSXQ vs CSEQ - University Environment Summary and Wilcoxon Signed Ranks Test

Scales being compared	N	Median	Mean	Min	Max	Result of Wilcoxon Signed Ranks Test
CSXQ Univ. Environment	89	42.00	41.55	15	49	$z = -5.536$ $p = < 0.000$
CSEQ Univ. Environment	89	37.00	36.82	22	49	

Figure 5 provides a pictorial comparison of the simplified 3-category CSXQ and CSEQ responses. This shows that in all cases the level of emphasis experienced was lower than expected with the greatest experience-expectation gap occurring for academic qualities. Nursing competence had the highest emphasis for both expectation and experience, while creative qualities similarly scored lowest on both CSXQ and CSEQ.

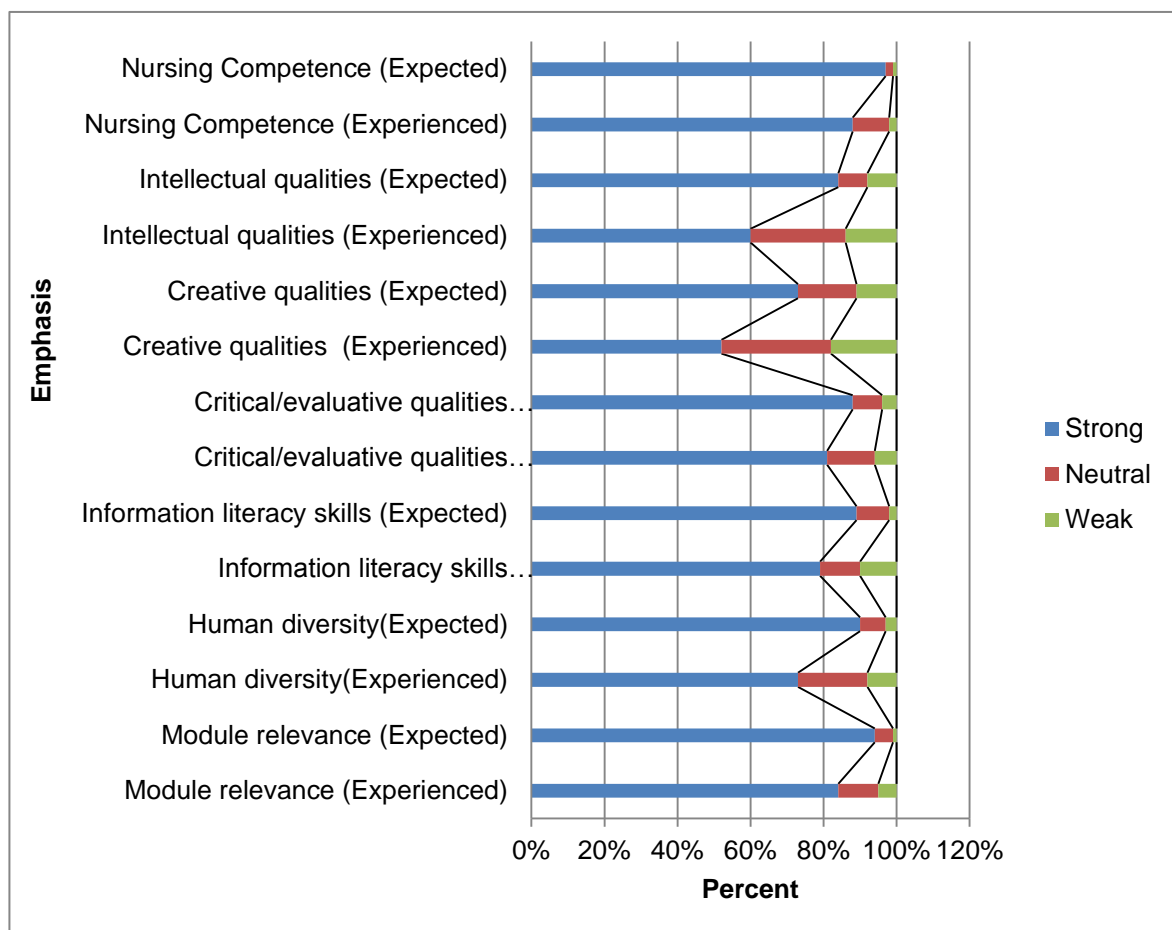


Figure 5 Categorical Summary of University Environment Emphasis

4.2.6 Expectations vs experiences of academic effort - overview

Students were asked how often they expected to (CSXQ) and actually did (CSEQ) perform a set of 26 indicator activities considered to be associated with academic success, logically grouped under the following four headings :-

- | | |
|--------------------------------------|--|
| 1) Reading & Writing
(7items) | Course-related activities which use or improve these fundamental higher education skills |
| 2) Academic Integration
(7 items) | Course-related or social contact with lecturers or other students via institutional facilities |
| 3) Course Learning
(7 items) | Session/assignment preparation, participation and follow-up activities |
| 4) Library/Computer Use
(5 items) | Seeking professional and course-related information from specified and additional sources |

Student responses were captured as ordinal data which ranged from 1(never) to 4 (very often). The results show that in 21 of the 26 items, the expectation frequencies were higher than those based on experiences.

For reading and writing:

The four greatest changes (highlighted in the CSEQ column) are: *internet access of another institution's library*, down from 85% (expectation) to 40% (experience), *complete preparatory reading before class*, down from 90% (expectation) to 40% (experience), *discuss career plans with a lecturer*, down from 62% (expectation) to 17% (experience) and *participate in class discussion via e-mail and blackboard*, down from 65% (expectation) to 25% (experience).

The four exceptions (experience greater than expectation) are highlighted in the CSXQ column, with the greatest increase being for, *reading non-assigned books*, up from 49% expectation to 63% for experience. Statistical analysis of academic effort data is considered in the following four sections.

In table 4.12 the descriptive overview indicates the frequency of responses in the upper two categories (often + very often) from all respondents (CSXQ = 130, CSEQ = 89) is displayed.

Table 4.12 Summary of Academic Effort CSXQ vs CSEQ

	CSXQ (N=130)	CSEQ (N=89)
Description of variable (Questionnaire item ref)	Often & Very Often	Often & Very Often
Reading & Writing (7 items) mean	95(73%)	61(68%)
Ask others to error-check your work (A15a, B23e)	78 (60%)	65 (73%)
Look-up writing style & grammar information (A15b, B23f)	65 (50%)	48 (54%)
Two or more revisions pre-submission (A15c, B23g)	121 (93%)	70 (79%)
Ask Lecturer advice/help on writing skills (A15d, B23h)	86 (66%)	39 (44%)
Read non-assigned books (A22a, B30b)	64 (49%)	56 (63%)
Read the assigned course text books (A22b, B30a)	125 (96%)	75 (84%)
R/W for assignments and exams (A22d, B30c)	129 (99%)	72 (81%)
Academic Integration (7 items) mean	85 (65%)	37 (42%)
E-mails to lecturers & other students (A26e, B21b)	105 (81%)	64 (72%)
Class discussions via e-mail and blackboard (A26f, B21d)	84 (65%)	22 (25%)
Consult a lecturer regarding your progress (A27a, B24a)	119 (91%)	49 (55%)
Discuss ideas for assignment/project (A27c, B24b)	98 (75%)	51 (57%)
Discuss career plans & ambitions with lecturer (A27d, B24c)	81 (62%)	15 (17%)
Socialise (snack/coffee) with lecturer out of class (A27e, B24e)	23 (18%)	25 (28%)
Ask lecturer feedback on academic performance (A27f, B24g)	83 (64%)	34 (38%)
Course Learning (7 items) mean	112(92%)	61(68%)
Memorise formulae, definitions & professional terms (A19a, B29a)	104 (80%)	58 (65%)
Complete preparatory reading before class (A28a, B22a)	117 (90%)	41 (46%)
Take detailed notes in class (A28b, B22b)	126 (97%)	72 (81%)
Contribute to class discussions (A28c, B22c)	114 (88%)	64 (72%)
Consider how different facts and ideas fit together (A28d, B22e)	118 (91%)	48 (54%)
Explain/discuss study topics to/with others (A28g, B23a)	98 (75%)	73 (82%)
Coursework integrating ideas from various sources (A28h, B23b)	110 (85%)	70 (79%)
Library/Computers (5 items) mean	119(92%)	62(69%)
Use library as quiet place to study (A26a, B20a)	109 (84%)	51 (57%)
Compile project bibliography or references (A26c, B20e)	122 (94%)	61 (68%)
Use Computer to prepare assignments (A26d, B21a)	127 (98%)	83 (93%)
Search Internet for project/assignment material (A28e, B21e)	128 (98%)	78 (88%)
Web access to data from another institution's library (A28f, B21f)	111 (85%)	36 (40%)

bold => greatest % difference in activity group & CSXQ % less than CSEQ %

4.2.6.1 Statistical analysis of the CSXQ vs CSEQ - academic effort.

Student responses to all 26 items (each coded ordinally from 1 to 4) were added within each of the four activity groups to produce a score for each student for within each activity for both CSEX and CSEQ. Consider for example, the course learning score for a single student. Seven items (each was coded from 1 to 4) were added to produce a score ranging from 7(1x7) to 28 (4x7), with higher values representing greater effort. The scores for the four activity groups are then used as sub-scales for both the CSXQ and the CSEQ questionnaires were compared using the Wilcoxon Signed Ranks test.

$$\begin{array}{c} \text{Total Academic} \\ \text{Effort} \\ \text{(CSXQ \& CSEQ)} \\ \text{(26 to 104)} \end{array} = \begin{array}{c} \text{Reading} \\ \text{\& Writing} \\ \text{(7 to 28)} \end{array} + \begin{array}{c} \text{Academic} \\ \text{Integration} \\ \text{(7 to 28)} \end{array} + \begin{array}{c} \text{Course} \\ \text{Learning} \\ \text{(7 to 28)} \end{array} + \begin{array}{c} \text{Library \&} \\ \text{Computer} \\ \text{Use} \\ \text{(5 to 20)} \end{array}$$

There was a statistically significant difference between expectations and experiences for each sub-scale, except for *reading and writing* (Table 4.13).

When the four sub-scales were combined to form *total academic effort*, (Table 4.13) the Wilcoxon Signed Rank test confirmed that the observed descriptive difference was statistically significant ($z = -7.004$, $p < 0.001$).

Table 4.13 CSXQ vs CSEQ – Academic Effort - Wilcoxon Signed Ranks Test

Sub-Scales	Median	Range	Mean	SD	Result of Wilcoxon Signed Ranks Test
Reading and Writing (7 items)					
CSXQ	22.00	16 to 28	21.37	2.61	$z = -1.293$
CSEQ	21.00	12 to 27	20.94	3.10	$p = 0.196$
Academic Integration(7 items)					
CSXQ	20.00	13 to 26	20.06	2.99	$z = -7.048$
CSEQ	17.00	9 to 23	16.18	3.31	$p = 0.000$
Course Learning (7 items)					
CSXQ	22.00	14 to 28	22.55	2.99	$z = -5.563$
CSEQ	20.00	14 to 26	20.08	3.05	$p = 0.000$
Library and Computers (5 items)					
CSXQ	18.00	10 to 20	17.61	2.15	$z = -5.881$
CSEQ	15.00	9 to 19	15.17	2.38	$p = 0.000$
Total Academic Effort (26 items)					
CSXQ	85.00	61 to 102	84.75	8.76	$z = -7.004$
CSEQ	75.00	51 to 94	75.17	8.60	$p = 0.000$

There was a statistically significant difference between expectations and experiences for each sub-scale, except for *reading and writing*.

4.3. Comparison between characteristics of stayers and leavers (H₀2)

This section investigates the data relating to null hypothesis 2 “*that there is no difference in characteristics between students who stay and students who leave*” The areas considered are age, accommodation, financial arrangements and level of parental education. Note that this analysis only uses data from the (CSXQ) expectation questionnaires completed by 130 students, together with an additional variable labelled “*persistence*” (indicating successful completion of the year), which was obtained from university records.

Table 4.14 gives a summary of the characteristics for the 22 leavers together with equivalent data for the group of 108 students who successfully completed the first year. The higher percentage of some categories among leavers is indicated by highlighted entries in Table 4.14. These suggest that a higher incidence of leavers was found among those who were aged over 40, male, white, gained entry via the GNVQ qualification, had parents who were not exposed to higher education and lived in their own home with their partner/family while studying.

In Table 4.15, the data showed a higher incidence of leavers among those who planned to do 11 to 20 hrs/wk of paid work, planned to study for less than 6 hours per week and expected an average mark in the 40 to 49 range.

In the following sub-sections, the chi-square statistic was used to test for significant associations between *persistence* and each of the selected characteristic variables. Due to the small sample size, most of the variables tested needed to be re-coded (where appropriate) into fewer categories (2 or 3) to meet the chi-square validity requirement that the minimum estimated cell count should be 5 or more.

Table 4.14 Characteristics of Students – Stay vs Leave

	Stayers (N = 108)	Leavers (N = 22)
Age Range (years)		
18-20	26 (24%)	4 (18%)
21-29	40 (37%)	9 (41%)
30-39	35 (32%)	5 (23%)
40-49	7 (7%)	4 (18%)
Sex		
Male	5 (5%)	2 (9%)
Female	103 (95%)	20 (91%)
Ethnic Group		
White	94 (86%)	22 (100%)
Black	7 (7%)	0 (0%)
Asian	3 (3%)	0 (0%)
Mixes	4 (4%)	0 (0%)
Entry Qualifications		
A levels	27 (25%)	5 (23%)
GNVQ	4 (4%)	2 (9%)
Access to HE course	60 (56%)	13 (59%)
Other*	17 (16%)	2 (9%)
Branch of Study		
Adult	59 (55%)	13 (59%)
Child	30 (28%)	4 (18%)
Mental Health	19 (17%)	5 (23%)
Parental Education		
One parent had HE	18(16%)	2 (9%)
Both parents had HE	6 (6%)	0 (0%)
Neither Parent had HE	78 (72%)	20 (91%)
Don't Know	6 (6%)	0 (0%)
Domicile		
Student accommodation	15 (14%)	1(4%)
Shared house – walk	4 (4%)	1(4%)
Shared house – drive	6 (5%)	0 (0%)
Own home with partner/family	55 (51%)	15 (68%)
With parents	28 (26%)	5 (23%)
Summary of the characteristics for the 22 leavers and equivalent data for the group of 108 students who completed the first year. The higher percentage of some categories among leavers is indicated by highlighted entries		

Table 4.15 Time Usage and Marks – Stay vs Leave

	Stayers N = 108	Leavers N = 22
Expected hours of paid work		
1-10	94 (87%)	15 (68%)
11-20	11 (10%)	7 (32%)
21 or more	3 (3%)	0 (0%)
Expected study hours		
5 or less	8 (7%)	3 (14%)
6-10	26 (24%)	5 (23%)
11-15	38 (35%)	7 (32%)
16-20+	16 (15%)	3 (14%)
21-25	9 (8%)	2 (9%)
26-30	6 (6%)	1 (4%)
30	5 (5%)	1(4%)
Expected average mark		
40 to 49%	5 (5%)	2 (9%)
50 to 59%	28 (26%)	2 (9%)
60 to 69%	26 (24%)	7 (32%)
70 to 79%	34 (31%)	7 (32%)
80%+	15 (14%)	4 (18%)
The data showed a higher incidence of leavers among those who planned to do 11 to 20 hrs/wk of paid work, planned to study for less than 6 hours per week and expected an average mark in the 40 to 49 range.		

4.3.1 Stay vs leave: Age

The 22 students that left comprise 16.9% of the entire group. However, the cross-tabulation between persistence (successful completion of the first year) and student age in table 4.16 shows that within the three re-coded age categories, the non-completion rates varied slightly as follows:-

Age 18-20 => 13.3%, Age 21 to 29 =>18.4%, Age 30 and over => 17.6%

The chi-squared test showed no significant association between persistence and age ($\chi^2 = 0.37$, $p = 0.83$, $\phi = 0.15$).

Table 4.16 Cross tabulation of Persistence vs Age (re-coded)

Persistence		Age Group			Total
		18 to 20	21 to 29	30+	
stay	Count	26	40	42	108
	% within age group	86.7%	81.6%	82.4%	83.1%
leave	Count	4	9	9	22
	% within age group	13.3%	18.4%	17.6%	16.9%
Total	Count	30	49	51	130
	% of Total	23.1%	37.7%	39.2%	100.0%

When age was recoded into three categories, the youngest students were the smallest group of leavers and the oldest students (30+) were most likely to leave.

4.3.2 Stay vs leave: Domicile

Due to very low counts in some domicile categories (e.g. only 5 of the 130 cases lived in shared accommodation within walking distance), the original five categories were re-coded into three as shown in Table 4.17 before undertaking further analysis.

The 22 students that left comprise 16.9% of the entire group. However, the cross-tabulation in Table 4.18 between persistence (successful completion of the first year) and student domicile showed that within the three re-coded domicile categories non-completion rates varied as follows:-

Student/shared accommodation => 7.4%
 Living with parents => 15.2%
 Living with partner/family => 21.4%

A chi-square test for independence was done which found that despite the observed variation, there was no significant association between persistence and domicile ($\chi^2 = 2.82$, $p = 0.24$, phi 0.15).

Table 4.17 Re-coding of Student Domicile

Description	Old Value		New Value	Description
Student accommodation on campus	1	→	1	Student/Shared accommodation
Shared accommodation within walking distance of university	2	→	1	Student/Shared accommodation
Shared accommodation within driving distance of university	3	→	1	Student/Shared accommodation
Living in own home with partner/family	4	→	2	Living with partner/family
Living with parents	5	→	3	Living with parents

Five categories were recoded into three because of very low cell counts in some categories and to facilitate data analysis

Table 4.18 Cross tabulation of Persistence vs Domicile (re-coded)

Persistence		Domicile			Total
		Local non-family	With partner/family	With parents	
stay	Count	25	55	42	108
	% within Domicile	92.6%	78.6%	82.4%	83.1%
leave	Count	2	15	5	22
	% within Domicile	7.4%	21.4%	15.2%	16.9%
Total	Count	27	70	33	130
	% of Total	20.8%	53.8%	25.4%	100.0%

As indicated by the shaded area, the majority of students who stayed and who left were living with a partner and/or children as a family unit.

4.3.3 Stay vs leave: Finance

The original student finance data summarised (Section 4.1.1:Table 4.2) comprising six levels of support from seven different sources was unsuitable for more detailed analysis. . Hence the original data was reduced to just two categories as follows:-

1 = mainly (i.e. over half) from grants or secondments

2 = mainly from other sources (self, partner, family, etc).

The 22 students who left comprise 16.9% of the entire group.

However, the cross-tabulation in Table 4.19 between student persistence (successful completion of the first year) and their main source of finance showed that within the two re-coded finance categories the non-completion rates varied as follows:-

Grant/Secondment => 10.7%

Self/Family/Other Sources => 21.6%

A chi-square test for independence (with Yates Continuity Correction for 2 x 2 tables) indicated that despite the observed variation, there is no significant association between persistence and main source of student finance, ($\chi^2 = 1.98$; $p = 0.16$; $\phi = -0.14$).

Table 4.19 Cross-tabulation of Persistence vs Finance (re-coded)

Persistence		Main Source of Finance		Total
		Grant/ Secondment	Self/ Family/ other	
stay	Count	50	58	108
	% within finance	89.3%	78.4%	83.1%
Leave	Count	6	16	22
	% within finance	10.7%	21.6%	16.9%
Total	Count	56.0	74.0	130.0
	% of Total	43.1%	56.9%	100.0%
Chi square $\chi^2 = 1.98$;		$p = 0.16$;	$\phi = -0.14$	Finding not significant

Five categories were recoded into two because of very low cell counts in some categories in order to facilitate data analysis

4.3.4 Stay vs leave and parental academic history

Initial analysis of parental academic history indicated very low counts in some categories (e.g. in only 6 of the 130 cases did both parents attend university). Hence, before doing further analysis, the original five categories were re-coded into two as shown in Table 4.20.

The 22 students that left comprise 16.9% of the entire group. However, the cross-tabulation in Table 4.21 between persistence (successful completion of the first

year) and parental academic history, showed that within the two re-coded parental education categories, the non-completion rates were as follows:-

One or both parents attended university => 7.7%
 Neither parent attended university / don't know => 19.2%

A chi-square test for independence indicated that despite the observed variation, there was no significant association between persistence and parental academic history, ($\chi^2 = 1.23$; $p = 0.27$, $\phi = 0.12$).

Table 4.20 Re-coding of Parental Academic History

Description	Old Value		New Value	Description
Yes – Both parents	1	→	1	Yes – one/both parents
Yes – Father only	2	→	1	Yes – one/both parents
Yes – Mother only	3	→	1	Yes – one/both parents
Don't Know	4	→	2	No and Don't Know
No	5	→	2	No and Don't Know

Five categories were recoded into two because of very low cell counts in some categories in order to facilitate data analysis

Table 4.21 Cross-tabulation. of Persistence vs Parental Academic History (re-coded)

Persistence		Parental University Education		Total
		Yes One/both	No/don't know	
stay	Count	24	84	108
	% in Parental Education	92.3%	80.8%	83.1%
Leave	Count	2	20	22
	% in Parental Education	7.7%	19.2%	16.9%
Total	Count	26	104	130
	% of Total	20.0%	80.0%	100.0%
Chi square	$\chi^2 = 1.23$	$p = 0.27$	$\phi = 0.12$	Finding not significant

4.3.5 Stay vs leave: Paid work

To facilitate analysis, the original three categories of paid work were reduced to just two categories 10 hours or less and 11 hours or more. The 22 students that left comprise 16.9% of the entire group. However, the cross-tabulation in Table 4.22 between student persistence (successful completion of the first year) and hours of paid work per week, showed that within the two re-coded categories of paid work, the non-completion rates varied as follows:-

10 hours or less => 13.8%
 11 hours or more => 33.3%

A chi-square test for independence indicated that despite the observed variation, there is no significant association between persistence and the amount of paid work undertaken, χ^2 (df = 1, N = 130) = 3.51, $p = 0.06$, $\phi = 0.19$).

Table 4.22 Cross-tabulation of Persistence vs Paid Work (re-coded)

Persistence		Paid Work		Total
		10 hrs or less	11 hrs or more	
stay	Count	94	14	108
	% within Paid Work	86.2%	66.7%	83.1%
Leave	Count	15	7	22
	% within Paid Work	13.8%	33.3%	16.9%
Total	Count	109	21	130
	% of Total	83.8%	16.2%	100.0%
Chi square	$\chi^2 = 3.51$	$p = 0.06$	$\phi = 0.19$	Finding not significant

There was no significant association between persistence and amount of paid work undertaken though the p value was very close to the significance value of 0.05.

4.4 Comparison of academic effort of stayers and leavers (H₀₃)

This section investigates the data relating to Null Hypothesis 3: That there is no difference in the level of expected academic effort for students who stayed and students who left in the first year of study.

In the CSXQ questionnaire students were asked how often they expected to perform a number of activities considered to be associated with academic success. These activities/items were put into 4 logical groups under the headings *reading/writing* (9 items), *academic integration* (8 items), *course learning* (7 items) and *library/computer use* (6 items). Responses were captured as ordinal data ranging from 1(never) to 4(very often) with the higher value always indicating greater academic diligence. The following sections describe the descriptive and statistical processing of this data.

4.4.1 Stay vs Leave: Academic effort - Descriptive Summary

Table 4.23 lists the 30 questions in the 4 logical activity groups which comprise academic effort. It shows the number of leavers and stayers who indicated on the CSXQ that they expected to do each of the listed activities “often” or “very often”. To aid comparison, the frequencies are also expressed as percentages.

Considering individual items, the results in Table 4.23 show that most (22 out of 30) of the leaver effort-expectation ratings were higher than the stayer ratings. The differences between the two groups ranged from 1 to 23 percentage points with the majority (24 out of 30) of the differences being less than 10 percentage points. The greatest item difference was for *read extra articles science/nursing concepts* (stay = 87%, leave = 64%). For higher leaver scores, the greatest item difference was *read extra articles; science/nursing concepts* (stay = 57%, leave = 73%).

Considering the four logical groups, the mean values shown in Table 4.23 indicate that leavers had higher effort scores in 3 of the 4 groups, however, the differences were quite modest with 3 out of 4 differing by only 2 percentage points. The greatest difference was for *academic integration* (stay = 66%, leave = 74%).

Table 4.23 CSXQ Academic Effort Summary - Stay vs Leave

	Stay (n=108)	Leave (n=22)
Description of Variable (Questionnaire Item Ref)	Often & Very Often	Often & Very Often
Reading & Writing (mean of 9 items)	83 (77%)	17 (78%)
Ask others to error-check your work (A15a, B23e)	62 (57%)	16 (73%)
Look-up writing style & grammar information (A15b, B23f)	55 (51%)	10 (45%)
Two or more revisions pre-submission (A15c, B23g)	100 (93%)	21 (95%)
Ask Lecturer advice/help on writing skills (A15d, B23h)	72 (66%)	14 (64%)
Read extra articles on science/nursing concepts (A19d)**	94 (87%)	14 (64%)
Read non-assigned books (A22a, B30b)	50 (46%)	14 (64%)
Read the assigned course text books (A22b, B30a)	103 (95%)	22 (100%)
Use directed study material or workbooks (A22c)**	105 (97%)	22 (100%)
R/W for assignments and exams (A22d, B30c)	107 (99%)	22 (100%)
Academic Integration (mean of 8 items)	72 (66%)	16 (74%)
E-mails to lecturers & other students (A26e, B21b)	87 (81%)	18 (82%)
Class discussions via e-mail and blackboard (A26f, B21d)	67 (62%)	17 (77%)
Consult a lecturer regarding your progress (A27a, B24a)	99 (92%)	20 (91%)
Discuss academic programme selection with lecturer (A27b)**	89 (82%)	20 (91%)
Discuss ideas for assignment/project (A27c, B24b)	80 (74%)	18 (82%)
Discuss career plans & ambitions with lecturer (A27d, B24c)	65 (60%)	16 (73%)
Socialise (snack/coffee) with lecturer out of class (A27e, B24e)	18 (17%)	5 (23%)
Ask lecturer feedback on academic performance (A27f, B24g)	67 (62%)	16 (73%)
Course Learning (mean of 7 items)	94 (87%)	19 (85%)
Memorise formulae, definitions & professional terms (A19a, B29a)	86 (80%)	18 (82%)
Complete preparatory reading before class (A28a, B22a)	98 (91%)	19 (86%)
Take detailed notes in class (A28b, B22b)	104 (96%)	22 (100%)
Contribute to class discussions (A28c, B22c)	94 (87%)	20 (91%)
Consider how different facts and ideas fit together (A28d, B22e)	99 (82%)	19 (86%)
Explain/discuss study topics to/with others (A28g, B23a)	82 (76%)	16 (73%)
Coursework integrating ideas from various sources (A28h, B23b)	93 (86%)	17 (77%)
Library & Computers (mean of 6 items)	98 (90%)	20 (92%)
Use library as quiet place to study (A26a, B20a)	90 (83%)	19 (86%)
Use library index or database to find books/articles (A26b)**	91 (84%)	18 (82%)
Compile project bibliography or references (A26c, B20e)	101 (93%)	21 (95%)
Use Computer to prepare assignments (A26d, B21a)	105 (97%)	22 (100%)
Search Internet for project/assignment material (A28e, B21e)	106 (98%)	22 (100%)
Web access to data from another institution's library (A28f, B21f)	92 (85%)	19 (86%)

bold => greatest % difference in activity group
****** items present in CSXQ but not in CSEQ

4.4.2 Stay vs leave: Academic effort - statistical analysis

For statistical processing, the ordinal response values (1 to 4), for questions in the each of the four logical activity groups (or sub-scales), were added to produce a numeric score indicative of each student's level of effort for that sub-scale. The valid range for scores depends on the number of items/questions in the sub-scale. Hence *course learning* with 7 items, would have a minimum of 7 (1x4) and a maximum of 28 (4x7). Similarly, the score ranges for the other sub-scales *reading/writing* with 9 items, would have a minimum of 9 and a maximum of 36 (4x9), *academic integration*, with 8 items, would have a minimum of 8 (1x8) and a maximum of 32 (4x8) and *library and computer use* (6 items), would have a minimum of 6 and a maximum of 24 (4x6). As shown in Table 4. 24 . The score ranges for all sub-scales and for *total academic effort* are as follows:-

$$\begin{array}{cccccc}
 \begin{array}{c} \text{Total Academic} \\ \text{Effort} \\ \text{(CSXQ only)} \\ \text{(30 to 120)} \end{array} & = & \begin{array}{c} \text{Reading} \\ \text{\& Writing} \\ \text{(9 to 36)} \end{array} & + & \begin{array}{c} \text{Academic} \\ \text{Integration} \\ \text{(8 to 32)} \end{array} & + & \begin{array}{c} \text{Course} \\ \text{Learning} \\ \text{(7 to 28)} \end{array} & + & \begin{array}{c} \text{Library \&} \\ \text{Computer} \\ \text{Use} \\ \text{(6 to 24)} \end{array}
 \end{array}$$

The CSXQ scores of the 22 leavers and 108 stayers for all the above sub-scales were compared using the Mann-Whitney U non-parametric test for two independent groups. The results, summarised in Table 4.24, show that there was no statistically significant difference between stayers and leavers for any of the four subscales.

When the four sub-scales were combined to form *total academic effort*, Table 4.24 shows that the leaver scores (median = 95.0, mean = 96.3) were marginally higher than the stayer scores (median = 96.0, mean = 95.4) and the Mann-Whitney-U test shows there was no statistically significant difference ($z = -0.25$, $p = 0.98$). Hence the data confirms the null hypothesis that there was no significant difference in expected academic effort between the students stayed and those who left.

Table 4.24 – Mann Whitney U Test – Stay vs Leave – Expected Academic Effort

Persistence		Course Learning	Academic Integration	Library & Computer Use	Reading & Writing	Total Academic Effort
Stay n=108	Mean	22.81	23.23	21.10	28.21	95.35
	Lowest	14	15	15	21	68
	Highest	28	31	24	35	114
	Median	23.00	23.00	22.00	28.00	96.00
Leave n=22	Mean	22.77	24.14	20.95	28.45	96.32
	Lowest	18	19	18	22	80
	Highest	28	32	24	36	117
	Median	22.50	23.50	21.00	28.00	95.00
Total N=130	Mean	22.80	23.38	21.08	28.25	98.77
	Lowest	14	15	15	21	71
	Highest	28	32	24	36	121
	Median	23.00	23.00	22.00	28.00	98.50
Mann-Whitney U Test	Z	- 0.215	- 0.786	- 0.312	- 0.109	- 0.025
	p	0.829	0.432	0.755	0.913	0.980

Total academic effort = course learning + academic integration + library/computer use + reading & writing. The Mann-Whitney-U test shows there was no statistically significant difference ($z = - 0.25$, $p = 0.98$) in expected **total academic effort** between the students who stayed and those who left.

4.5 Comparison of social activities of stayers and leavers (H04)

This section investigates the data relating to null hypothesis 4: That there is no difference in the level of expected social integration for students who stayed and students who left in the first year of study.

In an identical manner to that described in section 4.4, the CSXQ also contained several questions about behaviours considered to be indicators of university social integration. The questions/items were organised into three logical activity groups, *acquaintances* (7 items), *campus facilities use* (7 items) and *club activities* (4 items). The ordinal responses ranged from 1 (never) to 4 (very often) with higher values indicating greater participation in social activities.

This section also covers the analysis of two additional groups of questions relating to student expectations of *university environment emphasis* (7 items) and *relationships with academic staff and other students* (2 items). For these items the ordinal responses ranged from 1 to 7 with higher values indicating greater emphasis or a more positive relationship.

4.5.1 Stay vs Leave – Social integration - Descriptive summary

Table 4.25 lists the 18 questions in the 3 logical activity groups which comprise social integration and shows the number of leavers and stayers who indicated on the CSXQ that they expected to do each activity “often” or “very often”. To aid comparison, the frequencies are also expressed as percentages.

Considering individual items, the results in Table 4.25 show that 10 of the 18 social - expectation ratings for leavers were higher than the ratings for stayers; six were lower and two were the same. The greatest difference was for the item had discussions with *students with different values* (stay = 62%, leave = 77%), a gap of 15% but only 4 of the 18 items showed a gap of more than 10%. Expected participation in *clubs and organisations* was very low for all 130 students (highest score =18%) but stayers scored even lower than leavers. Both groups expected to make very variable use of *campus facilities* with scores ranging from 86% for stayers to 4% for leavers, however, in most cases (5 out of 7) the expected-usage scores of stayers were higher than the leaver scores. Both groups expected a moderate to high level (45% to 82%) of contact with *acquaintances*, with leavers having slightly higher expectations (4 items higher, 1 lower and 2 items the same).

Table 4.25 CSXQ Social Integration Summary - Stay vs leave

Description of Variable (Questionnaire item reference)	Stay (108)	Leave (22)
	Often & Very Often	Often & Very Often
Acquaintances (7 items)	69 (64%)	15 (68%)
Students whose interests differ from yours(A18a, B27h)	71 (66%)	17 (77%)
Students not your economic/social background (A18b;B27i)	87 (81%)	18 (82%)
Student from different race/overseas (A18c, B27j)	89 (82%)	19 (86%)
Serious discussions – different values (A18d, B27k)	67 (62%)	17 (77%)
Serious discussions – different religious beliefs (A18e ,B27k)	58 (54%)	11 (50%)
Serious discussions – different political opinions (A18f, B27k)	49 (45%)	10 (45%)
Serious discussions – different race/ethnicity (A18g, B27L)	64 (59%)	13 (59%)
Use of Campus Facilities (7 items)	45 (42%)	8 (38%)
Attend on campus – art exhibition/theatrical event (A16a, B26c)	13 (12%)	1 (4%)
Attend on campus – concert/musical event (A16b, B26c)	12 (11%)	2 (9%)
On campus – solo relax or study (A16c, B26a)	43 (40%)	7 (32%)
On campus – meet other students for discussions (A16d, B26b)	74 (68%)	17 (77%)
Attend on campus – lecture or panel discussion (A16e, B26d)	89 (82%)	19 (86%)
Use on campus – recreational facilities (A16g, B26f)	40 (37%)	5 (23%)
Regular exercise/practice for any sport (A16h)	44 (41%)	8 (33%)
Clubs & Organisations (4 items)	6 (5%)	3 (11%)
Attend meeting of any university club/student group (A17a, B26h)	7 (6%)	2 (9%)
Help to organise a campus/student group/project/event (A17b)	1 (1%)	2 (9%)
Meet university staff to discuss club/group activities(A17c, B26i)	7 (6%)	4 (18%)
Member of leadership team for club/group (A17d, B26j)	8 (7%)	2 (9%)

bold => greatest % difference in activity group

The greatest difference was for the item *student friends with different values* (stay = 62%, leave = 77%), a gap of 15% but only 4 of the 18 items showed a gap of more than 10%.

4.5.2 Stay vs Leave: Social integration - statistical analysis

For each of the 3 logical groups (or subscales) of items, the ordinal responses (1 to 4) of the constituent items were combined to produce a set of 3 scores for each of the 130 respondents to the CSXQ. The score ranges varied with the number of scale items as follows: *acquaintances* (7 items, scored 7 to 28) *campus facilities use* (7 items scored 7 to 28), *club activities* (4 items scored 4 to 16).

The 130 CSXQ respondents were divided into two groups (22 leavers and 108 stayers) and their scores for the 3 sub-scales were compared using the Mann-Whitney U non-parametric test for independent groups.

Table 4.26 summarises the results of the processing. The Mann-Whitney-U test confirmed there was no statistically significant difference ($z = -0.38, p = 0.70$).

Hence the data confirms null hypothesis 4, that there is no significant difference in expected social integration between the students who left and those who stayed.

Table 4.26 Mann Whitney U Test – Stay vs Leave – Expected Social Integration

Persistence		Relations Staff & Other Students	University Environment	Student Acquaintances	Campus Facilities Use	Club Activities	Total Social Integration
Stay n = 108	Mean	11.76	41.94	19.44	16.71	5.83	41.98
	Lowest	2	15	10	10	4	30
	Highest	14	49	28	26	13	58
	Median	12.00	42.00	20.00	17.00	5.00	41.00
Leave n = 22	Mean	11.41	39.00	19.77	15.86	5.91	41.55
	Lowest	7	25	14	8	4	26
	Highest	14	49	28	21	13	51
	Median	12.00	39.50	21.00	16.00	5.00	42.00
Total N = 130	Mean	11.70	41.44	19.49	16.57	5.85	41.91
	Lowest	2	15	10	8	4	26
	Highest	14	49	28	26	13	58
	Median	12.00	42.00	20.00	16.50	5.00	41.00
Mann Whitney Test	Z	-0.774	-2.330	-0.653	-0.896	-0.415	-0.382
	p	0.439	0.020	0.540	0.370	0.678	0.702

Total Social integration = acquaintances + campus facilities use + club activities

The data in table 4.26 confirms null hypothesis 4, that there is no significant difference in expected social integration between the students who left and those who stayed.

4.5.3 Stay vs leave: University environment and relationships

Table 4.27 shows the number of stayers and leavers who responded on the CSXQ with positive expectations (score of 5 to 7) to questions on university environment emphasis and relationships. To aid comparison, the frequencies are also expressed as percentages. The results show that leavers expected less emphasis in five of the seven environment items with the two largest differences being *academic qualities* (stay = 86%, leave = 64%) and *information literacy* (stay = 88%, leave = 73%).

Leavers also expected lower availability and helpfulness in their *relationships with academic staff* (stay = 94%, leave = 82%).

For statistical analysis, the ordinal responses (1 to 7) of the constituent items were added to produce environment and relationship scores for each of the 130 CSXQ respondents. The score ranges varied as follows *university environment emphasis* (7 items, min = 7, max = 49) and *relations with academic staff and other students* (2 items, min = 2, max = 14). The 130 CSXQ respondents were divided into two groups (22 leavers and 108 stayers) and their scores were compared using the Mann-Whitney U non-parametric test for independent groups. Table 4.27, summarises the result of this processing.

For *university environment emphasis*, the leaver scores (median = 39.5, mean = 39.0) were lower than the stayer scores (median = 42.0, mean = 41.9) and in this case the Mann-Whitney U test showed that this difference was statistically significant ($z = -2.33$; $p = 0.02$).

For *relationships with academic staff & other students*, the leaver scores (median = 12.0, mean = 11.4) were marginally lower than the stayer scores (median = 12.0, mean = 11.8) and the Mann-Whitney U test showed there was no statistically significant difference ($z = -0.77$; $p = 0.44$).

Table 4.27 CSXQ Environment and Relationships Summary – Stay vs Leave

Description of Variable (CSXQ, CSEQ references)	Stay (108)	Leave (22)
	Score of 5 to 7	Score of 5 to 7
University Environment Emphasis mean =	96 (89%)	18 (82%)
Academic Qualities (A24a, B33a)	93 (86%)	14 (64%)
Creative Qualities (A24b, B33b)	81 (75%)	14 (64%)
Analytical/Evaluative Qualities (A24c, B33c)	96 (89%)	20 (91%)
Diversity appreciation (A24d, B33d)	99 (92%)	21 (96%)
Information Literacy (A24e, B33e)	95 (88%)	16 (73%)
Nursing Competence (A24f, B33f)	106 (98%)	21 (96%)
Module Relevance (A24g, B33g)	104 (96%)	20 (91%)
Mann Whitney test	$z = -2.33$	$p = 0.02$
Relationships mean =	95 (88%)	19 (86%)
Relationships with Academic Staff (A25b, B34b)	101 (94%)	18 (82%)
Relationships with Other Students (A25a, B34a)	88 (82%)	19 (86%)
Mann Whitney test	$z = -0.77$	$p = 0.44$

bold => Greatest % difference in variable group & stay % less than leave % university environment was highly significant.

4.6 Comparison between estimated gains and final grade (H₀₅)

This section investigates the data relating to Null Hypothesis 5: That there is no association between the level of estimated gains and final grade awarded.

The CSEQ elicited responses to the question in thinking about your university experience up to now, to what extent do you feel you have gained or made progress in the following areas? The estimate of gains scale (on this modified CSEQ) consists of 23 self reported estimates of progress (gains) on generally accepted outcomes of a university education. These collectively measure the value that students feel that their university education has added to their lives based on experiences gained in the following five areas of gain defined by the CSEQ research instrument, namely, personal and social development (PSD, 5 items); intellectual skills (IS, 6 items); general education (GE, 6 items); vocational preparation (VP, 3 items) and science and technology (ST, 3 items).

Student responses to each of the 23 gain items were coded from 1(very little) to 4 (very much) and the following sections describe the descriptive and statistical processing of this data.

4.6.1 Descriptive summary of Estimated Gains

The response \mathbb{R} (from 1 to 4) to each of the 23 questions was used to calculate the mean value of estimated gain in each of the 23 items over all 89 students and then expressed as a percentage ($100 \sum \mathbb{R} \div (4 \times 89)$). Table 4.28 displays the results in order of decreasing reported gain, ranging from a high of 83% (skills for professional career) to a low of 48% (enjoyment of art/music/drama). Table 4.28 also identifies the allocation of each of the 23 items to the five areas of gain and it is apparent that the two highest gain ratings are for items in the vocational preparation (VP) area and the four lowest ratings are for items in the general education (GE) area.

Institutional data for the 89 students who completed the CSEQ identified three categories consisting of final grade (upper second, lower second and third class honours) plus a fourth group,(comprising 27 students) who left or had to retake failed modules. In Table 4.29 the percentage gains in each of the 5 areas were cross tabulated with the four outcome categories. The results, displayed in Table 4.29 Indicate identical relative ratings (VP > PSD > IS >ST >GE) and similar numerical values with a maximum variation of 4%.

Table 4.28 Mean Estimated Gains in Benefit Order

Area	Description	Rating % (N = 89)
VP	Skills for professional career (B35 a)	83%
VP	Career information (B35 d)	81%
IS	Learning on one's own (B36 e)	78%
PSD	Adapting to change (B36 f)	77%
GE	Broad academic education (B35 c)	77%
PSD	Getting along with others (B35 o)	76%
IS	Using computers, other IT (B35 k)	76%
PSD	Understanding self (B35 n)	75%
VP	Vocational preparation (B35 b)	74%
IS	Writing effectively (B35 i)	72%
IS	Speaking effectively (B35 j)	72%
IS	Synthesising ideas (B36 d)	72%
PSD	Values & ethical standards (B35 m)	70%
IS	Thinking analytically (B36 c)	70%
ST	Consequences of science & technology (B36 b)	69%
GE	Awareness of other philosophies (B35 l)	69%
ST	Understanding science (B35 q)	68%
PSD	Personal health habits & fitness (B35 p)	66%
ST	Understanding new technology (B36 a)	65%
GE	Understanding history (B35 g)	62%
GE	Knowledge about the world (B35 h)	60%
GE	Acquaintance with literature (B35 f)	56%
GE	Enjoyment of art/music/drama (B35 e)	48%

VP = Vocational Preparation, IS = Intellectual Skills GE = General Education,
ST = Science and Technology, PSD = Personal and Social Development

Table 4.29 Mean Estimated Gains vs Final Grade

Final Grade	N	Areas of gain				
		PSD	IS	GE	VP	ST
2.1 Upper 2nd	10	73%	73%	62%	80%	66%
2.2 Lower 2nd	30	73%	73%	62%	80%	66%
3 Third Class	22	77%	74%	61%	77%	69%
Repeat/Fail	27	73%	74%	63%	81%	68%
Total	89	73%	73%	62%	80%	68%

VP = Vocational Preparation, IS = Intellectual Skills GE = General Education, ST = Science and Technology, PSD = Personal and Social Development
Vocational preparation was the highest rated gain followed by personal and social development.

4.6.2 Statistical analysis of estimated gains vs final grade

The ordinal responses (from 1 to 4) to each of the 23 questions were added to produce a value for total estimated gain for each student on a scale with a minimum of 23 (1 x 23) and a maximum of 92 (4 x 23). The 89 student scores were then split into the four outcome categories which were compared using standard numerical descriptive tools (e.g. mean and median) as well as the Kruskal-Wallis Test for differences between three or more independent groups.

The results in Table 4.30 show only minor differences between the four final grades, groups and estimated gains. The means of the four groups varied from 63.97 (lower 2nd class) to 65.32 (third class). The medians matched the grade sequence (highest = upper 2nd = 67.0; lowest = repeat/fail = 63.0). The Kruskal-Wallis Test in Table 4.30, for differences between estimated gains and final grade shows that there is no significant difference in the level of estimated gains across the four outcome groups ($\chi^2 = 0.31, p = 0.96$).

Table 4.30 Summary of Total Estimated Gain vs Final Grade

Final Grade	Mean	N	Std. Deviation	Median	Min	Max
2.1-Upper-2nd	64.30	10	6.056	67.00	54	73
2.2-Lower-2nd	63.97	30	8.954	64.00	43	83
3 Third Class	65.32	22	12.323	63.50	33	85
Repeat/Fail	65.15	27	12.306	63.00	40	87
Total	64.70	89	10.560	64.00	33	87
Kruskal Wallis Test results for differences between estimated gains and final grade						
Chi-Square ($\chi^2 = 0.31$)			Df = 3			
Asymp. Sig. (probability) $p = <0.96$ (not statistically significant)						

The means of the four groups varied from 63.97 (lower 2nd class) to 65.32 (third class). The medians matched the grade sequence (highest = upper 2nd = 67.0; lowest = repeat/fail = 63.0).

4.7 Investigation of non-hypothesised areas of interest

This section investigates aspects of the data which were not covered in the formulated null hypotheses but seemed to have the potential to yield interesting results.

4.7.1 Stay vs Leave: Search for Predictor Variables

Direct logistic regression was performed to assess the impact of a number of factors from the CSXQ on the likelihood that a student would complete the course. The model contained six independent variables (age, qualifications, total academic effort, total social integration, university environment, relations with staff and other students). Table 4.31 shows that the omnibus test containing all predictors was not statistically significant ($\chi^2 = 12.169$, $p = 0.274$), indicating that the model was not able to distinguish between stayers and leavers.

The logistic regression model as a whole only explained between 9% (Cox and Snell R square) and 15% (Nagelkerke R squared) of the variance in the stay versus leave student outcome.

Table 4.31 Logistic Regression Analysis of Stay vs Leave Factors

Categorical Variable Codings		Frequency	Parameter coding		
			(1)	(2)	(3)
qualification	1- A levels	32	.000	.000	.000
	2 - GNVQ	6	1.000	.000	.000
	3 - Access course	73	.000	1.000	.000
	4 - Other	19	.000	.000	1.000
A1.age	1-18 to 20	30	.000	.000	.000
	2 - 21 to 29	49	1.000	.000	.000
	3 -30 to 39	40	.000	1.000	.000
	4 -40 & over	11	.000	.000	1.000

Omnibus Tests of Logistic regression Model Coefficients

		Chi-square	df	Significance.
Step 1	Step	12.169	10	$p = 0.274$
	Block	12.169	10	$p = 0.274$
	Model	12.169	10	$p = 0.274$

Model Summary

Step	-2 Log likelihood	Cox & Snell R Squared	Nagelkerke R Squared
1		Variance	Variance
	106.044 ^a	0.9 (9%)	0.150 (15%)

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than 0.001.

The logit test of qualifications and age were not significant in relation to staying or leaving. The Cox & Snell R squared and the Nagelkerke R squared indicate the variation in the dependent variable (persistence) explained by the logit model.

Examination of the individual contributions in Table 4.32 showed that only one independent variable (university environment) made a statistically significant contribution ($p = 0.015$).

Table 4.32 Logistic Regression – Stay vs Leave - Variables in the Equation

		B	S.E.	Wald	df	Significance	Exp (B)	95.0% C.I. for EXP(B)	
								Lower	Upper
Step 1 ^a	A1.age			4.633	3	.201			
	A1.age(1)	-.539	.933	.334	1	.563	.583	.094	3.630
	A1.age(2)	-.515	1.159	.197	1	.657	.598	.062	5.796
	A1.age(3)	-2.073	1.213	2.922	1	.087	.126	.012	1.355
	Qualification (all)			2.027	3	.567			
	Qualification (1)	-.621	1.134	.299	1	.584	.538	.058	4.964
	Qualification (2)	.595	.972	.374	1	.541	1.813	.270	12.188
	Qualification (3)	.982	1.117	.772	1	.380	2.669	.299	23.844
	S.tot.acad.eff	-.032	.031	1.108	1	.292	.968	.912	1.028
	S.tot.soc.integ	.035	.041	.713	1	.398	1.035	.955	1.122
	S.relations	-.057	.134	.184	1	.668	.944	.727	1.227
	S.emphasis	.126	.052	5.955	1	.015	1.135	1.025	1.256
	Constant	-.961	3.053	.099	1	.753	.382		

The area highlighted indicates the only variable that was statistically significant with a p value of <0.015

4.7.2 Expectations and experiences of social activity

In comparison to the characteristics traditionally associated with initial exposure to university education, the group of student nurses participating in this study were older (39% aged over 30 yrs), had more family commitments (54% living in their own home with a partner/family), had more varied entry qualifications (56% via access courses) and were almost entirely female (95%). In addition, the nurse training regime itself differs from traditional courses as it involves significant periods of work placements away from the university campus. Hence the extent to which nursing students would be inclined to or are available to participate in the social life of the university is uncertain.

Table 4.33 compares student expectations of social activity with their experiences by counting the number of “often” and “very often” responses and expressing this frequency as a percentage of group size. With scores ranging from 9 (7%) to 11

(9%), students showed low expectations of engaging in activities associated with university clubs or organisations. The CSEQ data shows that their experiences were even lower with scores ranging 1(1%) to 6 (7%).

Students expected to make moderate use of campus facilities, with responses ranging from 14 (11%) to 108 (83%). However, the scores based on experience were much lower, ranging from 8 (9%) to 24 (27%). In seven of the eight social activities listed in table 4.33, the experience scores were lower than the expectation scores. The only item that differed from this trend was, *attend on campus artistic or theatrical event* which increased from CSXQ 14 (11%) to CSEQ 14 (16%). The greatest reduction was, *attend a lecture or panel discussion on campus* which fell from CSXQ 108 (83%) to CSEQ 14 (16%).

Table 4.33 Campus Social Activities Summary CSXQ vs CSEQ

Social Activities	CSXQ (N=130)	CSEQ (n=89)
	Often & Very Often	Often & Very Often
Use of Campus Facilities (5 items) mean	62 (48%)	14 (16%)
Attend artistic or theatrical event on campus (A16ab, B 26c)	14 (11%)	14 (16%)
Solo relax or study on campus (A16c, B26a)	50 (39%)	8 (9%)
Meet other students for discussions on campus (A16d, B 26b)	91 (70%)	24 (27%)
Attend a lecture or panel discussion on campus (A16e, B26d)	108 (83%)	14 (16%)
Use sport or recreational facilities on campus (A16g, B26f)	45 (35%)	8 (9%)
Clubs & Organisations (3 items) mean	10 (8%)	3 (3%)
Attend meeting of any university club/student group (A17a, B26h)	9 (7%)	1 (1%)
Meet university staff to discuss club/group activities(A17c, B26i)	11 (9%)	3 (3%)
Member of leadership team for club/group (A17d, B26j)	10 (8%)	6 (7%)

bold => greatest % difference in activity group & CSXQ% less than CSEQ %

In seven of the eight social activities listed above, the experience scores were lower than the expectation scores. The trend was reversed in the scale for *attend an on campus artistic or theatrical event* which increased from (CSXQ) 14 (11%) to (CSEQ) 14 (16%). The greatest reduction was *attend a lecture or panel discussion on campus* which fell from CSXQ 108 (83%) to CSEQ 14 (16%).

4.7.3 Expectations and experiences of diversity

Students' expectations of becoming acquainted with students from diverse racial, social, political and economic backgrounds as shown in Table 4.34 were consistently higher than their experiences. The greatest difference was in *acquaintances with students of a different race or ethnic group* with expectation 108 (83%) much greater than experience 32 (36%).

4.7.4 Expectations and Experiences of Topics of discussion

Students expectations and experiences of various discussion topics were captured using responses ranging from 1 (never) to 4 (very often). Table 4.34 compares the frequency of responses being *often* or *very often* for the discussion topics/items common to both the CSXQ and the CSEQ. To aid comparison the frequencies are also expressed as percentages.

The topic frequency results vary considerably, ranging from 13% to 82%, with the scores based on experience being lower in 4 out of the 6 items. The greatest difference was for *discussions about scientific theories concepts and methods* with experience (17; 19%) much lower than expectations (104; 80%). Similarly, for *changing own opinion due to new knowledge* experience 22 (25%) was lower than expectations 69(53%). The two exceptions to the trend in lower experience ratings were conversations about the arts (e.g. theatre and cinema) (CSXQ = 13%, CSEQ = 26%), and conversations about ideas from course materials (CSXQ = 75%, CSEQ = 82%).

**Table 4.34 Student Experiences of Diversity and Topics of Discussion:
CSXQ vs CSEQ**

Activity Descriptions	CSXQ (N=130)	CSEQ (n=89)
	Often & very often	Often & very often
Student Experiences of diversity Mean	92 (71%)	37 (41%)
Acquainted: students with different interests to yours (A18a, B27h)	88 (68%)	41 (46%)
Acquainted: students from different family, economic or social background to yours (A18b, B27i)	105 (81%)	52 (58%)
Acquainted: students from different racial or ethnic group to yours (A18c, B27j)	108 (83%)	32 (36%)
Discussions: students with different personal values or religious beliefs or political views to yours (A18def, B27k)	84 (65%)	26 (29%)
Discussions: students with different racial or ethnic background to yours (A18g, B27L)	77 (59%)	33 (37%)
Topics of Discussion Mean	69 (53%)	34 (38%)
Social issues such as peace, justice human rights, equality, race relations lifestyles customs and religions (A20bc, B28a)	78 (60%)	45 (51%)
The arts - painting, cinema, theatrical productions (A20e, B28c)	17 (13%)	23 (26%)
Scientific theories, concepts and methods (A19c, B28d)	104 (80%)	17 (19%)
Ideas from course materials (A28g, B23a)	98 (75%)	73 (82%)
Changed your opinion as a result of new knowledge or arguments presented by others (A21e, B28f)	69 (53%)	22 (25%)
Persuade others to change their minds as a result of arguments you presented (A21f, B28g)	45 (34%)	22 (25%)

bold => greatest % difference in activity group & CSXQ% less than CSEQ%

Students' expectations of becoming acquainted with students from diverse racial, social, political and economic backgrounds were consistently higher than their experiences. The exceptions were greatest differences in *acquaintances with students of a different race or ethnic group* with expectation much greater than experience. The greatest differences in topics of discussion relate to *the arts* (higher experiences than expectations), *scientific theories and ideas from course materials* (higher experiences than expected).

4.7.5 Effect Of Age On Academic Expectation and Experience

Data obtained from the CSXQ and the CSEQ in relation to students' anticipated assignment results and their reported results are presented in Table 4.35. The

majority of students (93; 72%) expected to achieve marks of 60% or above for their submitted assignments. This contrasted with the reported marks, with only a few students (13; 15%) achieving marks of 60% or above. When comparing anticipated assignment results with ages, similar levels of over-estimation were found in all age groups. However, the youngest age group (18-20 years) stood out for being the most optimistic, with (25; 84%) expecting marks of 60% or more, the least likely to score high marks, with only (1; 6%) achieving marks of 60% or more as well as the most likely to score low marks, with (8; 44%) achieving marks below 50%. Table 4.35 also shows that even within the most successful age group (30-39 years) only (6; 18%) achieved marks of 60% or more.

Table 4.35 Expected and Reported Marks By Age

Expected Marks by Age: Percentages Within Age Groups					
Mark Range	18-20 n=30	21-29 n=49	30-39 n=40	40+ n=11	Total N=130
40-49%	1 (3%)	2 (4%)	4 (10%)	0 (0%)	7 (5%)
50-59%	4 (13%)	16 (33%)	8 (20%)	2 (18%)	30 (23%)
60-69%	8 (27%)	12 (24%)	9 (23%)	4 (36%)	33 (25%)
70-79%	11(37%)	12 (24%)	15 (37%)	3 (27%)	41 (32%)
80% +	6 (20%)	7 (14%)	4 (10%)	2 (18%)	19 (15%)
Reported Marks By Age: Percentages Within Age Groups					
Mark Range	18-20 n=18	21-29 n=33	30-39 n=32	40+ n=6	Total N=89
40-49%	8 (44%)	10 (30%)	8 (25%)	1 (17%)	27(30%)
50-59%	9 (50%)	18 (55%)	18 (56%)	4 (66%)	49 (55%)
60-69%	1 (6%)	3 (9%)	3 (9%)	0 (0%)	7 (8%)
70-79%	0 (0%)	2 (6%)	2 (6%)	1 (17%)	5 (6%)
80% +	0 (0%)	0 (0%)	1 (3%)	0 (0%)	1(1%)

Highlighted cells indicate expected and reported marks between 60% and 80+%.

The majority of students (72%) expected to achieve marks of 60% or above for their submitted assignments. However, as demonstrated in the table above, only 15% reported achieving marks in this range. When comparing anticipated assignment results with ages, similar levels of over-estimation were found in all age groups.

4.7.6 Institutional data

Institutional records were obtained for the academic session in which the students who participated in the study were programmed to graduate. From the 89 students who completed the CSEQ, 62(70%) graduated on schedule, while 27(30%) had left the course or were repeating failed modules. This section considers associations of student characteristics with both the level of success and the causes of failure.

4.7.6.1 Reasons for Leaving

As shown in table 4.36, the reasons for students leaving were varied, 7(30%) left as a result of academic failure, 6(27%) left for personal reasons, 3(14%) cited financial problems and 2(9%) absented themselves from the programme without any explanation. Of the students in the 21 to 29 age group, 9(41%), formed the largest group of leavers.

Table 4.36 Recorded Reasons for Leaving By Age

Reason for Leaving	Age				Total
	18-20	21-29	30-39	40-49	
Academic Failure	2	2	2	1	7 (30%)
AWOL	1	1	0	0	2 (9%)
Personal	1	2	1	2	6 (27%)
Financial	0	2	1	0	3 (14%)
Health	0	1	0	0	1 (5%)
Wrong Career	0	0	0	1	1 (5%)
Transfer Elsewhere	0	1	0	0	1 (5%)
Excluded	0	0	1	0	1(5%)
Total	4 (18%)	9 (41%)	5 (23%)	4 (18%)	22(100%)

As shown in the above table, 30% of students left because of academic failure closely followed by personal reasons. Within age groups the highest number of leavers were in the 21-29 age group.

4.7.6.2 Degree classification by expected marks

Table 4.37 shows that the most commonly awarded class of degree was lower second, achieved by 30 (34%) of the group. Upper second was achieved by 10 (11%) of the group and no first class degrees were awarded. When expected marks were cross referenced with degree classification, those who expected marks in the 60 to 69 range were the most successful group as (4 out of 21 => 19%) achieved

upper second and (13 out of 21 => 62%) achieved both upper and lower second class degrees.

For the other groups, achievement of second class degrees varied as follows:-

Expected marks of 40-49%: 2 out of 4 (50%), achieved what they expected

Expected marks of 50-59%: 9 out of 25 (36%), achieved what they expected.

Expected marks of 70-79% 11 out of 28 (39%), achieved what they expected.

Expected marks of over 80% 5 out of 11 (45%) achieved what they expected.

Students who expected the highest marks (80% or more) and lowest marks (49% or less) had the lowest failure rates of 18% and 25% respectively. The other three expectation groups had almost identical failure rate of either 32% or 33%.

Table 4.37 Crosstabulation Of Degree Classification vs Expected Marks

Degree Classification	Expected Marks					Total
	40-49%	50-59%	60-69%	70-79%	80%+	
Upper second	0 (0%)	2 (8%)	4 (19%)	4 (14%)	0 (0%)	10 (11%)
Lower second	2 (50%)	7 (28%)	9 (43%)	7(25%)	5(46%)	30 (34%)
Third	1 (25%)	8 (32%)	1 (5%)	8 (29%)	4(36%)	22 (25%)
Transfer/repeat/fail	1 (25%)	8 (32%)	7 (33%)	9 (32%)	2(18%)	27 (30%)
Total	4 (5%)	25 (28%)	21 (24%)	28 (31%)	11(12%)	89 (100%)

As highlighted above, students whose expectations were the lowest and highest had the smallest percentages of failures.

4.7.6.3 Degree classification by age

Table 4.38 shows a cross-tabulation of age with degree classification which indicates that for upper second degrees, students aged between 30 and 40 yrs were more successful (achieving 36% % of 2:1s) than students aged 21-29 with only 6% of these students achieving a 2:1. For lower second class degrees age-based success is more balanced, for although the oldest students (aged over 40 yrs) did best with 3 (50%) being successful, the youngest group (18 to 20yrs) did second best with 8 (44%) achieving 2:2 degrees. The failure rate was worst for students aged 21-29 with 12 (36%) failing and 20-39 year olds, 11 (34%) failed to achieve their degree whereas there was a 17% failure rate for the oldest and youngest age groups.

Table 4.38 Crosstabulation of Age vs Degree Classification

Degree Classification	Age				Total sample
	18 to 20	21 to 29	30 to 39	40 & over	
Upper second	1 (6%)	2 (6%)	6 (19%)	1 (17%)	10 (11%)
Lower second	8 (44%)	11 (33%)	8 (25%)	3 (50%)	30 (34%)
Third	6 (33%)	8 (24%)	7 (22%)	1 (17%)	22 (25%)
Transfer/Repeat/Fail	3 (17%)	12 (36%)	11 (34%)	1 (17%)	27(30%)
Total	18 (20%)	33 (37%)	32 (36%)	6 (7%)	89 (100%)

As highlighted above, students aged between 30 and 40 years achieved the highest percentage (36%) of 2:1s and 75% of the 2:2s while the younger students achieved 12% of the 2:1s and 77% of the 2:2s. Similar percentages of students at both ends of the age spectrum failed to achieve a degree either because of academic failure or transfer to a subsequent group to retake one or more modules.

4.7.6.4 Degree classification by Entry Qualifications

Table 4.39 shows that for upper second degrees, access and other students were the most successful with 7(14%) and 2 (15%) of upper second class degrees respectively, compared to just 1 (5%) for students with A levels and none for students with GNVQ. The best performance for lower second degrees was by students with A levels, 10 (50%) followed by 'other' 5 (39%), with students who gained entry via access to HE and GNVQ having similar outcomes at 14 (27%) and 1 (25%) respectively. Students with GNVQ qualifications had the highest failure rate, 3 (75%), while students with A Level entry had the lowest failure rate 3 (15%).

Table 4.39 Cross-tabulation of Entry Qualification vs Degree Classification

Degree Classification	Entry Qualifications				Total
	A-Levels	GNVQ	Access	Other	
Upper second	1 (5%)	0 (0%)	7 (14%)	2 (15%)	10 (11%)
Lower second	10 (50%)	1 (25%)	14 (27%)	5 (39%)	30 (34%)
Third	6 (30%)	0 (0%)	13 (25%)	3 (23%)	22 (25%)
Transfer/repeat/fail	3 (15%)	3 (75%)	18 (35%)	3 (23%)	27(30%)
Total	20 (23%)	4 (4%)	52 (58%)	13 (15%)	89(100%)

Students with an Access to HE background (14%) had the highest percentage of 2:1s (29%) and students who entered with A levels had the highest percentage of 2:2s (50%). Students with GNVQ qualification had the highest percentage of failure to complete the programme.

4.8 Results from the five null hypotheses

Null Hypothesis 1: *That there is no difference between the expectations and experiences of nursing students in their first year of university study.*

This analysis only involved the 89 students who completed both the CSXQ and the CSEQ questionnaires. The Wilcoxon and McNemar Tests found statistically significant differences between student expectations and experiences for average marks, time spent studying, university environment emphasis, academic effort and relationships with both academic and administrative staff. Therefore, null hypothesis 1 was rejected.

In addition, the data indicated that –

- Students had unrealistic expectations for the average marks they would achieve with 44% of students expecting to achieve marks over 70%.
- Time spent in private study seemed low with 54 (61%) of students spending less than 10 hours per week in private study.
- All relationship experience scores were lower than their corresponding expectation scores, however, the greatest reduction in experiences was for relationships with administrative staff.

Null Hypothesis 2: *That there is no difference in characteristics between students who stay and students who leave.*

This analysis involved only the responses to the CSXQ questionnaire. The Chi-Square Tests for stay vs leave based on *age, domicile, finance and parental education* found *no significant associations*. Hence null hypothesis 2 was accepted.

No statistical tests were done for stay vs leave based on sex or ethnicity because of the small number of males (7) and non-white (14) respondents in the total sample (N = 130). However, the data showed that males comprised 5% of the total sample but accounted for 9% of leavers. Similarly, non-whites comprised 11% of the sample but 0% of leavers.

Null Hypothesis 3: *That there is no difference in the level of expected academic effort for students who stayed and students who left in the first year of study.*

This analysis involved only the responses to the CSXQ questionnaire. The Mann-Whitney U Test for stay vs leave based on the four activity groups, (course learning, academic integration, library/computer use and reading/writing) which comprise academic effort, found no significant associations. Therefore, null hypothesis 3 was accepted.

Null Hypothesis 4: *That there is no difference in the level of expected social integration for students who stayed and students who left in the first year of study.*

This analysis involved only the 130 responses to the CSXQ questionnaire and in addition to social integration, also investigated the stay vs leave impact of university environment emphasis and relationships with both academic staff and other students.

The Mann-Whitney U Test for stay vs leave based on the three activity groups (acquaintances, club activities and use of campus facilities) which comprise social integration, found no significant associations. Therefore, null hypothesis 4 was accepted. The relationship tests also proved negative, however, a significant stay vs leave association was found for student expectations of university environment emphasis.

Null Hypothesis 5: *That there is no association between the level of estimated gains and final grade awarded.*

This analysis involved the 89 responses to the CSEQ questionnaire as well as data from university records. The Kruskal-Wallis Test found no association between students' level of estimated gains and their final grade. Therefore null hypothesis 5 was accepted.

In addition, analysis provided data on the perceived relative gain for the 23 items allocated to 5 areas of gain vocational preparation (VP), Intellectual skills (IS),

general education (GE), science and technology (ST) and personal/social development (PSV). The two highest rated gains were for VP items and the 4 lowest rated were for GE items.

4.9 Results from non- Hypothesised Investigations

4.9.1.Stay vs leave Issues

Logistic regression was used to look for characteristic or expectation variables which together could identify the students most likely to stay or leave. The association with university environment emphasis was confirmed but no additional associations were found.

The most common reasons for leaving were academic failure (7; 30%) and personal problems (6; 27%) both of which were evenly spread across all age groups.

4.9.2 Social Expectation vs Experience Issues

The participation of nursing students in the traditional campus-based social activities of university life was expected to be reduced due to age (51; 39% over 29 yrs), family commitments (70; 54% living with partner/family) and time spent off-campus (50% of the course) for practical training. This was confirmed by the data which showed moderate to low expectation scores (CSXQ: campus facilities 48%, clubs 8%) and low to very low experience scores (CSEQ: campus facilities 16%, clubs 3%).

The trend for experience frequencies to be lower than expectation frequencies was continued for both diversity (mean CSXQ: 71%, mean CSEQ: 41%) and topics of discussion (mean CSXQ: 53% , mean CSEQ:38%)

4.9.3 Degree Classification Issues

For the 89 students who completed the CSEQ, the highest level achieved was upper second and almost a third (27; 30%) either failed or needed to repeat modules. Comparison of course outcomes to expected marks showed no pattern of results. The same expectation group (60% - 69%) was both the most likely to fail/repeat (7;

33%) and to gain upper second degrees (4; 19%). None of the students from both the highest (80%+) and lowest (40% - 49%) expectation groups managed to achieve the upper second degree level.

Similarly, comparison of course outcomes with age showed no pattern of results. The same age group (30 - 39 yrs) had both the highest upper second class degree success rate (6; 9%) and second highest failure rate (11; 34%). All age groups were represented in the four outcome categories.

Comparison of course outcomes (degree classification and non-completion), with entry qualifications showed that the students who entered with GNVQ qualifications had the highest fail/repeat rate (3; 75%) compared to the group average of 30%. Students from Access to HE backgrounds were spread over the full outcome range being second rated for both upper second (7; 14%) and fail/repeat (18; 35%). A level students tended to get middle-rated results but had the lowest fail/repeat rate (3; 15%) but also second lowest upper second rate (1; 5%).

5.0 Introduction

In this chapter the study findings presented in Chapter 4 are discussed and placed within the context of existing evidence from the literature review in Chapter 2. The findings from the following areas have been highlighted for discussion, individual characteristics, academic effort, financial support, reasons for leaving in the first year and degree outcomes at the end of the third year.

While some factors were not found to be statistically significant, they remain worthy of further discussion either because of comparisons with existing evidence or because of indications provided of possible avenues for further exploration. In addition, the relationship between the findings and Tinto's (1997) model of student integration is highlighted in order to explain the multi-factorial nature of nursing students' experiences of university academic and social systems.

5.1 Impact of selected individual characteristics on student nurse retention and attrition

5.1.1 Age, expectation and experiences

In higher education in the UK, students over 19 years of age are defined as adult students (DfE, 1995), and those aged 21 or over at the start of their programme are defined as mature students (UCAS, 2010).

The impact of age on student retention is well documented in existing research. In this study the vast majority of the participants were aged 21 or over at the beginning of their programme of study and were, therefore, mature students (UCAS, 2010). Participation in tertiary education by older students in general and specifically in nursing, has resulted in part from changes in the demographic characteristics of the UK population and also from increased opportunities offered by widening participation initiatives (Lauder & Cuthbertson, 1998; Kevern et al., 1999). However,

the percentage of mature students in this sample appeared to be unusually higher than is usually the case. Explanatory factors for the increased number of mature students might include the government's widening participation strategy and the university's inclusive policies on recruitment and selection. Previous research suggests that mature students, those with family commitments and women in particular, may have difficulties in balancing family life with academic studies and are at greater risk of withdrawing from their studies (Bhatnagar & Rajadhyaksha, 2001; McGivney, 2003; DH, 2006; Mulholland et al., 2008; O'Brien, 2009; Pryjmachuk et al., 2009). So for these reasons the mature students in this study would have faced some barriers to their success and perseverance on their programme of study.

From the available research evidence, age *per se* is not the variable that affects retention, but older students are more likely to have external commitments that compete with the demands of the course and limit their engagement on campus. In addition, undertaking a nursing degree poses different demands to other higher education programmes. For example, hours of attendance are regulated by the NMC and attendance is monitored. Furthermore, 50% of the nursing degree is undertaken as learning in clinical practice with the attendant burden of shift work and costs incurred by travel to placements. In addition, nursing students do not receive the same holiday privileges and free time as other HE students, and this adds a further disincentive to complete studies.

There is evidence in the literature to suggest that the emotional labour of nursing is initially a stressor for student nurses as they learn that they are expected to demonstrate care, give comfort, and make patients feel safe despite their personal feelings (Gray, 2010). Coping with emotional labour is a learned skill requiring students to become in tune with their own emotions as well as those of patients, and younger students could find this aspect of their experience stressful (Gray, 2010). In addition, the youngest students on the child branch are required to do this under the full gaze of the parents of child patients. Coping with disguising their true feelings is a further challenge to confidence, self-esteem and, perhaps, determination to complete the programme (Persaud, 2004, Gray, 2010).

5.1.2 Gender role retention and attrition

Nursing in the UK has traditionally been a female-dominated profession and although the number of men in nursing has increased over the last 10 years, this has remained the case (Stevenson, 2003). Male nurses now account for 10.73% of the UK's nursing population (NMC, 2008).

In this study, 95% of the participants were female, and the, minority male students were distributed between the adult health and child health branches. The small number of male students may have been particular a feature of this study cohort but it was also noticeable that male students were not represented at all in the mental health branch which was a departure from the usual pattern in this school of nursing.

The research literature on gender as a causal influence on attrition is divided. For example, Mulholland et al., (2008) found that in comparison to female students, male students were more likely to withdraw from their studies. However, other studies found that gender was not significant in nursing student withdrawal in the UK (White et al., 1999 and Kevern et al., 1999). Male students are thought to be more at risk of leaving their programme prematurely as a result of financial difficulties usually related to loss of earnings associated with career change. In this study, two of the seven male students left the programme. When examined in the context of the number of men in the entire cohort, the percentage of male non-completers was proportionally high, and this concurs with previous findings (Mulholland et al., 1998).

Explanatory factors for early withdrawal of male student nurses point to their maturity, choice of nursing as a second career, and lower socio-economic background (Jeffreys, 2004). However, much of the research investigating the experiences of male nursing students is either American or Australian and is characterised by the use of small convenience samples. Furthermore, the different cultural contexts limit the ability to generalise findings to the population of male nursing students in this country.

Issues arising from gender are not confined to male students. Gender inequalities are still apparent in society; as women are seen as the natural carers of the home

and children (Steele et al., 2005). The general literature on education locates women's participation in education as outside the scope of the educational experience. Therefore, according to Daniels, (2010), women can either participate in mothering or studying, be homemaker or student, but not both. Research shows that where a woman's work or study conflicts with her home responsibilities, then the woman is often expected to adjust her other commitments to meet domestic demands and confines various activities to 'virtual handbags' (Daniels, 2010). However, there is a paucity of more recent research on this issue, as recent social and economic factors may have been influential in changing the established perspective. Women adopt a number of coping strategies employed by mature students and support systems to manage both academic workload and their gendered roles in order to continue their studies (Kevern & Webb, 2004).

5.1.3 Ethnicity

According to national statistical data, the ethnic profile of the north west of England at the time of the study was predominantly White British (94%) with minority ethnic groups of Asian and Black people accounting for 3.4% and 0.6% respectively (Office of National Statistics, 2002). The ethnic group profile of the participants in this study reflected the prevailing ethnic profile to some extent, with 89% being White British. However, Asian students were under-represented, and, conversely, black students were more highly represented than the demographic profile of the north west of England would suggest, accounting for 8% of the participants. Previous research findings indicate that students from black and minority ethnic (BME) groups are more likely to be asked to leave their nursing course (Prymachuk et al., 2009). However, although this finding was not statistically significant, none of the BME students left either voluntarily or involuntarily in the first year.

An ideal healthcare workforce should reflect the client groups that it serves, as identified by the NHS Equality Framework (DH, 2000b). Students from Black ethnic backgrounds were among the older age groups, a finding which concurs with higher education statistical data (HEFCE, 2007). The slight under-representation of Asian

students may have been a culturally mediated issue (Darr & Archbong, 2004; Darr et al., 2008) as nursing is not given high status as a career in some Asian families.

5.1.4 Pre-entry academic qualifications

In this study over half of the participants were accepted for entry with the access to HE qualification and 25% with standard A level subjects. Research shows that there is a relationship between having good A level entry qualifications and the likelihood of continuing beyond the first year in higher education (NAO, 2007). Entry with lower A level GCE grades has been found to be associated with greater likelihood of withdrawal from academic programmes and poorer degree attainment (Charlton et al., 2006; DH, 2006). Previous research indicates that students from an access to higher education background are less prepared in terms of their study skills and confidence in their own abilities yet have high levels of motivation (O'Brien et al., 2009). However, in this study the academic performance of the students with an access to HE background was reflected at both ends of the spectrum of ability. At the upper end, 13% of the students who achieved the highest degree qualifications in the cohort (upper second class honours), were from an access to HE background in comparison to 5% of the students who had A level GCEs. However, 35% of the access students failed the final module and were required to retake the module. The students who entered the programme with GNVQ did proportionally worst with 75% of them having failed the programme, which was congruent with previous findings (NAO, 2007). The findings are also congruent with previous research on the performance of access to HE students (Prymachuk et al., 2009; Kevern & Webb, 2004). However, the findings are also at odds with those of Wharrad et al., (2003) who found that those students who enter nursing with higher academic qualifications (for example, A levels) have better academic outcomes than students with non-traditional qualifications such as access to HE.

5.1.5 Parental academic history

Seventy-five percent of respondents in this study were first generation university attendants, and in the vast majority of cases only one parent had had a university education. Students and families who have no previous experience of higher

education may not have realistic plans, expectations of higher education, or indeed make appropriate choices in relation to their university education (Jeffreys 2004). However, students who did not know their parents' academic history performed better academically and remained on the course. Perhaps these students received the encouragement and support of their parents without having the explicit knowledge about their parents' academic background.

Exploring parental educational background has assumed increasing significance since greater numbers of first generation post-secondary education students have access to higher education through the political moves to widen participation in HE. Studies conducted by Berger (2001) and Kuh (2001) identified parents' level of formal education as a powerful predictor of traditional student persistence, and first-generation students appeared to be at greater risk for attrition. These studies have primarily been conducted on American students in mainstream higher education, but with the move to nursing degree programmes there has also been an increase in first generation undergraduates in the UK context (Campbell and Davis; 1996; Tayebi et al., 1998; Tucker et al., 1999). Jacobs & Harvey (2006), in an Australian study, found that academically successful students are likely to come from family backgrounds where their parents have strong academic backgrounds and are likely to have high academic and career aspirations for their children. However, the findings in this study do not indicate any statistical significance associated with parental educational background in relation to persistence or attrition.

5.1.6 Sources of financial support and impact on retention

The picture on student finance in this study is complex, as nursing students get financial support from a combination of sources. Students in the study were eligible for a means-tested bursary and this contributed to the variety of sources from which students derived their income. The findings indicate that self-financing was restricted to students who had left college within the previous three years. Parental contribution to students' financial support was minimal, but some students were supported financially by their parents across the age spectrum (from 18 to 44 years).

Older students were more likely to be supported financially by their spouse or partner and this was not unexpected given the age profile of the students.

Undergraduate nursing students receive a means -tested bursary, but a number of students acquire additional debts by taking on bank loans and overdrafts (Glackin & Glackin, 1998; Kevern & Webb, 2004). In addition, struggling to manage on the bursary or to meet other financial obligations can increase the pressure to engage in paid work (Finlayson & Nazroo, 1998; O'Brien et al., 2009). Last and Fulbrook (2003) found that 94% of student nurses suffered some degree of financial hardship, and a recent survey by UNISON (2009) reported that 60% of students were supplementing their income with additional work. There is also evidence to suggest that financial hardship is a factor in both student attrition and students contemplating leaving nursing for financial reasons (UNISON 2009).

This study revealed that students did not rely on paid employment alone but used a variety of models of financial resourcing in order to meet their living expenses. Financial resources included loans, financial support from parents or a partner and living at home with their family. The student as an autonomous independent learner is gendered, with women particularly those who live away from home with little financial support from parents being most likely to limit their social life in order to juggle work study requirements (Moreau and Leathwood 2006). This would certainly impact upon the extent to which students were able to engage in and feel part of university life to any extent (Humphrey, 2001).

In this study, the majority of the participants engaged in paid work for between 1 and 10 hours per week. Thirty percent of students who left were working between 11 and 20 hours per weeks, which concurs with the findings that term-time working of over 16 hours per week may have had a deleterious effect on academic outcomes (NUS, 1999b; Callender and Kemp, 2000; Watts, 2001, 2002 and Rochford et al., 2009). Furthermore, external commitments reduce the opportunity to get to know other students and the pressure of undertaking paid work, has potentially negative implications for social engagement and development of student communities (Moreau and Leathwood, 2006). Students who were working a significant number of

hours or who had family responsibilities found it difficult to devote sufficient time to their academic work, especially additional reading.

5.2 Relationships between academic expectations, academic effort, experiences and student retention

In this study the findings indicate that there was a remarkable difference between students' expected and reported marks. The vast majority of participants expected to achieve marks of 60% or above, but in reality less than 15% of students fulfilled that expectation. The most remarkable finding was that while 11% of students expected to achieve marks over 80%, only 1% of students actually achieved this. This suggests that most students had little or no conception of the realities of the academic requirements of university level performance. Price (1991) reports that older female students set extremely high goals for themselves which would offer an alternative explanation for these expectations in relation to older students but not the younger students.

The findings in this study, indicate that expectations of academic effort were significantly higher than experiences in terms of asking for help with academic work, reading in the library, or asking for feedback on academic work. Students had expected to work hard, but their experience was that they spent less time than planned in securing support or self-directed study.

5.2.2 Study hours and academic success

Students in this study spent relatively little time in private study: much less time than they anticipated. The difference between the time students expected to spend in private study and the time actually spent was found to be statistically significant. It is reasonable to suggest that as 61% of the students in the sample spent less than 10 hours per week on academic study this had an impact on their academic performance and degree classification outcome. However, if the time spent on study is focussed, is undertaken in an environment conducive to learning, and occurs at

regular intervals, then this time may have been sufficient for satisfactory completion of assignments but may not have been enough for wider reading and therefore understanding. Quality of study time has been found to be a better predictor of academic performance than the actual amount of time spent studying (Plant et al., 2005). In addition, study hours *per se* may not be the explanation for academic performance, but previous achievement and aptitude may also be important. Furthermore, the majority of students were also engaged in part-time work, and, coupled with distractions in the home environment, they would be expected to have less time available for academic study.

5.2.3 Living arrangements and impact on social integration

The majority of the students in this study (79%) lived off-campus either with their partners and children or in the parental home. A relatively small number of students, (12%) lived in university accommodation or in close proximity to the university. Given that the majority of students did not live on campus or close to the university, it is reasonable to expect that there would be external demands exerting pushing and pulling forces which could militate against integrating both academically and socially into the university milieu (Leone & Tian, 2009).

Students' living arrangements have been identified as a significant factor in determining whether they integrate into social activities in their university or not. Close proximity to the university enables students to meet after formal teaching activities, socialise, develop friendships and support networks during their course (Tinto, 1993; Patiniotis & Holdsworth, 2003). The benefit of university networks is a common understanding of the academic experience, possible sharing of resources and academic support.

Interference with persistence may occur as the external demands effectively exert a directional pull away from the social activities in the university. For nursing students, integration into campus activities may also be problematic because of the interspersed practice placements, shift-working, and the impact of this upon their work-life balance. Even those students who live in university accommodation find that shift-working, the production of academic work while engaging in practice, and

different holiday patterns may become stressful when sharing communal accommodation with non-nursing students. Living in student accommodation is also an additional financial outlay which adds to students' financial burden so the decision to live in the parental home may be a pragmatic one based on economic grounds.

The growing current trend of young people choosing to remain in the parental home well into adulthood (Tobin, 2011) is borne out by the fact that a quarter of the students were still living at home with their parents despite their apparent mature age. Living in the parental home may have benefits for some students in terms of personal support and cushioning of financial pressures, but this may be counterproductive in encouraging social integration with other students.

Furthermore, while living at home may be beneficial in providing students with social and emotional security, it can impact negatively upon persistence by fostering a culture of non-integration with the academic aspects of the programme such as using the library or learning technology. Research shows that younger students who retain past friendships while attending university find the transition from Sixth Form College to university especially problematic and a threat to social integration with their new peer group (Hinliff et al., 2011). Nevertheless, mature students could already have their own, well established, support systems from partners and children that are more enduring than group allegiances within the university. Strong external support obviates the need to form strong bonds with peers as these new allegiances may not be enduring and result in disappointment. However, what may be missing for these students is the development of social capital in that social capital would bridge the gap between the students in the group as it includes high levels of trust, shared understanding and a sense of participation in a joint activity: all of which are essential for group cohesiveness (Cohen & Prusack, 2001). Social capital in university has a preparatory or modelling function as it establishes a foundation for working as a professional nurse in the practice arena.

In an increasingly technological age, maintaining social contact with other students often occurs by text, Facebook, Twitter and other messaging services rather than in person. Nevertheless, social networking has some disadvantages; it does not

replace personal contact with other students to share resources and experiences and is too impersonal a medium to help to reduce feelings of isolation or inability to cope.

5.3 Reasons for leaving and characteristics of leavers in the first year

Students leave programmes for a variety of reasons including academic, social and personal reasons which are often inter-related. However, according to McGivney (2003) there appears to have been increase in the number of students leaving their course of study for non academic reasons.

In this study, the majority of students who left in the first year did so because of academic failure. Just less than a quarter of the students who left the programme did so for personal reasons, which is often an umbrella term encompassing a wide range of reasons. These could include family, financial academic failure, dislike of the course, pressure from others and wrong choice of career. Several of the students who left took interruptions in study departed with the intention of returning to join a subsequent cohort. However, many did not fulfil that expectation and did not resume the programme. A third of the students who left were engaged in paid work for 11 or more hours per week. Previous studies indicate that reasons for leaving are often complex and interrelated, and students often find it difficult to identify a specific reason for their decision (Deary et al., 2003).

5.3.1 Characteristics of leavers

In comparison to the whole cohort of students, the incidence of non-completion of the programme in the first year was associated with students who were aged over 40 years, male, whose entry qualification was GNVQ, who lived in their own home with a partner and children, who expected to study 5 hours or less and who expected to work between 11 and 20 hours per week.

5.4 Expectations of perceived gains and degree attainment

The majority of the students in this study expected to excel academically and while high aspirations are laudable, these were not translated into actual performance. An examination of the institutional records indicated that as shown in Table 6.1 none of the students achieved a first class honours degree, 10% achieved an upper second class degree, and over a third of the students were awarded a lower second class honours degree. When expected marks were cross-referenced with degree classification, 25% of the students who expected to achieve marks of in the first or upper second classes did not achieve this, but gained lower second class degrees instead. A tenth of both re-learners and non-completers also had high expectations of their academic performance at the beginning of their programme; expectations that were not met. These findings point to a lack of understanding of the requirements of university level study and unrealistic expectations of academic performance.

Table 5.1 Expected marks and final year course outcomes

Degree Classification	Expected Marks					Total
	40-49%	50-59%	60-69%	70-79%	80%+	
Upper second	0 (0%)	2 (8%)	4 (19%)	4 (14%)	0 (0%)	10 (11%)
Lower second	2 (50%)	7 (28%)	9 (43%)	7 (25%)	5 (46%)	30 (34%)
Third	1 (25%)	8 (32%)	1 (5%)	8 (29%)	4 (36%)	22 (25%)
Transfer/repeat/fail	1 (25%)	8 (32%)	7 (33%)	9 (32%)	2 (18%)	27 (30%)
Total	4(5%)	25 (28%)	21 (24%)	28 (31%)	11 (12%)	89 (100%)

Nursing students' expectations of nursing are often shaped by exposure to family illness and or encouragement by parents and other family members (O'Donnell, 2011) rather than the academic content of the programme. In many cases the student's mother or close family member is a nurse and this is an influencing factor in the decision-making process. The limitations of student expectations framed by family members who are nurses are associated with the lack of awareness of the marked evolutionary changes in nursing over the last 20 years (O'Donnell, 2011). There is very little literature on student attrition that explores the role of significant others in the formation of student expectations about nursing. Nursing schools might

even view the influence of experience of hospitalisation and relatives who are nurses as positive attributes at interview. However, an important factor that is often overlooked is the life experiences of these students of some prospective pre-registration nursing students are also influenced by information from the media, university publications and careers advisory services. All of these sources may fail to provide accurate, high quality information on the academic demands and the intensity of nursing programmes (O'Donnell, 2011). Furthermore, the information gained from these sources may support the view of beginning students that nursing is mainly practical and skills orientated which does not augur well for academic effort and achievement.

5.5 Development of a framework for nursing student retention based on Tinto's (1997) model

The study did not set out to test Tinto's (1997) model but the development of both the CSXQ and the CSEQ questionnaires was guided by Tinto's (1993) model of student integration. This study has highlighted the similarities and differences between nursing and other higher education students. Consequently, a framework, incorporating Tinto's (1997) model has been developed to explain the interactions between student nurse pre-entry attributes, expectations, academic and professional integration and retention.

Tinto's (1997) interactionist model was originally developed to explain student persistence in higher education. Tinto's model addresses the attributes and behaviours of white, middle class, traditional students in a single higher educational institution and posits that individuals enter HEIs with various individual characteristics including family background (social status and parent's educational level), intellectual and social skills, abilities and prior schooling accomplishments. These attributes help underpin initial intentions, goals (the level and type of education desired) and institutional commitments. These characteristics play an important role in directly influencing students initial commitment to complete their programme of study. Tinto (1997) also hypothesised that entry characteristics also influence the student's decision to leave.

The results of the questionnaire data in this study indicated that the most useful construct from the model for explaining student expectations and experience, were pre-entry attributes, intentions. Age, parents academic history and academic profiles of the students in the sample were determinants of their expectations of the university environment. As the majority of students were non-standard entrants, had low parental experience of university, their expectations of academic achievement and academic effort were in the main unrealistic.

However, in terms of academic and social integration, the notion of integration could be conceptualised as the fit between the student and the university systems. This fit could have both an internal and external dimension as the student needs to adapt to the internal aspect of the university and also adapt to the sequential changes that occur as a result of the interaction between the students' external commitments and the university systems.

In this context, the major constructs, in the theory, of academic and social integration did not differentiate between students who persisted and students who did not. This finding is consistent with those of other researchers (Milem & Berger, 1997 and Berger & Milem, 1999). Given that a student enters with certain pre-entry attributes and initial goals and commitments, Tinto (1997) further argues that subsequent experiences within the institution also directly affect the departure decision. These experiences are interactive within the institution's academic and social systems. According to Tinto, positive institutional experiences serve to increase a student's academic and social integration into the institution while conversely, negative experiences diminish a student's integration into the institution. For example, negative social experiences, such as unsatisfactory interactions at extracurricular events or less positive interactions with academic staff, will decrease the student's integration into the HEI, weaken the goals and institutional commitments, and, after a certain critical point, a departure decision will be made. Moreover, the data from this study indicates that social integration for nursing students may have different connotations to other university students as integration was mainly confined to their peers in nursing and their interactions with non-nursing students was limited. However, students in the study appeared to derive social

contact and integration within their student group and from sources outside the university. According to Tinto (1975), the greater the academic integration the greater the commitment to the university and to graduation.

For student nurses the most important academic factors for retention include hours spent on study, attendance, personal study skills and study habits. It is unclear whether the students academic integration increased after the first year.

There are two possible explanations for the weak explanatory power of Tinto's theory. First, it might be a function of inadequate definition of the variables in the model. Second, Tinto's (1993 & 1997) model was developed to explain the student retention process in the American higher education system and there are many differences between that system and UK higher education systems. Furthermore, the model does not take into account the differences associated with nursing students and nursing programmes.

From this thesis a framework which draws on Tinto's (1997) model which explains the interactive factors in the nursing student experience and their relationship to academic and social integration and persistence has been developed (Figure 5).

The Grant (2012) framework proposes that the significant pre-entry attributes include age, gender, educational achievements, family background (including experience of nursing), social and behavioural skills, preparedness for the academic and professional realities of nursing. Here the framework bears strong similarities to Tinto's model.

Where the framework diverges from Tinto's (1997) model is in the professional and academic expectations, academic and social integration, personal, academic and professional experiences and the strong underpinning influence of external commitments on all of these areas. The Grant (2012) framework acknowledges that nursing student integration mainly occurs in the academic milieu. However, this not simply engaging with the university systems, academic staff and with other students on campus. Rather, it acknowledges that the presence of support systems or

reinforcing agents such as family, friends, and others who support the students may mitigate lack of campus involvement. The presence of external support as a mitigating factor for lack of integration has also been found by previous researchers (Donaldson and Graham, 1999). Moreover, the support systems outside the university may act either positively or negatively in the student integration process, but this dependent on the strength of the external systems. It is suggested that successful integration of nursing students is predicated on how quickly the students adapt to the new environment and develop self efficacy skills to enable them to complete academic work independently while balancing competing demands of study, personal and social lives. Academic success is underpinned by the mastery of these demands supported by motivation to become a nurse.

The framework underlines that female, adult students (students Over 21 years) are especially challenged with conflicts that may arise from part-time employment and reliable childcare add to and build upon this opposition from significant others. This is further compounded as students who have children are more likely to take interruptions in their study than other undergraduates (Kerka, 1998; Horn et al, 2002). These issues are noteworthy in that a significant percentage of nursing students are parents and many of these are rearing their children in single parent households.

The framework in Figure 5 demonstrates the inter-relationships between the academic, practice and personal issues that influence student nurse progression and retention.

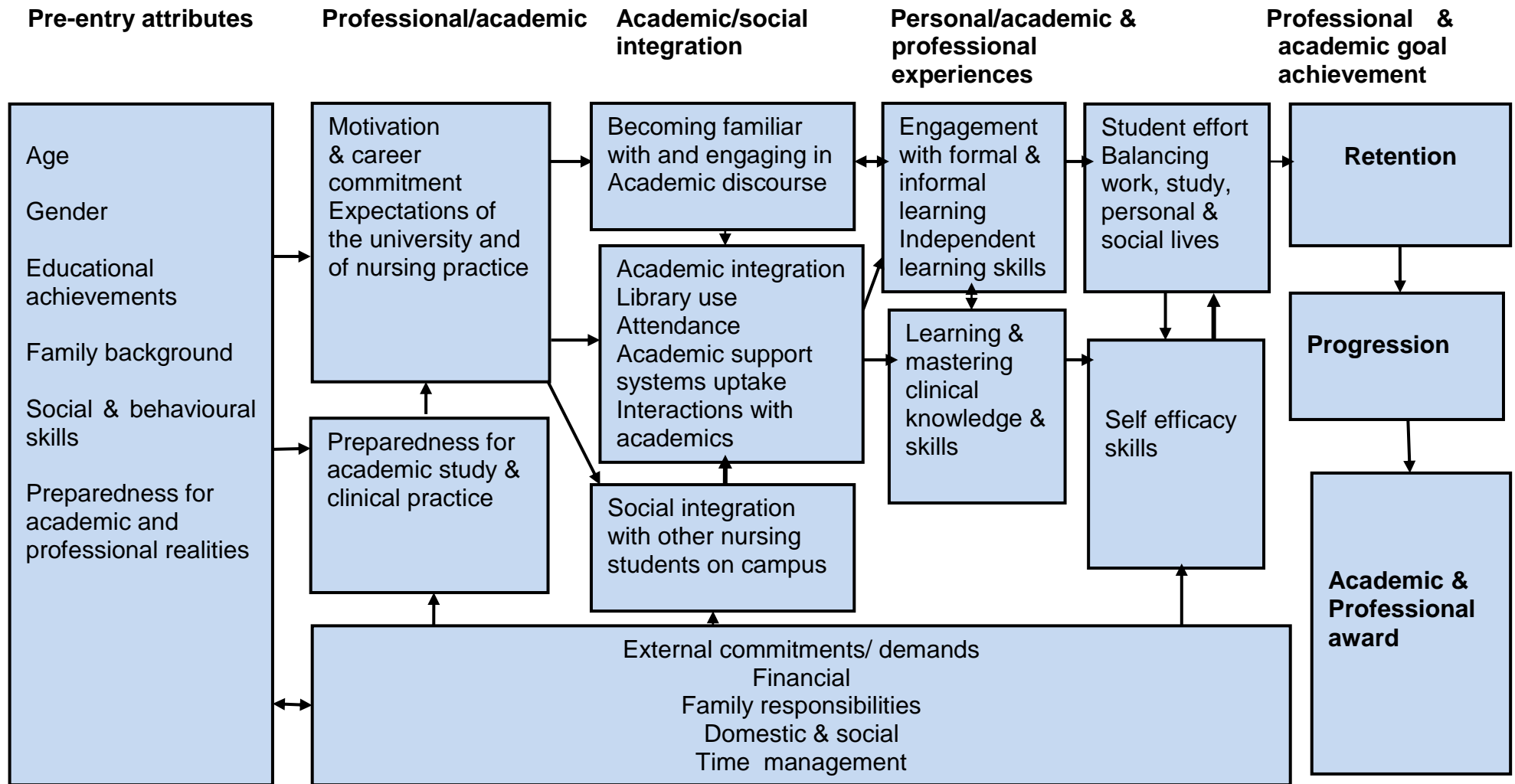


Figure 5 Grant's (2012) Framework for nursing student retention incorporating Tinto's (1997) Model

5.6 Methodological issues impacting on the study

There were a small number of unexpected events that resulted in adaptations to the methodology which will now be outlined. The original intention was to conduct telephone interviews with students who left the programme. However, in the first data collection period one student raised the issue of personal contact and verbalised her strong objections to any personal contact from any researchers. A significant number of participants were in agreement and they were assured that there would be no personal contact with any participants. The researcher then took the decision to collect exit data by using the institution's exit questionnaires instead of telephone interviews. There was some difficulty collecting institutional data relating to students who left the students did not complete exit questionnaires as those who left opted for stepping off for a year to keep their options open. Many of these students did not subsequently return and those who did joined a different group. The gathering and storage of institutional data at the time by a variety of methods resulting incomplete data held on students. This is now being addressed and progress in robust data management and storage is encouraging. Students who leave their programme are offered comprehensive data gathering questionnaires but once students have left, it is often difficult to ascertain with any degree of accuracy the reasons for their departure. Furthermore, non-return of questionnaires poses a significant problem and the alternative of conducting interviews of leavers may improve data capture.

5.6 Chapter summary

The majority of the students in this study were non-standard entrants to nursing in relation to age and academic qualifications. The students were predominantly female, white British, mainly self-financing, single, non-resident and expected to excel academically. However, as indicated by their reported average marks and degree classifications, performance of older students and those from an access to higher education background was no better or worse than their counterparts who were younger and met the standard entry requirements. Moreover, some students expended the minimum academic effort as manifested by underutilised tutorial

support, failure to engage academically by completing set readings before class and using the library. Students must be motivated to seek and find help and support across a range of services provided by the university.

Students also anticipated friendly relationships with other students, approachable academic staff and helpful administrators, all signs of confidence in their success and persistence. As older predominantly female learners the majority of these students came into the learning experience as skilled connectors and expected to transition smoothly into the new dimensions of academic study. Students did not integrate with other students on campus or join any student organisations but they had discussions across a range of topics and with a variety of students. While these behaviours may appear to militate against social engagement as postulated by Tinto (1993), nursing students share the learning environment, can draw on each others' strengths and build cohesive networks in the academic setting without engaging in social activities. The building of social capital for students on nursing courses may be one of the critical elements of social and academic integration and ultimately success.

6.0 Introduction

This chapter draws together the findings from the literature review presented in Chapter 2 and the empirical study presented in Chapters 3, 4 and 5. First, the limitations of the study are discussed and a summary of the key findings and contribution to new knowledge are presented. Second, achievement of the objectives and their execution through the null hypotheses are reviewed. Finally, future directions for policy, nurse education and research will be indicated.

6.1 Limitations of the study

The study has a number of limitations which must be taken into account when considering the findings. The limitations relate to the sample, the methods and the scope of the investigation. The following section considers the study limitations which relate to the research methods adopted.

The use of a non-probability (convenience) sampling technique in this study resulted in some limitations in generalisation and inferences that can be drawn in relation to the nursing student population as a whole. Therefore, the results of this study must be viewed in the light of this as the students who were not present may have been quite different from the those who completed the questionnaires. This was particularly relevant in time period two. Furthermore, whilst probability sampling would have been preferred, the study was designed to explore expectations within a single cohort of students and within a specific time frame. Therefore, the convenience sample was the most appropriate method of data collection in this milieu otherwise the requirements of the study could not be achieved. However, the foundations laid by this study will support a more rigorous sampling framework in post-doctoral studies across institutions to investigate the outstanding issues revealed.

The data collection instruments did not include in-depth individual narratives of students' experiences and perceptions as they were simply not intended to capture the phenomenology of the student experience. Instead, the surveys provided two snapshots one at the beginning and one at the end of the first year. A further study, designed specifically to focus on individual experiences and perceptions could increase the depth of understanding of the expectations of undergraduate student nurses.

One important limitation of the study, is the number of participants in the cohort (N = 89) in time period two which limited the type of inferential statistical analysis that could be used on the data when making comparisons between the CSXQ and the CSEQ responses. A more effective strategy to ensure improved participation at the second data collection point could have improved the size of the sample at time point two.

As addressed in the ethical considerations in chapter 3, the students may have demonstrated a social desirability bias in their replies in order to oblige the lecturer, as the participants were not blinded to the study or its preferred outcome. However, since the questionnaires were anonymous, it is less likely that students would lean towards such response biases, but they cannot be discounted.

The survey instruments relied on self-reported responses, which have well recognised biases in relation to ascertaining participants' true feelings, beliefs, motivations or behaviour (Robson, 2010 and Burns, 2004). However, while the self-assessment may not have accurately represented the actual achievements and expectations are entirely subjective it is unlikely that most students would not respond honestly. The questionnaires were completed anonymously to reduce the threat of negative consequences. Moreover, the collective reported achievements (marks) did not vary noticeably from those recorded for the cohort.

The study setting was one nurse training institution, with data collected at two specific points in time, the beginning of the first and second years of study for one cohort of undergraduate nursing students, using non-probability sampling. The research is therefore context-specific and bounded in time and place and any

generalisations must be treated with caution. However, the findings could be relevant to other nurse training institutions well as other disciplines. However, there are limitations in applying the findings to non-practice based programmes because it is known that healthcare students have different experiences to students on traditional university programmes of study because of the dynamic relationship between theory and clinical practice experiences (Taylor, 2009).

The intent of the study was to explore selected expectations and experiences of nursing students in the academic setting and does not explore the student experiences in the clinical practice area. The influence of students' experiences during practice placements is likely to have an impact on their experiences as this forms a significant part of their programme and understanding students' expectations of practice placements would have enhanced the study findings.

6.1.2 Collection of data from institutional records

The institutional data pertaining to student attrition was incomplete as students left with the intention of returning after 'stepping off' for a variety of reasons but failed to do so and they were not followed up to ascertain their reasons for leaving. Furthermore, some students simply absented themselves and their reasons for leaving could not be ascertained.

6.2 Key Findings and their relationship to the thesis objectives

The research reported in this thesis compared the expectations of undergraduate nursing students at the beginning of their programme with their experience at the end of their first year at university. It addressed and the differences in characteristics between students who remained on their programme of study and students who left. The null hypotheses, the study objectives (identified in Chapter 1) and the key findings in the context of differences and similarities to the wider literature are now summarised.

Null hypothesis 1 was: *That there is no difference between the expectations and experiences of nursing students in their first year of university study was explored*

with reference to the following sub-scales: library use, engagement in paid work, relationships with other students and staff, academic effort, university environment. The results indicated that in relation to the university environment, relationships with academic staff, and marks, the majority of expectations were different to experience and these differences were statistically significant. The null hypothesis was therefore rejected.

Objective 1 was: To explore whether the expectations of first year undergraduate nursing students aligned with their experiences. This objective was met.

KEY FINDING

Nursing students in the main have higher expectations of their academic performance and their relationships with students and staff on their programme of study, than their actual experiences demonstrate, in the first year.

This finding that student expectations surpass what they actually do or encounter has not been specifically identified in the nursing literature. However, there is evidence from the American general literature to suggest that when expectations and experiences are well aligned students are more likely to feel satisfied with their educational experience (Braxton et al., 1995; Tinto, 1997).

Null hypothesis 2 was: *That there is no difference in characteristics between students who stay and students who leave* was accepted as no statistically significant associations were found.

Objective 2 was: To identify the similarities and differences in (i) the characteristics, (ii) expectations and (iii) academic experiences between students who stay and students who leave their programme of study. This objective was achieved.

KEY FINDINGS

There was no single variable that differentiated stayers from leavers.

- Students who left were likely to be at either end of the age spectrum, male and living in a family unit.
- Half of the students on the child branch were under 21 years of age.

Previous conclusions on variables that differentiated stayers from leavers were too simplistic and these findings indicate that students who left were influenced by age, gender and external commitments. These findings concur with the wider literature as no single factor has been identified for students leaving nursing but personal factors and wrong career choice, were leading considerations (Glossop, 2000). However, although no specific predictive factors were isolated, the data showed that although male students comprised 5% of the total sample, they accounted for 9% of leavers. It was also of note that while non-white students comprised 11% of the sample, none of them left in the first year of the programme.

Stayers and leavers had a number of characteristics in common such as age, ethnic group, branch of nursing, parental academic history and domicile. None of the students from ethnic minorities left in the first year. A higher percentage of the students who stayed (22%) had parents who had attended university as opposed to 9%. These findings are congruent with the findings of the literature review in chapter 2 (Mulholland et al., 2008; Prymachuk et al., 2009).

Although age was not statistically significant, the data from this study indicated that there was a higher incidence of leavers aged 40 and above than those in the group as a whole. However, students between 26 and 39 years of age performed better academically in the first year and this concurred with other research findings (McCarey et al., 2007; Prymachuk et al., 2009).

Null hypothesis 3 was: That there is no difference in the level of expected academic effort for students who stayed and students who left in their first year of study was accepted as no statistically significant differences found between students who stayed and students who left in their first year of study. The variables of stay

and leave were tested for predictive factors against course learning, academic integration, library and information technology and reading scientific and nursing articles. None was found to be statistically significant and the null hypothesis was accepted.

Objective 3 was: To isolate factors in expectation, experience or the mismatch between these which are predictive of students completing the first year of the programme or leaving.

KEY FINDINGS

There was a mismatch between anticipated and actual academic performance, engagement in paid work and the university environment.

As shown in Chapter 4 tables 4.36; 4.37; 4.38 and 4.39 and supported by the literature in chapter 2: section 2.5.1 student expectations have been linked to individual characteristics and either singly or in combination with other factors may have a predictive function in whether students stay or leave their studies (While et al., 1999; Taylor, 2009). These expectations centre round the university environment, interactions with other students and staff and the amount of academic effort that students are prepared to expend in order to pass and progress through their course.

Furthermore, as caring is the chief motivator expressed for students' decisions to enter nursing, the corollary of this is that students do not expend sufficient energy on academic activities or even see the relevance of them (Boughn & Lentini, 2001; Dobinson-Harrison, 2006). Therefore, their overall performance is unlikely to match their expectations of nursing as a career.

Null hypothesis 4 was: *That there is no difference in expected social integration between students who stay and students who leave* and this was accepted as no statistically significant factors were identified that as predictors of social integration. No significant association was found between expected social integration and students who stay or leave. The null hypothesis was therefore accepted. This concurred with existing knowledge which demonstrated that social integration across

the general student body is difficult for nursing students because of the structure of their programme and external commitments (O'Driscoll et al., 2009). Furthermore, the students in this study had low expectations of integrating socially on campus and their experiences matched their expectations.

Objective 4 was: To identify possible factors that could be used to optimise the expectations and experiences of the first year. This objective was achieved as there were findings which although they were not statistically significant could be used to optimise students' first year experience.

KEY FINDING

Students were unprepared for the level of academic study required and many did not use the academic support systems available to them such as the library, academic supervisors and preparatory reading and study before classes.

Despite high expectations of their academic achievements, students were unprepared to expend the academic effort required to achieve anticipated success. The findings from this study indicate the importance of management of student expectations relating to the realities of a nursing programme. For example, preparedness for the academic study required, the differences between nursing and other university courses and the demands of functioning in the university and in the clinical setting.

Capitalising on the previous experience of mature students could be advantageous in terms of student satisfaction and retention.

Null hypothesis 5: *That there is no difference in the level of expected gains and final grade awarded* was accepted as there was no statistical difference when expected gains were compared with the degree outcomes.

Estimates of gains are a feature of the CSEQ whereby respondents were asked to estimate the extent to which they had made progress towards 23 areas of gain. The gains relate to general educational development, development of skills or attributes in science and technology, vocational preparation, personal-social development, and development of intellectual skills such as writing, quantitative thinking and familiarity

with information technology (Gonyea, 2001). There were no statistically significant estimates of gains therefore the null hypothesis was accepted.

KEY FINDING

Students estimated that the areas in which they made most progress in the first year was vocational preparation and least progress in general education.

Although not statistically significant, the two highest items for estimated gains were for vocational preparation and the four lowest rated items for estimated gains were for general education. However, there are differences in the baselines that students use in estimating the progress or gains that they have made in the first year. For example, those students who start out with higher levels of intellectual skills or knowledge may report less gain but may still be at an absolute higher level of functioning than other students who started at a lower base (Kuh, 2000).

6.3 inter-relationships between the key findings, Dopfer et al's (2004) model and Tinto's (1997) model.

In Table 6.3 on the following page, the key findings are cross-referenced with both both Dopfer et al's and Tinto's models.

Table 6.1 Relationships Between Key Findings and Models Used in This Study

Dopfer et al's model	Key findings	Tinto's model
	Students in the main have higher expectations of academic performance and relationships with staff and other students than their experiences demonstrated.	Goal and institutional commitments Academic integration
Micro and meso factors	There was no single variable that differentiated stayers from leavers	Intentions Goal and institutional commitments
Micro and meso factors	No predictive factors were associated with expectations, experience or a mismatch between them were identified.	Pre-entry attributes Institutional experiences Goal and institutional commitments Academic integration
Micro and meso factors	Students were unprepared for the level of academic effort required and many did not use the academic support systems such as the library, academic supervisors, preparatory reading and study before classes.	Pre-entry attributes Institutional experiences Goal and institutional commitments Academic system Academic effort Academic intergation
Meso factors	Students estimated that the areas in which they made most progress in the first year was vocational preparation and least progress in general education.	Academic integration Academic performance

6.4 Conclusions

Nursing students in the main had higher expectations of their programme of study than were realised in actual experiences in the first year. Certainly, parents, siblings, close relatives, teachers, careers guidance and employers play a significant role in shaping students' expectations of nursing, but understanding of contemporary nursing roles and requirements may be lacking. Previous experience of caring activities could prepare students for clinical practice but students' expectations of the academic demands of a nursing degree were often unrealistic.

Students left their programme of study for a variety of reasons including academic failure, social and personal reasons, and health issues. The majority of nursing students were mature and female, and were likely to be susceptible to traditionally gendered role expectations relating to family expectations. This could lead to role conflicts between family commitments, study and student life, practice placement and paid employment. Some students left temporarily, intending to return to the programme, but the actual rate of returning was disappointing.

Male students aged over 40 with a family may need additional support as this appeared to be a risk factor for student attrition in this study.

Although age *per se* was not a statistically significant factor in determining student attrition, the findings indicate that over half of the youngest students were from the child branch and they may require targeted support in practice in order to adjust to the realities of caring for sick children particularly those with life threatening illnesses.

The academic performance of mature students with non-standard entry qualifications was similar or in some cases better than younger students who entered the programme with standard A level academic qualifications. However, the small minority of students who were accepted with GNVQ qualifications performed worse than their counterparts academically.

While previous research has focussed on the reasons for students leaving, this study emphasises the adaptations that students make if their expectations are not met together with the efforts that university staff can make to facilitate this adaptation.

The new framework developed with specific reference for nursing students highlights the push pull of external influences, the role of motivation and self efficacy in adaptation to higher education and to nursing and identifies areas where general models of student integration such as Tinto, (1997) do not apply to non- standard students in general and nursing students in particular.

6.5 Implications and recommendations

6.5.1 Recommendations for educational policy

Schools of nursing need to develop curricula and educational strategies that reflect the diversity of the student population, including activities that encourage student engagement (such as learning communities and buddy systems) (Tinto, 2007).

Universities and schools offering nursing programmes need to be effective and persuasive in explaining to students what they can reasonably expect to occur when they enter training to become a nurse and what is required of them to succeed at university.

If the trend of recruiting mature students continues as a result of the current economic climate then institutions need to provide targeted support for this population of students in order to minimise the potential dissonance between expectation and experienced reality.

Targeted support services must be provided by nursing departments in order to assist nursing students with their preparedness for study, preparation for shift work, travelling to placements, and managing their financial affairs.

The university must be committed to being proactive in helping students to connect with their learning environment, particularly during the first year. This is especially important for non-traditional students who may not access available support services particularly when undertaking practice placements.

A student welfare officer should be made available in the nursing department to support students who are struggling or who have to cope with difficult circumstances.

6.5.2 Recommendations for educational practice

Robust measures should be developed and applied to target students at risk of leaving their programme of study.

The specific needs of mature learners should be identified and measures taken to address these identified needs. The institution could also acknowledge and capitalise upon the students' previous experiences, social capital, and organisational skills and utilise these.

Students need to develop realistic expectations which will improve satisfaction and reduce attrition. Therefore, it is recommended that the department of nursing acts to support this through the strategies suggested below.

- It should actively manage expectations of prospective and new students emphasising the differences between nursing and other courses.
- It should provide students with a toolkit for developing self-efficacy skills
- It should prioritise the development of a predictor tool for students at based on student characteristics, to measure student persistence on nursing courses.
- It should offer taster sessions for prospective students thus offering the opportunity to meet current students. These taster sessions might also include demonstrations and podcasts of simulated clinical activities.

6.5.3 Recommendations for further research

A programme of further systematic research should be undertaken to explore the expectations and experiences of student nurses in both the academic and practice settings. The following studies are proposed.

- A three year study to identify how expectations change over time and to identify strategies used by successful students that enabled them to complete their programme of studies.
- A mixed-methods study to ascertain and compare the expectations of both lecturers and those of nursing students.
- A survey of career advisors to ascertain their knowledge of nursing as a higher education academic subject and their decision-making strategies when advising potential students of nursing.
- A three-year study to ascertain how the specific characteristics, expectations and prior experiences of mature students impact upon their experiences in the university and in clinical practice.

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