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THE UNIVERSITY OF DUBLIN

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ORGANISATIONAL CLIMATE, BIOGRAPHICAL FACTORS, AND JOB SATISFACTION: A NATIONAL SURVEY OF NURSES IN THE REPUBLIC OF IRELAND

(Volume 2)

A DISSERTATION SUBMITTED TO
THE FACULTY OF ARTS (HUMANITIES)
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

SCHOOL OF EDUCATION

BY

ELIZABETH ANN CURTIS

DUBLIN

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CHAPTER FIVE

DESCRIPTIVE FINDINGS

5.1 Introduction

This dissertation is presented in two volumes. Volume One contained four chapters: Introduction, Review of the Related Literature, A Theoretical Perspective, and Methodology. Volume Two is made up of five chapters. These are Descriptive Findings, Data Analysis, Discussion, Confirmation of the Framework, and Summary and Conclusion.

The purpose of this chapter is to organise, summarise and interpret numerical data generated from the present study. The process of data analysis involves several stages: (1) preparation of the data for analysis, (2) description of the sample, (3) testing the reliability of measurement instruments, (4) exploratory analysis of the data – examining the data descriptively, and (5) confirmatory analyses guided by the hypotheses.[1] Stages one to three were discussed in Chapter Four. The present chapter is concerned with stage four. Stage five will be addressed in Chapter Six.

The present chapter is made up of three main sections: an introduction, a main section and a summary. The introduction reminds the reader of the data analysis process and describes the statistics used to analyse the data descriptively.

The main section presents the descriptive findings. For clarity the findings are presented in the same sequence as that used in the questionnaire booklet. The

[1] N. Burns, and S.K. Grove, Understanding Nursing Research, p. 292-336.

questionnaire booklet used in the survey was made up of three sections. Section A contained the Biographical Questionnaire, Section B The Nurse Organisational Climate Description Questionnaire, which was designed to obtain data about the climate of an organisation; and Section C which contained the Index of Work Satisfaction (IWS) Questionnaire and collected data about job satisfaction. Thus, the biographical findings are presented first, followed by the findings from the Nurse Organisational Climate Description Questionnaire and finally the findings from the Index of Work Satisfaction. Additional information regarding the presentation and analysis of the data will be given in each of the three sections. The chapter concludes with a summary of the main descriptive findings from each of the three questionnaires.

5.2 Univariate or Descriptive Statistics

Descriptive or univariate statistics are used to describe a particular sample or an individual within a sample. Any conclusions made cannot be generalised beyond the sample. In the present study, descriptive statistics were used mainly to describe the characteristics of the sample (Section A of questionnaire booklet) from which the data were collected and to describe the values obtained from the measurement of variables from Sections B and C of the questionnaire booklet.

Univariate or descriptive analysis offers a wide range of choices for planning the analysis of data. Descriptive methods share a common purpose – that is, they summarise and describe data. Summarisation can range from content analysis whereby the data are arranged into categories to the use of descriptive statistics, such

as frequency distributions and measures of central tendency. In addition, descriptive analysis could include looking for relationships among variables.[2]

Measures of central tendency (mean, median, and mode) isolate one response that is representative of the sample. Each requires a specific level of measurement. To obtain a meaningful measure of central tendency, a suitable level of measurement must be used. For example, to use the mean, one must have interval or ratio data. To use the median requires ordinal data. The median represents the score that is at the exact centre of the distribution – the 50^{th} percentile. The median is obtained by rank ordering the scores. To use the mode nominal data are required. The mode specifies the category that occurs most frequently. Table 12 clarifies the different types of statistics used to analyse descriptive data and relates them to the level of measurement of the data.

Selecting the Appropriate Statistic[3]

Type of Statistic	Level of Measurement	Statistic
Measures of Central Tendency	Nominal Scale	Mode
	Ordinal Scale	Median
	Interval/Ratio Scale	Mean
Measures of Variation	Nominal Scale	Number of Categories
	Ordinal Scale	Range
	Interval/Ratio Scale	Standard Deviation
Tests of Relationship	Nominal Data	Chi-squared (x^2)
	Ordinal Data	Spearman Rank
	Interval/Ration Data	Pearson *r*

Table: 12

[2] P.J. Brink, and M.J. Wood, Basic Steps in Planning Nursing Research: From Question to Proposal, p. 217-240.

[3] Ibid., p. 225.

Measures of variation or dispersion describe how widely the individuals in the sample vary. It will determine whether the subjects in the sample are similar to each other or whether there is huge variation. The most often used measures of variation are the range, the quartile range, and the standard deviation. When using nominal data, however, the number of categories needed to represent a theme or variable specifies how much variation there is in the sample. Given that Section A of the questionnaire booklet contained mainly nominal data, the mode was used as the measure of central tendency and the number of categories in a question was used to discuss the amount of variation among respondents.

Sections B and C of the questionnaire booklet contained interval level data. Therefore, in addition to using frequency tables, the data will also be presented using means and matrices of Z-values. Comparing a score from a distribution with that of another is quite difficult because of the differences in the values of the different scores. For example, one may want to compare test scores from two examinations. The highest score obtained in one examination was 70 while in the other, it was 95. Such scores would be difficult to compare. To aid comparison, a procedure was developed to transform raw scores (e.g. marks in an examination) into standardised scores. This allows the meaning of the score to be interpreted more easily. A standardised score is called a Z-score. "It expresses deviations from the mean in terms of standard deviation units".[4] A positive Z-score is one that falls above the mean while a negative Z-score is one that falls below the mean. The standard deviation is equal to the Z-score. Therefore, a Z-score of 2 indicates that the score from which it originated is 2 standard deviations above the mean.

[4] N. Burns, and S.K. Grove, Understanding Nursing Research, p. 311.

5.3 Descriptive Findings from Section A of the Questionnaire Booklet

Section A of the questionnaire booklet contained 10 questions, designed to obtain biographical data from respondents. A total of 2000 questionnaires were distributed to a random sample of nurses in the Republic of Ireland. The response rate was 30.5 percent.

5.3.1 Question One - Gender

The purpose of this question was to establish the gender distribution of the sample. The results are displayed in Figure 9.

Gender Distribution of Sample

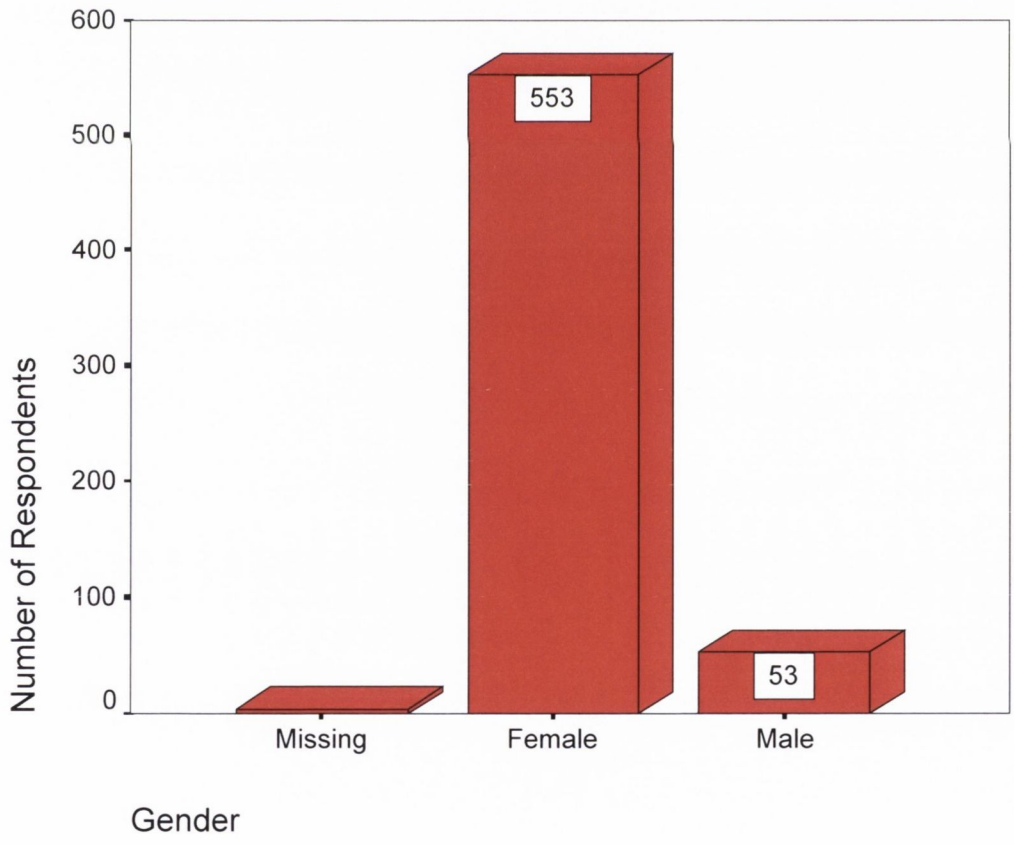

Figure: 9

The bar chart in figure 9 shows that the sample in the present study was made up of 90.7% (n=553) female and 8.7% (n=53) male nurses. .7% (n=4) respondents did not complete this question.

As indicated at the beginning of this chapter the mode is the most appropriate measure of central tendency for nominal data. Therefore, the modal category in figure 9 is *female* because the majority of respondents fall into this category.

5.3.2 Question Two – Age Range

This question was concerned with the age distribution of the sample. Age was divided into five ranges. Table 13 shows the age profile of the sample.

Age Range of Sample

Age Range	Frequency	Percent	Valid Percent
18-25	2	3.8	3.8
26-35	171	28.0	28.1
36-45	215	35.2	35.3
46-55	149	24.4	24.5
> 55	51	8.4	8.4
Total	609	99.8	100
Missing Data	1	.2	
Total	610	100	

Table: 13

The frequency table above shows that the majority of the nurses in this sample 35.2% (n=215) were aged between 36-45 years. The next largest group of nurses 28% (n=171) were aged between 26-35 years while the smallest number of nurses 3.8% (n=2) was within the 18-25 age group. The modal category for the data in Table 13 is *36-45* because it is the value that occurs with the greatest frequency.

5.3.3 Question Three – Private or Public Sector

Respondents were asked to indicate whether they were working in the private or public healthcare sector. Figure 10 shows the distribution of nurses working in the private or public sector.

Number of Nurses Working in Private or Public Sectors

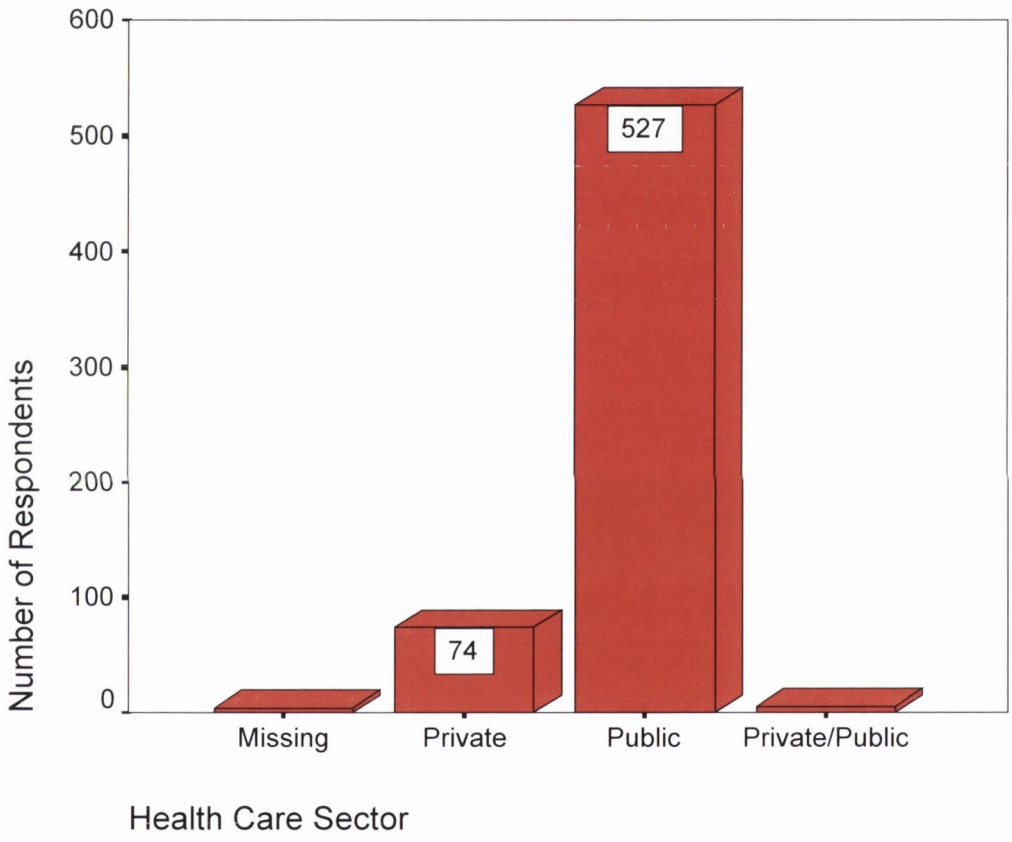

Figure: 10

The bar chart in figure 10 shows that the majority of nurses 86.4% (n=527) in this sample were working in the public healthcare sector, only 12.1% (n=74) were employed in the private healthcare sector. .7% (n=4) respondents did not complete this item in the questionnaire and .8% (n=5) reported working in both the public and private healthcare sectors.

The modal category in figure 10 is *public sector* because the majority of respondents fall into this category. A distribution can have only one mean. As regard to the mode, the situation is different. Distributions can have one mode (unimodal distribution), two modes (bimodal distribution), and more than two modes (multimodal distributions). The distribution presented here is unimodal.

5.3.4 Question Four – Health Board Area

Respondents were asked to indicate in which Health Board they were currently working. The findings to this item in the questionnaire are presented in figure 11.

Distribution of Nurses Working in the Health Boards

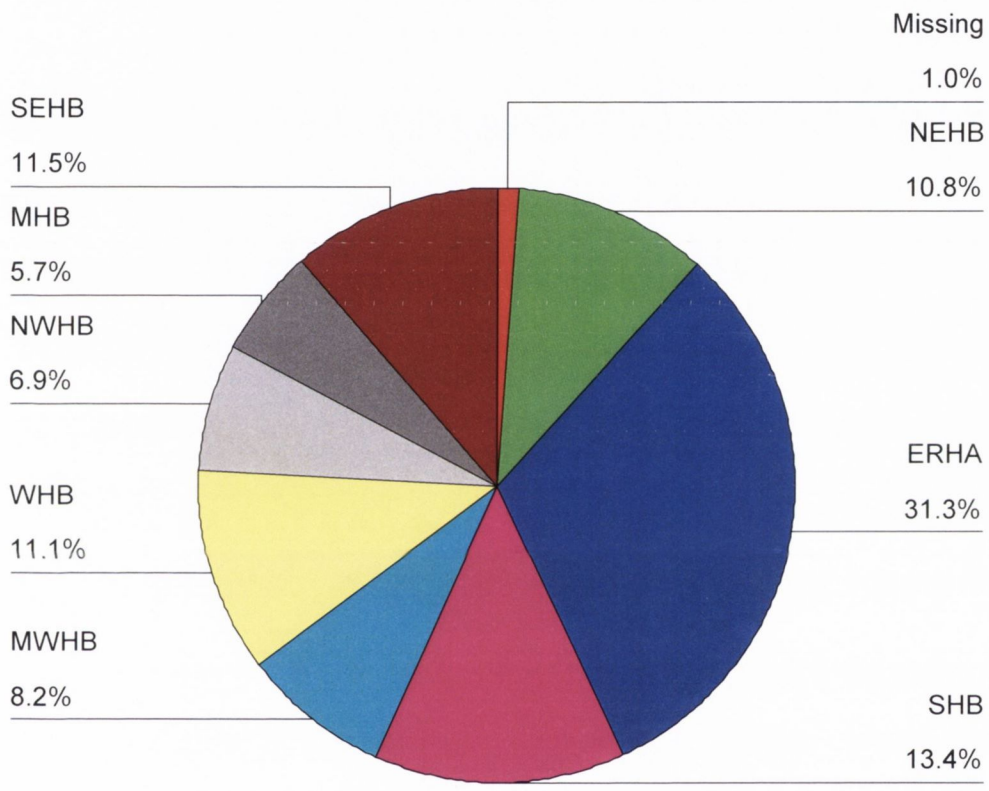

Figure: 11

KEY

ERHA = Eastern Regional Health Authority
NEHB = North Eastern Health Board
SHB = Southern Health Board
MWHB = Midland West Health Board
WHB = Western Health Board
NWHB = North Western Health Board
MHB = Midland Health Board
SEHB = South Eastern Health Board

The pie chart in Figure 11 summarises the results from question four. The largest number of nurses 31.3% (n=191) in this sample were working in the Eastern Regional Health Authority while the smallest number 5.7% (n=35) were working in the Midland Health Board. The second largest number of nurses 13.4% (n=82) were working in the Southern Health Board. The remaining results are as follows. SEHB 11.5% (n=70), WHB 11.1% (n=68), NEHB 10.8% (n=66), and MWHB 8.2% (n=50). 1.0% (n=6) respondents did not complete this question.

The findings in the pie chart in Figure 11 illustrate that the modal category is *Eastern Regional Health Authority* as most of the respondents (31.3%) in this study fall into this category. The distribution is unimodal.

5.3.5 Question Five – Nursing Education

The purpose of this question was to ascertain the main qualifications held by nurses in the sample. Respondents could tick as many of the seven categories given. The findings to this question are given in the frequency table below.

Nursing Qualifications of Respondents

Nursing Education	Frequency	Percent
Registered Nurse	498	81.6
Registered Midwife	221	36.2
Diploma in Nursing	129	21.1
Diploma in Midwifery	35	5.7
Primary Degree	74	12.1
Master Degree	24	3.9
PhD	1	.2
Missing	1	.2

Table: 14

Table 14 shows that the majority of the respondents 81.6% (n=498) had completed the Registered General Nurse (RGN) training (pre-diploma) compared with 21.1% (n=129) who had completed the diploma in nursing. A similar pattern is noted for midwifery. A larger number of respondents had completed their Registered Midwife (RM) training compared with 5.7% (n=35) who had completed the diploma in midwifery. 12.1% (n=74) of respondents had completed a primary degree while 3.9% (n=24) had completed a master degree. Only one respondent had a PhD. Finally, one person did not complete this question.

In Table 14 the categories in the first column are nominal data. *Registered Nurse* is the modal category, as over three-quarters of the sample (n=498) fall into this category.

5.3.6 Question Six – Country in Which Training Undertaken

The purpose of question six was to identify the country in which registered nurse or midwifery training were undertaken. This question was included in the questionnaire because of its potential to provide new information, when it is correlated with the dependent variable job satisfaction. As can be seen from Table 15 the majority of the respondents had completed their RGN and RM studies in Ireland. Therefore, no further analysis was performed on this variable.

Country in which RGN and RM Training Undertaken

Country in which RGN & RM Undertaken	Frequency	Percent	Valid Percent
Ireland	452	74.1	74.1
United Kingdom	185	30.3	30.3
USA	4	.7	.7
Canada	1	.2	.2
Australia	3	.5	.5
Other	34	5.6	5.6

Table: 15

The information in Table 15 indicates that 74.1% (n=452) of this sample completed their Registered General Nurse (RGN) and/or Registered Midwifery (RM) training in Ireland. 30.3% (n=185) of the respondents completed their RGN and/or RM training in the United Kingdom while only .7% (n=4) and .2% (n=1) and .5% (n=3) had completed these training programmes in the USA, Canada and Australia respectively. Worthy of note was the number of respondents 5.6% (n=34) who indicated that they had completed these training programmes in other countries. In view of this, it was decided to examine further the countries included in the category *other*. The outcome indicated that the country with the largest number of nurses in the category *other* was the Philippines (n=16).

Table 15 indicates that *Ireland* is the modal category, as the majority of respondents (74.1%) were within this category. This distribution is unimodal.

5.3.7 Question Seven – Registration Details

This question requested respondents to indicate in which parts of the register, held by *An Bord Altranais*, they were registered.

Registration Details of Sample

Parts of Register	Frequency	Percent	Valid Percent
General	527	86.4	86.4
Psychiatric	107	17.5	17.6
Mental Handicap	47	7.7	7.7
Sick Children	69	11.3	11.3
Midwifery	241	39.5	39.6
Public Health	52	8.5	8.5
Missing	6		

Table: 16

Table 16 suggests that 86.4% (n=527) of the sample were registered in the General part of the register while 39.5% (n=241) were registered in Midwifery. This finding is not surprising, since registration as a general nurse was a prerequisite of midwifery training. This requirement changed, however, following the introduction of a direct entry midwifery programme in the Republic of Ireland in 2000. Also noted in the frequencies in Table 16 is that 7.7% (n=47), 11.3% (n=69), and 8.5% (n=52) were registered in the Mental Handicap, Sick Children and Public Health parts of the register respectively. Finally, six (n=6) respondents did not complete this question.

Once again the categories listed in the first column (from left to right) of Table 16 are nominal data. Therefore, the measure of central tendency used is the mode. The modal category is *General* as the largest number of respondents are registered in the General part of the register held by *An Bord Altranais*.

5.3.8 Question Eight – Employment

Respondents were asked to indicate their current place of employment. Ten response categories were given in the questionnaire. The findings are contained in the Table 17.

Frequencies of Current Place of Employment

Current Place of Employment	Frequency	Percent	Valid percent	Cumulative Percent
Acute General Care Services (hospital)	225	36.9	36.9	36.9
Acute Psychiatric Care Services (hospital)	54	8.9	8.9	45.7
Midwifery Care Services (hospital)	54	8.9	8.9	54.6
Community Care Services	91	14.9	14.9	69.5
Residential Care Services (general disabilities)	14	2.3	2.3	71.8
Residential Care Services (intellectual disabilities)	33	5.4	5.4	77.2
Nursing Home Services	31	5.1	5.1	82.3
Palliative Care Services	8	1.3	1.3	83.6
General Practice Services	26	4.3	4.3	87.9
Other	74	12.1	12.1	100
Total	610	100	100	

Table: 17

The findings in Table 17 indicate that over a third of the sample 36.9% (n=225) work in Acute General Care Services. Community Care Services accounted for 14.9% (n=91) of the sample. 8.9% (n=54) of respondents reported that they were working in Acute Psychiatric Care Services and Midwifery Services respectively. General Disabilities, Intellectual Disabilities and General Practice Services accounted for

2.3% (n=14), 5.4% (n=33) and 4.3% (n=26) of the sample respectively. The category with the lowest number of nurses was Palliative Care Services 1.3% (n=8). 12.1% (n=74) of the sample ticked the category *other* in response to this question. When this category was examined further, several other descriptions were recorded under place of employment. The most frequently reported of these responses were Care of the Elderly and Paediatrics.

With regard to current place of employment the modal category is *Acute General Care Services (hospital)* because the largest number of respondents belong to this category. This distribution is unimodal.

5.3.9 Question Nine – Current Position

This question required respondents to indicate their current position at work. This question is likely to provide useful information when it is correlated with the dependent variable job satisfaction. This will be explored in Chapter Six. The frequency distributions to question nine are contained in Table 18.

Frequencies of Current Position at Work

Current Position	Frequency	Percent	Valid Percent	Cumulative Percent
Student Nurse	5	.8	.8	.8
Student Midwife	3	.5	.5	1.3
Staff Nurse	333	54.6	54.6	55.9
Midwife	35	5.7	5.7	61.6
Clinical Manager	92	15.1	15.1	76.7
Clinical Nurse Specialist	54	8.9	8.9	85.6
Advanced Nurse Practitioner	1	.2	.2	85.7
Assistant Director of Nursing	28	4.6	4.6	90.3
Director of Nursing (Matron)	5	.8	.8	91.1
Other	54	8.9	8.9	100
Total	610	100	100	

Table: 18

In Table 18 over half of the sample 54.6% (n=333) reported that their current position at work was that of Staff Nurse. The next largest category 15.1% (n=92) was Clinical Manager. The sample contained 8.9% (n=54) Clinical Nurse Specialists. Only 4.6% (n=28) and .8% (n=5) reported that their current position at work was Assistant Director of Nursing and Director of Nursing respectively. In this sample only small

numbers reported that they were students. .8% (n=5) and .5% (n=3) indicated that they were student nurses and student midwives respectively. Finally, 8.9% (n=54) of the sample had ticked the category *other*. On further examination, this category revealed a range of positions. The two with the highest frequencies, however, were Public Health Nurses (n=23) and Practice Nurses (n=5). Practice nurses work with General Practitioners.

From the data given in Table 18 the modal category is *Staff Nurse* because the largest number of respondents are within this category. This distribution is unimodal.

5.3.10 Question Ten – Length of Time in Current Place of Employment

This question required respondents to indicate the length of time they had been working in their current place of employment. Five response categories were given in this question. The findings are reported in Figure 12. It is quite possible that this question will provide useful information when it is correlated with the independent variable job satisfaction. This will be addressed in Chapter Six.

Length of Time Working in Current Place of Employment

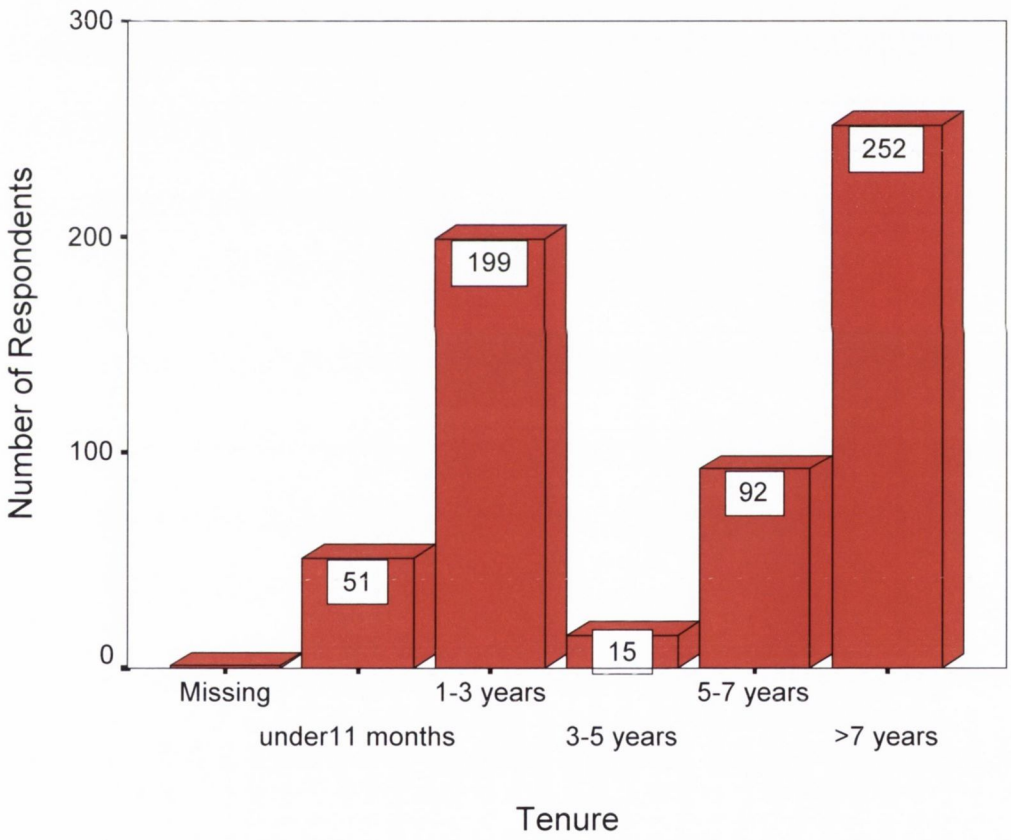

Figure 12

The findings in Figure 12 suggest that just under half of the sample 41.3% (n=252) reported that they had been in their current place of employment for over seven years. 32.6% (n=199) of respondents reported that they had been in their current place of employment for 1-3 years. The rest of the findings indicated that 15.1% (n=92), 8.4%

(n=51) and 2.5% (n=15) respondents had been working in their current place of employment for 5-7 years, under 11 months, and 3-5 years respectively. Only one respondent (.2%) did not answer this question. The modal category for the data in Figure 12 is *>7 years* because this response category contained the largest number of respondents. The distribution is unimodal.

5.4 Summary of Main Descriptive Findings from Section A of the Questionnaire Booklet

Section A of the questionnaire booklet contained ten biographical questions and was developed by this researcher following a review of the literature. A total of 2000 questionnaires were distributed and the response rate was 30.5%. The findings revealed that the respondents were predominately female 90.7% (n=553). The majority of the respondents 35.2% (n=215) were aged between 36-45 years of age. The 18-25 years age category contained the smallest number of respondents 3.8% (n=2). Only 8.4% (n=51) of the sample was over 55 years of age.

The majority of nurses 86.4% (n=527) reported working in the public health care sector. With regard to Health Board Area, 31.3% (n=191) of this sample was working in the Eastern Regional Health Authority. With regard to nursing education, most of the respondents 81.6% (n=498) had undertaken the pre diploma RGN qualification while 21.1% (n=129) had completed a Diploma in Nursing. 12.1% (n=74) of respondents had a primary degree, 3.9% (n=24) of respondents had completed a master degree and one respondent had a PhD. The majority of the respondents 74.1% (n=452) had completed their nursing and midwifery training in the Republic of Ireland, while the second largest number of respondents 30.3% (n=185) had completed the same courses in the United Kingdom.

The largest number of respondents 36.9% (n=225) reported that they were currently working in Acute General Care Services, while the second largest number of respondents 14.9% (n=91) were working in Community Care Services. With regard to current position, a total of 54.6% (n=333) were Staff Nurses while 15.1% (n=92) were Clinical Managers. The final question in this section of the questionnaire related to length of time in current place of employment. Five response categories were used.

The largest number of respondents 41.3% (n=252), which is under half of the sample, reported that they had been in their current place of employment for over seven years. The second largest number of respondents 32.6% (n=199) said that they had been in their current place of employment for 1-3 years. 2.5% (n=15) of respondents, which is the smallest number of respondents, indicated that they had been in their current place of employment for 3-5 years.

5.5 Descriptive Findings from Section B of the Questionnaire Booklet

The descriptive data derived from the Nurse Organisational Climate Description Questionnaire (NOCDQ) is presented in this section. This questionnaire was developed in the USA originally to measure the climate in schools. It was modified in 1982 for use with nurses. The NOCDQ questionnaire consists of 26 measurable attributes. These attributes were then used to construct six components, three of which are worded positively (Humanistic Thrust, Esprit, Intimacy), while the remaining three are worded negatively (Aloofness, Hindrance, Disengagement). The instrument was designed to measure two types of behaviours: those of the leader and those of the subordinates. Four of these six components emphasise subordinate behaviour and include Esprit, Intimacy, Disengagement, and Hindrance. The remaining two components emphasise leader behaviour and include Humanistic Thrust, and Aloofness.

Respondents were asked to indicate how frequently each of the items contained in the questionnaire occurred in their place of work by circling one choice for each question. All items had four possible responses. These are R = Rarely Occurs, S = Sometimes Occurs, O = Often Occurs and VF = Very Frequently Occurs. The findings are presented in two stages. The first stage involved the preparation of a frequency table, listing the number of times each response category was chosen for each item. The second stage involved calculating the scores for each response category for each of the six components. This procedure allows the calculation of a Component Score and a Component Mean Score for each of the six components.

The first column in Table 19 gives the six components that make up the questionnaire. The second column indicates the number of items that describe each component.

Column three gives the possible range of scores for each component. This is determined by multiplying the number of items that describe each scale by the highest score which for this questionnaire is 4. The next column lists the number of items in the questionnaire that describes each component. For example, items 3, 9, 10, 18, 20, and 25 all describe Humanistic Thrust. The remaining two columns provide the response categories and the scores for each of the response categories respectively.

Components and Questionnaire Items for the NOCDQ

Component	Number of Items per Component	Range of Component Scores	Questionnaire Items	R = Rarely Occurs S = Sometimes Occurs O = Often Occurs VF = Very Frequently Occurs	R = 1 S = 2 O = 3 VF = 4
Humanistic Thrust	6	6-24	3, 9, 10, 18, 20, 25		
Esprit	3	3-12	7, 13, 26		
Intimacy	4	4-16	6, 11, 17, 23		
Aloofness	3	3-12	5, 12, 14		
Disengagement	5	5-20	2, 8, 15, 16, 19		
Hindrance	5	5-20	1, 4, 21, 22, 24		

Table: 19

5.5.1 Humanistic Thrust

As indicated earlier, the findings are presented in two stages. In the first stage the frequencies are presented for each response category for each of the items in the NOCDQ. Rather than present a large table for all twenty-six items the frequencies are presented for each of the six components of climate that make up the questionnaire. The second stage involves calculating the score for each response category for all six components of organisational climate. The findings for Humanistic Thrust are presented first.

Humanistic Thrust is concerned with constructive leadership behaviours of the nurse manager. This type of leader behaviour is manifested not by close supervision of subordinates but rather by the manager's attempt to motivate subordinates through the example she or he sets.

Frequency Distribution of Responses for Humanistic Thrust

Items (paraphrased from questionnaire)	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs	Total Responses	Missing	Sample Total
	Score = 1	Score = 2	Score = 3	Score = 4			
Humanistic Thrust							
3. The clinical nurse manager sets an example by working hard.	90 14.8%	170 27.9%	169 27.7%	164 26.9%	593 97.2%	17 2.8%	610 100%
9. The clinical manager is well prepared when speaking at meetings.	79 13.0%	134 22.0%	203 33.3%	177 29.0%	593 97.2%	17 2.8%	610 100%
10. The clinical manager helps staff members settle differences.	162 26.6%	169 27.7%	144 23.6%	118 19.3%	593 97.2%	17 2.8%	610 100%
18. The clinical manager checks the ability of nurses.	166 27.2	190 31.1%	162 26.6%	73 12.0%	591 96.9%	19 3.1%	610 100%
20. The clinical manager goes out of her way to help nurses.	110 18.0%	200 32.8%	165 27.0%	116 19.0%	591 96.9%	19 3.1%	610 100%
25. The clinical manager uses constructive criticism.	166 27.2%	215 35.2%	157 25.7%	56 9.2%	594 97.4%	16 2.6%	610 100%

Table: 20

Table 20 gives the frequency distribution for each of the response categories for the six items that describe Humanistic Thrust. These items are all positively worded. The sample consisted of 610 respondents and the number of respondents who completed these statements ranged from 591 to 594. Because Humanistic Thrust is a positive component a high score is preferred. Therefore, the response categories that would indicate a climate strong in Humanistic Thrust would be "often occurs" and "very frequently occurs". The findings in this table indicate that the response categories with the highest number of responses are *sometimes occurs* and *often occurs*.

Having presented the frequencies for each of the response categories for Humanistic Thrust, the next stage was to calculate a score for this component. To calculate the scores a matrix was constructed. The matrix consists of several pieces of information all of which are necessary in order to calculate the component score. The first column of the matrix lists the response categories used in the NOCDQ. The top row moving from left to right contain the item numbers that describe Humanistic Thrust. The middle rows contain the score for each response category, the number of respondents who responded to that item and the sub-total which is the score for a particular item in each response category.

To obtain the component score, the first procedure is to multiply the score for each response category by the number of respondents who gave that response. The figure produced becomes the sub-total for that response category. Then, all the sub-totals are added to obtain a score for each item. The next step is to divide the total for each item by the number of respondents for that item to get an average score for each item. To calculate the component score, add all the average scores. For example, the

component score in Table 21 is the sum of the average scores for items 3, 9, 10, 18, 20, and 25. The mean score for Humanistic Thrust is calculated by dividing the component score by the number of items measuring Humanistic Thrust. As can be seen in this table, the number of items is 6, therefore, the mean score is 14.77 divided by 6 which gives a score of 2.46 (2.5).

Calculating the Component Score for Humanistic Thrust

Response Categories	Item # 3		Item # 9		Item # 10		Item # 18		Item # 20		Item, # 25	
Rarely Occurs	score	1	score	1	score	1	score	1	score	1		
	# of resp.	90	# of resp	79	# of resp	162	# of resp	166	# of resp	110	# of resp	166
	Sub-total	**90**	Sub-total	**79**	Sub-total	**162**	Sub-total	**166**	Sub-total	**110**	Sub-total	**166**
Sometimes Occurs	score	2	score	2	score	2	score	2	score	2	score	2
	# of resp.	170	# of resp.	134	# of resp.	169	# of resp.	190	# of resp.	200	# of resp.	215
	sub-total	**340**	sub-total	**268**	sub-total	**338**	sub-total	**380**	sub-total	**400**	sub-total	**430**
Often Occurs	score	3	score	3	score	3	score	3	score	3	score	3
	# of resp.	169	# of resp.	203	# of resp.	144	# of resp.	162	# of resp.	165	# of resp.	157
	sub-total	**507**	sub-total	**609**	sub-total	**432**	sub-total	**483**	sub-total	**495**	Sub-total	**471**
Very Frequently Occurs	score	4	score	4	score	4	score		score	4	score	4
	# of resp.	164	# of resp.	177	# of resp.	118	# of resp.	73	# of resp.	116	# of resp.	56
	sub-total	**656**	sub-total	**708**	sub-total	**472**	sub-total	**292**	sub-total	**464**	sub-total	**224**
Total of Item		1593		1664		1404		1321		1469		1291
Total # of Respondents		593		593		593		591		591		594
Average Score		2.69		2.81		2.37		2.24		2.49		2.17
Component Score	**14.77 (sum of average scores)**											
Component Mean Score	**2.46 i.e. 2.5 (component score ÷ number of items)**											

Table: 21

Table 21 demonstrates how the score for Humanistic Thrust was obtained. The overall component score is 14.77 and the component mean score is 2.5. This score will be interpreted later.

5.5.2 Esprit

Table 22 gives the frequencies for the items describing Esprit. This component is made up of three items from the NOCDQ. Esprit refers to morale. Subordinates feel that their social needs are being met while at the same time enjoying a sense of accomplishment in their jobs.

Frequency Distribution of Responses for Esprit

Items (paraphrased from questionnaire)	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs	Total Responses	Missing	Sample Total
	Score=1	Score=2	Score=3	Score=4			
Esprit							
7. The morale of nurses is high.	203 33.3%	215 35.2%	130 21.3%	51 8.4%	599 98.2%	11 1.8%	610 100%
13. Nurses at this hospital show much spirit.	100 16.4%	198 32.5%	187 30.7%	107 17.5%	592 97%	18 3.0%	610 100%
26. The nurses accomplish their work with vim, vigour and pleasure.	88 14.4%	252 41.3%	189 31.0%	69 11.3%	598 98.0%	12 2.0%	610 100%

Table: 22

Table 22 gives the frequency distribution for each of the response categories for the three items that describe Esprit. The sample consisted of 610 nurses and the number of respondents who completed these statements ranged from 592 to 599.

Because Esprit is a positive component a high score is preferred. Therefore, the response categories that would indicate a climate strong in Esprit would be "often occurs" and "very frequently occurs". The findings in this table indicate that the response categories with the highest number of responses are *rarely occurs* and *sometimes occurs*.

Calculating the Component Score for Esprit

Having presented the frequencies for each of the response categories for Esprit, the next stage was to calculate a score for this component. To calculate the scores a matrix was constructed. This matrix consists of several pieces of information all of which are necessary in order to calculate the component score. The first column lists the response categories used in the NOCDQ. The top row, moving from left to right, contain the item numbers that describe Esprit. The middle rows contain the score for each response category, the number of respondents who responded to that item and the sub-total which is the score for a particular item in each response category.

To obtain the component score, the first procedure is to multiply the score for each response category by the number of respondents who gave that response. The figure produced becomes the sub-total for that response category. Then, all the sub-totals are added to obtain a score for each item. The next step is to divide the total for each item by the number of respondents for that item to get an average score for each item. To calculate the component score, add all the average scores. The mean score for Esprit is calculated by dividing the component score by the number of items measuring esprit. The number of items is 3, therefore, the mean score for Esprit is 6.95 divided by 3 which gives a score of 2.3.

Calculating the Component Score for Esprit

Response Categories	Item # 7		Item # 13		Item # 26	
Rarely Occurs	score	1	score	1	score	1
	# of resp.	203	# of resp	100	# of resp	88
	Sub-total	**203**	Sub-total	**100**	Sub-total	**88**
Sometimes Occurs	score	2	score	2	score	2
	# of resp.	215	# of resp.	198	# of resp.	252
	sub-total	**430**	sub-total	**396**	sub-total	**502**
Often Occurs	score	3	score	3	score	3
	# of resp.	130	# of resp.	187	# of resp.	189
	sub-total	**390**	sub-total	**561**	sub-total	**567**
Very Frequently Occurs	score	4	score	4	score	4
	# of resp.	51	# of resp.	107	# of resp.	69
	sub-total	**204**	sub-total	**428**	sub-total	**276**
Total of Item		1227		1485		1433
Total # of Respondents		599		592		598
Average Score		2.05		2.51		2.39
Component Score	**6.95 (sum of average scores)**					
Component Mean Score	**2.32 i.e.2.3 (component score ÷ number of items)**					

Table: 23

Table 23 demonstrates how the score for Esprit was obtained. The overall component score is 6.95 and the component mean score is 2.3. This score will be interpreted later.

5.5.3 Intimacy

Table 24 gives the frequencies for the items describing Intimacy. This component is made up of four items from the NOCDQ. Intimacy refers to subordinates' enjoyment of friendly social relations with each other. In other words it reflects the social intimacy of the work group.

Frequency Distribution of Responses for Intimacy

Items (paraphrased from questionnaire)	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs	Total Responses	Missing	Sample Total
	Score=1	Score=2	Score=3	Score=4			
Intimacy							
6. Nurses' closest friends are other nurses from this unit.	163 26.7%	223 36.6%	131 21.5%	76 12.5%	593 97.2%	17 2.8%	610 100%
11. Nurses know the family background of other nurses.	66 10.8%	195 32.0%	183 30.0%	152 24.9%	596 97.7%	14 2.3%	610 100%
17. Nurses talk about their personal life to other nurses in the unit.	54 8.9%	192 31.5%	193 31.6%	153 25.1%	592 97.0%	18 3.0%	610 100%
23. Nurses invite other nurses to visit them at home.	186 30.5%	249 40.8%	118 19.3%	39 6.4%	592 97%	18 3.0%	610 100%

Table: 24

Table 24 gives the frequency distribution for each of the response categories for the four items that describe Intimacy. The sample consisted of 610 nurses and the number of respondents who completed these statements ranged from 592 to 596.

Because Intimacy is a positive component a high score is preferred. Therefore, the response categories that would indicate a climate strong in Intimacy would be "often occurs" and "very frequently occurs". The findings in this table indicate that the response categories with the highest number of responses are *sometimes occurs* and *often occurs*.

Calculating the Component Score for Intimacy

Having presented the frequencies for each of the response categories for Intimacy, the next stage was to calculate a score for this component. The matrix in Table 25 contains several pieces of information all of which are necessary in order to calculate the component score. The first column lists the response categories used in the NOCDQ. The top row, moving from left to right, contain the item numbers that describe Intimacy. The middle rows contain the score for each response category, the number of respondents who responded to that item and the sub-total which is the score for a particular item in each response category.

To obtain the component score, the first procedure is to multiply the score for each response category by the number of respondents who gave that response. The figure produced becomes the sub-total for that response category. Then, all the sub-totals are added to obtain a score for each item. The next step is to divide the total for each item by the number of respondents for that item to get an average score for each item. To calculate the component score, add all the average scores. The mean score for Intimacy is calculated by dividing the component score by the number of items measuring Intimacy. The number of items is 4, therefore, the mean score for Intimacy is 9.5 divided by 4 which gives a score of 2.4.

Calculating the Component Score for Intimacy

Intimacy	Item # 6		Item # 11		Item # 17		Item # 23	
Rarely Occurs	score	1	score	1	score	1	score	1
	# of resp.	163	# of resp	66	# of resp	54	# of resp	186
	Sub-total	**163**	Sub-total	**66**	Sub-total	**54**	Sub-total	**186**
Sometimes Occurs	score	2	score	2	score	2	score	2
	# of resp.	223	# of resp.	195	# of resp.	192	# of resp.	249
	sub-total	**446**	sub-total	**390**	sub-total	**384**	sub-total	**498**
Often Occurs	score	3	score	3	score	3	score	3
	# of resp.	131	# of resp.	183	# of resp.	193	# of resp.	118
	sub-total	**393**	sub-total	**549**	sub-total	**579**	sub-total	**354**
Very Frequently Occurs	score	4	score	4	score	4	score	
	# of resp.	76	# of resp.	152	# of resp.	153	# of resp.	39
	sub-total	**304**	sub-total	**608**	sub-total	**612**	sub-total	**156**
Total of Item		1306		1613		1629		1194
Total # of Respondents		593		596		592		592
Average Score		2.20		2.71		2.75		2.02
Component Score	**9.5 (sum of average scores)**							
Component Mean Score	**2.38 i.e. 2.4 (component score ÷ number of items)**							

Table: 25

Table 25 demonstrates how the score for Intimacy was obtained. The overall component score is 9.5 and the component mean score is 2.4. This score will be interpreted later.

5.5.4 Aloofness

Table 26 gives the frequencies for the items describing Aloofness. This component is made up of three items from the NOCDQ. Aloofness refers to behaviour by the manager that is characterised as formal and impersonal. The manager uses rules and policies to guide her or his practice when planning and conducting staff meetings rather than deal with subordinates in an informal, face-to-face manner.

Frequency Distribution of Responses for Aloofness

Items (paraphrased from questionnaire)	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs	Total Responses	Missing	Sample Total
	1	2	3	4			
Aloofness							
5. Staff meetings are mainly clinical nurse manager report meetings.	169 27.7%	152 24.9%	149 24.4%	125 20.5%	595 97.5%	15 2.5%	610 100%
12. The clinical nurse manager runs staff meetings like business meetings.	236 38.7%	166 27.2%	125 20.5%	65 10.7%	592 97.0%	18 3.0%	610 100%
14. Staff meetings are organised according to a tight agenda.	153 25.1%	165 27.0%	167 27.4%	109 17.9%	594 97.4%	16 2.6%	610 100%

Table: 26

Table 26 gives the frequency distribution for each of the response categories for the three items that describe Aloofness. The sample consisted of 610 nurses and the number of respondents who completed these statements ranged from 592 to 595.

Because Aloofness is a negative component a low score is preferred (a large score for this component would indicate high levels of Aloofness which would not contribute to a healthy climate). Therefore, the response categories that would indicate a climate low in Aloofness would be "rarely occurs" and "sometimes occurs". The findings in this table indicate that the response categories with the highest number of responses

are *rarely occurs* and *sometimes occurs*. Consequently, these findings imply lower levels of Aloofness.

Calculating the Component Score for Aloofness

Having presented the frequencies for each of the response categories for Aloofness the next stage was to calculate a score for this component. This information is contained in Table 27. The first column lists the response categories used in the NOCDQ. The top row, moving from left to right, contain the item numbers that describe Aloofness. The middle rows contain the score for each response category, the number of respondents who responded to that item and the sub-total which is the score for a particular item in each response category.

To obtain the component score, the first procedure is to multiply the score for each response category by the number of respondents who gave that response. The figure produced becomes the sub-total for that response category. Then, all the sub-totals are added to obtain a score for each item. The next step is to divide the total for each item by the number of respondents for that item to get an average score for each item. To calculate the component score add all the average scores. The mean score for Aloofness is calculated by dividing the component score by the number of items measuring Aloofness. The number of items is 3, therefore, the mean score for Aloofness is 6.81 divided by 3 which gives a score of 2.3.

Calculating the Component Score for Aloofness

Aloofness	Item # 5		Item # 12		Item # 14	
Rarely Occurs	score	1	score	1	score	1
	# of resp.	169	# of resp	236	# of resp	153
	Sub-total	**169**	Sub-total	**236**	Sub-total	**153**
Sometimes Occurs	score	2	score	2	score	2
	# of resp.	152	# of resp.	166	# of resp.	165
	sub-total	**304**	sub-total	**332**	sub-total	**330**
Often Occurs	score	3	score	3	score	3
	# of resp.	149	# of resp.	125	# of resp.	167
	sub-total	**447**	sub-total	**375**	sub-total	**501**
Very Frequently Occurs	score	4	score	4	score	4
	# of resp.	125	# of resp.	65	# of resp.	109
	sub-total	**500**	sub-total	**260**	sub-total	**436**
Total of Item		1420		1203		1420
Total # of Respondents		595		592		594
Average Score		2.39		2.03		2.39
Component Score	**6.81 (sum of average scores)**					
Component Mean Score	**2.27 i.e. 2.3 (component score ÷ number of items)**					

Table: 27

Table 27 demonstrates how the score for Aloofness was obtained. The overall component score is 6.81 and the component mean score is 2.3. This score will be interpreted later.

5.5.5 Disengagement

Table 28 gives the frequencies for the items describing Disengagement. This component is made up of five items from the NOCDQ. Disengagement reflects disunity and conflict among nurses working in a particular ward or unit.

Frequency Distribution of Responses for Disengagement

Items (paraphrased from questionnaire)	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs	Total Responses	Missing	Sample Total
	1	2	3	4			
Disengagement							
2. Nurses seek special favours from the clinical nurse manager.	290 47.5%	232 38.0%	59 9.7%	15 2.5%	596 97.7%	14 2.3%	610 100%
8. The mannerisms of nurses on this ward/unit are annoying.	233 38.2%	263 43.1%	58 9.5%	36 5.9%	590 96.7%	20 3.3%	610 100%
15. Nurses leave the ward/unit during their assignments.	343 56.2%	166 27.2%	49 8.0%	30 4.9%	588 96.4%	22 3.6%	610 100%
16. There is a minority group of nurses who always oppose the majority.	209 34.3%	186 30.5%	114 18.7%	82 13.4%	591 96.9%	19 3.1%	610 100%
19. Nurses exert group pressure on nonconforming nurses.	226 37.0%	214 35.1%	90 14.8%	63 10.3%	593 97.2%	17 2.8%	610 100%

Table: 28

This table gives the frequency distribution for each of the response categories for the five items that describe Disengagement. The sample consisted of 610 nurses and the number of respondents who completed these statements ranged from 588 to 596. It would appear that item 15 had one of the lowest response rates for the Nurse Organisational Climate Description Questionnaire. Only 96.4% (n=588) of the sample responded to this item. The pilot study did not reveal any problems with this item so it is difficult to explain this low response.

Because Disengagement is a negative component a low score is preferred (a large score for this component would indicate high levels of Disengagement which would not contribute to a healthy climate). Therefore, the response categories that would indicate a climate low in Disengagement would be "rarely occurs" and "sometimes occurs". So, the findings in Table 28 indicate that the response categories with the highest number of responses are *rarely occurs* and *sometimes occurs*. Consequently, these findings imply lower levels of Disengagement.

Calculating the Component Score for Disengagement

When the frequencies for each of the response categories for Disengagement were presented, the next stage was to calculate a score for this component. This information is contained in Table 29. The first column in this table lists the response categories used in the NOCDQ. The top row, moving from left to right, contain the item numbers that describe Disengagement. The middle rows contain the score for each response category, the number of respondents who responded to that item and the sub-total which is the score for a particular item in each response category.

To obtain the component score, the first procedure is to multiply the score for each response category by the number of respondents who gave that response. The figure produced becomes the sub-total for that response category. Then, all the sub-totals are added to obtain a score for each item. The next step is to divide the total for each item by the number of respondents for that item to get an average score for each item. To calculate the component score add all the average scores. The mean score for Disengagement is calculated by dividing the component score by the number of items measuring Disengagement. As demonstrated in Table 29, the number of items is 5.

Therefore, the mean score for Disengagement is 9.19 divided by 5 which gives a score of 1.8.

Calculating the Component Score for Disengagement

Disengagement	Item # 2		Item # 8		Item # 15		Item # 16		Item # 19	
Rarely Occurs	score	1	score	1	score	1	score	1	score	1
	# of resp.	290	# of resp	233	# of resp	343	# of resp	209	# of resp	226
	Sub-total	**290**	Sub-total	**233**	Sub-total	**343**	Sub-total	**209**	Sub-total	**226**
Sometimes Occurs	score	2	score	2	score	2	score	2	score	2
	# of resp.	232	# of resp.	263	# of resp.	166	# of resp.	186	# of resp.	214
	sub-total	**464**	sub-total	**526**	sub-total	**332**	sub-total	**372**	sub-total	**428**
Often Occurs	score	3	score	3	score	3	score	3	score	3
	# of resp.	59	# of resp.	58	# of resp.	49	# of resp.	114	# of resp.	90
	sub-total	**177**	sub-total	**174**	sub-total	**147**	sub-total	**342**	sub-total	**270**
Very Frequently Occurs	score	4	score	4	score	4	score	4	score	4
	# of resp.	15	# of resp.	36	# of resp.	30	# of resp.	82	# of resp.	63
	sub-total	**60**	sub-total	**144**	sub-total	**120**	sub-total	**328**	sub-total	**252**
Total of Item		991		1077		942		1251		1176
Total # of Respondents		596		590		588		591		593
Average Score		1.66		1.83		1.60		2.12		1.98
Component Score	**9.19 (sum of average scores)**									
Component Mean Score	**1.84 i.e. 1.8 (component score ÷ number of items)**									

Table: 29

Table 29 demonstrates how the score for Disengagement was obtained. The overall component score is 9.19 and the component mean score is 1.8. This score will be interpreted later.

5.5.6 Hindrance

Table 30 gives the frequencies for the items describing Hindrance. This component is made up of five items from the NOCDQ. Hindrance refers to subordinates' views that the manager burdens them with routine duties, meetings and other hospital/organisational requirements that they construe as unnecessary and which interfere with nursing practice.

Frequency Distributions of Responses for Hindrance

Items (paraphrased from questionnaire)	Rarely Occurs	Sometimes Occurs	Often Occurs	Very Frequently Occurs	Total Responses	Missing	Sample Total
	1	2	3	4			
Hindrance							
1. Routine duties interfere with the job of practicing nursing.	109 17.9%	210 34.4%	184 30.2%	94 15.4%	597 98.0%	12 2.0%	610 100%
4. Patient charting and reports require too much work.	76 12.5%	164 26.9%	173 28.4%	184 30.2%	597 97.9%	13 2.1%	610 100%
21. Administrative paperwork is burdensome at this hospital.	78 12.8%	142 23.3%	157 25.7%	220 36.1%	597 97.9%	13 2.1%	610 100%
22. Housekeeping service is available when needed.	161 26.4%	141 23.1%	172 28.2%	113 18.5%	587 96.2%	23 3.8%	610 100%
24. Nurses have too many committee requirements.	182 29.8%	229 37.5%	111 18.2%	74 12.1%	596 97.7%	14 2.3%	610 100%

Table: 30

This table gives the frequency distribution for each of the response categories for the five items that describe Hindrance. The sample consisted of 610 nurses and the number of respondents who completed these statements ranged from 587 to 597. From these findings it is evident that item 22 had one of the lowest response rates for the Nurse Organisational Climate Description Questionnaire. Only 96.2% (n=587) of respondents answered responded to this item. The pilot study did not reveal any problems with this item so it is difficult to explain this low response.

Because Hindrance is a negative component a low score is preferred (a large score for this component would indicate high levels of Hindrance which would not contribute to a healthy climate). Therefore, the response categories that would indicate a climate low in Hindrance would be "rarely occurs" and "sometimes occurs". The findings in the table above are rather interesting. For items 1, 22, and 24 the response categories with the highest number of responses are *rarely occurs* and *sometimes occurs*. For items 4 and 21 the response categories with the highest number of responses are *often occurs* and *very frequently occurs*. Consequently, health service managers and administrators will have to implement changes to address the issues relating to items 4 and 21, in order to reduce the negative impact these items have on the climate.

Calculating the Component Score for Hindrance

When the frequencies for each of the response categories for Hindrance were presented, the next stage was to calculate a score for this component. This information is contained in Table 31. The first column lists the response categories used in the NOCDQ. The top row, moving from left to right, contain the item numbers that describe Hindrance. The middle rows contain the score for each response category, the number of respondents who responded to that item and the sub-total which is the score for a particular item in each response category.

To obtain the component score, the first procedure is to multiply the score for each response category by the number of respondents who gave that response. The figure produced becomes the sub-total for that response category. Then, all the sub-totals are added to obtain a score for each item. The next step is to divide the total for each item by the number of respondents for that item to get an average score for each item. To calculate the component score add all the average scores. The mean score for

Hindrance is calculated by dividing the component score by the number of items measuring Hindrance. In Table 31, the number of items is 5. Therefore, the mean score for Hindrance is 12.62 divided by 5 which gives a score of 2.5.

Calculating the Component Score for Hindrance

Hindrance	Item # 1		Item # 4		Item # 21		*Item # 22		Item # 24	
Rarely Occurs	score	1	score	1	score	1	score	1	score	1
	# of resp.	109	# of resp	76	# of resp	78	# of resp	161	# of resp	182
	Sub-total	**109**	Sub-total	**76**	Sub-total	**78**	Sub-total	**161**	Sub-total	**182**
Sometimes Occurs	score	2	score	2	score	2	score	2	score	2
	# of resp.	210	# of resp.	164	# of resp.	142	# of resp.	141	# of resp.	229
	sub-total	**420**	sub-total	**328**	sub-total	**284**	sub-total	**282**	sub-total	**458**
Often Occurs	score	3	score	3	score	3	score	3	score	3
	# of resp.	184	# of resp.	173	# of resp.	157	# of resp.	172	# of resp.	111
	sub-total	**552**	sub-total	**519**	sub-total	**471**	sub-total	**516**	sub-total	**333**
Very Frequently Occurs	score	4	score	4	score	4	score	4	score	4
	# of resp.	94	# of resp.	184	# of resp.	220	# of resp.	113	# of resp.	74
	sub-total	**376**	sub-total	**736**	sub-total	**880**	sub-total	**452**	sub-total	**296**
Total of Item		1457		1659		1713		1411		1269
Total # of Respondents		597		597		597		587	1411	596
Average Score		2.44		2.78		2.87		2.40		2.13
Component Score	**12.62 (sum of average scores)**									
Component Mean Score	**2.52 i.e. 2.5 (component score ÷ number of items)**									

Table: 31

Table 31 informs the reader how the score for Hindrance was obtained. The overall component score is 12.62 and the component mean score is 2.5. This score will be interpreted later.

5.6 Interpreting the Component Scores for the NOCDQ

When the response frequencies for each item in the NOCDQ are presented and the Component Scale Score and the Component Mean Score are calculated, the next step is to interpret the scores. As demonstrated earlier in Table 19, the scoring for the NOCDQ ranged from 1.0 to 4.0 with 1.0 representing "rarely occurs", 2.0 representing "sometimes occurs", 3.0 representing "often occurs", and 4.0 representing "very frequently occurs". High scores for the positive components (that is a score close to 4.0) represents a positive rating while low scores (that is a score close to 1.0) represents a negative rating. Low scores for the negative components (that is a score close to 1.0) represents a positive rating while high scores (that is a score close to 4.0) represents a negative rating.

Table 32 provides the reader with the Component Scale Scores and Component Mean Scores for each of the six components that make up the Nurse Organisational Climate Description Questionnaire (NOCDQ). The results will be interpreted for each of the six components.

Humanistic Thrust – is concerned with constructive leadership behaviours of the nurse manager. This type of leader behaviour is characterised not by close supervision of subordinates but rather by the manager's attempt to motivate through the example she or he sets. This is a positive component, thus a score closer to 4.0 is preferred. In Table 32 Humanistic Thrust has a mean score of 2.5. This indicates only a moderate rating by respondents for this component of organisational climate.

Esprit – refers to morale. Because this is a positive component a score closer to 4.0 is preferred. In Table 32 Esprit has a mean score of 2.3, indicating only a moderate rating for this component of organisational climate.

Intimacy – refers to employees' enjoyment of friendly, social relations with each other. This component is positive therefore a score closer to 4.0 is preferred. The results in Table 32 indicate that Intimacy has a mean score of 2.4. This confirms only a moderate rating by nurses in this sample for this component of organisational climate.

Aloofness – refers to behaviour by the leader that is characterised as formal and impersonal. This component contained negatively worded items. Therefore, a score closer to 1.0 is preferred. The mean score for Aloofness is 2.3, indicating only a moderate rating for this component of organisational climate.

Disengagement – refers to employees who are "going through the motions", a group that is detached from the work environment or the specific task in hand. Like Aloofness, this component contained negatively worded items. Therefore, a score closer to 1.0 is preferred. Table 32 shows that Disengagement has a mean score of 1.8. This score confirms that respondents in this sample are generally happy with this component of their organisational climate.

Hindrance – refers to employees' perceptions that the leader or manager burdens them with routine duties, committee demands, and other tasks which they construe as unnecessary bureaucratic detail. This component contained negatively worded items. Therefore, a score close to 1.0 is preferred. The component mean score for Hindrance is 2.5, indicating only a moderate rating for this component of organisational climate.

To summarise, the findings indicate only moderate ratings of the six components of organisational climate as measured by the NOCDQ. For the most part, response ratings for the six components tended to fall in the middle of the scale (between 2.0

and 3.0). Rather than responses being clustered at one end of the scale the distributions are fairly even across the response categories for most components. The one exception is the Disengagement component. With a mean score of 1.8 it is the only component that is close to a score of 1.0. This confirms that respondents consider this component of their organisational climate to be fairly satisfactory.

Component Scale Scores and Component Mean Scores (NOCDQ)

Component	Component Scale Score	Component Mean Score
Positive Components	**Scores close to 4.0 preferred**	
Humanistic Thrust	14.77	2.5
Esprit	6.95	2.3
Intimacy	9.5	2.4
Negative Components	**Scores close to 1.0 preferred**	
Aloofness	6.81	2.3
Disengagement	9.19	1.8
Hindrance	12.62	2.5

Table: 32

5.7 Summary of Main Descriptive Findings from Section B of the Questionnaire Booklet

Section B of the questionnaire booklet collected data about organisational climate using the Nurse Organisational Climate Description Questionnaire (NOCDQ). This questionnaire was developed in USA and was originally used to measure the climate of schools. It was modified in 1982 following a study to test its suitability for use with nurses. The NOCDQ questionnaire consists of 26 measurable attributes. These attributes are then used to construct six components, three of which are worded positively (Humanistic Thrust, Esprit, Intimacy) while the remaining three are worded negatively (Aloofness, Hindrance, Disengagement). The instrument was designed to measure two types of behaviours: those of the leader and those of the subordinate. Four of the six components emphasise subordinate behaviour and include Esprit, Intimacy, Disengagement, and Hindrance. The remaining two components emphasise leader behaviour and include Humanistic Thrust and Aloofness.

The findings from Section B were presented in two stages. The first stage involved the preparation of frequency tables listing the number of times each response category was chosen for each item. The second stage involved calculating the scores for each response category for each of the six components. This procedure aided the calculation of a Component Score and a Component Mean Score for each of the six components.

The Component Mean Score for each of the three positive components were: Humanistic Trust = 2.5, Esprit = 2.3, and Intimacy = 2.4. The Component Mean Scores for the negative components were: Aloofness = 2.3, Disengagement = 1.8, and Hindrance = 2.5. High scores for the positive components of organisational climate (a score close to 4.0) represent a positive or satisfactory rating while low scores (a score

close to 1.0) represent a negative or unsatisfactory rating. Low scores for the negative components of organisational climate (a score close to 1.0) represent a positive or satisfactory rating while high scores (a score close to 4.0) represent a negative or unsatisfactory rating. The findings from the present study indicate only moderate ratings for the six components of organisational climate, as measured by the Nurse Organisational Climate Description Questionnaire (NOCDQ).

5.8 Descriptive Findings from Section C of the Questionnaire Booklet

Section C of the questionnaire booklet measured job satisfaction using the Index of Work Satisfaction Questionnaire (IWS).[5] The descriptive findings from the IWS are presented next. Before doing so, however, it is important to provide information about the IWS and the scoring procedures used.

The Index of Work Satisfaction is a two-part questionnaire (Part A and Part B) that is designed to measure nurses' level of satisfaction with their job by measuring six components. These components include: Pay, Autonomy, Task Requirements, Organisational Policies, Professional Status and Interaction. A unique feature of Part A of the questionnaire is that it weights each of the six components based on its importance in providing satisfaction to the sample of nurses examined. This is achieved by using a *paired-comparisons* technique using 15 pairs of the six components identified above. Respondents were asked to select which of the two components is most important to them with regard to influencing their level of satisfaction for each of the 15 pairs of components.[6] A copy of the IWS questionnaire can be found in Appendix 3A.

Part B of the IWS questionnaire measures satisfaction for each of the six components (Pay, Autonomy, Task Requirements, Organisational Policies, Professional Status and Interaction) using a set of attitude items. This part of the questionnaire is made up of 44 items. The Interaction component is sub-divided into two parts: satisfaction with nurse-nurse interactions and satisfaction with nurse-physician interactions.

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[5] The Index of Work Satisfaction Questionnaire (IWS) was used in the present study to measure job satisfaction.

[6] P.L. Stamps, and Market Street Research, Scoring Workbook for the Index of Work Satisfaction, p. 4.

5.9 Frequency Distributions for the Paired Comparisons (Part A of IWS)

Before presenting the results it is important to remind the reader of the six components used in Part A of the IWS.

1. "Pay Requirements" refers to remuneration and fringe benefits received for work done.

2. "Autonomy" refers to the amount of job related independence, initiative, and freedom, either permitted or required in daily work activities.

3. "Task Requirements" refers to those tasks or activities that must be done as a regular part of a nurse's job.

4. "Organisational Policies" refers to management policies and procedures put forward by the hospital and nursing administration of the hospital.

5. "Interaction" refers to opportunities presented for both formal and informal social and professional contact during working hours.

6. "Professional Status" refers to the overall importance or significance felt about a job, both the individual's view point and the view point of others.

5.9.1 Frequency Distribution for the First Pair of Components

Part A (Paired Comparisons) of the IWS measures how important each of the six components are to each respondent. Each of the six components is paired with one other component and the questionnaire contained a total of 15 pairs of components. Respondents were asked to select one member of each pair which they perceive to be most important.

The first pair of components in the questionnaire is Professional Status or Organisational Policies. The findings are contained in Table 33.

Frequencies for First Pair of Components

First Pair	Frequency	Percent	Valid Percent
Professional Status	467	76.6	76.8
or Organisational Policies	141	23.1	23.2
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 33

Table 33 shows that 76.8% (n=467) of respondents reported that Professional Status is more important than Organisational Policies, in terms of influencing their level of satisfaction. With regard to Organisational Policies 23.2% (n=141) respondents indicated that it was more important than Professional Status. Only two respondents did not complete this item on the questionnaire. These findings also demonstrate that Professional Status is greater than Organisational Policies by 53.6% (n=326), indicating that Professional Status is much more important than Organisational Policies with regard to its ability to influence nurses' level of job satisfaction.

5.9.2 Frequency Distribution for the Second Pair of Components

The second pair of components in the questionnaire is Pay or Task Requirements. The findings are contained in Table 34.

Frequencies for Second Pair of Components

Second Pair	Frequency	Percent	Valid Percent
Pay	406	66.6	66.8
or			
Task Requirements	202	33.1	33.2
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 34

The findings in Table 34 show that 66.8% (n=406) of the respondents indicated that Pay was more important than Task Requirements, in terms of influencing their level of satisfaction. Worthy of note is that almost half of the sample (33.2%) reported that Task Requirements were more important than Pay. These findings further demonstrate that Pay Requirements is greater than Task Requirements by 33.6% (n=204), indicating that in this sample Pay is more important than Task Requirements with regard to its ability to influence nurses' level of job satisfaction.

5.9.3 Frequency Distribution for the Third Pair of Components

The third pair of components in the questionnaire is Organisational Policies or Interaction. The findings are contained in Table 35.

Frequencies for Third Pair of Components

Third Pair	Frequency	Percent	Valid Percent
Organisational Policies or Interaction	124	20.3	20.4
	484	79.3	79.6
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 35

The findings in Table 35 show that 79.6% (n=484) of the respondents indicated that Interaction was more important than Organisational Policies, in terms of influencing their level of satisfaction. Interestingly, only 20.4% (n=124) of the sample reported that Organisational Policies was more important than Interaction. These findings further demonstrate that Interaction is greater than Organisational Policies by 59.2% (n=360), indicating that Interaction is much more important than Organisational Policies with regard to its ability to influence nurses' level of job satisfaction.

5.9.4 Frequency Distribution for the Fourth Pair of Components

The fourth pair of components in the questionnaire is Task Requirements or Organisational Policies. Respondents were asked to select one member of the pair that they perceived to be most important. The findings are contained in Table 36.

Frequencies for Fourth Pair of Components

Fourth Pair	Frequency	Percent	Valid Percent
Task Requirements	361	59.2	59.4
or Organisational Policies	247	40.5	40.6
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 36

The findings in Table 36 demonstrate that 59.4%% (n=361) of the respondents indicated that Task Requirements was more important than Organisational Policies, in terms of influencing their level of satisfaction. What is interesting in this set of findings is that a fair amount 40.6% (n=247) of the sample reported that Organisational Policies was more important than Task Requirements. The findings also show that Task Requirements is greater than Organisational Policies by 18.8% (n=114), indicating that Task Requirements is more important than Organisational Policies with regard to its ability to influence nurses' level of job satisfaction.

5.9.5 Frequency Distribution for the Fifth Pair of Components

The fifth pair of components in the questionnaire is Professional Status or Task Requirements. Respondents were asked to select one member of the pair that they perceived to be most important. The findings are contained in Table 37.

Frequencies for Fifth Pair of Components

Fifth Pair	Frequency	Percent	Valid Percent
Professional Status	413	67.7	67.9
or Task Requirements	195	32.0	32.1
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 37

The findings in Table 37 indicate that 67.9% (n=413) of the respondents reported that Professional Status was more important than Task Requirements, in terms of influencing their level of satisfaction. Only 32.1% (n=195) said that Task Requirements was more important than Professional Status. .3% (n=2) respondents did not complete this item. These findings also demonstrate that Professional Status is greater than Task Requirements by 35.9% (n=218), indicating that Professional status is much more important than Task Requirements with regard to its ability to influence nurses' level of job satisfaction.

5.9.6 Frequency Distribution for the Sixth Pair of Components

The sixth pair of components in the questionnaire is Pay or Autonomy. Respondents were asked to select one member of this pair that they perceived to be most important. The findings are contained in Table 38.

Frequencies for Sixth Pair of Components

Sixth Pair	Frequency	Percent	Valid Percent
Pay	229	37.5	37.7
or			
Autonomy	379	62.1	62.3
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 38

The findings in Table 38 indicate that 62.3% (n=379) of the respondents reported that Autonomy was more important than Pay, in terms of influencing their level of satisfaction. Worthy of note, however, is that over one-third of the respondents 37.7% (n=229) said that Pay was more important than Autonomy. These findings also show that Autonomy is greater than Pay by 24.7% (n=150), indicating that Autonomy is more important to nurses with regard to its ability to influence their level of job satisfaction. From the findings so far, Pay appears to be an important component with regard to its level of influence on job satisfaction. What this table demonstrates, however, is that when Autonomy is paired with Pay, Autonomy emerges as the more important component.

5.9.7 Frequency Distribution for the Seventh Pair of Components

For the seventh pair of components, respondents were asked to choose either Professional Status or Interaction. The findings are presented in Table 39.

Frequencies for Seventh Pair of Components

Seventh Pair	Frequency	Percent	Valid Percent
Professional Status	280	45.9	46.1
or Interaction	328	53.8	53.9
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 39

The findings in Table 39 demonstrate that 53.9% (n=328) of the respondents reported that Interaction was more important than Professional Status, in terms of influencing their level of satisfaction. 46.1% (n=280) of the sample, however, said that Pay was more important than Autonomy. These findings further demonstrate that Interaction is greater than Professional Status by only 7.9% (n=48), indicating that both these components are important with regard to their ability to influence nurses' level of job satisfaction.

5.9.8 Frequency Distribution for the Eighth Pair of Components

For the eighth pair of components, respondents were asked to choose either Professional Status or Autonomy. The findings are presented in Table 40.

Frequencies for Eighth Pair of Components

Eighth Pair	Frequency	Percent	Valid Percent
Professional Status or Autonomy	189 418	31.1 68.9	31.2 68.8
Total	607	99.5	100
Missing	3	.4	
Total	610	100	

Table: 40

The findings in Table 40 indicate that 68.8% (n=418) of the respondents reported that Autonomy was more important than Professional Status, in terms of influencing their level of satisfaction. On the whole, Professional Status would appear to be an important factor in influencing nurses' level of satisfaction. When Professional Status is paired with Autonomy, however, only 31.2% (n=189) of respondents reported that it was more important than Autonomy. These findings also demonstrate that Autonomy is greater than Professional Status by 37.7% (n=229), indicating that Autonomy is much more important to nurses with regard to its ability to influence their level of job satisfaction.

5.9.9 Frequency Distribution for the Ninth Pair of Components

For the ninth pair of components, respondents were asked to choose either Interaction or Task Requirements. The findings are presented in Table 41.

Frequencies for Ninth Pair of Components

Ninth Pair	Frequency	Percent	Valid Percent
Interaction	415	68.0	68.3
or Task Requirements	193	31.6	31.7
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 41

The findings in Table 41 indicate that 68.3% (n=415) of the respondents reported that Interaction was more important than Task Requirements, in terms of influencing their level of satisfaction. Less than one-third of respondents 31.7% (n=193) reported that Task Requirements was more important than Interaction. These findings further demonstrate that Interaction is greater than Task Requirements by 36.5% (n=222), indicating that Interaction is much more important to nurses with regard to its ability to influence their level of job satisfaction.

5.9.10 Frequency Distribution for the Tenth Pair of Components

For the tenth pair of components, respondents were asked to choose either Interaction or Pay. The findings are presented in Table 42.

Frequencies for Tenth Pair of Components

Tenth Pair	Frequency	Percent	Valid Percent
Interaction	245	40.2	40.3
or			
Pay	363	59.5	59.7
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 42

The findings in Table 42 indicate that 59.7% (n=363) of the respondents reported that Pay was more important than Interaction, in terms of influencing their level of satisfaction. Generally, Interaction would appear to be an important factor in influencing nurses' level of satisfaction. When Interaction is paired with Pay, however, just under two-fifths of respondents 40.3% (n=245) reported that it was more important than Pay. These findings also demonstrate that Pay is greater than Interaction by 19.4% (n=118), confirming that Pay is more important to nurses with regard to its ability to influence their level of job satisfaction.

5.9.11 Frequency Distribution for the Eleventh Pair of Components

For the eleventh pair of components, respondents were asked to choose either Autonomy or Task Requirements. The findings are presented in Table 43.

Frequencies for Eleventh Pair of Components

Eleventh Pair	Frequency	Percent	Valid Percent
Autonomy	492	80.7	80.9
or Task Requirements	116	19.0	19.1
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 43

The findings in Table 43 illustrate that more than three-quarters of the sample 80.9% (n=492) reported that Autonomy was more important than Task Requirements, in terms of influencing their level of satisfaction. With regard to Task Requirements 19.1% (n=116) of respondents indicated that it was more important than Autonomy. These findings also demonstrate that Autonomy is greater than Task Requirements by 61.8% (n=376), confirming that Autonomy is much more important to nurses with regard to its ability to influence their level of job satisfaction.

5.9.12 Frequency Distribution for the Twelfth Pair of Components

For the twelfth pair of components, respondents were asked to choose either Organisational Policies or Autonomy. The findings are presented in Table 44.

Frequencies for Twelfth Pair of Components

Twelfth Pair	Frequency	Percent	Valid Percent
Organisational Polices or Autonomy	175	28.7	28.8
	432	70.8	71.2
Total	607	99.5	100
Missing	3	.5	
Total	610	100	

Table: 44

The findings in Table 44 indicate that more than two-thirds of the sample 71.2% (n=432) reported that Autonomy was more important than Organisational Policies, in terms of influencing their level of satisfaction. Even so, 28.8% (n=175) of respondents reported that Organisational Policies was more important than Autonomy. These findings further demonstrate that Autonomy is greater than Organisational Policies by 42.3% (n=257), confirming that Autonomy is much more important to nurses with regard to its ability to influence their level of job satisfaction.

5.9.13 Frequency Distribution for the Thirteenth Pair of Components

For the thirteenth pair of components, respondents were asked to choose either Pay or Professional Status. The findings are presented in Table 45.

Frequencies for Thirteenth Pair of Components

Thirteenth Pair	Frequency	Percent	Valid Percent
Pay	338	55.4	55.6
or			
Professional Status	270	44.3	44.4
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 45

The findings in Table 45 demonstrate that 55.6% (n=338) of respondents reported that Pay was more important than Professional Status, in terms of influencing their level of satisfaction. Nevertheless, 44.4% (n=270) of respondents reported that Professional Status was more important than Pay. These findings also demonstrate that Pay is greater than Professional Status by only 11.2% (n=68), indicating that both these components are important with regard to their ability to influence nurses' level of job satisfaction.

5.9.14 Frequency Distribution for the Fourteenth Pair of Components

For the fourteenth pair of components, respondents were asked to choose either Interaction or Autonomy. The findings are presented in Table 46.

Frequencies for Fourteenth Pair of Components

Fourteenth Pair	Frequency	Percent	Valid Percent
Interaction	243	39.8	40.0
or Autonomy	364	59.7	60
Total	607	99.5	100
Missing	3	.5	
Total	610	100	

Table: 46

The findings in Table 46 illustrate that 60% (n=364) of respondents reported that Autonomy was more important than Interaction, in terms of influencing their level of satisfaction. Nevertheless, 40% (n=243) of respondents reported that Interaction was more important than Autonomy. These findings further demonstrate that Autonomy is greater than Interaction by 19.9% (n=121), confirming that Autonomy is more important to nurses with regard to its ability to influence their level of job satisfaction.

5.9.15 Frequency Distribution for the Fifteenth Pair of Components

For the fifteenth pair of components, respondents were asked to choose either Organisational Policies or Pay. The findings are presented in Table 47.

Frequencies for Fifteenth Pair of Components

Fifteenth Pair	Frequency	Percent	Valid Percent
Organisational Policies or	165	27.0	27.1
Pay	443	72.6	72.9
Total	608	99.7	100
Missing	2	.3	
Total	610	100	

Table: 47

The findings in Table 47 show that 72.9% (n=443) of respondents reported that Pay was more important than Organisational Policies, in terms of influencing their level of satisfaction. This finding indicates that almost three-quarters of the sample reported that Pay is more important than Organisational Policies. With regard to Organisational Policies, 27.1% (n=165) of respondents reported that it was more important than Pay. The findings further demonstrate that Pay is greater than Organisational Policies by 45.7% (n=278), confirming that Pay is much more important to nurses with regard to its ability to influence their level of job satisfaction.

5.10 Scoring Part A of IWS (Paired Comparisons)

Part A of the IWS measures how important each of the six components are to the nurse respondent. These rankings are used to create weights for each of the components, named the Component Weighting Coefficients.[7] Each of the six components of work satisfaction are paired with one other component. The respondent is asked to select the one member of each pair which is most important to her or him. The questionnaire contained fifteen pairs of components. To begin the scoring process, a table is created and is used to list the number of times each component is chosen. When this raw count is completed it is converted to a percentage of the whole sample. This process permits one to say, for example, that 62.3% of the respondents stated that Autonomy is more important than Pay.

Next, the percentages are converted to standard deviations based on a normal distribution of responses, using a standard statistical table, called a Z-table. This is an important part of the scoring, since it increases the weighting given to those components which are strongly preferred by the respondents. Without carrying out this procedure, there would not be enough weight given to those components which are more important to the respondents. From the Z-table, a single number is generated for each component, referred to as the Component Weighting Coefficient.[8] To compute the component weighting coefficient four stages are required. These are now discussed.

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[7] This value is calculated from Part A of the IWS questionnaire, using a forced-choice paired comparisons technique. The component-weighting coefficient is calculated using a proportion matrix based on the frequency distribution of how often one member of each pair is selected. The actual value is obtained by using a Z-table. The larger the component weighting coefficient, the more important that particular component is to the respondent.

[8] P.L. Stamps, and Market Street Research, Scoring Workbook for the Index of Work Satisfaction, p. 5.

5.10.1 Stage 1: Constructing a Frequency Matrix

The first stage requires the construction of a frequency matrix. A frequency matrix is a table listing the number of times each component was chosen as more important than the other. This information is contained in Table 48.

Frequency Matrix for the Paired Comparisons

Least Important	Most Important					
	Pay	**Autonomy**	**Task Requirements**	**Organisational Policies**	**Professional Status**	**Interaction**
Pay		379	202	165	270	245
Autonomy	229		116	175	189	243
Task Requirements	406	492		247	413	415
Organisational Policies	443	432	361		467	484
Professional Status	338	418	195	141		328
Interaction	363	364	193	124	280	

Table: 48

Table 48 shows the frequency matrix for the present research study involving 610 respondents. Please note that the columns show the most important choices and the rows show the least important choices.

The first number (229) in the first column (Pay) indicates the number of respondents who chose Pay as more important than Autonomy. The first number (379) in the second column (Autonomy) represents the number of respondents who reported that Autonomy was more important than Pay. For each pair of components the two frequencies must add up to the total number of respondents, who responded to the item. For Pay and Autonomy the total is 608 (229+379).

The third number (432) in the second column (Autonomy) represents the number of respondents who chose Autonomy as more important than Organisational Policies. The second number (175) in the fourth column (Organisational Policies) indicates the number of respondents who chose Organisational Policies as more important than Autonomy. For this pair of components the total is 607 (432+175) which represents the number of respondents who responded to this item.

Thus, the construction of a frequency matrix is the first stage in the computation of the Component Weighting Coefficients. The second stage involves constructing a proportion (percentage) matrix. This is now described.

5.10.2 Stage 2: Constructing a Proportion Matrix

When the frequency matrix was completed, the next stage was to calculate the percentage that each frequency represents of the entire sample. These percentages are then displayed in what is called a proportion matrix (Table 49). The percentage can be calculated by dividing each cell value from the frequency matrix by the total number in the sample. Since respondents sometimes skip items in a questionnaire each frequency must be divided by the actual number of respondents who made a choice for that pair of components. In the present study, some of the respondents did not complete all fifteen pairs of components. Therefore, the percentages were calculated using the actual numbers who completed each pair. The percentages were generated using SPSS and then transferred into the proportion matrix (Table 49). Each pair of components should add up to 100% or 1.00. For example, 62.3% (.623) of respondents said Autonomy was more important than Pay and 37.7% (.377) said Pay was more important than Autonomy. Therefore, 62.3% + 37.7% = 100% or .623 + .377 = 1.00. All scores were calculated to three decimal places as shown.

Proportion Matrix for the Paired Comparisons

Least Important	Most Important					
	Pay	**Autonomy**	**Task Requirements**	**Organisational Policies**	**Professional Status**	**Interaction**
Pay		.623	.332	.271	.444	.403
Autonomy	.377		.191	.288	.311	.400
Task Requirements	.668	.809		.406	.679	.683
Organisational Policies	.729	.712	.594		.768	.796
Professional Status	.556	.688	.321	.232		.539
Interaction	.597	.600	.317	.204	.461	

Table: 49

Table 49 shows the proportion (percentage) matrix for the present research study involving 610 respondents. Please note that the columns show the most important choices and the rows show the least important choices.

The first number (.271 or 27.1%) in the fourth column (Organisational Policies) indicates the percentage of respondents who chose Organisational Policies as more important than Pay. The third number (.729 or 72.9%) in the first column (Pay) represents the number of respondents who reported that Pay was more important than Organisational Policies. Each pair of components should add up to 100% or 1.00. For Organisational Policies and Pay the total is 1.00 (.271+.729).

As already indicated, the construction of a proportion matrix is the second stage in the computation of the Component Weighting Coefficients. The third stage involves constructing a matrix of Z-Values. This is now described.

5.10.3 Step 3: Creating the Z-matrix

When the proportion matrix was constructed, the next stage is to create a matrix of Z-Values. This is done by placing the weights for each component on a normal distribution by using the table of Z values which can be found in Appendix 4 labelled as Table A-1 (Table of Normal Deviates Z). Column **p** on the page labelled Table A-1 shows the first two digits of the proportion values ranging from .50 to .99. The third digit of the proportion is read from the top of the table, where the columns are numbered 0 to 9. The second page of Table A-1 also in Appendix 4 gives the proportion values between .00 and .49. These all have a negative Z-value. Once again the third digit is read from the numbers across the top of the table.

Each percentage from the proportion matrix in Table 49 must be converted to a Z value using the values in Table A-1 in Appendix 4. This was done by identifying the row for the first two digits of the percentage under column p and following that row to the right until the column for the third digit of the percentage is located. For example, the proportion matrix value for Autonomy over Pay (please refer to Table 49) is .623. Having found the row for .62 in column p in Table A-1, the next step is to go over to column 3 to identify the number that corresponds to .62. In this cell there is a value of .313. This figure is the Z-matrix value for .623.

Matrix of Z-Values for the Paired Comparisons

Least Important	Most Important					
	Pay	**Autonomy**	**Task Requirements**	**Organisational Policies**	**Professional Status**	**Interaction**
Pay		.313	-.434	-.610	-.141	-.246
Autonomy	-.313		-.847	-.559	-.493	-.253
Task Requirements	.434	.847		-.238	.465	.476
Organisational Policies	.610	.559	.238		.732	.827
Professional Status	.141	.490	-.465	-.732		.098
Interaction	.246	.253	-.476	-.827	-.098	

Table: 50

Table 50 gives the Z-matrix values for the six components of the IWS for the present study. The Z-matrix values for each pair of components are always the same values but with opposite signs. For example, the Z-matrix value for Autonomy over Pay and for Pay over Autonomy is .313 but with opposite signs.

5.10.4 Step 4: Obtaining the Component Weighting Coefficient

To calculate the Component Weighting Coefficient the first step is to calculate the sum of the Z-values for each column. The next step requires the calculation of the mean value (average) for each column by dividing the sum by five, which is the number of comparisons made.

Matrix of Z-Values Showing the Component Weighting Coefficient

	Most Important					
Least Important	**Pay**	**Autonomy**	**Task Requirements**	**Organisational Policies**	**Professional Status**	**Interaction**
Pay		.313	-.434	-.610	-.141	-.246
Autonomy	-.313		-.847	-.559	-.493	-.253
Task Requirements	.434	.847		-.238	.465	.476
Organisational Policies	.610	.559	.238		.732	.827
Professional Status	.141	.490	-.465	-.732		.098
Interaction	.246	.253	-.476	-.827	-.098	
Sum	1.118	2.462	-1.984	-2.966	.465	.902
Mean	0.223	0.492	-0.396	-0.593	0.093	0.180
Component Weighting Coefficient (CWC)* ***(calculated by adding +3.100 as a standard value to each of the mean values).**	3.323	3.592	2.704	2.507	3.193	3.280

Table: 51

As can be seen in Table 51, some of the means are negative, which will be cumbersome to use in further calculations. Therefore, a constant is added to eliminate the negative values. Since the largest possible negative Z-value is –3.090, (This value can be found in Table A-1 in appendix 4) the constant used is (+3.100) to each of the mean values. The Component Weighting Coefficient for each of the six components will be used in the next section to calculate the Index of Work Satisfaction.

5.11 Scoring Part B of IWS (Attitude Scale)

Part B of the IWS measures current level of job satisfaction for each of the six components (Pay, Autonomy, Task Requirements, Organisational Policies, Professional Status, and Interaction) using a series of attitude statements about each component. Each statement uses a 7-point scale that ranges from "strongly agree" to "strongly disagree". The scale consists of a total of 44 items half of which are phrased positively and half phrased negatively. A positively phrased statement is one for which a very satisfied respondent would select "strongly agree". A negatively phrased statement is one for which a very satisfied respondent would select "strongly disagree". The response which indicates the "most satisfied" respondent is given the most points. This is demonstrated below.

Example of How to Score Part B of IWS

Phrasing	Statement	Strongly Agree						Strongly Disagree
Positive	My present salary is satisfactory.	7	6	5	4	3	2	1
Negative	An upgrading of pay schedules for nursing personnel is needed at this hospital.	1	2	3	4	5	6	7

Table: 52

As can be seen in the example in Table 52 the first statement is positively phrased. Thus, satisfied respondents would be on the "agree side" of the scale and would get more points. The second statement is negatively phrased. So, satisfied respondents would be on the "disagree side" of the scale and would get more points. The scale of the questionnaire goes from 1-7 (Agree to Disagree). Therefore, the negatively phrased statements already correspond with the format in Table 52 and with that used in the questionnaire for the present study. The scores for the positively phrased

statements, however, must be reversed from what is on the questionnaire in order to correspond with the format demonstrated in Table 52.

Respondents were asked to circle the number that most closely indicates how she or he feels about each statement. For example, if a respondent strongly agreed with a statement she or he must circle 1; if she or he agreed with the statement they must circle 2; if they moderately agreed with a statement then they must circle 3 and so on. Scoring Part B of the questionnaire consisted of three stages. These are now discussed.

5.11.1 Stage 1: Determine Range of Component Scores

The first step in calculating the component score is to determine the range of component scores. Each of the six components listed in Table 53 has a number of items that provide a measure for that component. The scoring range varies depending on the number of items used to measure each of the components. For example, in Table 53 the scoring range for Pay is 6-42. This is calculated by multiplying the number of items used to describe Pay which, in this instance is 6 by the highest number of points (7). Items that are worded positively are given the maximum number of points (7) for a "strongly agree" response. Likewise, items that are worded negatively are given a maximum number of points (7) for a response of "strongly disagree". A list of positively and negatively worded items from the IWS questionnaire can be found in Appendix 5 A and B.

Item Numbers for Each of the Six Components (IWS)

Component	Number of Items	Range of Component Scores	Negatively Worded Items Strongly Agree = 1 Strongly Disagree = 7	Positively Worded Items Strongly Agree =7 Strongly Disagree = 1
Pay	6	6-42	8, 21, 44	1, 14, 32
Professional Status	7	7-49	2, 27, 41	9, 11, 34, 38
Autonomy	8	8-56	7, 17, 20, 30, 31	13, 26, 43
Organisational Policies	7	7-49	12, 18, 33	5, 25, 40, 42
Task Requirements	6	6-42	4, 15, 36	22, 24, 29
Interaction	10	10-70	10, 23, 28, 35, 39	3, 6, 16, 19, 37
Nurse-Nurse	5	5-35	10, 23, 28	3, 6
Nurse-Physician	5	5-35	35, 39	6, 19, 37

Table: 53

Table 53 lists the six components used in the IWS questionnaire. It gives both the number of items used to describe each of the six components and the range of scores for each component. The range of scores is needed for calculating the quartiles which are used to interpret the numerical values from the IWS questionnaire and will be discussed later. The last two columns identify the items from the questionnaire that are positively and negatively phrased for each of the six components.

5.11.2 Stage 2: Computing Component Scores

To calculate the scores for each of the six components tables using a pattern similar to that illustrated in Table 54 were used. As shown, Table 54 contains several pieces of information, all of which, are necessary in order to calculate the component score. The first column lists the response categories used in the IWS. The top row, moving from left to right, contain the item numbers that describe Pay. The middle rows contain the score for each response category, the number of respondents who responded to that item and the sub-total which is the score for a particular item in each response category. To obtain the component score, the first step is to multiply the

score for each response category by the number of respondents who gave that response. The figure produced becomes the sub-total for that response category. Then, all the sub-totals are summed to obtain a score for each item. The next step, is to divide the total score for each item by the number of respondents for that item to get an average score for each item. To calculate the component score, all the average scores are added together. The mean score for Pay is calculated by dividing the component score by the number of items measuring Pay. As demonstrated in Table 54, the number of items describing Pay is 6. Therefore, the component mean score for Pay is 19.20 divided by 6 which gives a score of 3.2.

This procedure was repeated for the remaining five components (Professional Status, Autonomy, Organisational Policies, Task Requirements, and Interaction) of the IWS. The tables containing the scores for these components can be found in Appendix 6 A-E_2. In addition, tables containing frequency distribution analysis for each of the six components of Part B of the Index of Work Satisfaction can be found in Appendix 7 A-F_2.

Calculating the Component Score for Pay

Response Category	Pay	Item # 1	Item # 8	Item # 14	Item # 21	Item # 32	Item # 44
Strongly Agree	Score	7	1	7	1	7	1
	# of resp.	36	169	30	171	67	223
	Sub-total	**252**	**169**	**210**	**171**	**469**	**223**
Agree	Score	6	2	6	2	6	2
	# of resp.	95	117	60	132	86	125
	Sub-total	**570**	**234**	**360**	**264**	**516**	**250**
Moderately Agree	Score	5	3	5	3	5	3
	# of resp.	111	108	95	112	105	104
	Sub-total	**555**	**324**	**475**	**336**	**525**	**312**
Undecided	Score	4	4	4	4	4	4
	# of resp.	37	49	39	54	122	66
	Sub-total	**148**	**196**	**156**	**216**	**488**	**264**
Moderately Disagree	Score	3	5	3	5	3	5
	# of resp.	81	70	97	53	68	35
	Sub-total	**243**	**350**	**291**	**265**	**204**	**175**
Disagree	Score	2	6	2	6	2	6
	# of resp.	115	55	123	54	57	29
	Sub-total	**230**	**330**	**246**	**324**	**114**	**174**
Strongly Disagree	Score	1	7	1	7	1	7
	# of resp.	132	33	159	26	94	19
	Sub-total	**132**	**231**	**159**	**182**	**94**	**133**
Total of Item		2130	1834	1897	1758	2410	1531
Total # of Respondents		607	601	603	602	599	601
Average Score		3.51	3.05	3.15	2.92	4.02	2.55
Component Score		**19.20 (sum of average scores)**					
Component Mean Score		**3.20 (component score ÷ number of items)**					

Table: 54

Table 54 demonstrates how the Component Score for Pay was calculated. Both the component score and component mean score will be used in the next step to calculate a Total Scale Score.

5.11.3 Stage 3 Calculating a Total Scale Score for the IWS

The Total Scale Score provides an estimate of overall levels of satisfaction. It is the sum of the scores for all 44 items in Part B of the Index of Work Satisfaction (IWS). To calculate the Total Scale Score, the six component scores are added together. The component score for Pay was presented in Table 54. The component scores for the remaining five components can be found in Appendix 6. The Mean Scale Score is obtained by dividing the Total Scale Score by the number of items in the questionnaire (44). These scores are demonstrated in Table 55. The range for the Total Scale Score is 44 – 308; where 44 is the number of items in Part B of the questionnaire and 308 is the result of multiplying 44 by 7 (7 is the highest score for a response category). The Total Scale Score, the Mean Scale Score and the Component Scores are unweighted estimates of level of satisfaction. To have weighted scores the Index of Work Satisfaction[9] must be calculated.

Total Scale Score Values from Part B of IWS Questionnaire

Component	Component Scale Score	Component Mean Score
Pay	19.20	3.2
Autonomy	35.98	4.49
Task Requirements	20.04	3.34
Organisational Policies	23.26	3.32
Professional Status	36.48	5.21
Interaction	48.22	4.82
	Total Scale Score: 183.18 183.2	**Mean Scale Score: 4.16 4.2**

Table: 55

Table 55 shows the component scale scores and the component mean scores for each of the six components from Part B of the Index of Work Satisfaction Questionnaire

[9] Index of Work Satisfaction – This is the summary figure that represents both level of importance and current level of satisfaction.

(please refer to Table 54 and Tables A-E_2 in Appendix 6 for information on how these scores were obtained). In addition, the total scale score (183.2) and mean scale score (4.2) are given. As already indicated, these scores will be used to compute the Index of Work Satisfaction.

5.11.4 Stage 4 Calculating the Index of Work Satisfaction

The Index of Work Satisfaction (IWS) is a single score obtained from the analysis of both Parts A and B of the questionnaire. Before the IWS can be calculated, however, the Component Adjusted Scores must be calculated. This is achieved by multiplying the component weighting coefficient for each of the six components from Part A of the questionnaire (second column labelled component weighting coefficient in Table 56) by the mean score for each component obtained from Part B of the questionnaire (fourth column labelled component mean score in Table 56). This generates the component-adjusted scores as shown in the fifth column in Table 56. This weights the satisfaction of each component by the level of importance credited to each component by the respondents. The Interaction Component is not subdivided when calculating the component-weighting coefficient from Part A.

To calculate the Index of Work Satisfaction, the component-adjusted scores are added together (column five labelled component adjusted score in Table 56) and then divided by six (the number of components). As demonstrated in Table 56 the sum of the component-adjusted scores is 76.4. This number was then divided by 6 to produce a result of 12.7333 (i.e. 12.7). This summary figure – the IWS – represents both *level of importance* and *current level of job satisfaction*. The calculations in the three bottom rows in Table 56 are rounded to one decimal place for the final numerical scores.

Numerical Values for the IWS Questionnaire

Component	Component Weighting Coefficient (Part A)	Component Scale Score (Part B)	Component Mean Score (Part B)	Component Adjusted Score
Pay	3.32	19.20	3.20	10.6
Autonomy	3.59	35.98	4.49	16.1
Task Requirements	2.70	20.04	3.34	9.0
Organisational Policies	2.51	23.26	3.32	8.3
Professional Status	3.19	36.47	5.21	16.6
Interaction	3.28	48.22	4.82	15.8
Nurse-Nurse	-	26.38	5.28	-
Nurse-Physician	-	21.84	4.37	-
Sum of Component Adjusted Scores				76.4
Total Scale Score: 183.2 (these scores were explained in Table 55) **(Range: 44-308)**				
Mean Scale Score: 4.2 (these scores were explained in Table 55) **(Range: 1-7)**				
IWS: (76.4 ÷ 6) 12.7				

Table: 56

5.12 Interpreting the Scores for the IWS Questionnaire

Interpreting the scores for the IWS fall within two categories. The first category addresses the numerical scores representing the total concept of job satisfaction. The second category addresses the numerical scores representing components of satisfaction.

5.12.1 Category 1: Numerical Scores Representing the Total Concept of Satisfaction

This category contains both weighted and unweighted scores that represent an estimate of the overall level of job satisfaction. Unweighted scores include the total scale score or the mean scale score. In interpreting the total scale score, Stamps[10] suggests using some type of benchmark to provide assistance in determining the

[10] P.L. Stamps, Nurses and Work Satisfaction: An Index for Measurement, p. 243-255.

meaning of a particular numerical value, and recommends an analysis based on quartiles, which is a version of percentiles. By using this method one is able to determine whether a score is in the first, second, third or fourth quartile. A score in the first quartile indicates that it is at or below the 25th percentile of the total possible score. A score in the second quartile is at or below the fiftieth percentile, while a score in the third quartile is below 75% of the maximum total score. A score in the fourth quartile would be above 75% of the maximum total score. The total scale score for the present study is 183.2 (see Table 55). In interpreting this score Table 57 was used. A score of 183.2 falls within the second quartile and will be explained further.

Weighted summary scores are also used to represent a total level of satisfaction. The most useful of these is the Index of Work Satisfaction (IWS) itself. This index is an overall summary of level of job satisfaction among respondents. It also includes an estimate of how important each of the components is to the respondent. This score gives an indication of the overall levels of job satisfaction. In the present study the IWS is 12.7 (Table 56) which places it in the second quartile (see Table 57).

Quartiles for Interpreting Data Obtained From the IWS Questionnaire

Quartiles for Part B of IWS Questionnaire (Likert Scale)		Quartiles			
Component	Range of Scores	First	Second	Third	Fourth
Pay	6-42	6-15	16-24	25-33	34-42
Autonomy	8-56	8-20	21-32	33-44	45-56
Task Requirements	6-42	6-15	16-24	25-33	34-42
Organisational Policies	7-49	7-17	18-28	29-38	39-49
Professional Status	7-49	7-17	18-28	29-38	39-49
Interaction	10-70	10-25	26-40	41-55	56-70
Nurse-Nurse	5-35	5-13	14-20	21-27	28-35
Nurse-Physician	5-35	5-13	14-20	21-27	28-35
Total Scale Score	44-308	44-113	114-183	184-248	249-308
Index of Work Satisfaction (IWS)	0.5-39.7	0.5-10.3	10.4-20.0	20.1-29.7	29.7-39.7

Table: 57[11]

The first column in Table 57 lists the six components of work satisfaction. The second column gives the range of scores for each of the six components. The remaining columns give the values for each of the quartiles. The range is obtained by multiplying the total number of items in the questionnaire that describe each component by the highest score given to a response category. For example, six of the forty-four items from the IWS describe Pay and the highest score for any item is 7 (the score is determined by the number of response categories which for the IWS is 7). Therefore, to obtain the range of scores for Pay 6 was multiplied by 7 (6x7=42) giving a range of 6-42 for that component.

Using the IWS questionnaire to measure job satisfaction in the present study produced a total scale score of 183.2 (see Table 55). A score of 183.2 indicates that it is at the upper end of the second quartile (see row 11 in Table 57). In other words, a score in

[11] P.L. Stamps, and Market Street Research, Scoring Workbook for the Index of Work Satisfaction, p. 23.

the second quartile confirms that it is at or below the fiftieth percentile. According to Stamps,[12] scores in the first and second quartiles represent low levels of satisfaction. Therefore, the findings from the present research study confirm low to moderate levels of job satisfaction among nurses as the score is in the upper end of the second quartile.

5.12.2 Category 2: Numerical Scores Representing Components of Satisfaction

Although it is helpful to obtain one overall summary number that represents the total level of satisfaction, it is useful also to obtain more specific information about the components that respondents perceive to be more satisfying. As with the first category of interpretation, the numbers in the present category may be weighted or unweighted.

The unweighted scores include the component scale scores and component mean scores as shown in Table 55 under section 5.11.3. The component scale scores are interpreted using quartiles as previously discussed. These scores give an indication of the level of satisfaction among a sample of nurses. For example, in Table 55, the component scale score for Autonomy is 35.9. Using Table 57 a score of 35.9 falls within the third quartile. Thus, Autonomy is below 75% of the maximum total score. The component score for Organisational Policies is 23.3 (Table 55) which places it in the second quartile (Table 57). Scores in the first and second quartiles represent low levels of satisfaction.

In category two, the weighted scores are the adjusted scores for each component (component adjusted scores) as shown in Table 56. These scores are obtained by

[12] Ibid., p. 21.

multiplying the component-weighting coefficient (Part A of IWS) for each component by the component mean score (Part B of IWS) for that component. The component-adjusted scores are used mainly to calculate the IWS. They can also be used to provide information about which components are of particular importance to a sample of nurses.

5.13 Purpose of Study

The present study had several purposes. One purpose was to determine the current level of job satisfaction among nurses in Ireland. The calculation of the total scale score was undertaken specifically to fulfil this purpose. As already demonstrated, the total scale score obtained in the present study was 183.2. This score falls within the second quartile (Tables 56 and 57) which indicates low to moderate levels of job satisfaction. Therefore, this purpose was achieved.

5.14 Rankings of Paired Comparisons (Part A of IWS)

Although the results of the paired comparisons (Part A of IWS) are used primarily to calculate the Index of Work Satisfaction, the component weighting coefficient (second column in Table 58) on its own is a useful summary number since it gives an indication of which work components are most important to a sample of nurses. By using the component weighting coefficient scores, it is possible to rank-order the six work components. This information is demonstrated in Table 58.

Level of Importance of IWS Components

Component	Component Weighting Coefficient (Part A		Component	Rankings
Pay	3.32		**Autonomy**	1st
Autonomy	3.59		**Pay**	2nd
Task Requirements	2.70		**Interaction**	3rd
Organisational Policies	2.51		**Professional Status**	4th
Professional Status	3.19		**Task Requirements**	5th
Interaction	3.28		**Organisational Policies**	6th

Table: 58

The first column in Table 58 lists the components used in the IWS. The second column gives the component-weighting coefficient. This provides information regarding which work components are most important to nurses. The third and fourth columns give the rankings of the components. As can be seen, the results from the present study indicate that Autonomy is the most important component to nurses in terms of its ability to influence their level of job satisfaction. Autonomy has a mean of 3.59 which is the highest of the six component scores. The second most important component is Pay. The work components with the lowest rankings are Organisational Policies which ranked sixth and Task Requirements which ranked fifth. Rank

ordering the components is useful in two ways. Firstly, the rank order tells which components the respondents consider to be most important with regard to their level of job satisfaction. Secondly, this information could be very useful to nurse managers and administrators who are planning organisational innovations, aimed at improving job satisfaction among nurses.

5.15 Rankings of Current Level of Satisfaction (Part B of IWS)

Calculating the component mean score for each of the six components from Part B of the questionnaire, provides useful information about each of the components that contributes to current level of job satisfaction (as shown in Table 55 under section 5.11.3). These mean scores are used to create rankings of current level of satisfaction for each of the six components. This information is given in Table 59.

Current Level of Satisfaction with IWS Components

Component	Component Mean Score (Part B)		Component	Rankings
Pay	3.20		**Professional Status**	1st
Autonomy	4.49		**Interaction**	2nd
Task Requirements	3.34		**Autonomy**	3rd
Organisational Policies	3.32		**Task Requirements**	4th
Professional Status	5.21		**Organisational Policies**	5th
Interaction	4.82		**Pay**	6th

Table: 59

The first column in Table 59 lists the components used in the IWS. The second column gives the component mean score which provides information about each of the work components that contributes to level of satisfaction. The third and fourth columns give the rankings of the components. As illustrated, the results from the present study indicate that Professional Status is ranked first with regard to its

contribution to the current level of satisfaction among nurses. Professional Status has a mean value of 5.21 which is the highest of the six values. Interaction has a mean value of 4.82 and therefore is ranked second with regard to its contribution to current level of satisfaction. The components with the lowest rankings are Pay which ranked sixth and Organisational Policies which ranked fifth. This indicates that of the six components, Pay and Organisational Policies contributed the least to the current level of job satisfaction among nurses.

5.16 Purpose of Study

A second purpose of the present study was to identify which of the IWS components made the greatest contribution to nurses' current level of job satisfaction. The results in Table 59 indicate that Professional Status, Interaction and Autonomy made a greater contribution to nurses' current level of job satisfaction than did Task Requirements, Organisational Policies and Pay. Therefore, the second purpose was achieved.

5.17 Rankings of Components Based on Both Importance and Current Level of Satisfaction

The component adjusted scores, as already indicated, are weighted scores that take into account the level of importance placed on each component by respondents (Part A of IWS questionnaire) and the current level of satisfaction (Part B of IWS questionnaire). Some researchers use the component adjusted scores (as shown in Table 56 under section 5.11.4) only to calculate the Index of Work Satisfaction (IWS) score. In addition to calculating the IWS score, however, these scores can also be rank-ordered to provide information based on both importance and current level of satisfaction. These rankings will reflect both the *level of importance* of each of the six components and *current level of job satisfaction*. Component adjusted scores are used to rank-order the six components in Table 60.

Level of Importance and Current Level of Satisfaction with IWS Components

Component	Component Adjusted Scores		Component	Rankings
Pay	10.6		**Professional Status**	1st
Autonomy	16.1		**Autonomy**	2nd
Task Requirements	9.0		**Interaction**	3rd
Organisational Policies	8.3		**Pay**	4th
Professional Status	16.6		**Task Requirements**	5th
Interaction	15.8		**Organisational Policies**	6th

Table: 60

The first column in Table 60 above lists the six components used in the IWS. The second column gives the Component Adjusted Scores which are weighted scores based on both importance and current level of satisfaction. The third and fourth columns give the rankings of the components. The findings indicate that Professional Status with a score of 16.6 was ranked first while Autonomy with a score of 16.1 was

ranked second. These rankings confirm that these two components are (a) considered to be most important to respondents with regard to influencing their perceptions of satisfaction and (b) contribute significantly to respondents' current levels of satisfaction. The components with the lowest rankings are Organisational Policies (with a score of 8.3) which ranked sixth and Task Requirements (with a score of 9.0) which ranked fifth. These rankings show that these two components are (a) least important to respondents with regard to influencing their perceptions of satisfaction and (b) play a lesser role in their current levels of satisfaction.

These findings are important for two reasons. Firstly, they provide information about which of the six components are especially important to nurses. Secondly, these findings could be very useful to nurse managers and administrators, who are planning organisational innovations aimed at improving job satisfaction among nurses.

5.18 Comparison of Dissonance Between Rankings of Paired Comparisons (Part A) and Rankings of Level of Satisfaction (Part B)

As already stated, the Index of Word Satisfaction (IWS) is a two-part measurement tool that determines (a) the level of importance given to six components of satisfaction and (b) nurses' current level of satisfaction with their work by measuring six components of satisfaction. Since each of the six components is a separate dimension of satisfaction, every component generates a separate score. Consequently, rank-ordered scores from Part A of the questionnaire can be compared with those of Part B of the questionnaire. This comparison is useful because it identifies the differences in results between Parts A and B of the questionnaire. These results are presented in Table 61.

Comparison Between Rankings of Paired Comparisons and Rankings of Current Level of Job Satisfaction

Rankings of Paired Comparisons				Rankings of Current Level of Satisfaction			
Component	**Component Weighting Coefficient (Part A)**	**Ranked Components Part A**		**Component**	**Component Mean Score (Part B)**	**Ranked Components Part B**	
Pay	3.32	Autonomy	1st	**Pay**	3.20	Professional Status	1st
Autonomy	3.59	Pay	2nd	**Autonomy**	4.49	Interaction	2nd
Task Requirements	2.70	Interaction	3rd	**Task Requirements**	3.34	Autonomy	3rd
Organisational Policies	2.51	Professional Status	4th	**Organisational Policies**	3.32	Task Requirements	4th
Professional Status	3.19	Task Requirements	5th	**Professional Status**	5.21	Organisational Policies	5th
Interaction	3.28	Organisational Policies	6th	**Interaction**	4.82	Pay	6th

Table: 61

Table 61 gives the results for the comparisons between the ranking of Paired Comparisons (Part A) and the rankings of Current Level of Satisfaction (Part B of IWS). The scores contained in the columns labelled Component Weighting Coefficient (Part A) and Component Mean Score (Part B) have already been discussed (See Tables 58 and 59). Moving left to right, the third column labelled

Ranked Components Part A, gives the rankings for the paired comparisons which assesses the relative importance of each of the components with regard to respondents' perceptions of satisfaction. The sixth column, labelled Ranked Components Part B, gives the rankings for current level of satisfaction. It is quite obvious that these rankings are different.

Paired Comparisons: The three components that were ranked as most important are Autonomy, Pay and Interaction (ranked 1st, 2nd, and 3rd respectively). Next were Professional Status and Task Requirements (4th and 5th respectively). Organisational Policies was ranked as least important (ranked 6th).

Current Level of Satisfaction: The three components that seem to contribute most to nurses' current level of satisfaction are Professional Status, Interaction and Autonomy (1st, 2nd, and 3rd respectively). Task Requirements and Organisational Policies were next (4th and 5th respectively) while Pay appears to contribute the least to nurses' current level of satisfaction. These findings will be discussed in light of previous research in Chapter Seven.

5.19 Purpose of Study

A third purpose of the present study was to determine if there is a difference between (a) the IWS components that nurses regard as being *important* to their job satisfaction (Part A of IWS) and (b) the IWS components that are more likely to *contribute* to nurses' current level of job satisfaction (Part B of IWS). The findings in Table 61 confirm that there are indeed differences between these two sets of results. Nurses consider Autonomy, Pay, and Interaction to be more important to their job satisfaction than Professional Status, Task Requirements and Organisational Policies. With

regard, however, to which of the IWS components are more likely to contribute to their current level of job satisfaction, the results confirm that Professional Status, Interaction, and Autonomy made the greatest contribution among this sample of nurses. Therefore, the third purpose of this study was achieved.

5.20 Comparative Analysis

The seventh purpose of the present study was to submit its findings to the authors of a database that has been complied in United States of America. The primary goal of this activity was to obtain information from the database that would allow a comparison between the job satisfaction of nurses from the present study and those of nurses from other international studies. It must be stressed, however, that this comparison concerns only job satisfaction. It does not include organisational climate or any other variables. In addition, only studies that have used the Index of Work Satisfaction (IWS) questionnaire to measure job satisfaction were included. Based on the findings presented in the comparative analysis in Table 62, the seventh purpose of this study was achieved.

IWS Scores for the Present Study and Other International Studies

Component	Component Weighting Coefficient		Component Scale Score		Component Mean Score		Component Adjusted Score	
	Liz Curtis	Other Studies	Liz Curtis	Other Studies	Liz Curtis	Other Studies	Liz Curtis	Other Studies
Pay	3.3	3.7	19.2	16.8	3.2	2.8	10.6	10.4
Autonomy	3.6	3.4	35.9	37.3	4.5	4.7	16.1	15.9
Task Requirements	2.7	2.9	20.0	20.4	3.3	3.4	9.0	9.9
Organisational Policies	2.5	2.4	23.3	23.8	3.3	3.4	8.3	8.3
Professional Status	3.2	3.1	36.5	37.7	5.2	5.4	16.6	16.7
Interaction	3.3	3.0	48.2	47.2	4.8	4.7	15.8	14.2
Total			**183.2**	**183.5**	**4.2**	**4.2**	**IWS=12.7**	**IWS=12.6**

Table: 62

Table 62 presents the findings of the present study as well as those from other international studies that were undertaken within the last four years. As this table shows, the IWS score for the present study (12.7) is comparable to the average IWS score of other studies (12.6). In addition, the Component Adjusted Scores for the present study (Liz Curtis) are also very similar to the averages for Pay (10.6 vs. an average of 10.4), Autonomy (16.1 vs. an average of 15.9), Task Requirements (9.0 vs. an average of 9.9), Organisational Policies (8.3 vs. an average of 8.3), and Professional Status (16.6 vs. an average of 16.7). One exception is the Component Adjusted Score for Interaction. The score for this component for the present study is slightly higher than the average for the other studies (15.8 vs. 14.2).

No known research similar to the present study has been undertaken within the nursing profession in the Republic of Ireland. As a consequence, it would be quite difficult to interpret the findings on job satisfaction from the present study within the Irish context. Numerical data from other studies provide a useful benchmark for interpreting the values obtained from the present study (all these studies have used the IWS and have analysed their data using the scoring manual developed for the IWS). This comparative analysis allowed this researcher to determine how the overall level of job satisfaction among nurses in the Republic of Ireland compares with that of nurses elsewhere.

Despite the benefits of using a database of studies to compare findings it is important not to become complacent. Over reliance on the use of a numerical score as absolute indicators of level of job satisfaction should be avoided. While it is tempting to accept a given IWS value – for example 13.0 – as being equivalent to overall level of satisfaction it is important to remember that job satisfaction is based on individual

perceptions and therefore quite difficult to measure accurately. Use of the quartile method of interpretation (as used in the present study) will help to prevent over reliance of a particular numerical score. Thus, while the job satisfaction findings from the present study are generally similar to previous research, one must remember that the comparison is between the present study and several other studies, the results of which were aggregated. Therefore, it would be unfair to expect large-scale changes in overall levels of job satisfaction. Furthermore, the IWS itself is a summary number and research has shown that both the adjusted scores and the Index of Work Satisfaction score are not as sensitive to change as has been observed in the component scores.[13]

5.21 Summary of Main Findings from Section C of the Questionnaire

The Index of Work Satisfaction is a two-part measurement tool that was designed to measure nurses' level of job satisfaction by measuring six components of satisfaction. These components are Pay, Autonomy, Task Requirements, Organisational Policies, Professional Status, and Interaction.

The first part of the questionnaire (Part A) offers a unique feature in that it weights each component based on its perceived importance in providing satisfaction to the nurses surveyed. This is achieved by using a *paired-comparisons* technique where respondents are asked, for each of the fifteen pairs of components, to choose which of two components is more important to them in terms of influencing their level of satisfaction.

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[13] P.L. Stamps, Nurses and Work Satisfaction: An Index for Measurement, p. 91.

The findings from Part A of the questionnaire indicate that Autonomy is the most important component to nurses in terms of influencing their level of satisfaction. The second and third most important were Pay and Interaction respectively. Next, were Professional Status and Task Requirements. Organisational Policies was considered the least important with regard to influencing respondents' satisfaction.

The second part of the questionnaire (Part B) measures satisfaction for each of the six components using a set of attitude statements. A total of 44 statements make up this part of the scale. The findings from this part of the questionnaire confirm that Professional Status, Interaction, and Autonomy (ranked 1st, 2nd, and 3rd, respectively) made the greatest contribution to respondents' current level of satisfaction. Next were Task Requirements and Organisational Policies (ranked 4th and 5th respectively). Pay contributed least to respondents' current level of satisfaction.

Although the entire questionnaire is referred to as The Index of Work Satisfaction (IWS), the actual Index is a single score produced from both parts of the questionnaire. The Index of Work Satisfaction is a total index that represents both the relative importance of the six components and the current level of job satisfaction among a sample of nurses.

The IWS for the present study is 12.7. This score was interpreted using quartiles, which is a version of percentiles. A score of 12.7 places it in the second quartile which means that it is at or below the fiftieth percentile. As already discussed, scores in the first and second quartiles represent low levels of satisfaction.

A comparison of dissonance between Part A and Part B of the questionnaire was undertaken. These rankings revealed enormous variations. Results from Part A

revealed that Autonomy, Pay, and Interaction were regarded as most important with regard to respondents' perceptions of satisfaction while the results from Part B demonstrated that Professional Status, Interaction, and Autonomy had the greatest influence on nurses' current level of satisfaction. The component regarded as least important in influencing perceptions of satisfaction (Part A) was Organisational Policies while in Part B of the questionnaire Pay emerged as the component that contributed the least to nurses' current level of satisfaction.

Finally, a comparative analysis was undertaken using data from a database of studies {that have used the Index of Work Satisfaction (IWS) questionnaire} complied and maintained by the author of the IWS (Paula Stamps) and Market Street Research in the United States of America. The outcome of this analysis revealed that on the whole the numerical scores from the present study correspond with those of previous research.

5.22 Summary and Conclusion

This chapter presented and described the descriptive findings of the present study. The questionnaire booklet used in the survey was composed of three sections. Section A collected biographical data from the sample. Section B collected data about organisational climate using the Nurse Organisational Climate Description Questionnaire (NOCDQ) and Section C used the Index of Work Satisfaction to collect data about job satisfaction. In keeping with the structure of the questionnaire, it was decided to present the descriptive findings using the same format. Thus, this summary will present the main findings from each of the three sections.

Section A of the questionnaire booklet contained ten biographical questions and was developed by this researcher following a review of the literature. A total of 2000 questionnaires were distributed and the response rate was 30.5%. The findings revealed that the respondents were predominately female (90.7%). The majority of the respondents (35.2%) were aged between 36-45 years of age. The age category with the smallest number of respondents (3.8%) was the 18-25 category. Only 8.4% of the sample was over 55 years of age.

The majority of respondents (86.4%) work in the public health care sector. With reference to Health Board Area, 31.3% of the sample works in the Eastern Regional Health Authority. With regard to nursing education, most of the respondents (81.6%) had completed the RGN qualification while 21.1% had completed a Diploma in Nursing. Seventy-four respondents (12.1%) had a primary degree, 24 (3.9%) had completed a master degree and one respondent had a PhD. The majority of the respondents (74.1%) had completed their nursing and midwifery training in Ireland, while the second largest number of respondents (30.3%) had completed the same courses in England.

The majority of respondents (36.9%) currently work in Acute General Care Services, while the second largest number of respondents (14.9%) work in Community Care Services. With regard to their current position at work, a total of 54.6% were Staff Nurses while 15.1% were Clinical Managers. The final question in this section of the questionnaire related to length of time in current place of employment. Five categories were used. The largest number of respondents (41.3%) which is under half of the sample reported that they had been in their current place of employment for over seven years. The second highest number of respondents (32.6%) said that they

had been in their current place of employment for 1-3 years. Fifteen respondents, (2.5%) which is the smallest number of respondents, indicated that they had been in their current place of employment for 3-5 years.

Section B of the questionnaire booklet collected data about organisational climate using the Nurse Organisational Climate Description Questionnaire (NOCDQ). This questionnaire was developed in USA and was originally used to measure the climate of schools. It was modified in 1982, following a study to test its suitability for use with nurses. The NOCDQ questionnaire consists of 26 measurable attributes. These attributes are then used to construct six components, three of which are worded positively (Humanistic Thrust, Esprit, Intimacy) while the remaining three are worded negatively (Aloofness, Hindrance, Disengagement). The instrument was designed to measure two types of behaviours: those of the leader and those of the subordinate. Four of the six components emphasise subordinate behaviour and include Esprit, Intimacy, Disengagement, and Hindrance. The remaining two components emphasise leader behaviour and include Humanistic Thrust and Aloofness.

The findings were presented in two stages. The first stage involved the preparation of frequency tables listing the number of times each response category was chosen for each item. The second stage involved calculating the scores for each response category for each of the six components. This procedure aided the calculation of a component score and a component mean score for each of the six components.

The component mean score for each of the three positive components are as follows: Humanistic Trust = 2.5, Esprit = 2.3, and Intimacy = 2.4. The component mean scores for the negative components are as follows: Aloofness = 2.3, Disengagement = 1.8, and Hindrance = 2.5. For positive components of organisational climate high

scores (a score close to 4.0) represent a positive or satisfactory rating while low scores (a score close to 1.0) represent a negative or unsatisfactory rating. For negative components of organisational climate low scores (a score close to 1.0) represent a positive or satisfactory rating while high scores (a score close to 4.0) represent a negative or unsatisfactory rating.

These findings indicate only moderate ratings for the six components of organisational climate as measured by the NOCDQ. For the most part, response ratings for the components tended to fall in the middle of the scale (between 2.0 and 3.0). Rather than responses being clustered at one end of the scale, the distributions are fairly even across the response categories for most components. The one exception is the Disengagement component. With a mean score of 1.8 it is the only negative component that is close to a score of 1.0. This means that nurses in this sample considered this component of their organisational climate to be fairly satisfactory.

Section C of the questionnaire booklet gathered data about job satisfaction using the Index of Work Satisfaction (IWS). The IWS is a two-part measurement tool that was designed to measure nurses' current level of job satisfaction by measuring six components of satisfaction. These components are Pay, Autonomy, Task Requirements, Organisational Policies, Professional Status, and Interaction.

The first part of the questionnaire (Part A) offers a unique feature in that it weights each component based on its importance in providing satisfaction to the nurses surveyed. This is achieved by using a *paired-comparisons* technique where respondents are asked, for each of the fifteen pairs of components, to choose which of two components is more important to them in terms of influencing their level of

satisfaction. The findings from Part A indicate that Autonomy is the most important component to nurses in terms of influencing their level of satisfaction. The second and third most important were Pay and Interaction respectively. Next, were Professional Status and Task Requirements. Organisational Policies was considered least important with regard to influencing respondents' satisfaction.

The second part of the questionnaire (Part B) measures satisfaction for each of the six components using a set of attitude statements. A total of 44 statements make up this part of the scale. The findings from Part B demonstrate that Professional Status, Interaction, and Autonomy (ranked 1st, 2nd, and 3rd, respectively) made the greatest contribution to respondents' current level of satisfaction. Next were Task Requirements and Organisational Policies (ranked 4th and 5th respectively). Pay contributed least to respondents' current level of job satisfaction.

Although the entire questionnaire is referred to as The Index of Work Satisfaction (IWS), the actual Index is a single score produced from both parts of the questionnaire. The Index of Work Satisfaction is a total index that represents both the relative importance of the six components and the current level of job satisfaction among a sample of nurses. The IWS for the present study is 12.7. This score was interpreted using quartiles, which is a version of percentiles. A score of 12.7 places it in the second quartile which means that it is at or below the fiftieth percentile. Scores in the first and second quartiles represent low levels of job satisfaction.

A comparison of dissonance between Part A and Part B of the questionnaire was undertaken. These rankings revealed some interesting variations. Results from Part A revealed that Autonomy, Pay, and Interaction were regarded as most important with regard to respondents' perceptions of satisfaction while the rankings from Part B

demonstrated that Professional Status, Interaction, and Autonomy had the greatest influence on nurses' current level of satisfaction. The component regarded as least important in influencing perceptions of satisfaction (Part A) was Organisational Policies while in Part B of the questionnaire Pay emerged as the component least likely to contribute to respondents' current level of satisfaction.

A comparative analysis was undertaken using data from a database of studies which had used the Index of Work Satisfaction (IWS) questionnaire to measure job satisfaction. It was complied, and is being maintained jointly by the author of the IWS (Paula Stamps) and Market Street Research in the United States of America. The outcome of this analysis revealed that on the whole the numerical scores from the present study were similar to those of previous research.

In conclusion, the questionnaire booklet generated an enormous amount of data. The descriptive analysis, while tedious, was important as it allowed manipulation of the data in order to assess the findings and arrive at some reasonable conclusions. Charts and tables were used in order to convey the findings in as succinct a manner as possible.

Thus far, these descriptive findings have aided our understanding of organisational climate and job satisfaction and therefore are important and relevant to the nursing profession. Given that this chapter was concerned only with describing and summarising the data, additional analysis and interpretation will be addressed in subsequent chapters.

CHAPTER SIX

DATA ANALYSIS

6.1 Introduction

Chapter Five reported the descriptive findings from the present study. The purpose of this chapter is to present the results of the bivariate and multiple regression analyses. Bivariate analysis is undertaken in order to validate expectations regarding the data that are expressed as hypothesis or questions.[1] Performing such analyses allows the researcher to generalise the findings from the sample to the larger population. Several statistical procedures can be used to test hypotheses. In the present study, however, the following tests were used: independent-samples t-test, one-way between-groups analysis of variance (ANOVA), and Pearson product-moment correlation. The data will also be subjected to multiple regression analyses in order to establish how well the six components of organisational climate are able to explain the variance in job satisfaction. Each of these statistical tests will be described briefly before presenting the results from the analyses.

The structure of this chapter is similar to that of previous chapters. It has an introduction, a main section and a conclusion. The main section is made up of the results from the bivariate analysis for each hypothesis and the multiple regression analyses. To aid clarity, tables are used to display results where appropriate. Based on the outcome of the analyses, the reader is informed whether the null hypotheses

[1] N. Burns, and S.K. Grove, Understanding Nursing Research, p. 297.

were rejected or supported.[2] The data from the present study were analysed using the Statistical Package for the Social Sciences (SPSS) version 11.[3] This chapter concludes with a summary of the main findings.

6.2 Statistical Procedures used to Analyse the Data

Quantitative data can be analysed using descriptive and/or inferential statistical techniques. Descriptive statistics describe or summarise the data while inferential statistics are used for hypothesis testing. There are two types of inferential statistics; parametric and nonparametric. Nonparametric techniques are used for nominal or ordinal level data, when the sample is small, or when the variable under investigation is not normally distributed.[4] Examples of nonparametric techniques include the Chi-squared test, and the Mann-Whitney U-test. Parametric techniques on the other hand are used with interval or ratio level data, when the variable under investigation is normally distributed, and when the sample is large.[5] Examples of parametric techniques include T-tests, One-way between-groups analysis of variance (ANOVA) and Pearson correlation. Parametric statistical techniques were used to analyse the data in the present study.

As already stated, four statistical tests were used to analyse the data in the present study. The first test used was an independent-samples t-test. An independent-

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[2] The findings presented in this chapter will be discussed in relation to previous research in Chapter Seven.

[3] SPSS Inc., Statistical Package for the Social Sciences, SPSS for Windows, Version 11. Chicago, Illinois: SPSS Inc., Headquarters, 2004.

[4] A normal distribution is a symmetrical bell shaped curve with the greatest number of scores in the middle with smaller number of scores towards the extremes. Few real distributions fit the normal curve.

[5] S. Sarantakos, Social Research, p. 383.

samples t-test was used to compare the scores of two different groups of respondents. To conduct this test two variables are needed. One must be a categorical independent variable and the other an interval or ratio dependent variable. This procedure was selected because this researcher wanted to establish whether there is a statistically significant difference in the scores for different groups (e.g. females and males). A notable strength of the t-test is that the two groups under examination do not have to be exactly the same size.[6] When using parametric statistics it must be acknowledged that these tests have a number of assumptions underpinning their use. Some of these assumptions (e.g. level of measurement, random sampling, independence of observations, and normal distribution, and homogeneity of variance) were discussed in Chapter Four. Any additional assumptions, relevant to a specific statistical test, will be addressed as appropriate in this chapter.

The second test used was one-way between-groups analysis of variance (ANOVA) with post-hoc tests. The 'one-way' part of the title specifies that only one independent variable is under investigation, and 'between-groups' indicates that different subjects are in each of the groups under investigation. ANOVA was chosen because it indicates whether there are significant differences in the scores on the dependent variable across the groups (e.g. age groups) under examination. However, ANOVA does not report which group is different from the other, so post-hoc tests were included in the SPSS analysis procedure. The post-hoc tests indicate exactly where the differences among the groups occurred.

The third test used was Pearson correlation. Correlation analysis had to be undertaken in order to establish the direction and strength of the relationships between variables.

[6] M. Denscombe, The Good Research Guide, p. 202.

There are many ways of evaluating the nature (positive or negative) and strength (size of the absolute value) of relationships between variables. Some measures are used for nominal data while others are used for ordinal or interval/ratio data. Measures of correlation are used to explore three issues. Firstly, to determine the presence or absence of correlation, that is, whether or not a correlation exists between the variables under investigation. Secondly, to establish the direction of the correlation. In other words, if there is a correlation between the variables is it positive or negative. Thirdly, to determine the strength of correlation, that is, whether a correlation between two variables is strong, moderate or weak.[7]

As already stated, a number of different statistical tests can be used to determine the relationship between variables. For the present study a Pearson product-moment correlation coefficient (r) was used. To recap, (information on this procedure was discussed in detail in Chapter Four) existence, direction and strength of the correlation are provided in the coefficient of correlation. Pearson correlation coefficient (r) can range from –1 to +1. The sign in front of the coefficient indicates whether it is a positive correlation (as one variable increases so does the other) or a negative correlation (as one variable increases the other decreases). The actual value of the coefficient (this value is obtained after performing a correlation analysis) shows the strength of the association. Values close to 0 indicate that the correlation is weak while values close to 1 indicate a strong correlation. A correlation of +1 is as strong as one of –1; it is the direction of the correlation that is different.

The fourth statistical test used was multiple regression. Multiple regression analyses can be used to explore the relationship between one dependent variable and several

[7] S. Sarantakos, Social Research, p. 366-367.

independent variables. Multiple regression is based on correlation but it permits a more complex exploration of the relationships among a set of variables. With regard to the present study multiple regression was used to answer two questions. Firstly, how well do the six components of the Nurse Organisational Climate Description Questionnaire (NOCDQ) predict job satisfaction as measured by the Index of Work Satisfaction (IWS)? In other words, how much variance in job satisfaction scores can be explained by scores for the six components of the NOCDQ. Secondly, which of the six components of organisational climate is the best predictor of job satisfaction?

There are several types of multiple regression analyses but the three main ones are standard or simultaneous, hierarchical or sequential, and stepwise. The approach selected for the present study was standard multiple regression. This approach was chosen on the basis that it is capable of answering the two questions presented in the preceding paragraph.

The present study contained two independent variables and one dependent variable. The first independent variable was Biographical Factors. This variable contained ten components and was measured using a biographical questionnaire developed by this researcher. The second independent variable was Organisational Climate. This variable was made up of six components or variables (Esprit, Intimacy, Disengagement, Hindrance, Humanistic Thrust and Aloofness) and was measured using the Nurse Organisational Climate Description Questionnaire (NOCDQ). The dependent variable in the present study is Job Satisfaction. This variable is composed of six components or variables (Pay, Autonomy, Task Requirements, Organisational Policies, Professional Status and Interaction) and was measured using the Index of Work Satisfaction (IWS) questionnaire.

6.3 Results for the First Null Hypothesis

Null Hypothesis 1 — There is no significant difference in the job satisfaction scores for females and males.

Alternative Hypothesis 1 — There is a significant difference in the job satisfaction scores for females and males.

An independent-samples t-test was conducted to compare the job satisfaction scores for females and males. The outcomes of this test are presented in Tables 63 and 64.

Descriptive Statistics - Gender

Gender	Number in Sample	Mean	Standard Deviation
Total Job Satisfaction			
Females	550	12.9307	2.35997
Males	53	12.5436	2.48004

Table: 63

Table 63 gives the descriptive statistics for the variable gender. The second column gives the total number of females and males included in the test. The third and fourth columns give the mean and standard deviation values.

6.3.1 Independent-samples t-test

Independent-samples t-test - Gender

Index of Work Satisfaction (IWS)		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Total Job Satisfaction	Equal variances assumed	.001	**.976**	1.135	601	**.257**
	Equal variances not assumed					

Table: 64

Table 64 gives the results for the independent-samples t-test. The third column in this table gives the value of Levene's test for equality of variances. This tests whether the variation of scores for the two groups (females and males) is the same. The value produced by this test determines which of the t-values produced by SPSS is the correct one to use. If the significance (Sig.) value is greater than .05 then the results in the first line (which refers to equal variances assumed) must be used. If the value for Levene's test is p=.05 or less (e.g., .01 or .001) this means that the variances for the two groups are not the same and therefore violates the assumption of equal variance.

As demonstrated in table 64 the significance level for Levene's test is **.976**. This is greater than the cut-off of .05 which means that the assumption of equal variance has not been violated. Therefore, the results to be reported here are contained in the first line of the table (equal variances assumed). Results for "equal variances not assumed" (second line in Table 64) were not included in the above table as they were not being used. The next step in interpreting these results is to determine whether there is a significant difference between females and males. The reader is referred to

the column labelled Sig. (2-tailed).[8] If the value given in this column is equal to or less than .05, then there is a significance difference in the job satisfaction score for the two groups. If however, the value is above .05 then there is no significant difference. The value obtained is **.257**. This value is above .05 indicating no significant difference in job satisfaction scores between females and males.

6.3.2 Calculating the Effect Size

While the results from the independent samples t-test suggests that there is no statistically significant difference in the mean job satisfaction scores for female and male nurses, these results do not indicate the degree or magnitude of the difference. To determine this requires the calculation of an effect size statistic. Several effect size statistics can be used but eta squared is the most commonly used. Eta squared has a range of 0-1 and represents the proportion of variance in the dependent variable that can be explained by the independent variable. SPSS does not generate effect size for t-tests. Nonetheless, it was possible to calculate the effect size manually using a formula supplied by SPSS manual.[9] The formula used to calculate eta squared is as follows:

$$\text{Eta Squared} = \frac{t^2}{t^2 + (N1+N2-2)}$$

where t = t-value (1.135)
N = no. of respondents
in each group.

$$\text{Eta Squared} = \frac{1.135^2}{1.135^2 + (550+53-2)}$$

$$\text{Eta Squared} = \mathbf{0.002}$$

[8] Statistical test used when the research hypothesis is non-directional.

[9] J. Pallant, SPSS Survival Manual, p. 180.

The eta squared value is **.002**. According to guidelines by Cohen[10] an effect size of .002 is very small. Alternatively, this value can be expressed as a percentage (multiply the eta squared value by 100) which means that only **.2** percent of the variance in job satisfaction is explained by gender.

In summary, these are the results of the analysis of this hypothesis. An Independent-samples t-test was conducted to compare the job satisfaction scores for females and males. The results indicated that there was no significant difference in scores for females (Mean=12.93, Standard Deviation=2.36), and males (Mean=12.54, Standard Deviation=2.48); [t(601)=1.135, p=.257]. The magnitude of the differences in the means was very small (eta squared = 0.002).

Based on these findings, Null Hypothesis 1 was accepted.

[10] J. Cohen, Statistical Power Analysis for the Behavioural Sciences (New York: Academic Press, 1969), p. 218-220.

6.4 Results for the Second Null Hypothesis

Null Hypothesis 2 — There are no differences in job satisfaction scores for nurses in the following age groups: 18-25 years, 26-36 years, 36-45 years, 46-55, and over 55 years.

Alternative Hypothesis 2 — There are differences in job satisfaction scores for nurses in the following age groups; 18-25 years, 26-36 years, 36-45 years, 46-55, and over 55 years.

One-way between-groups analysis of variance (ANOVA) was conducted in order to determine whether there are significant differences in the mean scores on the dependent variable (job satisfaction) across the different age groups. The outcomes of this test are presented in Tables 65, 66 and 67.

Descriptive Statistics – Age Groups

Age Groups (years)	Number in Sample (n)	Mean	Standard Deviation
18-25	23	12.38	1.56
26-35	171	12.42	2.24
36-45	213	13.09	2.30
46-55	148	13.29	2.36
>55	51	12.73	3.02

Table: 65

Table 65 gives the descriptive statistics for the variable age groups. The second column gives the total number of nurses in the various age groups included in the test. The third and fourth columns give the mean and standard deviation values.

6.4.1 Test of Homogeneity of Variances

Test of Homogeneity of Variance – Age Group

Levene Statistic	df	df2	Sig.
3.2.2	4	301	**.013**

Table: 66

Table 66 gives the results for Levene's test of homogeneity of variances which tests whether the variance in the scores is the same for each of the five age groups. The important result in this table is the significance value (Sig. in the last column). If the value obtained is greater than .05 then the assumption of homogeneity of variance was not violated. If, however, the result for Levene's test is .05 or less, then the homogeneity of variance has been violated. In Table 66 the significance value is **.013**. As this is less than .05, the assumption of homogeneity of variance was violated in the present study.

6.4.2 Analysis of Variance (ANOVA)

Analysis of Variance (ANOVA) – Age Group

Total Job Satisfaction	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	77.579	4	19.359	3.507	**.008**
Within Groups	3323.614	601	5.530		
Total	3401.193	605			

Table: 67

Table 67 gives several pieces of information. The main result is contained in the column marked Sig. If the significance value is less than or equal to .05, then there is

a significant difference somewhere among the scores on job satisfaction for the five age groups. This information, however, does not indicate which groups are different. The statistical significance of the differences between each pair of groups is given in section 6.4.3 which contains the results of the post-hoc tests. In Table 69, the significance value is **.008** which is less than .05 indicating that there is a significantly significant result somewhere amongst the five groups. Having obtained a statistically significant difference, the next step is to look at the results of the post-hoc tests[11] that were conducted by SPSS to establish where the differences among the five groups are.

6.4.3 Multiple Comparisons (post-hoc tests)

The information contained in the multiple comparisons produced by SPSS is relevant only if a significant difference (that is, a value equal to or less than .05) was found in the analysis of variance (ANOVA). The significance value in the overall ANOVA was **.008** which is less than .05. The post-hoc tests demonstrated exactly where the differences among the five age groups were. The results indicated that two age groups were statistically significant from one another at the $p<.05$ level. The 26-35 age group differed significantly from the 36-45 age group (Sig. = .045), and the 26-35 age group differed significantly from the 46-55 age group (Sig. .009) in terms of their job satisfaction scores. There were no significant differences between the 18-25 and the 26-35 age groups or between the 18-25 and over 55 age groups.

6.4.4 Calculating the Effect Size

While the ANOVA test suggested that there was a statistically significant difference between the five age groups and the post-hoc tests were able to pin point exactly

[11] Post-hoc tests are designed to help protect against the possibility of a Type 1 error. A type 1 error occurs when the null hypothesis is rejected when it is true.

where the differences were these statistical tests do not indicate the degree or magnitude of the difference in the scores. The calculation of an effect size statistic is required to determine the magnitude of this difference. SPSS does not generate effect size for one-way analysis of variance. Nonetheless, it was possible to calculate the effect size manually using a formula supplied by SPSS. The information needed to calculate eta squared is contained in Table 69 and includes the values for the sum of squares between groups (77.579) and the total sum of squares (3401.193). The formula used to calculate eta squared is as follows:

$$\text{Eta squared} = \frac{\text{sum of squares between groups}}{\text{Total sum of squares}}$$

$$\text{Eta squared} = \frac{77.579}{3401.193}$$

$$\text{Eta squared} = .02$$

Using this formula an eta squared value of **.02** was obtained. Cohen[12] suggests the following guidelines for interpreting effect size.

.01 = small effect
.06 = moderate effect
.14 = large effect

Therefore, an eta squared value of .02 is to be regarded as a small effect size. It is important to stress that although the present study obtained a statistically significant result between age groups and job satisfaction, the actual difference in the mean scores for each of the groups was quite small (18-25 age group = 12.38, 26-35 age group = 12.42, 36-45 age group = 13.09, 46-55 age group = 13.29, and over 55 age group = 12.73 all this information is contained in Table 65). This is evident in the

[12] J. Cohen, Statistical Power Analysis for the Behavioural Sciences, p. 218-220

small effect size obtained (.02). Worthy of note is that large samples (in the present study the sample was 610), can result in quite small differences being statistically significant.

In summary, the results of the analysis of this hypothesis are as follows.

A one-way between-groups analysis of variance was conducted to explore the impact of age on job satisfaction as measured by the Index of Work Satisfaction (IWS). Five age groups were used: 18-25, 26-35, 36-45, 46-55 and over 55. The results indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the age groups. [$F(4, 601)=3.5$, $p=0.008$]. Although reaching statistical significance, the actual difference in mean scores between the groups was quite small. The effect size was calculated using eta squared and the result was .02. Post-hoc comparisons using the Tukey HSD test[13] indicated that the mean score for the 26-35 age group ($M=12.43$, $SD=2.24$) was statistically different from the 36-45 age group ($M=13.1$, $SD=2.32$). Also, the mean score for the 46-55 age group ($M=13.29$, $SD=2.36$) was statistically different from the 26-35 age group ($M=12.43$, $SD=2.24$). The 18-25 age group ($M=12.36$, $SD=1.56$) and the over 55 age group, ($M=12.7$, $SD=3.02$) however, did not differ significantly from any of the other age groups.

Based on these findings, Null Hypothesis 2 was rejected.

[13]Tukey's Honestly Significant Different (HSD) test is one of several post-hoc tests.

6.5 Results for the Third Null Hypothesis

Null Hypothesis 3 — There is no significant difference in the job satisfaction scores for nurses working in the private and public healthcare sectors.

Alternative Hypothesis 3 — There is a significant difference in the job satisfaction scores for nurses working in the private and public healthcare sectors.

An independent-samples t-test was conducted to compare the job satisfaction scores for nurses working in both the private and public healthcare sectors. The outcomes of this test are presented in Tables 68 and 69.

Descriptive Statistics – Healthcare Sector

Healthcare Sectors		Number in Sample	Mean	Standard Deviation
Total Job Satisfaction	Private	72	13.7549	2.46590
	Public	526	12.7970	2.32850

Table: 68

Table 68 gives the descriptive statistics for the variable healthcare sector. The second column gives the total number of nurses working in the private and public healthcare sectors respectively. The third and fourth columns give the mean and standard deviation values.

6.5.1 Independent-samples t-test

Independent-samples t-test – Healthcare Sector

Index of Work Satisfaction (IWS)		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Total Job Satisfaction	Equal variances assumed	.179	**.673**	3.250	596	**.001**
	Equal variances not assumed					

Table: 69

Table 69 illustrates the results for the independent-samples t-test. The third column in this table gives the value of Levene's test for equality of variances. This indicates whether the variation of scores for the two groups (private and public healthcare sector) is the same. The value produced by this test determines which of the t-values (either the value for equal variances assumed or equal variances not assumed) is the correct one to use. If the value is greater than .05 then the results in the first line, which refers to equal variances assumed must be used. If the value for Levene's test is p=.05 or less (e.g., .01, or .001) then the variances for the two groups are not the same and therefore, have violated the assumption of equal variance.

As demonstrated in Table 69 the significance level for Levene's test for the present study is **.673**. This value is larger than the cut-off of .05 thus the assumption of equal variance has not been violated. Therefore, the results to be reported here are contained in the first line of the table (equal variances assumed). Results for "equal variances not assumed" were not included in Table 69 as they were not being used. The next step in interpreting these results is to determine whether there is a significant difference between nurses working in the private healthcare sector and the public

healthcare sector. The reader is referred to the column labelled Sig. (2-tailed). The value given in this column for "equal variance" is **.001**. This value is less than .05, indicating a significant difference in the mean scores on the dependent variable (job satisfaction) for the two groups. Therefore, the conclusion drawn from these findings is that there is a statistically significant difference in job satisfaction scores for nurses working in the private and public healthcare sectors.

6.5.2 Calculating the Effect Size

While the results from the independent samples t-test suggests that there is a statistically significant difference in the mean job satisfaction scores for nurses working in the private and public healthcare sectors these results do not indicate the degree or magnitude of the difference. This requires the calculation of an effect size statistic. SPSS does not generate effect size for t-tests. Nevertheless, it was possible to calculate the effect size manually using a formula supplied by SPSS manual.[14] The formula used to calculate eta squared is as follows:

$$\text{Eta squared} = \frac{t^2}{t^2 + (N1+N2-2)}$$

where t = t-value (3.250)
N = no. of respondents
in each group.

$$\text{Eta squared} = \frac{3.250^2}{3.250^2 + (72+526-2)}$$

$$\text{Eta squared} = 0.02$$

The value of eta squared is **0.02**. An effect size of .02 is very small according to Cohen's guidelines discussed earlier. Alternatively, this value can be expressed as a percentage (multiply the eta square value by 100). This figure indicates that only 2

[14] J. Pallant, SPSS Survival Manual, p. 180.

percent of the variance in job satisfaction is explained by whether the nurse is working in the private or public healthcare sector.

In summary, these are the results of the analysis of this hypothesis. An independent-samples t-test was conducted to compare the job satisfaction scores for nurses working in the private and public healthcare sectors. The results indicated that there was a statistically significant difference in scores for nurses working in the private sector (Mean=13.75, Standard Deviation=2.47), and public sector (Mean=12.79, Standard Deviation=2.33); [t(596)=3.25, p=.001]. The magnitude of the differences, however, in the means was small (eta squared = 0.02).

Based on these findings, Null Hypothesis 3 was rejected.

6.6 Results for the Fourth Null Hypothesis

Null Hypothesis 4 — There is no statistically significant difference in the job satisfaction scores for registered nurses and midwives, nurses with diplomas, and nurses with degrees.

Alternative Hypothesis 4 — There is a statistically significant difference in job satisfaction scores for registered nurses and midwives, nurses with diplomas, and nurses with degrees.

This hypothesis was formulated with question 5 from the biographical questionnaire in mind. Question 5 originally had seven response categories. The descriptive statistics revealed that the number of respondents in some of the categories were too small for statistical analysis, so it was decided to collapse the categories into three groups instead. The three groups used are contained in null hypothesis 4.

One-way between-groups analysis of variance (ANOVA) was conducted in order to determine whether there are significant differences in the mean scores on the dependent variable (job satisfaction) across the different education categories. The outcomes of this test are presented in Tables 70, 71 and 72.

Descriptive Statistics – Nursing Qualifications

Qualification Categories	Number in Sample	Mean	Standard Deviation
Registered Nurses & Midwives	397	13.12	2.345
Nurses with Diplomas	119	12.50	2.027
Nurses with Primary and Post-graduate Degrees	89	12.47	2.771

Table: 70

Table 70 gives the descriptive statistics for the variable, education. The second column gives the total number of nurses in the three categories or groups included in the test. The third and fourth columns give the mean and standard deviation values.

6.6.1 Test of Homogeneity of Variances

Test of Homogeneity of Variance – Nursing Qualifications

Levene Statistic	df	df2	Sig.
2.326	2	602	**.099**

Table: 71

Table 71 gives the results for Levene's test of homogeneity of variances which tests whether the variance in the scores is the same for each of the three groups. The important result in this table is the significance value (Sig. in the last column) for Levene's test. If the number is greater than .05 then the assumption of homogeneity of variance was not violated. If, however, the result for Levene's test is less than .05 then the assumption of homogeneity of variance has been violated. In Table 71 the

significance value is **.099**. Because this value is greater than .05 then the assumption of homogeneity of variance was not violated in this instance.

6.6.2 Analysis of Variance (ANOVA)

Analysis of Variance (ANOVA) – Nursing Qualifications

Total Job Satisfaction	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	55.235	2	27.618	4.981	**.007**
Within Groups	3337.908	602	5.545		
Total	3393.143	604			

Table: 72

Table 72 gives several pieces of information. The main value is the result in the column marked Sig. If the significance value is less than or equal to .05, this means that there is a significant difference somewhere among the scores on job satisfaction for the three groups. This information, however, does not indicate which groups are different. The statistical significance of the differences between the groups is explained in section 6.6.3 which contains the results of the post-hoc tests. In Table 72 the significance value is **.007** which is less than .05 indicating that there is a significantly significant result somewhere amongst the three groups. When a statistically significant difference was obtained, the next step was to examine the results of the post-hoc tests that were conducted to establish exactly where the differences among the three education groups lay.

6.6.3 Multiple Comparisons (Post-hoc tests)

The information produced by the post-hoc tests is relevant only if a significant difference (that is, a value equal to or less than .05) was found in the overall ANOVA tests. As indicated above the significance value in the overall ANOVA was **.007**. The post-hoc tests demonstrated exactly where the differences among the three groups were. The results indicated that two groups were significantly different at the $p<.05$ level. Registered nurses and midwives differed significantly from nurses with diplomas (Sig. = .031) and registered nurses and midwives differed significantly from nurses with primary and post-graduate degrees (Sig. = .049) in terms of their job satisfaction scores. There was no statistically significant difference between nurses with diplomas and nurses with primary and post-graduate degrees with regard to their job satisfaction. In other words, job satisfaction among nurses with diplomas and degrees was significantly lower than that of registered nurses and midwives.

6.6.4 Calculating the Effect Size

The ANOVA test suggested that there was a statistically significant difference between the groups. The post-hoc tests were able to pin point exactly where the differences were. These statistical tests, however, do not indicate the degree or magnitude of the difference between the groups. To do this requires the calculation of an effect size statistic. SPSS does not generate effect size for one-way analysis of variance (ANOVA). Nevertheless, it was possible to calculate the effect size manually using a formula supplied by an SPSS manual.[15] The information needed to calculate eta squared is contained in Table 72 and include the values for sum of

[15] Ibid.

squares for between-groups and the Total sum of squares. The formula used to calculate eta squared is as follows:

$$\text{Eta squared} = \frac{\text{sum of squares between groups}}{\text{total sum of squares}}$$

$$\text{Eta squared} = \frac{55.235}{3393.143}$$

$$\text{Eta squared} = 0.016$$

Using this formula the Sum of squares for between-groups (55.235) divided by the total sum of squares (3393.143) gives an eta squared value of **0.016** which Cohen[16] regards as a small effect size. Alternatively, the eta squared value can be expressed as a percentage (multiply the eta squared value by 100) which means that only 1.6 percent of the variance in job satisfaction is explained by the type of qualification a nurse holds.

While this study obtained a statistically significant result between type of qualification and job satisfaction, it is important to point out that the mean scores for each of the groups was very small (registered nurses and midwives = 13.12, nurses with diplomas = 12.50, and nurses with degrees = 12.47 (see Table 70). This is evident in the small effect size obtained (0.016). It is important, however, to draw attention to the fact that large samples (in the present study N=610), can result in very small differences being statistically significant.

In summary, these are the results of the analysis of this hypothesis.

[16] J. Cohen, Statistical Power Analysis for the Behavioural Sciences, p. 218-220.

A one-way between-groups analysis of variance was conducted to explore the impact of nursing qualification on job satisfaction as measured by the Index of Work Satisfaction (IWS). Although seven response categories were used in the biographical questionnaire these had to be collapsed into three groups because the number of responses for some of the categories were quite small. The three categories used were (a)registered nurses and midwives, (b) nurses with diplomas, and (c) nurses with degrees. The results indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the three groups. [$F(2, 602)=4.98$, $p=.007$].

Although reaching statistical significance, the actual difference in mean scores between the groups was quite small. The effect size was calculated using eta squared and the result was **0.016**. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the registered nurses and midwives group (Mean = 13.12, Standard Deviation = 2.345) was statistically different from the nurses with diplomas group (M = 12.50, SD=2.027) and also the nurses with degrees group (Mean = 12.47 SD = 2.771). The nurses with diplomas group (M = 12.50, SD = 2.027) and the nurses with degrees group (M = 12.47, SD = 2.771) did not differ significantly from each other.

Based on these findings, Null Hypothesis 4 was rejected.

6.7 Results for the fifth Null Hypothesis

Null Hypothesis 5 — There is no statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment and those working in a non-acute environment.

Alternative Hypothesis 5 — There is a statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment and those working in a non-acute environment.

This hypothesis was formulated with question 8 (from the biographical questionnaire) in mind. Question 8 originally had ten response categories. The descriptive statistics revealed that the number or respondents in some of the categories were too small for statistical analysis, so it was decided to collapse the categories into two groups instead. The groups used were (a) acute hospital environment (general, psychiatric and midwifery) and (b) non-acute environments (community care services, residential services, nursing home services, palliative care, and general practice services).

An independent-samples t-test was conducted to compare the job satisfaction scores for nurses working in an acute hospital environment and those working in a non-acute environment. The outcomes of this test are presented in Tables 73 and 74.

Descriptive Statistics – Place of Employment

Place of Employment		Number in Sample	Mean	Standard Deviation
Total Job Satisfaction	Acute Hospital Environment	364	12.6741	2.16894
	Non-acute Environment	243	13.2443	2.61078

Table: 73

Table 73 gives the descriptive statistics for the variable place of employment. For example, the second column gives the total number of nurses working in the two categories included in the test. The third and fourth columns give the mean and standard deviation values.

6.7.1 Independent Samples t-test

Independent-samples t-test – Place of Employment

Index of Work (IWS)		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Total Job Satisfaction	Equal variances assumed	4.895	**.027**	-2.922	605	.004
	Equal variances not assumed			-2.817	452.4	**.005**

Table: 74

Table 74 contains the results for the independent-samples t-test. The third column in this table gives the value of Levene's test for equality of variances. This test indicates whether the variation of scores for the two groups (acute hospital environment and non-acute environment) is the same. The value produced by this test determines

which of the t-values is the correct one to use. If the result of the test is greater than .05 then the values in the first line (which refers to equal variances assumed) must be used. If the value for Levene's test is p=.05 or less (e.g., .01 or .001), then the variances for the two groups are not the same and therefore violate the assumption of equal variance. As demonstrated in the Table 74 the significance level for Levene's test is **.027**. This is less than the cut-off of .05. Therefore, the assumption of equal variance has been violated. The results to be reported in this instance are contained in the second line of the table (equal variances not assumed).

The next step in interpreting these results is to determine whether there is a significant difference in job satisfaction scores between nurses working in an acute hospital environment and those working in a non-acute environment. The reader is referred to the column labelled Sig. (2-tailed). Two values are given. The results for Levene's test, however, required that the 'equal variances not assumed' value must be used. This value is **.005**. As this value is less than the required cut-off of .05, then one can conclude that there is a statistically significant difference in the mean job satisfaction scores for nurses working in an acute hospital environment and those working in a non-acute environment. In other words, nurses working in a non-acute environment enjoy higher levels of job satisfaction than nurses working in an acute hospital environment.

6.7.2 Calculating the Effect Size

The results from the independent samples t-test suggests that there is a statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment (Mean = 12.6741) and those working in a non-acute environment (Mean = 13.2443). These results, however, do not indicate the degree or magnitude of the

difference. To determine this requires the calculation of an effect size statistic. The formula used to calculate eta squared is as follows:

$$\text{Eta squared} = \frac{t^2}{t^2 + (N1+N2-2)}$$

where t = t-value (-2.817)
N = no. of respondents
in each group.

$$\text{Eta squared} = \frac{-2.817^2}{-2.817^2 + (364+243-2)}$$

$$\text{Eta squared} = 0.013$$

The eta squared value is **0.013**. According to guidelines by Cohen[17] an effect size of 0.013 is very small. Alternatively, this value can be expressed as a percentage (multiply the eta squared value by 100) which means that only **1.3** percent of the variance in job satisfaction is explained by current place of employment (i.e. acute hospital environment or non-acute environment).

In summary, these are the results of the analysis of this hypothesis.

An independent-samples t-test was conducted to compare the job satisfaction scores for nurses working in an acute hospital environment and those working in a non-acute environment. The results indicated that there was a statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment (Mean = 12.67, Standard Deviation = 2.17), and those working in a non-acute environment (Mean = 13.24, Standard Deviation = 2.61); [t (452.4)=-2.817, p=.005]. The magnitude of the differences in the means was very small (eta squared = 0.013).

Based on these findings, Null Hypothesis 5 was rejected.

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[17] J. Cohen, Statistical Power Analysis for the Behavioural Sciences, p. 218-220.

6.8 Results for the Sixth Hypothesis

Null Hypothesis 6 — There is no difference in job satisfaction scores for student nurses and midwives, qualified clinical nurses and non-clinical nurses (manager grade).

Alternative Hypothesis 6 — There is a difference in job satisfaction scores for student nurses and midwives, qualified clinical nurses and non-clinical nurses.

This hypothesis was formulated with question nine (from the biographical questionnaire) in mind. Question nine originally had ten response categories. The descriptive statistics revealed small numbers for some of the categories, so it was decided to use three groups instead. The groups used are contained in null hypothesis 6. They are (a) nursing and midwifery students, (b) qualified clinical nursing staff and (c) non-clinical nursing staff (manager grade).

One-way between-groups analysis of variance (ANOVA) was conducted in order to determine whether there are significant differences in the mean scores on the dependent variable (job satisfaction) across the different position categories. The outcomes of this test are presented in Tables 75, 76 and 77.

Descriptive Statistics – Current Position

Current Position	Number in Sample	Mean	Standard Deviation
Student Nurses & Midwives	8	10.93	2.16
Qualified Clinical Nursing Staff	514	12.92	2.27
Non-Clinical Nursing Staff (e.g., Managers, Directors of Nursing)	33	13.87	2.42

Table: 75

Table 75 contains the descriptive statistics for the variable current position. The second column gives the total number of nurses in the three categories or groups included in the test. The third and fourth columns give the mean and standard deviation values.

6.8.1 Test of Homogeneity of Variances

Test of Homogeneity of Variance – Current Position

Levene Statistic	df	df2	Sig.
.205	2	552	**.815**

Table: 76

Table 76 gives the results for Levene's test of homogeneity of variances which tests whether the variance in the scores is the same for each of the three groups. The important result in this table is the significance value (Sig. in the last column) for Levene's test. If the number is greater than .05 then the assumption of homogeneity of variance was not violated. If, however, the result for Levene's test is less than .05 then the assumption of homogeneity of variance has been violated. In Table 76 the

significance value is **.815**. Because this value is greater than .05 then the assumption of homogeneity of variance was not violated in this instance.

6.8.2 Analysis of Variance (ANOVA)

Analysis of Variance (ANOVA) – Current Position

Total Job Satisfaction	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	61.019	2	30.509	5.887	**.003**
Within Groups	2860.835	552	5.183		
Total	2921.854	554			

Table: 77

Table 77 gives several pieces of information. The main value is the result in the column marked Sig. If the significance value is less than or equal to .05, this means that there is a significant difference somewhere among the scores on job satisfaction for the three groups. This information, however, does not indicate which groups are different. The statistical significance of the differences between the groups is explained in section 6.8.3 which contains the results of the post-hoc tests. In Table 77, the significance value is **.003** which is less than .05 indicating that there is a significantly significant result somewhere amongst the three groups. When a statistically significant difference is obtained the next step was to examine the results of the post-hoc tests that were conducted to establish exactly where the differences among the three groups lay.

6.8.3 Multiple Comparisons (Post-hoc tests)

The information contained in the multiple comparisons is relevant only if a significant difference (that is, a value equal to or less than .05) was found in the overall ANOVA. As already indicated, the significance value in the overall ANOVA was **.003**. The post-hoc tests demonstrated exactly where the differences among the three groups were. The results indicated that two groups were significantly different at the $p<.05$ level. Nursing and midwifery students differed significantly from qualified clinical nursing staff (Sig. = .038), and nursing and midwifery students differed significantly from the non-clinical nursing staff (Sig. = .003) in terms of their job satisfaction scores. There was no statistically significant difference between qualified clinical nursing staff and non-clinical nursing staff in terms of their job satisfaction scores. In other words, job satisfaction among student nurses and midwives was lower than that of qualified clinical nurses; and clinical nurses were less satisfied than their non-clinical or manager grade colleagues.

6.8.4 Calculating the Effect Size

While the ANOVA test suggested that there was a statistically significant difference between the groups and the post-hoc tests were able to pin point exactly where the differences were these statistical tests do not indicate the degree or magnitude of the difference between the groups. To do this requires the calculation of an effect size statistic. SPSS does not generate effect size for one-way analysis of variance (ANOVA). Nonetheless, it was possible to calculate the effect size manually using a formula supplied by an SPSS manual.[18] The information needed to calculate eta

[18] J. Pallant, SPSS Survival Manual, p. 180.

squared is contained in Table 77 and includes the values for sum of squares for between-groups and the Total sum of squares. The formula used was:

$$\text{Eta squared} = \frac{\text{sum of squares between groups}}{\text{total sum of squares}}$$

$$\text{Eta squared} = \frac{61.019}{2921.854}$$

$$\text{Eta squared} = 0.02$$

Using this formula the Sum of squares for between-groups (61.019) divided by the total sum of squares (2921.854) gives an eta squared value of **0.02** which according to Cohen,[19] is regarded as a small effect size. Alternatively, the eta squared value can be expressed as a percentage (multiply the eta squared value by 100) which means that only 2 percent of the variance in job satisfaction is explained by the position the nurse holds at work.

While this study obtained a statistically significant result between current position and job satisfaction it is important to point out that the mean score for each of the groups was very small (see Table 75: students = 10.93, qualified clinical nursing staff =12.92, non-clinical nursing staff = 13.87). This is evident in the small effect size obtained (0.02). It is important, however, to draw attention to the fact that large samples (in the present study N=610), can result in very small differences being statistically significant.

In summary, these are the results of the analysis of this hypothesis.

A one-way between-groups analysis of variance was conducted to explore the impact of current position on job satisfaction as measured by the Index of Work Satisfaction

[19] J. Cohen, Statistical Power Analysis for the Behavioural Sciences, p. 218-220.

(IWS). Although ten response categories were used in the biographical questionnaire these had to be collapsed into three groups because the number of responses for some of the categories were quite small. The three categories used were (a) nursing and midwifery students, (b) qualified clinical nursing staff, and (c) non-clinical nursing staff. The results indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the three groups. [$F(2, 552)= 5.887$, $p=0.003$].

Although reaching statistical significance, the actual difference in mean scores between the groups was quite small. The effect size was calculated using eta squared and the result was **0.02**. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the student group (Mean = 10.93, Standard Deviation = 2.16) was statistically different from the qualified clinical nursing staff group (M = 12.92, SD=2.27). Also, the mean score for the non-clinical nursing group (M = 13.87, SD = 2.42) was statistically different from the student group (M = 10.93, SD = 2.16). The qualified clinical nursing staff group (M = 12.92, SD = 2.27) and the non-clinical nursing staff group (M = 13.87, SD = 2.42) did not differ significantly from each other.

Based on these findings, Null Hypothesis 6 was rejected.

6.9 Results for the Seventh Hypothesis

Null Hypothesis 7 — There is no significant difference in the job satisfaction scores for nurses who have been working in their current place of employment for less than five years and those who have been working in their current place of employment for five years and over.

Alternative Hypothesis 7 — There is a significant difference in the job satisfaction scores for nurses who have been working in their current place of employment for less than five years and those who have been working in their current place of employment for five years and over.

This hypothesis was formulated with question ten from the biographical questionnaire in mind. Question ten originally had four response categories. The descriptive statistics revealed low numbers for some of the response categories, so it was decided to use two categories or groups instead. The groups used are contained in null hypothesis 7. They are (a) working in current place of employment for under five years and (b) working in current place of employment for over five years.

An independent-samples t-test was conducted to compare the job satisfaction scores for nurses who have been in their current place of employment for (a) under five years and (b) over five years. The results of this test are presented in Tables 78 and 79.

Descriptive Statistics - Tenure

Length of Time Working in Current Place of Employment		Number in Sample	Mean	Standard Deviation
Total Job Satisfaction	<5 years	264	12.7196	2.40693
	>5 years	343	13.0430	2.33540

Table: 78

Table 78 contains the descriptive statistics for the variable length of time in current place of employment. The second column gives the total number of nurses who have been in their current place of employment for under five years and over five years respectively. The third and fourth columns give the mean and standard deviation values.

6.9.1 Independent Samples t-test.

Independent-samples t-test - Tenure

Index of Work Satisfaction (IWS)		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Total Job Satisfaction	Equal variances assumed	.035	**.852**	-1.669	605	**.096**
	Equal variances not assumed					

Table: 79

Table 79 gives the results for the independent-samples t-test. The third column in this table gives the value of Levene's test for equality of variances. This test indicates whether the variation of scores for the two groups (under five years and over five years) is the same. The value produced by this test determines which of the t-values

is the correct one to use. If the value is greater than .05 then the results in the first line (which refers to equal variances assumed) must be used. If the value for Levene's test is p=.05 or less (e.g., .01, or .001) then the variances for the two groups are not the same. Therefore, the data violates the assumption of equal variance. As demonstrated in Table 79 the significance level for Levene's test is **.852**. This is larger than the cut-off of .05. Thus, the assumption of equal variance has not been violated. Therefore, the results to be reported here are contained in the first line of Table 79 (equal variances assumed). Results for "equal variances not assumed" were not included in the table as they were not being used.

The next step in interpreting these results is to determine whether there is a significant difference between the two groups (under five years and over five years). The reader is referred to column Sig (2-tailed) in Table 79. The value given in this column for "equal variance" is **.096**. This value is above the required cut off of .05 indicating that there is not a statistically significant difference in the mean scores on the dependent variable (job satisfaction) for the two groups. Therefore, the conclusion drawn from these findings is that there is not a statistically significant difference in the mean job satisfaction scores for nurses who have been working in their current place of employment for (a) under five years and (b) over five years.

6.9.2 Calculating the Effect Size

The results from the independent samples t-test suggests that there is not a statistically significant difference in the job satisfaction scores for nurses who have been in their current place of employment for under five years and those in position for over five years. These results, however, do not indicate the degree or magnitude of the difference. To do this requires the calculation of an effect size statistic. The

information required to calculate eta squared is contained in Tables 78 and 79. The formula used is as follows:

$$\text{Eta squared} = \frac{t^2}{t^2 + (N1+N2-2)}$$

where t = t-value (-1.669)
N = no. of respondents
in each group.

$$\text{Eta squared} = \frac{-1.669^2}{-1.669^2 + (264+343-2)}$$

$$\text{Eta squared} = \frac{2.785561}{607.785561}$$

$$\text{Eta squared} = 0.005$$

The eta squared value is **0.005**. An effect size of .005 is very small (according to Cohen's guidelines discussed earlier). Alternatively, this value can be expressed as a percentage (multiply the eta square value by 100). Thus, only .5 percent of the variance in job satisfaction is explained by length of time working in current place of employment.

In summary, these are the results of the analysis of this hypothesis.

An independent-samples t-test was conducted to compare the job satisfaction scores for nurses who have been working in their current place of employment for under five years and over five years. Although four response categories were used in the biographical questionnaire these had to be collapsed into two groups because the numbers for some of the categories were quite small. The results indicated that there was not a statistically significant difference in job satisfaction scores for nurses working in their current place of employment for under five years (Mean = 12.72,

Standard Deviation = 2.41), and those working in their current place of employment for over five years (Mean = 13.04, Standard Deviation = 2.34); [t(605)=-1.669, p=0.096]. The magnitude of the differences in the means was very small (eta squared = 0.005).

Based on these findings, Null Hypothesis 7 was accepted.

6.10 Additional Analysis: Two-way Between-groups Analysis of Variance (ANOVA) and One-way Between-groups Multivariate Analysis of Variance (MANOVA)

Given that some of the results from the one-way between-groups analysis of variance had indicated statistically significant differences in job satisfaction scores, it was decided to undertake additional analysis of the data. Firstly, the data were subjected to two-way between-groups analysis of variance (ANOVA) and secondly to one-way between-groups multivariate analysis of variance (MANOVA). In two-way between-groups analysis of variance (ANOVA), 'two-way' indicates that two independent variables are being used simultaneously, while 'between-groups' means that the respondents in each group are different. This procedure allows the researcher to examine the individual and joint effect of two independent variables on one dependent variable. In earlier analyses one-way between-groups analysis of variance (ANOVA) was used to compare the job satisfaction scores for different groups. For example, the job satisfaction scores for nurses in different positions within the organisation (student nurses and midwives, qualified clinical nurses, and non-clinical nurses) were compared using one-way between-groups analysis of variance (ANOVA). The results indicated that there was a statistically significant difference between the three groups. Post-hoc tests revealed that the major difference was between the student group and the other two groups. In other words, students (i.e. nurses and midwives) reported

lower levels of job satisfaction than did nurses in the other two groups. To take the analyses a stage further a logical question that can be asked is: what is the combined effect of variables such as 'current position' and 'age' on job satisfaction?

One-way between-groups analysis of variance (ANOVA) cannot answer this question because the analysis was conducted on the whole sample with nurses of all ages combined. What is required instead is to go a step further and examine two independent variables simultaneously by using a two-way between-groups analysis of variance. This procedure tests the main effect for each independent variable and also explores the 'interaction effect'. An interaction effect is said to occur when the effect of one independent variable on the dependent variable is dependent upon the level of the second independent variable. It is quite possible that the influence of the variable 'current position' on job satisfaction may be different for nurses of different ages. So, to determine this, a two-way between-groups analysis of variance (ANOVA) was conducted to explore the impact of current position and age on levels of job satisfaction as measured by the IWS. Five age groups or categories were used: 18-25, 26-35, 36-45, 46-55, and over 55. The results indicated that the interaction effect did not reach statistical significance [$F(6, 541)=1.29$, $p=.26$].

Two-way between-groups analysis of variance (ANOVA) was conducted also to explore (a) the impact of education and current position on levels of job satisfaction, (b) the impact of age and education on levels of job satisfaction (c) the impact of age and tenure on levels of job satisfaction, (d) the impact of tenure and education on levels of job satisfaction and (e) the impact of age and place of employment on levels of job satisfaction. The results from the two-way between-groups analysis of

variance (ANOVA) indicated that the interaction effect for each set of analyses did not reach statistical significance.

So far, the data have been analysed to compare groups on a single dependent variable. This researcher, however, was also interested in comparing different groups on a range of different characteristics or variables. The reader may recall that the dependent variable *job satisfaction* is composed of six components or characteristics: Pay, Autonomy, Task Requirements, Organisational Policies, Interaction and Professional Status. Therefore, the second type of analysis involved comparing some of the biographical factors with these six components of job satisfaction. To do this requires the use of a one-way between groups multivariate analysis of variance (MANOVA). This procedure is an extension of analysis of variance and is used when more than one dependent variable is available. These dependent variables, however, must be related in some way. Upholding this criterion was not difficult since the six components being used as dependent variables for the multivariate analysis of variance (MANOVA) analyses are all components of job satisfaction (the major dependent variable in the present study). MANOVA can be used in one-way, two-way or with higher factorial designs. For the present study a one-way between-groups multivariate analysis of variance (MANOVA) was selected.

One-way between-groups multivariate analysis of variance (MANOVA) was performed to investigate differences between six biographical variables and the six dependent variables. The biographical variables include (a) gender, (b) tenure, (c) current place of employment, (d) age group, (e) current position, and (f) education level. The results indicated no statistically significant difference between females and males on the six dependent variables. There were, however, statistically significant

differences between nurses working in acute hospital environments and those working in non-acute environments: {F=5.73, p=.000; Wilks' Lambda[20]=.94; partial eta squared[21]=.059}. When the results for the dependent variables were examined separately the only differences to reach statistical significance using a Bonferroni adjusted alpha[22] of .008, were Autonomy: {F=14.64,p=.000, partial eta squared=.026}, Organisational Policies: {F=27.25,p=.000, partial eta squared=.047} and Interaction {F=12.56, p=.000, partial eta squared=.022}. An inspection of the mean scores revealed that nurses working in acute hospital environments reported slightly lower levels of satisfaction with Autonomy (M=15.5, SD=4.0), Organisational Policies (M=7.7, SD=2.9), and Interaction (M=15.3, SD=3.7) than did nurses working in non-acute environments (Autonomy M=17, SD=4.8), Organisational Policies (M=9.14, SD=3.4), and Interaction (M=16.5, SD=4.1).

Statistically significant differences were also found between nurses working in their current place of employment for under five years and those working for five years and over: {F=2.12, p=.049, Wilks' Lambda=.98, partial eta squared=.021}. When the results for the dependent variables were examined separately the only differences to reach statistical significance using a Bonferroni adjusted alpha of .008 was Autonomy: {F=3.99, p=.046, partial eta squared =.007}. An inspection of the mean

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[20] Wilks' Lambda is one of a number of multivariate tests of significance generated by SPSS to test whether there are statistically significant differences among the groups under investigation.

[21] Partial eta squared is the effect size statistic produced by SPSS. The partial eta squared value represents the amount of variance in the dependent variable that can be explained by the independent variable.

[22] When a number of separate analyses are being undertaken a higher alpha level is recommended in order to reduce the chance of a Type 1 error (finding a significant result when there isn't really one). One of the most common ways to increase the alpha level is to apply a Bonferroni adjustment. In its simplest form this involves dividing the original alpha level of .05 by the number of analyses that is being undertaken. In the present study, six dependent variables were being investigated, so .05 was divided by 6 to give a new alpha level of .008.

scores revealed that nurses who had been working in their current place of employment for five years or over reported slightly higher levels of satisfaction with Autonomy (M=16.4, SD=4.5) than nurses who had been working in their current place of employment for under five years (M=15.7, SD=4.1).

One-way between-groups multivariate analysis of variance (MANOVA) was also performed to investigate age group (18-25, 26-35, 36-45, 46-55, >55) differences in job satisfaction for the six dependent variables. There was a statistically significant difference between the age groups on the combined dependent variables: {F=1.69, p=.020; Wilks' Lambda=.934, partial eta squared=.017}. When the results for the dependent variables were considered separately, however, the only differences to reach statistical significance using a Bonferroni adjusted alpha level of .008 were Autonomy {F=3.06, p=.016, partial eta squared=.020}, Organisational Policies {F=4.83, p=.001, partial eta squared=.031}, and Interaction {F=3.93, p=.004, partial eta squared=.026}. An inspection of the mean scores revealed that the 18-25, 26-35 and >55 age groups were less satisfied with Autonomy (M=15.4, SD=4.1) than the other two age groups (M=16.7, SD=4.37). The mean scores for Organisational policies indicated that nurses in the 18-25 and 26-35 age groups (M=7.7, SD=1.93) were less satisfied than their colleagues in the 36-45, 46-55 and >55 age groups (M=8.9, SD=3.0).

Similar analysis was performed to investigate differences in current position (student, qualified clinical staff and non-clinical staff) and the six dependent variables. The results indicated a statistically significant difference between students, qualified clinical staff and non-clinical staff on the combined dependent variables: {F=3.31, p=.000, Wilks' Lambda=.931, partial eta squared=.035}. When the results for the

dependent variables were considered separately, the only differences to reach statistical significance using a Bonferroni adjusted alpha of .008 were Autonomy {F=5.66, p=.004, partial eta squared=.020}, and Organisational Polices {F=10.96, p=.000, partial eta squared=.038}. An inspection of the mean scores demonstrated that students (i.e. nurses and midwives) had lower levels of satisfaction with Autonomy (M=11.95, SD=3.61), than did qualified clinical staff (M=16.0, SD=4.33) and non-clinical managerial staff (M=17.60, SD=4.94). The results also confirmed that students were less satisfied with Organisational Policies (M=7.26, SD=2.93) than did qualified clinical staff (M=8.09, SD=3.06) and non-clinical staff (M=10.64, SD=3.45).

Finally, one-way between-groups multivariate analysis of variance (MANOVA) was performed between education level and the six dependent variables. There was a statistically significant difference between nurses with a registration qualification only (i.e. RGN or RM), nurses with diplomas, and nurses with degrees on the combined dependent variables: {F=2.14, p=.013, Wilks' Lambda=.958, partial eta squared=.021}. When the results for the dependent variables were considered separately, however, the only difference to reach statistical significance using a Bonferroni adjusted alpha of .008 was Interaction: {F=4.46, p=.012, partial eta squared=.015}. An inspection of the mean scores indicated that nurses with only a registration qualification (i.e. RGN or RM) reported slightly higher levels of satisfaction with Interaction (M=16.05, SD=3.84) than did nurses with diplomas (M=15.24, SD=3.69) and those with degrees (M=14.91, SD=3.67).

6.11 Results for the Eighth Null Hypothesis

Null Hypothesis 8 — There are no significant positive or negative correlations between organisational climate components and job satisfaction components.

Alternative Hypothesis 8 — There are statistically significant positive and negative correlations between organisational climate components and job satisfaction components.

A Pearson product-moment correlation coefficient was conducted to determine the correlations between the six organisational climate components and the six job satisfaction components. Correlations measure how variables are related. When there is a strong positive correlation between two variables, the score for one variable increases as the score for the other increases, the score for one can then be used to predict the other. The outcomes of this test are now presented.

Firstly, the correlations for the six components of the Nurse Organisational Climate Description Questionnaire (NOCDQ) are displayed and explained. To recap, the six NOCDQ components include three positive components (Humanistic Thrust, Esprit, and Intimacy) and three negative components (Aloofness, Hindrance, and Disengagement). The correlations between the six components of the Index of Work Satisfaction (IWS) and the six components of the NOCDQ are then presented.

6.11.1 Correlations Among the Six NOCDQ Components

It is quite possible that the three positive components and the three negative components of the NOCDQ would correlate positively with each other if at all, and that there would be a negative correlation if any, between the positive and negative

components of the NOCDQ. These results are contained in Table 80. Before interpreting the results four issues must be addressed. Firstly, it is essential to take into account the direction of the relationship between the variables. If a negative sign appears before the r value this indicates that there is a negative correlation between the variables (that is high scores on one are associated with low scores on the other).

Secondly, the value of Pearson correlation (r) must be considered. As already stated, this value can range from –1.00 to 1.00 and indicates the strength of the relationship between the variables. Cohen[23] suggests the following guidelines for interpreting the r value.

r=.10 to .29 or -.10 to -.29	small correlation
r=.30 to .49 or -.30 to -.49	medium correlation
r= .50 to 1.0 or -.50 to –1.0	large correlation

Thirdly, it is useful to determine how much variance two variables share. To do this requires the calculation of the coefficient of determination[24]. All that is required is to square the r value. This value can then be converted to a 'percentage of variance' by multiplying by 100. For example, two variables that correlate r = .458 share 21 percent of their variance (.458x.458 = .029 x100 =20.9). Fourthly, the significance level (listed as Sig. 2 tailed in Tables 80 and 81) must be addressed. According to Pallant, this is "a very messy area and should be treated cautiously."[25] The significance of r is influenced strongly by the size of the sample. In large samples (over 100) very small correlations may be statistically significant while small samples

[23] J. Cohen, Statistical Power Analysis for the Behavioural Sciences, p. 105-112.

[24] The coefficient of determination is calculated in order to determine how much variance the two variables under investigation share. To make this calculation the r value is squared (multiplied by itself). This new value can then be converted to a percentage of variance by multiplying by 100.

[25] J. Pallant, SPSS Survival Manual, p. 121.

(30) can produce moderate correlations that are not statistically significant at the $p<.05$ level. What Pallant suggests is that statistical significance should be reported but ignored, and that researchers concentrate instead on the amount of shared variance between the variables (coefficient of determination).

Based on these principles the correlations for the six NOCDQ components are presented in Table 80.

Correlation Matrix of NOCDQ Components

		Positive Components			Negative Components		
Positive Components		**Humanistic Thrust**	**Esprit**	**Intimacy**	**Aloofness**	**Hindrance**	**Disengagement**
Humanistic Thrust	Pearson Correlation		.458**	.137**	.076	.071	-.117**
	Sig. (2-tailed)		.000	.001	.062	.084	.004
	N[26]		596	594	595	596	594
Esprit	Pearson Correlation	.458**		.100*	-.009	-.062	-.217**
	Sig. (2-tailed)	.000		.014	.823	.127	.000
	N	596		598	599	601	598
Intimacy	Pearson Correlation	.137**	.100*		.211**	.142**	.265**
	Sig. (2-tailed)	.001	.014		.000	.001	.000
	N	594	598		598	598	598
Negative Components		**Positive Components**			**Negative Components**		
Aloofness	Pearson Correlation	.076	-.009	.211**		.209**	.233**
	Sig. (2-tailed)	.062	.823	.000		.000	.000
	N	595	599	598		599	598
Hindrance	Pearson Correlation	.071	-.062	.142**	.209**		.254**
	Sig. (2-tailed)	.084	.127	.001	.000		.000
	N	596	601	598	599		598
Disengagement	Pearson Correlation	-.117**	-.217**	.265**	.233**	.254**	
	Sig. (2-tailed)	.004	.000	.000	.000	.000	
	N	594	598	598	598	598	

Table: 80

Key:

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed)

Perfect correlation (1.00) as components are identical

There is no significant correlation between variables

Significant positive correlation (i.e. variables that tend to move in the same direction: as one increases, the other Increases)

Significant negative correlation (i.e. variables that tend to move inversely to each other: as one increases the other decreases)

[26] N refers to the number of respondents.

As illustrated in Table 80, there are significant positive correlations among the positive components and within the negative components. With regard to the positive components, there were significant positive correlations between (a) Humanistic Thrust and Esprit (r=.458), and (b) Humanistic Thrust and Intimacy (r=.137).). In other words, as Humanistic Thrust (leader or manager's attempt to motivate subordinates) increases so too does morale (Esprit) and social relations among nurses (Intimacy). With regard to the negative components, there were significant positive correlations between (a) Hindrance and Aloofness (r=.209) and (b) Disengagement and Aloofness (r=.233). In other words, as Aloofness increases so too does Hindrance and Disengagement.

In terms of the correlations between positive and negative components, there is a significant negative correlation between (a) Humanistic Thrust and Disengagement (r=-.117). While Esprit has negative correlations with Aloofness (r=-.009), Hindrance (r=-.062) and Disengagement (r=-.217) the correlation is only significant between Esprit and Disengagement. In other words, when nurses perceive their organisations to be high in disengagement (disengagement refers to employees who are "not in gear" with respect to the job) they are more likely to experience low levels of morale (Esprit). In addition, morale (Esprit) is likely to be higher among (a) nurses who do not feel burdened by unnecessary "busy work" (climate low in Hindrance), (b) nurses who work in an environment that is less formal and less rules driven (climate low in Aloofness), and (c) when colleagues are more in tune with their work (climate low in Disengagement).

Worthy of note is that although Aloofness (formal impersonal leadership and management) is positively correlated with the other two negative components

(Hindrance and Disengagement) it is not negatively correlated with two of the positive components: Humanistic Thrust and Intimacy. It is, however, negatively correlated with Esprit even though the relationship is not significant. What these findings confirm is that whether or not a leader or manager is perceived as formal and impersonal (Aloofness) does not have a negative impact on the social friendly relations among staff (Intimacy) or whether the leader or manager is capable of moving the organisation forward (Humanistic Thrust). Although the findings revealed a negative correlation between Aloofness and Esprit, this relationship is not significant.

The most unusual finding in Table 80 concerns Intimacy. This component refers to subordinates friendly social relations with each other. The findings from the present study revealed that Intimacy was positively correlated with both positive and negative components of the NOCDQ. Intimacy has a significant positive correlation with Humanistic Thrust, confirming that nurses who enjoy friendly social relations with each other (Intimacy) are also likely to feel that their leader or manager treats them in a kind and considerate way and that they possess the leadership qualities to take the organisation forward (Humanistic Thrust). Significant positive correlations also exist between Intimacy and the three negative components of the NOCDQ. One possible explanation for these findings is that these negative components create a less pleasant work climate. Consequently, nurses may bond with each other socially at work as a way of making a less pleasant work climate more enjoyable.

6.11.2 Correlations Between Organisational Climate Components and Job Satisfaction Components

In this section the correlations between the six NOCDQ components and the six IWS components are presented. This set of analyses will address null hypothesis 8 as outlined at the beginning of section 6.11.

Correlation Matrix of Organisational Climate and Job Satisfaction Components

Nurse Organisational Climate Description Questionnaire (NOCDQ) Positive Components		Index of Work Satisfaction (IWS) Components					
		Pay	Professional Status	Autonomy	Organisational Policies	Task Requirements	Interaction
Humanistic Thrust	Pearson Correlation	-.027	.259**	.393**	.450**	.175**	.406**
	Sig. (2-tailed)	.511	.000	.000	.000	.000	.000
	N	596	596	596	595	596	595
Esprit	Pearson Correlation	-.027	.395**	.444**	.474**	.359**	.444**
	Sig. (2-tailed)	.503	.000	.000	.000	.000	.000
	N	601	601	601	600	601	600
Intimacy	Pearson Correlation	-.022	.087*	-.001	-.049	.015	-.026
	Sig. (2-tailed)	.584	.034	.988	.228	.712	.532
	N	598	598	598	597	598	597
NOCDQ Negative Components		IWS Components					
Aloofness	Pearson Correlation	.021	.030	-.120**	-.128**	-.085*	-.082*
	Sig. (2-tailed)	.616	.468	.003	.002	.038	.044
	N	599	599	599	598	599	598
Hindrance	Pearson Correlation	-.003	-.097*	-.222**	-.198**	-.430**	-.114**
	Sig. (2-tailed)	.464	.017	.000	.000	.000	.005
	N	601	601	601	600	601	600
Disengagement	Pearson Correlation	-.002	-.190**	-.342**	-.267**	-.188**	-.357**
	Sig. (2-tailed)	.961	.000	.000	.000	.000	.000
	N	598	598	598	597	598	597

Table: 81

Key:

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed)

There is no significant correlation between variables

Significant positive correlation (i.e. variables that tend to move in the same direction: as one increases, the other Increases)

Significant negative correlation (i.e. variables that tend to move inversely to each other: as one increases the other decreases)

The findings in Table 81 illustrate that there are significant positive correlations between almost all of the IWS components (except Pay) and two of the three positive NOCDQ components (Humanistic Thrust and Esprit). There is a significant positive

correlation between Humanistic Thrust and Interaction (r= .406, n= 595, p< .0005). In other words, when nurses enjoy high morale (Esprit) and feel that their leaders or managers treat them in a kind and considerate way (Humanistic Thrust) they are more likely to enjoy high levels of job satisfaction as measured by the IWS. As already explained, while it is important to report the significance levels for these correlations it is necessary also to calculate the coefficient of determination (i.e. the common variance shared by the two variables). These values are presented in Table 82. (Please note that the coefficient of determination is calculated only if the Pearson correlation is significant at either the 0.01 or 0.05 levels).

While there were significant positive correlations between Intimacy and the other NOCDQ components (see Table 80) no significant correlations exist between Intimacy and most of the IWS (job satisfaction) components. This suggests that the extent to which nurses enjoy friendly, social relations with each other is no predictor of job satisfaction, as measured by the IWS.

In addition to the positive correlations between organisational climate components (NOCDQ) and job satisfaction components (IWS), the results also revealed negative correlations between the three negative NOCDQ components and almost all the IWS components (see Table 81) A negative correlation indicates that as one variable increases, the other decreases. Specifically, there was a statistically significant negative correlation between Hindrance and Task Requirements (r= -.430, n= 601, p< .0005) and between Disengagement and Interaction (r= -.357, n= 597, p< .0005). This indicates that when nurses perceive their work to be burdened with unnecessary "busy work" (climate high in Hindrance), then the result will be low levels of satisfaction with the day-to-day activities associated with their job (Task

Requirements). Likewise, when nurses are disenchanted and disengaged (climate high in Disengagement), then the result will be low levels of satisfaction with the social and professional contact they have with their colleagues during working hours (Interaction).

6.11.3 Calculating the Coefficient of Determination

Coefficient of Determination Matrix

Nurse Organisational Climate Description Questionnaire (NOCDQ) Positive Components		Index of Work Satisfaction (IWS) Components					
		Pay	Professional Status	Autonomy	Organisational Policies	Task Requirements	Interaction
Humanistic Thrust	Pearson Correlation	-.027	.259**	.393**	.450**	.175**	.406**
	r squared	-	0.07	0.15	0.20	0.03	0.16
	Percentage		7	15.4	20.1	3.1	16.5
Esprit	Pearson Correlation	-.027	.395**	.444**	.474**	.359**	.444**
	r squared	-	0.16	0.20	0.22	0.13	0.20
	Percentage		16	20	22	13	20
Intimacy	Pearson Correlation	-.022	.087*	-.001	-.049	.015	-.026
	r squared	-	0.01	-	-	-	-
	Percentage		1				
NOCDQ Negative Components		IWS Components					
Aloofness	Pearson Correlation	.021	.030	-.120**	-.128**	-.085*	-.082*
	r squared	-	-	0.01	0.02	0.01	0.01
	Percentage			1	2	1	1
Hindrance	Pearson Correlation	-.003	-.097*	-.222**	-.198**	-.430**	-.114**
	r squared	-	0.01	0.05	0.04	0.18	0.01
	Percentage		1	5	4	18	1
Disengagement	Pearson Correlation	-.002	-.190**	-.342**	-.267**	-.188**	-.357**
	r squared	-	0.04	0.12	0.07	0.04	0.13
	Percentage		4	12	7	4	13

Table: 82

Having established that there are significant positive and negative correlations between organisational climate (NOCDQ) components and job satisfaction (IWS) components, the next step was to calculate the coefficient of determination for all the significant correlation values in order to determine the percentage of variance between the variables. Please refer to table 82 for the coefficient of determination calculations. With regard to the positive correlations some of the results are worthy of note. Firstly, the results indicate 20 % shared variance between Humanistic Thrust and Organisational Policies. Secondly, there is 20 % shared variance between Esprit

and Autonomy, and 22 % shared variance between Esprit and Organisational Policies. So what does all this mean? These results confirm that organisational climate components such as Humanistic Thrust and Esprit help to explain some of the variance in respondents' scores for job satisfaction components such as Autonomy and Organisational Policies.

Likewise, some useful results emerged with regard to the negative correlations between organisational climate components and job satisfaction components. Firstly, the results revealed 5 % shared variance between Hindrance and Autonomy and 18 % shared variance between Hindrance and Task Requirements. Secondly, there is 12 % shared variance between Disengagement and Autonomy, and 13 % shared variance between Disengagement and Interaction. In other words, nurses who work in an organisation where the climate is low in Hindrance and Disengagement are more likely to be satisfied with their Professional Status, their level of Autonomy, the level of Interaction they enjoy with colleagues and the types of activities they perform (IWS components).

In addition, there were significant negative correlations at the 0.01 level between two IWS components (Autonomy and Organisational Policies) and Aloofness (NOCDQ component, as demonstrated in Table 81). The coefficient of determination revealed, however, that there was only 1 % shared variance between Aloofness and Autonomy and 2 % shared variance between Aloofness and Organisational Policies (as shown in Table 82). These results suggest that when nurses have a great deal of independence, initiative, freedom in their work (Autonomy) and are allowed to participate in the administrative decision making process (Organisational Policies), they are less likely to perceive their leaders or managers as formal and impersonal (Aloofness).

While there were also significant negative correlations between Task Requirements and Aloofness and between Interaction and Aloofness, these were at the 0.05 level rather than at the 0.01 level of significance. In addition, the correlation analysis revealed no significant correlations between Professional Status and Aloofness or between Pay and Aloofness, in the present study. In other words, if a leader or manager uses a formal impersonal style to manage staff (climate high in Aloofness), this does not have a significant effect on nurses' satisfaction with either their Pay or Professional Status.

In summary, these are the results of the analysis of this hypothesis.

The relationship between organisational climate components (as measured by the NOCDQ) and job satisfaction components (as measured by the IWS), was explored using Pearson product-moment correlation coefficient. While the correlation analysis revealed many significant results only those with the highest values are reported here. With regard to the positive components of organisational climate and the IWS components there was a significant positive correlation between Humanistic Thrust and Autonomy {r=.393, n=596, p<.0005} with high levels of Humanistic Thrust, associated with high levels of Autonomy.

There was also a significant positive correlation between Esprit and Autonomy {r=.444, n=601, p<.0005}, and between Esprit and Organisational Policies {r=.474, n=600, p<.0005), indicating that high levels of Esprit are associated with high levels of Autonomy and Organisational Policies. With regard to the correlations between the negative components of the NOCDQ and the IWS components, there were significant negative correlations between Hindrance and almost all the IWS components and between Disengagement and almost all the IWS components.

Specifically, there was a significant negative correlation between Hindrance and Task Requirements {r=-.430, n=601, p=<.0005}, confirming that low levels of Hindrance are associated with high levels of Task Requirements. In addition, there was a significant negative correlation between Disengagement and Interaction {r=-.357, n=597, p=<.0005}, confirming that low levels of Disengagement are associated with high levels of Interaction.

Based on these findings, Null Hypothesis 8 was rejected.

6.12 Results for the Ninth Null Hypothesis

Null Hypothesis 9 — There are no significant positive or negative correlations between organisational climate components and total job satisfaction.

Alternative Hypothesis 9 — There are significant positive and negative correlations between organisational climate components and total job satisfaction.

A Pearson product-moment correlation coefficient was conducted to determine the correlations between the six organisational climate components and total job satisfaction. The outcomes of this test are presented in Table 83.

Correlation Matrix of Organisational Climate and Total Job Satisfaction

Index of Work Satisfaction (IWS) Job Satisfaction	**Nurse Organisational Climate Description Questionnaire (NOCDQ)**					
	Positive Components			Negative Components		
	Humanistic Thrust	Esprit	Intimacy	Aloofness	Hindrance	Disengagement
Total Job Satisfaction						
Pearson Correlation	**.447****	**.552****	**.008**	**-.092***	**-.265****	**-.350****
Sig. (2-tailed)	**.000**	**.000**	**.804**	**.025**	**.000**	**.000**
N	**596**	**601**	**598**	**599**	**601**	**598**

Table: 83

Key:

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed)

There is no significant correlation between these two variables

Significant positive correlation (i.e. variables that tend to move in the same direction: as one increases, the other Increases)

Significant negative correlation (i.e. variables that tend to move inversely to each other: as one increases the other decreases)

6.12.1 Correlations Between Organisational Climate Components and Job Satisfaction

The findings in Table 83 illustrate that there are significant positive correlations between two of the positive components (Humanistic Thrust and Esprit) of the NOCDQ and total job satisfaction. In other words, when nurses enjoy high morale (Esprit) and feel that their leaders or managers treat them in a kind and considerate way (Humanistic Thrust), they are more likely to enjoy high levels of job satisfaction as measured by the IWS. In addition, there were significant negative correlations between the negative components of the NOCDQ and total job satisfaction. This indicates that as one variable increases the other decreases. High levels of Aloofness, Hindrance and Disengagement result in low levels of job satisfaction. As previously explained, while it is important to report the significance levels for these correlations, it is necessary also to calculate the coefficient of determination (the amount of variance shared by the two variables). The coefficient of determination, however, was calculated only if the Pearson correlation was significant at either the 0.01 or 0.05 levels.

In Table 83 the correlation for Humanistic Thrust was .447, which when squared, indicates 20 per cent (.447x.447=0.1998x100=20%) shared variance with job satisfaction. In other words, Humanistic Thrust helps to explain about 20 % of the variance in respondents' scores on the job satisfaction scale. More important, however, is Esprit which when squared, helps to explain 30.5 % of the variance in respondents' scores on the job satisfaction scale. These results confirm that nurses regard organisational climate components such as Esprit and Humanistic Thrust as important to their level of job satisfaction.

While the correlation analysis revealed statistically significant negative correlations between Aloofness and job satisfaction, Hindrance and job satisfaction, and between Disengagement and job satisfaction, these three negative components of the NOCDQ do not share a huge percentage of variance with job satisfaction as demonstrated in Table 83 (Aloofness and job satisfaction share 0.85% variance, Hindrance and job satisfaction share 7.0% variance, and Disengagement and job satisfaction share 12.3% variance).

In summary, these are the results of the analysis of this hypothesis.

The relationship between organisational climate components (as measured by the NOCDQ) and total job satisfaction (as measured by the IWS), was explored using Pearson product-moment correlation coefficient. While the correlation analysis revealed many significant results only those with the highest values are reported here. With regard to the positive components of organisational climate, there were significant positive correlations between Esprit and job satisfaction {r=.552, n=601, p<.0005} and between Humanistic Thrust and job satisfaction {r=.447, n=596, p<.0005}. These results confirm that high levels of Esprit and Humanistic Thrust are associated with high levels of job satisfaction.

With regard to the negative components of the NOCDQ, there was a significant negative correlation between Disengagement and total job satisfaction (r=-.350, n=598, p<.0005}. This confirms that low levels of Disengagement result in high levels of job satisfaction. Finally, there is one other important result. There was no significant correlation between Intimacy and job satisfaction.

This indicates that the extent to which nurses enjoy friendly, social relations (Intimacy) with each other is no predictor of job satisfaction as measured by the IWS.

Based on these findings, Null Hypothesis 9 was rejected.

6.13 Multiple Regression Analyses

As stated earlier in this chapter multiple regression analyses were selected in order to answer two questions. Firstly, how well do the six components of the Nurse Organisational Climate Description Questionnaire (NOCDQ) predict job satisfaction as measured by the Index of Work Satisfaction (IWS)? In other words, how much variance in job satisfaction scores can be explained by scores for the six components of the NOCDQ. Secondly, which of the six components of organisational climate is the best predictor of job satisfaction? To answer these questions standard multiple regression using the Enter method[27] was performed. The results are shown in Table 84.

Multiple Regression Analyses - Model Summary[b]

Model	R	R Squared	Adjusted R Square	Std. Error of the Estimate
1	.683[a]	**.467**	.461	1.740

Table: 84
a: Predictors: (Constant), Esprit, Intimacy, Humanistic Thrust, Hindrance, Aloofness, and Disengagement
b: Dependent Variable: Job Satisfaction

In Table 84 the important value is given in the third column labelled 'R Squared'. This value indicates how much of the variance in the dependent variable job satisfaction is explained by the model which includes the six components of the

[27] In this type of multiple regression analyses all the variables are entered into SPSS simultaneously.

NOCDQ. As can be seen the value is **.467**. Expressed as a percentage, the model, which includes the six components of the NOCDQ, explains **46.7 per cent** of the variance in job satisfaction. This, according to Pallant, is a "respectable result". [28] The next step is to assess the statistical significance of this result. The overall analysis was significant at the .000 level or p<.0005. Having established how much of the variance in job satisfaction is explained by the model, and the significance of the overall analysis, the next step was to determine the contribution of each of the six variables in the model to the prediction of the dependent variable. This information is given in Table 85.

Contribution Made by Each of the Six Components of Organisational Climate

Model	Standardised Coefficients	t	Sig.
	Beta		
(Constant)			
Humanistic Thrust	.272	7.756	.000
Esprit	.366	10.234	.000
Intimacy	.013	.398	.691
Aloofness	-.037	-1.148	.251
Disengagement	-.181	-5.346	.000
Hindrance	-.223	-6.947	.000

Table: 85

Table 85 provides information regarding the contribution made by each of the six variables included in the model to the prediction of the dependent variable. The column labelled *Beta* under *Standardised Coefficients* gives the Beta values for the six components of organisational climate (independent variable). The largest Beta value **.366** is for Esprit and the second largest Beta value **.272** is for Humanistic Thrust. These results confirm that Esprit and Humanistic Thrust made the strongest contribution to explaining job satisfaction in the present study.

[28] J. Pallant, SPSS Survival Manual, p. 145.

The next step was to check the significance of the Beta values. This information is contained in the column labelled Sig. and indicates whether the component is making a statistically significant contribution to the regression equation. If the significance value is less than .05 then the component is making a significant unique contribution to the prediction of the dependent variable. If, however, the significance value is greater than .05 then the conclusion drawn is that the component is not making a significant unique contribution to the prediction of the dependent variable. In Table 85 four components (Esprit, Humanistic Thrust, Disengagement, and Hindrance) made a statistically significant contribution to the prediction of job satisfaction ($p<.0005$).

In summary, these are the results of the multiple regression analyses. The results of the multiple regression analyses allowed two questions posed at the beginning of section 6.13 to be answered. The first question was: how much variance in job satisfaction scores can be explained by scores from the six components of the NOCDQ? The regression of the dependent variable (job satisfaction) on six predictor variables (Humanistic Thrust, Esprit, Intimacy, Aloofness, Disengagement, and Hindrance) accounted for **46.7** % of the variance and was significant at the $p<.0005$ level. These results confirm that organisational climate components made a significant unique contribution to the prediction of job satisfaction. The second question posed was: which of the six components of organisational climate is the best predictor of job satisfaction? Of the six components, Esprit made the largest contribution (Beta=.366) and Humanistic Thrust the second largest contribution (Beta=.272). Aloofness and Intimacy did not make a significant contribution to the dependent variable. These results confirm that Esprit made the largest unique

contribution to the prediction of job satisfaction, while Intimacy made the least contribution to the prediction of job satisfaction.

6.14 Summary and Conclusion

This chapter presented the results of the bivariate and multiple regression analyses. The introduction stated the purpose of the chapter and described its structure. Each of the nine null hypotheses were tested and the results presented and explained. Of the nine null hypotheses, two were accepted and the others rejected.

Null Hypothesis 1 There is no significant difference in the job satisfaction scores for females and males.

An independent-samples t-test was conducted to compare the job satisfaction scores for females and males. The results indicated that there was no significant difference in scores for females (Mean=12.93, Standard Deviation=2.36), and males {Mean=12.54, Standard Deviation=2.48), [t(601)=1.135, p=.257]. The magnitude of the differences in the means was very small (eta squared = 0.002). Based on these findings, Null Hypothesis 1 was accepted.

Null Hypothesis 2 There are no differences in job satisfaction scores for nurses in the following age groups: 18-25 years, 26-36 years, 36-45 years, 46-55 years, and over 55 years.

A one-way between-groups analysis of variance was conducted to explore the impact of age on job satisfaction as measured by the Index of Work Satisfaction (IWS). The results indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the age groups. [F(4, 601)=3.5, p=0.008]. Although reaching

statistical significance the actual difference in scores between the groups was quite small. The effect size was calculated using eta squared and the result was .02. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the 26-35 age group (M=12.43, SD=2.24) was statistically different from the 36-45 age group (M=13.1, SD=2.32). Also, the mean score for the 46-55 age group (M=13.29, SD=2.36) was statistically different from the 26-35 age group (M=12.43, SD=2.24). The 18-25 age group (M=12.36, SD=1.56) and the over 55 age group (M=12.7, SD=3.02) did not differ significantly from any of the other age groups. Based on these findings, Null Hypothesis 2 was rejected.

Null Hypothesis 3 There is no significant difference in the job satisfaction scores for nurses working in the private and public healthcare sectors.

An independent-samples t-test was conducted to compare the job satisfaction scores for nurses working in the private and public healthcare sectors. The results indicated that there was a statistically significant difference in scores for nurses working in the private sector (Mean=13.75, Standard Deviation=2.47), and public sector (Mean=12.79, Standard Deviation=2.33); [t(596)=3.25, p=.001]. The magnitude of the differences in the means, however, was small (eta squared = 0.02). Based on these findings, Null Hypothesis 3 was rejected.

Null Hypothesis 4 There is no statistically significant difference in the job satisfaction scores for registered nurses and midwives, nurses with diplomas, and nurses with degrees.

A one-way between-groups analysis of variance was conducted to explore the impact of level of nursing qualification on job satisfaction as measured by the Index of Work

Satisfaction (IWS). Although seven response categories were used in the biographical questionnaire, these had to be collapsed into three groups because the numbers in some of the categories were too small. The three categories used were (a) registered nurses and midwives, (b) nurses with diplomas, and (c) nurses with degrees.

The results indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the three groups. [$F(2, 602)= 4.98$, $p=.007$]. Although reaching statistical significance, the actual difference in mean scores between the groups was quite small. The effect size was calculated using eta squared and the result was **0.016**. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the registered nurses and midwives group (Mean = 13.12, Standard Deviation = 2.345) was statistically different from the nurses with diplomas group (M = 12.50, SD=2.027) and also the nurses with degrees group (Mean = 12.47 SD = 2.771). The nurses with diplomas group (M = 12.50, SD = 2.027) and the nurses with degrees group (M = 12.47, SD = 2.771) did not differ significantly from each other. Based on these findings, Null Hypothesis 4 was rejected.

Null hypothesis 5 There is no statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment and those working in a non-acute environment.

An independent-samples t-test was conducted to compare the job satisfaction scores for nurses working in these two types of environments. The results indicated that there was a statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment (Mean = 12.67, Standard Deviation = 2.17), and those working in a non-acute environment (Mean = 13.24, Standard Deviation = 2.61); [$t(452.4)=-2.817$, $p=.005$]. The magnitude of the differences in the

means was very small (eta squared = 0.013). Based on these findings, Null Hypothesis 5 was rejected.

Null Hypothesis 6 There is no difference in job satisfaction scores for student nurses and midwives, qualified clinical nurses and non-clinical nurses.

A one-way between-groups analysis of variance was conducted to explore the impact of current position on job satisfaction as measured by the Index of Work Satisfaction (IWS). Although ten response categories were used in the biographical questionnaire, these had to be collapsed into three groups because the number of responses for some of the categories were quite small. The three categories used were: (a) nursing and midwifery students, (b) qualified clinical nursing staff, and (c) non-clinical nursing staff.

The results indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the three groups [$F(2, 552)=5.887$, $p=0.003$]. Although reaching statistical significance, the actual difference in mean scores between the groups was quite small. The effect size was calculated using eta squared and the result was 0.02. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the student group (Mean = 10.93, Standard Deviation = 2.16) was statistically different from the qualified clinical nursing staff group (M = 12.92, SD=2.27). Also, the mean score for the non-clinical nursing group (M = 13.87, SD = 2.42) was statistically different from the student group (M = 10.93, SD = 2.16). The qualified clinical nursing staff group (M = 12.92, SD = 2.27) and the non-clinical nursing staff group (M = 13.87, SD = 2.42) did not differ significantly from each other. Based on these findings, Null Hypothesis 6 was rejected.

Null Hypothesis 7 There is no significant difference in the job satisfaction scores for nurses who have been working in their current place of employment for less than five years and those who have been working in their current place of employment for over five years."

This hypothesis was formulated with question 10 from Section A of the questionnaire in mind. The original number of response categories used was four, but these had to be collapsed into two groups because the numbers in some of the categories were very small. The two categories used were: (a) less than five years and (b) over five years. An independent-samples t-test was conducted to compare the job satisfaction scores for nurses who have been working in their current place of employment for under five years and over five years. The results indicated that there was not a statistically significant difference in scores for nurses working in their current place of employment for under five years (Mean = 12.72, Standard Deviation = 2.41), and those working in their current place of employment for over five years (Mean = 13.04, Standard Deviation = 2.34); [t(605)=-1.669, p=0.096]. The magnitude of the differences in the means was very small (eta squared = 0.005). Based on these findings, Null Hypothesis 7 was accepted.

Given that some of the results from the one-way between-groups analysis of variance had indicated statistically significant differences in job satisfaction scores, it was decided to subject the data to further analyses. Firstly, the data were explored using two-way between-groups analysis of variance (ANOVA) and secondly, the data were subjected to one-way between-groups multivariate analysis of variance (MANOVA). The two-way between-groups analysis of variance (ANOVA) did not produce any

results that were statistically significant. In contrast, one-way between-groups multivariate analysis of variance (MANOVA) did produce some statistically significant results. The results indicated a statistically significant difference between tenure and the six dependent variables. Nurses, who had been working in their current place of employment for five years or over, were slightly more satisfied with Autonomy than nurses who had been working for under five years.

The one-way between-groups multivariate analysis of variance (MANOVA) results also revealed that nurses in the 18-35 age group and those over 55 years were less satisfied with Autonomy, Organisational Policies, and Interaction than were nurses in the 26-35, 36-45 and 46-55 age groups. In addition, nurses and midwives in the student group were less satisfied with Autonomy and Organisational Policies than qualified clinical nurses and non-clinical (managerial) nurses. The results for gender indicated no statistically significant difference between females and males on the six dependent variables. These results may be very useful to those planning organisational innovations, aimed at improving job satisfaction among nurses.

Null Hypothesis 8 There are no significant positive or negative correlations between organisational climate components and job satisfaction components.

The relationship between organisational climate components (as measured by the NOCDQ) and job satisfaction components (as measured by the IWS) was explored using Pearson product-moment correlation coefficient. While the correlation analysis revealed many significant results only those with the highest values are reported here. With regard to the positive components of organisational climate and the IWS components there was a significant positive correlation between Humanistic Thrust

and Autonomy {r=.393, n=596, p<.0005} with high levels of Humanistic Thrust associated with high levels of Autonomy.

There was also a significant positive correlation between Esprit and Autonomy {r=.444, n=601, p<.0005} and between Esprit and Organisational Policies {r=.474, n=600, p<.0005) indicating that high levels of Esprit are associated with high levels of Autonomy and Organisational Policies. With regard to the negative components of the NOCDQ and the IWS components there was a significant negative correlation between Hindrance and almost all the IWS components and between Disengagement and almost all the IWS components. Specifically, there was a significant negative correlation between Hindrance and Task Requirements {r=-.430, n=601, p=<.0005} indicating that low levels of Hindrance are associated with high levels of Task Requirements. In addition, there was a significant negative correlation between Disengagement and Interaction {r=-.357, n=597, p=<.0005} indicating that low levels of Disengagement are associated with high levels of Interaction. Based on these findings, Null Hypothesis 8 was rejected.

Null Hypothesis 9 There are no significant positive or negative correlations between organisational climate components and total job satisfaction.

The relationship between organisational climate components (as measured by the NOCDQ) and total job satisfaction (as measured by the IWS), was explored using Pearson product-moment correlation coefficient. While the correlation analysis revealed many significant results, only those with the highest values are reported here. With regard to the positive components of organisational climate, there were

significant positive correlations between Esprit and job satisfaction {r=.552, n=601, p<.0005} and between Humanistic Thrust and job satisfaction {r=.447, n=596, p<.0005}. These results indicate that high levels of Esprit and Humanistic Thrust are associated with high levels of job satisfaction. With regard to the negative components of the NOCDQ there was a significant negative correlation between Disengagement and total job satisfaction {r=-.350, n=598, p<.0005}. This confirms that low levels of Disengagement result in high levels of job satisfaction. Finally, there is one important result to note. There was no significant correlation between Intimacy and job satisfaction. This suggests that the extent to which nurses enjoy friendly, social relations (Intimacy) with each other is no predictor of job satisfaction as measured by the IWS. Based on these findings, Null Hypothesis 9 was rejected.

The standard multiple regression analyses answered two important questions posed at the beginning of section 6.13. These questions were: (1) how much variance in job satisfaction scores can be explained by scores for the six components of the NOCDQ? and (2) which of the six components of organisational climate is the best predictor of job satisfaction? The regression of the dependent variable (job satisfaction) on six predictor variables (Humanistic Thrust, Esprit, Intimacy, Aloofness, Disengagement, and Hindrance) accounted for 46.7 % of the variance and was significant at the p<.0005 level. These findings confirm that organisational climate components made a significant unique contribution to the prediction of job satisfaction. Of the six components, Esprit made the largest contribution (Beta=.366) and Humanistic Thrust the second largest contribution (Beta=.272). Aloofness and Intimacy did not make a significant contribution to the dependent variable. These findings confirm that Esprit made the largest unique contribution to the prediction of job satisfaction, while Intimacy made the least contribution to the prediction of job satisfaction.

In conclusion, the bivariate analysis of the data permitted the testing of each of the nine hypotheses. The results were presented using tables and detailed explanations were given. In addition, a summary of the results was given for each hypothesis. Two null hypotheses were accepted while the others were rejected. The standard multiple regression analysis confirmed that organisational climate components were reliable predictors of job satisfaction. The regression of the dependent variable (job satisfaction) on the six predictor variables (NOCDQ components) accounted for 46.7% (i.e. 47%) of the variance and was significant at the $p<.0005$ level. Of the six organisational climate variables, Esprit and then Humanistic Thrust made the largest contributions to the prediction of job satisfaction. Thus far, these findings have aided our understanding of how biographical factors affect job satisfaction and the nature of the relationship between organisational climate and job satisfaction among nurses. I suspect that some of the findings presented in this chapter are similar to those of previous research studies but this issue will be addressed in the next chapter.

CHAPTER SEVEN

DISCUSSION

7.1 Introduction

The relationship between a study's findings and its conclusions is an important one and therefore must be made clear in any discussion of findings. For this reason, the present chapter is structured around the purposes and hypotheses of the study. So, in addition to comparing the findings from the present study with those of other international studies, this chapter will also demonstrate to the reader whether the purposes of the study were achieved and the hypotheses accepted or rejected. This approach will make clear to the reader the connection between the findings and any conclusions proposed by this researcher.

This chapter is composed of five major sections. Firstly, it recaps on design issues such as the research design, data collection procedures, and measurement instruments. Secondly, it presents a respondent profile that was created from the biographical data. Thirdly, the main descriptive findings are discussed. Findings relating to each of the seven purposes of the study are presented and then discussed with regard to previous research. Fourthly, the chapter discusses the findings obtained from the bivariate and multiple regression analyses. The results are presented in a similar format to that used for the descriptive findings. Findings for each of the nine hypotheses are presented before discussing them with results from previous research studies. Explanations are offered when inconsistencies are noted between the findings from the present study and those of other research studies. Fifthly, the chapter concludes with a summary of the main findings.

7.2 Key Design Issues

Using a national survey, the present study investigated job satisfaction among nurses in the Republic of Ireland. Job satisfaction was measured as a dependent variable while the independent variables were biographical factors and organisational climate. Essentially, this study used a dominant-less dominant mixed method design to fulfil several purposes and test a number of hypotheses. The dominant design utilised a quantitative approach and a questionnaire survey was used to collect data. A focus group interview was used to collect data for the less-dominant component. The focus group had two main purposes. Firstly, to explore nurses' views, experiences and perceptions about their work, the organisation where they worked and the factors that contributed to their job satisfaction. Secondly, to use the focus group developmentally, wherein the results would be used to assist in the planning of the larger survey. The survey data were collected through the use of a questionnaire booklet that contained three measurement tools. These were the Biographical Questionnaire, the Index of Word Satisfaction (IWS) and the Nurse Organisational Climate Description Questionnaire (NOCDQ).

7.3 Respondent Profile

An Bord Altranais distributed a total of 2000 questionnaires on behalf of this researcher following a national random sample. The response rate was 30.5%. The majority of the respondents were female (90.7%). Respondents represented a wide range of age groups. A small proportion (3.8%) were within the 18-25 age range, over one-fourth (28.1%) were aged 26-35, over one-third (35.3%) were aged 36-45, about one-fourth (24.5%) were within the 46-55 age group, and nearly one-tenth (8.4%) were over the age of 55 years. The vast majority of nurses in this sample,

work in the public healthcare sector. About one-tenth (12.1%) work in the private healthcare sector.

Respondents, in this sample, work in a variety of health board areas, with the largest proportion (31.3%) working in the Eastern Regional Health Authority which covers the counties of Dublin, Kildare, and Wicklow. The majority of respondents (81.6%) were registered nurses and 36.2% were registered midwives. 12% of the sample indicated that they had a primary degree while 3.9% reported that they had a master degree. The majority of respondents (74.1%) completed their nurse or midwifery education in the Republic of Ireland, and most of the remainder (30.3%) were trained in the United Kingdom. Almost three-fifths of the sample was employed by hospitals and the largest proportion (36.9%) was employed in acute general care services. With regard to the position respondents currently hold, over one-half (54.6%) were staff nurses, and almost one-tenth (8.9%) were clinical nurse specialists. Nearly two-fifths (41%) of respondents were working in their current place of employment for three years or less, and 41.3% were long term employees, having been in their current place of employment for over seven years.

7.4 Main Descriptive Findings

The first purpose of the present study was to determine the current level of job satisfaction among nurses in the Republic of Ireland and to undertake a comparative analysis of these findings with those of other international studies that used the IWS to measure job satisfaction. Overall, the present study found low to moderate levels of job satisfaction among nurses. The calculation of the Total Scale Score (IWS questionnaire) was undertaken specifically to fulfil this purpose. The Total Scale Score for this sample was 183.2 (maximum possible score 308). This indicates that

the overall level of job satisfaction for nurses in the present study was only 59% of the total possible score. Comparing these findings with those of other research studies reported in the literature, proved quite difficult since many researchers did not report the actual level (i.e. Total Scale Score) of job satisfaction. Therefore, the only reliable comparison that could be made was with the results supplied by the authors of the database in the United States of America.[1] This comparison revealed that the Index of Work Satisfaction (IWS) score[2] for the present study (12.7) was comparable to the average IWS score of eleven other studies (12.6) and the Total Scale Score for the present study (183.2) was similar to the average of eleven other studies (183.5).

While the job satisfaction findings from the present study are generally similar to those of previous research, one must also remember that the comparison is between the present study and several other studies, the results of which were aggregated. Therefore, it would be unreasonable to expect large-scale changes in overall levels of job satisfaction. Furthermore, the IWS itself is a summary number (obtained from Parts A and B of IWS questionnaire). Research has shown that both the adjusted scores and the Index (IWS) itself are not as sensitive to changes as has been observed in the component scores.[3] This is interesting since a comparison between the Component Sale Scores from the present study and the average of eleven other studies did indeed reveal some differences. Small differences were noted between Pay and Autonomy (Pay present study = 19.2 other studies = 16.8; Autonomy present study = 35.9 other studies = 37.3) while similarities were observed between the results for the

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[1] Adopting this approach was deemed necessary because it was the only way to obtain data from studies that (a) used the IWS to measure job satisfaction among nurses and (b) used the same procedures to analyse the data.

[2] The IWS score refers to the score obtaining from combining the results from Part A (importance to job satisfaction) and Part B (current level of job satisfaction) of the IWS questionnaire.

[3] P.L. Stamps, Nurses and Work Satisfaction: An Index for Measurement, p. 91.

remaining components (Task Requirements present study = 20.0, other studies = 20.4; Organisational Policies present study = 23.3, other studies = 23.8; Professional Status present study = 36.5, other studies = 37.7; and Interaction present study = 48.2, other studies = 47.2). What these findings confirm is that respondents in the present study seem to be more satisfied with Pay but less satisfied with Autonomy. What is interesting, however, is that respondents in the present study seem to have similar experiences regarding components such as Organisational Policies and Task Requirements, irrespective of which country they work in. In part, this may be due to the fact that in many instances nurses and midwives work in a highly formal environment that relies on policies, written regulations and formal authority for managing most of the work and the work relationships of nurses and midwives.

A second purpose of the present study was to identify which of the IWS components made the greatest contribution to nurses' current level of job satisfaction. The results revealed that the components, which had the greatest influence on nurses' current level of job satisfaction, were Professional Status, Interaction and Autonomy.

- **Professional Status** – most respondents in the present study believe that their jobs are important, require skill, and are significant. They are less likely, however, to believe that others recognise nursing as an important profession.

- **Interaction** – respondents in the present study are generally satisfied with their interaction with other nursing staff. They are less satisfied, however, with their interactions with physicians. They feel physicians do not show enough respect for the skill and knowledge of nursing staff. Nevertheless, it is important to stress that satisfaction with Interaction among nurses in the present study was higher than that of other studies.

- **Autonomy** – most respondents in the present study feel that they are appropriately supervised and given sufficient input into patient care. Some would, however, like to have more control over their work activities, greater freedom to make important decisions regarding their work, and a better balance between the amount of responsibility associated with their jobs and the amount of authority they are given.

The components, which contributed less to nurses' job satisfaction, were Task Requirements, Organisational Policies, and Pay.

- **Task Requirements** – in the present study responsents reported that they spend too much time filling out paperwork, and not enough time providing direct patient care. In addition, they felt that they could do a better job if they were not so busy.

- **Organisational Policies** – respondents in this study were dissatisfied with all items within this component. Specifically, respondents felt that they were not able to participate in decision-making and policy-making in the organisations in which they worked. They felt that there was a significant gap between administrative decisions and the daily problems associated with nursing. In addition, respondents reported that they did not have enough opportunities for advancement in their organisations, and would like greater input into scheduling their own work shifts.

- **Pay** – respondents in the present study were dissatisfied with all items that described this component. Essentially, they reported that considering what is

expected of them their pay was not adequate, and strongly believe that an upgrading of pay schedules is required.

The findings from the present study indicated that Professional Status, Interaction and Autonomy made the greatest contribution to nurses' current level of job satisfaction while components such as Task Requirements, Organisational Policies and Pay contributed less to nurses' current level of job satisfaction. Such findings are similar to those reported by Stamps.[4]

A third purpose of this study was to establish the difference between (a) the IWS components that nurses regard as being *important* to their job satisfaction (Part A of IWS) and (b) the IWS components that were more likely to *contribute* to nurses' current level of job satisfaction (Part B of IWS). The findings confirmed that Autonomy, Pay, and Interaction, in that order, were regarded as being *important* to respondents' job satisfaction, while components such as Professional Status, Interaction and Autonomy, in that order, made the greatest *contribution* to nurses' current level of job satisfaction. There is some consonance between these two sets of results (two components are the same). It is important, however, to draw attention to the differences.

Firstly, while Pay was reported as important to job satisfaction it made little contribution to respondents' current level of job satisfaction. Secondly, although both Autonomy and Interaction are regarded as important to job satisfaction, the respondents in the present study reported that Interaction and then Autonomy contributed to their current level of job satisfaction. These results indicate that the

[4] Ibid., p. 82.

components or factors respondents consider to be *important* to their job satisfaction are not necessarily the same as those that actually *contribute* to their current level of job satisfaction. In addition, when the components responsible for both *importance* and *contribution* to current level of job satisfaction are the same, the order or level of their contribution might differ. Thus, Autonomy and then Interaction emerged as *important* to job satisfaction whereas Interaction and then Autonomy *contributed* to respondents' current level of job satisfaction. Most of these findings are similar to those reported by Stamps.[5] Stamps found that Autonomy, Pay, Professional Status, Interaction, Task Requirements and lastly Organisational Policies were considered to be *important* to job satisfaction, while Professional Status, Interaction, Autonomy, Task Requirements, Organisational Policies and lastly Pay *contributed* to nurses' current level of job satisfaction.

The framework developed and presented in Chapter Three will now be used to further interpret the findings on job satisfaction. This framework was constructed in two parts: part one, which was predictive and part two, which was descriptive. Part one of the framework was developed using the variables under investigation and assumptions acquired from previous research to predict the outcomes between the independent and dependent variables. Part two of the framework utilised a conceptual map of Herzberg's Two-Factor theory to demonstrate and describe the similarities between this theory and the components of the Index of Work Satisfaction (IWS). Two-Factor theory was not tested during the present study. Its role within the framework was confined to interpreting the findings on job satisfaction as measured by the Index of Work Satisfaction (IWS). At the time of constructing the framework, it was pointed

[5] Ibid.

out that the IWS components fit into a similar arrangement as that used in Two-Factor theory namely, motivator or intrinsic factors and hygiene or extrinsic factors. In brief, Two-Factor theory stipulates that a set of factors, referred to as motivator or intrinsic factors (factors associated with the job itself) when present in the work situation, lead to job satisfaction but when these are absent does not lead to job dissatisfaction but to a neutral state. A second set of factors, known as hygiene or extrinsic factors (such as pay, leadership) when inadequate in the working environment, will lead to job dissatisfaction but when adequate, do not lead to job satisfaction but to a neutral state. According to the author of the IWS, components such as Autonomy, Task Requirements, and Professional Status are similar to intrinsic factors while Organisational Policies, Interaction, and Pay are similar to extrinsic factors.[6] This was demonstrated in Figure 4 in Chapter Three.

The findings from the present study confirmed that components such as Professional Status, Interaction and Autonomy contributed most to nurses' current level of job satisfaction. Thus, any improvement in job satisfaction among nurses will depend on reorganising jobs so that personal growth and development is possible. In other words, increasing factors such as Autonomy, Professional Status and Task Requirements within a job will lead to greater job satisfaction. The findings also revealed that Task Requirements, Organisational Policies and Pay made less of a contribution to nurses' current level of job satisfaction. Worthy of note is the outcome of the findings for Task Requirements. Task Requirements refer to those tasks or activities that must be done as a regular part of a nurse's job and is one of the components classified as being similar to the intrinsic factors described by Two-

[6] Ibid., p. 192.

Factor theory. Therefore, Task Requirements was expected to make a significant contribution to job satisfaction. The results from the present study, however, did not support this. Such results are of some concern and suggest that careful analysis of this component may be necessary if subsequent research studies produce similar findings. Two-Factor theory, as demonstrated in section A of Figure 4, suggests that extrinsic factors when inadequate within the work environment will lead to job dissatisfaction. Since Interaction, Pay and Organisational Policies were considered similar to the extrinsic factors in Two-Factor theory then it is important that health service administrators and nursing managers reorganise jobs in order to ensure that these components are adequate within the work situation.

One final observation is worthy of note. According to Two-Factor theory only motivator or intrinsic factors when adequate are responsible for job satisfaction, and only hygiene or extrinsic factors when inadequate in the work situation, contribute to job dissatisfaction. Given that the IWS components of Autonomy, Professional Status and Task Requirements are similar to intrinsic factors, then one would expect these factors to make a major contribution to nurses' job satisfaction. Likewise, components such as Interaction, Pay and Organisational Policies which are similar to the extrinsic factors, described in Two-Factor theory should make less of a contribution to job satisfaction. The findings from the present study, however, confirmed that an IWS component (Interaction) which is similar to extrinsic factors in Two-Factor theory, made a significant contribution to nurses' job satisfaction when in fact it should have produced the opposite effect. In addition, another IWS component (Task Requirements) which is similar to intrinsic factors, as described in Two-Factor theory made less of a contribution to nurses' job satisfaction when it actually should have made a significant contribution. Such results could lead one to suggest that in

some samples both intrinsic and extrinsic factors may result in either job satisfaction or dissatisfaction. As the present study did not test Two-Factor theory, extreme caution should be taken in drawing conclusions from these results. Therefore, while it is quite acceptable to use these results to support the usefulness of the framework in interpreting the findings from the IWS, they cannot be used to either support or refute the use of Two-Factor theory in measuring job satisfaction among nurses.

The fourth purpose of the present study was to determine nurses' perceptions of organisational climate. To fulfil this purpose, respondents had to complete the Nurse Organisational Climate Description Questionnaire (NOCDQ). This instrument used a response scale of 1-4 where 1= rarely occurs, 2=sometimes occurs, 3=often occurs, and 4=very frequently occurs. Overall, the results indicated only moderate ratings for the six components of Organisational Climate. These six components included Humanistic Thrust, Esprit, Intimacy (all positive components), Aloofness, Hindrance, and Disengagement (all negative components). For the most part, response ratings tended to fall in the middle of the scale (i.e. between 2.0 and 3.0). Rather than responses being clustered at one end of the scale, the distributions were fairly even across the response categories for most components. The response categories with the largest numbers of responses for Humanistic Thrust and Intimacy were *sometimes occurs* and *often occurs* (between 2.0-3.0 suggesting moderate ratings), while the response categories with the largest number of responses for Esprit were *rarely occurs* and *sometimes occurs* (between 1.0-2.0 suggesting low ratings).

What these findings tell us is that with regard to Organisational Climate, respondents in the present study appear to be moderately satisfied with the Humanistic Thrust and Intimacy components. Humanistic Thrust refers to the behaviour by the leader that is

characterised not by close supervision but rather by motivating and encouraging staff, by setting a good example and treating them in a kindly manner. Intimacy refers to subordinates' enjoyment of friendly, social relations with each other. Surprisingly, however, Esprit, which refers to morale, did not receive ratings that were as satisfactory as Humanistic Thrust and Intimacy. These results confirm that respondents in the present study were not very satisfied with the way in which their social needs were met (Esprit).

With regard to the three negative components of Organisational Climate (Aloofness, Hindrance, and Disengagement), the majority of the responses were clustered around the response categories *rarely occurs* and *sometimes occurs* (1.0-2.0) except for some of the items in the Hindrance component. What these findings tell us is that on the whole respondents considered Organisational Climate components such as Aloofness and Disengagement to be fairly satisfactory. The mean score for Disengagement was 1.8 making it the only negative component with a score close to 1.0 (scores close to 1.0 are preferred for negative components). With regard to Hindrance, however, there was some variation with the responses to items (five items made up this component). For three of these items, the majority of the responses were clustered around *rarely occurs* and *sometimes occurs* (1.0-2.0). For the remaining two statements, however, the majority of the responses were clustered around the response categories *often occurs* and *very frequently occurs* (3.0-4.0) which for a negative component is highly unsatisfactory.

The statements that resulted in such a negative rating were "patient charting and reports require too much work" and "administrative paperwork is burdensome at this hospital". In view of such findings, health service administrators and nursing

managers will have to make every effort to address these issues in order to improve the overall climate within their organisations. Discussing these results in light of previous research was difficult for several reasons. Firstly, few studies investigating Organisational Climate within the healthcare sector were found during the literature search. Secondly, those studies that had investigated Organisational Climate used different instruments to measure this variable and thirdly, even when the same instruments were used scores for each of the six components of organisational climate were not reported. What researchers reported instead were the correlations between organisational climate and job satisfaction.

The fifth purpose of the present study was to (a) establish the nature of the relationships between organisational climate components and job satisfaction components and (b) determine how biographical factors affected job satisfaction among nurses. To achieve this purpose, hypotheses were formulated for testing. This purpose was achieved and the results will be addressed in section 8.5.

The sixth purpose was to confirm whether the framework developed and presented in Chapter Three was useful for investigating job satisfaction. A full discussion regarding the usefulness of the framework for investigating job satisfaction is given in Chapter Eight. Suffice to say that this purpose was achieved because this researcher concluded that the framework was indeed useful for investigating job satisfaction in the present study.

The final purpose of the present study was to submit its findings to the authors of a database that has been complied in the United States of America. This database contains a collection of studies that have used (a) the Index of Work Satisfaction (IWS) to measure job satisfaction among nurses and (b) the standardised procedures

developed for scoring the IWS. The findings from the present study have been submitted to the database, thus this purpose of the study was achieved.

7.5 Results from the Bivariate Analyses

In the present study, job satisfaction was measured as a dependent variable while biographical factors and organisational climate were the independent variables. In order to explore the effect of biographical factors on job satisfaction and determine the relationship between organisational climate components and job satisfaction, several hypotheses were formulated and tested statistically. In this section of the chapter the results are presented using the hypotheses as a guide and where possible discussed with regard to previous research.

7.5.1 Null Hypothesis 1

This hypothesis stated that there is no significant difference in the job satisfaction scores for females and males. An independent-samples t-test was conducted to compare the job satisfaction scores for these two groups. The results indicated that there was no significant difference in scores for females (Mean=12.93, SD=2.36) and males (Mean=12.54, SD=2.48), [t(601)=1.135, p=.257]. The magnitude of the differences in the means was very small (eta squared = 0.002). Therefore, only .2% of the variance in job satisfaction can be explained by gender. Based on these findings, Null Hypothesis 1 was accepted.

Although there is some disagreement in the literature, the general consensus of opinion would seem to be that there are no gender differences in job satisfaction.[7]

[7] S. Jayaratne, "The Antecedents, Consequences and Correlates of Job Satisfaction," in Handbook of Organisational Behaviour p. 125.

Nevertheless, some studies have reported that females are more satisfied than males[8,9] [10] while others found males to be more satisfied with their jobs than females.[11] These inconsistencies in research findings may be due to a variety of factors. It is quite possible that women and men may differ in their expectations from a job. Women may prefer working with pleasant employees while men may prefer opportunities to participate in decision-making. What is clear, however, is that no firm conclusions can be drawn on the basis of these research findings.

7.5.2 Null Hypothesis 2

This hypothesis stated that there are no differences in job satisfaction scores for nurses in the following age groups; 18-25 years, 26-36 years, 36-45 years, 46-55 years and over 55 years. A one-way between-groups analysis of variance was conducted to explore the impact of age on job satisfaction as measured by the IWS. The results indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the age groups [$F(4, 601)=3.5$, $p=0.008$]. In other words, there was a significant difference in mean job satisfaction scores somewhere amongst the five age groups. Although reaching statistical significance, the actual difference in mean scores between the groups was quite small. The effect size was calculated using eta

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[8] Inga-lill Petterson, B.B. Arnetz, and J.E. Arnetz, "Predictors of Job Satisfaction and Job Influence: Results from a National Sample of Swedish Nurses," Psychotherapy and Psychosomatics 64: 1 (1995): p. 9-19.

[9] Sari Hakan, "An Analysis of Burnout and Job Satisfaction among Turkish Special School Head teachers and Teachers, and the Factors Effecting their Burnout and Job Satisfaction," Educational Studies 30: 3 (2004): p. 291-306.

[10] S. Acorn, P.A. Ratner, and M. Crawford, "Decentralisation as a Determinant of Autonomy, Job Satisfaction, and Organisational Commitment among Nurse Managers," Nursing Research 46:1 (1997): p. 52-58.

[11] B.H. Munro, "Job Satisfaction among Recent Graduates of Schools of Nursing," Nursing Research 32: 6 (1983): p. 350-355.

squared and the result was .02. Based on these findings, Null Hypothesis 2 was rejected.

Once again the results from previous research are mixed. Some studies reported small relationships between age and job satisfaction,[12] while others reported no relationship.[13] Studies by Agho[14] and Baggs and Ryan,[15] found that younger nurses were more satisfied than their older colleagues. Such findings, however, are somewhat different to those from the present study. The findings from the present study confirm that job satisfaction was lowest among nurses in the 18-25 and 26-35 age groups and highest among nurses in the 36-45 and 46-55 age groups. Job satisfaction levels, however, started to decline in nurses over the age of 55 years. These findings are consistent with those found in studies by Malik[16] and Williams.[17] Once again it is difficult to draw any firm conclusions, regarding the relationship between age and job satisfaction, due to the mixed findings reported in the literature.

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[12] M.D. Lucas, "Management Style and Staff Nurse Job Satisfaction," p. 119-25.

[13] M.H. Oermann, "Critical Care Nursing Education at the Baccalaureate Level: Study of Employment and Job Satisfaction," p. 394-398.

[14] A. Agho, "The Moderating Effects of Dispositional Affectivity on Relationships Between Job Characteristics and Nurses' Job Satisfaction," p. 451-458.

[15] J.G. Baggs, and S.A. Ryan, "ICU Nurse-Physician Collaboration & Nursing Satisfaction," p. 386-392.

[16] D.M. Malik, "Career Ladders: Position Enrichment vis-à-vis Tenure," p. 120A-120F.

[17] C. Williams, "Job Satisfaction: Comparing CC Med/Surg. Nurses," p. 104A-104H.

7.5.3 Null Hypothesis 3

Null Hypothesis 3 stated that there is no significant difference between job satisfaction scores for nurses working in the private healthcare sector and those working in the public healthcare sector. An independent-samples t-test was conducted to compare the job satisfaction scores for nurses working in the private and public healthcare sectors. The findings indicated that there was a statistically significant difference in scores for nurses working in the private sector (Mean=13.75, Standard Deviation=2.47), and public sector (M=12.79, SD=2.33), [t(596)=3.25, p=.001]. The magnitude of the differences in the means, however, was small (eta squared = 0.02). Based on these findings, Null Hypothesis 3 was rejected.

While some studies have demonstrated differences in job satisfaction levels between private and public sector employees,[18] others have shown no differences. A study by Donohue,[19] reported no differences in job satisfaction scores among nurse academics working in either private or public institutions. These findings are not consistent with those of the present study. It is important, however, to remind the reader that different respondent groups were used in these two studies. The present study examined job satisfaction among clinical nurses while Donohue's study investigated nurse academics. It is quite possible that differences in job satisfaction do indeed exist between nurse clinicians and nurse academics, working in the private sector. It is difficult to explain exactly what may have contributed to greater job satisfaction among nurses, working in the private healthcare sector in the present study. Any number of factors within the private healthcare sector (e.g. higher staff to patient

[18] S. Falcone, "Self assessments and Job Satisfaction in Public and Private Organisations," Public Productivity and Management Review 14 (1991): 4: p. 385-396.

[19] J.D. Donohue, "Faculty Perception of Organisational Climate and Expressed Job Satisfaction in Selected Baccalaureate Schools of Nursing," Journal of Professional Nursing 2 (1986): p. 373-379.

ratios, better equipment and facilities, better pay) could have contributed to these findings.

7.5.4 Null Hypothesis 4

This hypothesis stated that there is no statistically significant difference in job satisfaction scores for registered nurses and midwives, nurses with diplomas, and nurses with degrees. A one-way between-groups analysis of variance was conducted to explore the impact of level of nursing qualification on job satisfaction as measured by the Index of Work Satisfaction (IWS). Although seven response categories were used in the biographical questionnaire, these had to be collapsed into three groups because the numbers in some of the categories were very small. The three categories used were (a) registered nurses and midwives, (b) nurses with diplomas, and (c) nurses with degrees.

The findings indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the three groups [$F(2, 602)=4.98$, $p=.007$]. Although reaching statistical significance, the actual difference in mean scores between the groups was quite small. The effect size was calculated using eta squared and the result was 0.016. Post-hoc comparisons using Tukey HSD test indicated that the mean score for the registered nurses and midwives group (Mean = 13.12, SD = 2.345) was statistically different from the nurses with diplomas group (Mean = 12.50, SD = 2.027) and also the nurses with degrees group (Mean = 12.47, SD = 2.771). The nurses with diplomas group (M = 12.50, SD = 2.027) and the nurses with degrees group (M = 12.47, SD = 2.771) did not differ significantly from each other. Based on these findings, Null Hypothesis 4 was rejected.

The results from previous research are mixed. Some studies reported small relationships between level of professional education and job satisfaction[20,21] while others have reported no relationship.[22] A study by Schutzenhofer and Musser[23] surveyed nurses undertaking different educational programmes. In this study, the authors measured the association between education and autonomy, since autonomy was considered to be positively related to job satisfaction. The results revealed a positive relationship between highest level of nursing education and autonomy. Of course these results are different to those obtained in the present study.

The present study found that nurses with lower level nursing qualifications were more satisfied than their colleagues with higher level qualifications. Oermann[24] designed a study to examine the impact of a degree level course in critical care nursing on employment patterns and job satisfaction. The job satisfaction of nurses who completed the degree course was compared with those who had not completed the course. The results revealed no difference in job satisfaction between these two groups of nurses. A study that reported findings similar to those of the present study was undertaken by Stewart-Dedmon.[25] The results indicated that nurses with higher-level qualifications were less satisfied than their colleagues with lower level nursing qualifications.

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[20] M.A. Blegen, "Nurses' Job Satisfaction: A Meta-Analysis of Related Variables," p. 36-41.

[21] L.A. Witt, M.C. Andrews, and K.M. Kacmar, "The Role of Participation in Decision-making in the Organisational Policies-Job Satisfaction Relationship," p. 341-358.

[22] C.S. Weisman, C.S. Alexander, and G.A. Chase, "Job Satisfaction among Hospital Nurses," p. 341-364.

[23] K.K. Schutzenhofer, and D.B. Musser, "Nurse Characteristics and Professional Autonomy," p. 201-205.

[24] M.H. Oermann, "Critical Care Nursing Education at the Baccalaureate Level," p. 394-398.

[25] M. Stewart-Dedmon, "Job Satisfaction of New Graduates," p. 66-72.

These inconsistencies in research findings may be due to a variety of factors. One possible explanation is that people with higher-level qualifications come to expect higher paid jobs, better working conditions, greater responsibility and more autonomy. Thus, if workers' expectations of what a job should offer are not fulfilled, then it is quite possible that they will have lower job satisfaction with what they actually get from the job. Given the mixed findings reported between nursing education and job satisfaction, it is difficult to draw any firm conclusions regarding the relationship between these two variables.

7.5.5 Null Hypothesis 5

Null Hypothesis 5 stated that there is no statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment and those working in a non-acute environment. An independent-samples t-test was conducted to explore this hypothesis. The findings confirmed that there was a statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment (M=12.67, SD=2.17), and those working in a non-acute environment (M=13.24, SD=2.61), [t(452.4)=-2.817, p=.005]. The magnitude of the differences in the means was very small (eta squared = 0.013). Based on these findings, Null Hypothesis 5 was rejected.

Any number of factors may have contributed to the findings obtained for the fifth hypothesis. Hospitals are extremely formal, bureaucratic organisations that depend upon policies, written regulations, and formal authority for managing most of the work and the behaviour and work relationships of employees.[26] Therefore, it is quite

[26] B.S. Georgopoulos, and F.C. Mann, "The Hospital as an Organisation," p. 298.

possible that this kind of environment will result in lower levels of job satisfaction among nurses working in acute hospitals. This view is supported by the research literature. A study by Drews and Fisher[27] found that as management styles become more participative, the level of job satisfaction among staff nurses became higher. Similar studies by Lucas[28] and Mancini[29] were undertaken to examine the relationship between shared-governance[30] and job satisfaction. Results revealed that nurses who worked in an environment where shared-governance was practised had higher levels of job satisfaction.

In addition, research studies have found that low perceptions of autonomy are associated with low levels of job satisfaction.[31,32] Given that hospitals are generally bureaucratic and authoritarian, then a reasonable assumption is that nurses working in acute hospitals will report lower levels of job satisfaction due to lower levels of professional autonomy. Conversely, a non-acute environment is likely to be engaged in less acute care and as such may have a less formal and authoritarian management approach to its work and the behaviour of its employees. If this were the case, then it would be reasonable to suggest that nurses would enjoy higher levels of autonomy and therefore higher levels of job satisfaction.

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[27] T.T. Drews, and M.C. Fisher, "Job Satisfaction and Intent to Stay: RNs Perceptions," p. 58.

[28] M.D. Lucas, "Management Style and Staff Nurse Job Satisfaction," p. 119-25.

[29] V. Mancini, "The Relationship Between a Shared Governance Management Structure and Registered Nurse Job Satisfaction," p. 133.

[30] Shared governance is an innovative organisational model that advocates the professional autonomy of nurses. It empowers clinical nurses to participate in the decision-making process with regard to nursing practice, standards and quality care.

[31] C.S. Weisman, D.L. Gordon, S.D. Cassard, M. Bergner, and R. Wong, "The Effects of Unit Self-Management on Hospital Nurses' Work Process, Work Satisfaction and Retention," p. 381-393.

[32] D.K. McNeese-Smith, "A Content Analysis of Staff Nurses Descriptions of Job Satisfaction and Dissatisfaction," p. 1332-1341.

7.5.6 Null Hypothesis 6

This hypothesis stated that there is no difference in job satisfaction scores for student nurses and midwives, qualified clinical nurses, and non-clinical nurses (these categories refer to current position in organisation). A one-way between-groups analysis of variance was conducted to explore this hypothesis. Although ten response categories were originally used in the biographical questionnaire, these were reduced to three groups because the numbers in some of the categories were too small. The three categories used are contained in the hypothesis. The results indicated that there was a statistically significant difference at the $p<.05$ level in IWS scores for the three groups [$F(2, 552)=5.887$, $p=0.003$]. Although reaching statistical significance, the actual difference in scores between the groups was quite small. The effect size was calculated using eta squared and the result was 0.02. Based on these findings, Null Hypothesis 6 was rejected.

These findings confirm that job satisfaction was lowest for the student nurses and highest for the non-clinical nurses. There was little difference in scores between qualified clinical nurses and the non-clinical nurses (managers). Based on these findings one can conclude that as nurses move up the career ladder the more likely they are to be satisfied with their jobs. Another factor that may contribute to increased job satisfaction among nurses in senior positions is professional autonomy. The amount of professional autonomy one has will no doubt determine the amount of skill that can be applied to a job. Even if one's job has 120 functions, if the order of these functions and the order in which they should be carried out are determined by someone else, then the skill required to perform the job will be considerably

reduced.[33] Only jobs, that permit employees to exercise skill and autonomy, can truly permit growth in self-esteem due to the successful completion of a job. This view-point is similar to the findings from a study by McNeese-Smith.[34] McNeese-Smith reported that "opportunities for independent thinking" emerged as a major theme responsible for nurses' job satisfaction. In addition, Tumulty *et al.*[35] found that overall satisfaction and satisfaction with autonomy varied with employment status (position in organisation) with managers more satisfied than non-managers. Based on these findings, it is quite reasonable to suggest that nurses at the lower end of the career ladder (non-manager grade) will have less freedom to exercise skill and hence less professional autonomy than their more senior colleagues and therefore will experience lower levels of job satisfaction. It would appear then, that the findings from the present study are consistent with those of previous research. This increases both the credibility and generalisability of the findings from the present study.

7.5.7 Null Hypothesis 7

Null Hypothesis 7 stated that there is no difference in the job satisfaction scores for nurses who have been working in their current place of employment for less than five years and those who have been working in their current place of employment for five years and over. This hypothesis was formulated with question 10 from the biographical questionnaire in mind. Question 10 originally had four response categories. The descriptive statistics revealed low numbers for some of the response

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[33] M.M. Gruneberg, Understanding Job Satisfaction, p. 45-46.

[34] D.K. McNeese-Smith, "A Content Analysis of Staff Nurses Descriptions of Job Satisfaction and Dissatisfaction," p. 1332-1341.

[35] G. Tumulty, I.E. Jernigan, and G.F. Kohut, "The Impact of Perceived Work Environment on Job Satisfaction of Hospital Staff Nurses," p. 84-90.

categories so it was decided to collapse the response categories into two groups instead. An independent-samples t-test was conducted to explore this hypothesis. The findings indicated that there was not a statistically significant difference in scores for nurses working in their current place of employment for under five years (Mean=12.72, Standard Deviation=2.41), and those working in their current place of employment for over five years (M=13.04, SD=2.34), [t(605)=-1.669, p=0.096]. The magnitude of the differences in the means was very small (eta squared = 0.005). In other words, .5 per cent of the variance in job satisfaction is explained by length of time in current place of employment. Based on these findings, Null Hypothesis 7 was accepted.

As indicated above the findings for the present study confirmed that there is no difference in job satisfaction scores for those who have been in their current place of employment for under five years and those in employment for over five years. One possible explanation offered by other researchers for this is that employees become frustrated when colleagues are promoted to senior management positions and that this may increase their job dissatisfaction.[36] Witt, *et al.*[37] found only a weak correlation between length of time working in an organisation and job satisfaction. Worthy of note is that while Witt *et al.*'s study used a fairly large sample, all respondents in the sample came from the same organisation. In a study by Donohue,[38] results indicated that as tenure increased satisfaction with work itself, opportunities for promotion, supervision and co-workers decreased. Viewed collectively, it is difficult to interpret

[36] J.L. Gibson, and S.M. Klein, "Employee Attitudes as a Function of Age and length of Service: A Reconceptualisation," Academy of Management Journal 13 (1970): p. 411-25.

[37] L.A. Witt, M.C. Andrews, and K.M. Kacmar, "The Role of Participation in Decision-making in the Organisational Policies-Job Satisfaction Relationship," p. 341-352.

[38] J.D. Donohue, "Faculty Perception of Organisational Climate and Expressed Job Satisfaction in Selected Baccalaureate Schools of Nursing," p. 373-379.

the results of studies on tenure and job satisfaction due to the many inconsistencies in the research findings reported.

In Chapter Six, statistically significant differences between some of the biographical factors and job satisfaction were reported. Consequently, further analyses of the data were undertaken. Firstly, the data were subjected to two-way between-groups analysis of variance (ANOVA) and secondly to one-way between-groups multivariate analysis of variance (MANOVA). For the most part, the results of the one-way between-groups analysis of variance (ANOVA) indicated that the interaction effect between variables did not reach statistical significance.

One-way between-groups multivariate analysis of variance (MANOVA) was also undertaken to investigate the differences between several biographical variables and six dependent variables. The results were mixed. There was no statistically significant difference between gender and the six dependent variables. There were statistically significant differences, however, between nurses working in acute hospitals and those working in non-acute environments. Nurses working in acute hospital environments reported slightly lower levels of satisfaction with Autonomy, Organisational Policies and Interaction. These results are not surprising given that the findings from the bivariate analyses were similar. A number of reasons may have contributed to these results some of which were discussed in section 7.5.5 of this chapter.

With regard to tenure and the six dependent variables, the only variable to reach statistical significance was Autonomy. The findings indicated that nurses, who had been working in their current place of employment for five years or over, reported slightly higher levels of satisfaction with Autonomy than nurses who had been

working in their current place of employment for under five years. It is difficult to discuss these findings in light of previous research, since many researchers who had used the IWS questionnaire to measure job satisfaction did not report findings from one-way between-groups multivariate analysis of variance (MANOVA). Nevertheless, these results have practical significance to the nursing profession and may be an important consideration for those involved in the design of organisational innovations aimed at improving job satisfaction. Analysis between current position and the six variables of job satisfaction confirmed that students (nurses and midwives) had lower levels of satisfaction with Autonomy and Organisational Policies than did qualified clinical staff and managerial staff. These findings were similar to those obtained from the bivariate analysis and were discussed in section 7.5.6 of this chapter.

With regard to nurses' education level and the six dependent variables, the one-way between-groups multivariate analysis of variance (MANOVA) indicated that the only variable to reach statistical significance was Interaction. Nurses and midwives who had completed only a registration qualification reported slightly higher levels of satisfaction with Interaction than did nurses with diplomas and those with degrees. Interaction refers to both formal and informal contact with colleagues during working hours. These findings are interesting but limited since they do not provide answers to why nurses with a higher-level qualification have lower levels of satisfaction with the Interaction component of their job. It is possible that nurses with high ability may have lower levels of satisfaction with some components of their jobs if their performance does not allow for the application of their talents. Once again it is difficult to discuss these results with those of previous research, since researchers who

had used the IWS questionnaire did not report findings based on one-way between-groups multivariate analysis of variance (MANOVA).

7.5.8 Null Hypothesis 8

This hypothesis stated that there are no significant positive or negative correlations between organisational climate components and job satisfaction components. The relationships between these two groups of variables were explored using Pearson product-moment correlation coefficient. While the correlation analysis revealed many significant results only those with the highest values are reported here. With regard to correlations between the positive components of organisational climate and the IWS components, there was a significant positive correlation between Humanistic Thrust and Autonomy {r=.393, n=596, p<.0005} with high levels of Humanistic Thrust associated with high levels of Autonomy. There was also a significant positive correlation between Esprit and Autonomy {r=.444, n=601, p<.0005} and between Esprit and Organisational Policies {r=.474, n=600, p<.0005} indicating that high levels of Esprit are associated with high levels of Autonomy and Organisational Policies.

With regard to the correlations between the negative components of the NOCDQ and the IWS components there was a significant negative correlation between Hindrance and almost all the IWS components and between Disengagement and almost all the IWS components. Specifically, there was a significant negative correlation between Hindrance and Task Requirements {r= -.430, n=601, p<.0005} indicating that low levels of Hindrance are associated with high levels of Task Requirements. In addition, there was a significant negative correlation between Disengagement and Interaction {r= -.357, n=597, p<.0005} indicating that low levels of Disengagement

are associated with high levels of Interaction. Based on these findings, Null Hypothesis 8 was rejected.

It is important to remind the reader that during the literature search few research studies similar to the present study were found. Those that were similar used different measurement instruments, smaller samples and different techniques for analysing data. Only one research study was found which used the same instruments to measure organisational climate and job satisfaction. The study was undertaken by Urden.[39] Unfortunately, however, comparisons between the correlations for organisational climate components and job satisfaction components were not possible, as Urden did not report such findings.

7.5.9 Null Hypothesis 9

Null Hypothesis 9 stated that there are no significant positive or negative correlations between organisational climate components and total job satisfaction. The relationship between organisational climate components (as measured by the NOCDQ) and total job satisfaction (as measured by the IWS) was explored using Pearson product-moment correlation coefficient. While the correlation analysis revealed many significant results only those with the highest values are reported here. With regard to the correlations between the positive components of organisational climate and job satisfaction, there were significant positive correlations between Esprit and job satisfaction {$r=.552$, $n=601$, $p<.0005$} and between Humanistic Thrust and job satisfaction {$r=.447$, $n=596$, $p<.0005$}. These results confirm that high levels of Esprit and Humanistic Thrust are associated with high levels of job satisfaction.

[39] L.D. Urden, "The Impact of Organisational Climate on Nurse Satisfaction," p. 44-48.

Therefore, it is imperative that health service administrators and nursing managers create organisational climates that have high levels of Esprit and Humanistic Thrust.

With regard to the correlations between the negative components of organisational climate and job satisfaction there was a significant negative correlation between Disengagement and total job satisfaction {r=-.350, n=598, p<.0005}. This confirms that low levels of Disengagement result in high levels of job satisfaction and vice versa. Finally, there is another important result to note. There was no significant correlation between Intimacy and job satisfaction. This indicates that the extent to which nurses enjoy friendly, social relations (Intimacy) with each other is no predictor of job satisfaction as measured by the IWS. Based on these findings, Null Hypothesis 9 was rejected.

Only one research study was found which used the same instruments as those used in the present study to measure organisational climate and job satisfaction. Thus, for the most part comparisons are made with studies that used different instruments and explored variables that were not exactly the same as those investigated in the present study. Using the same instruments to measure organisational climate and job satisfaction as those used in the present study, Urden[40] found statistically significant correlations between five of the six organisational climate components and job satisfaction. The component that was not significantly correlated with job satisfaction was Intimacy.

Although there were some differences in the size of the correlations, the findings from the present study are similar to those reported by Urden. Strong positive correlations

[40] Ibid., p. 44-48.

were found between Esprit and job satisfaction {Curtis r=.552; Urden r=.587} and between Humanistic Thrust and job satisfaction {Curtis r=.447; Urden r=.403} for both studies. This confirms that there is 30.5% shared variance between Esprit and job satisfaction in the present study and 34.5% for Urden's study. In other words, Esprit helps to explain 30.5% of the variance in job satisfaction for the present study and 34.5% of the variance in job satisfaction for Urden's study. These findings are very similar indeed. In addition, other research studies reported similar results albeit using different instruments. Donohue[41] found significant correlations at the $p<.01$ level between Esprit and most of the components of job satisfaction and between Humanistic Thrust and all the components of job satisfaction except Pay. Lyon and Ivancevich[42] found a significant correlation at the $p<.05$ level between Esprit and Self-actualisation (a facet of job satisfaction) and between Thrust and Self-actualisation. Finally, Tumulty *et al.*[43] designed a study to determine the impact of perceived work environment on the job satisfaction of hospital nurses. These researchers found that work relationship factors (which refers to involvement, peer cohesion, and manager support) rather than systems maintenance factors of the work environment, made a greater contribution to nurses' job satisfaction.

With regard to the negative components of organisational climate, the findings from the present study found statistically significant negative correlations between the three components Aloofness {r=-.092} Hindrance {r=-.265} Disengagement {r=-.350} and job satisfaction. These results are similar to those reported by Urden: Aloofness {r=-

[41] J.D. Donohue, "Faculty Perception of Organisational Climate and Expressed Job Satisfaction in Selected Baccalaureate Schools of Nursing," p. 373-379.

[42] H.L. Lyon, and J.M. Ivancevich, "An Exploratory Investigation of Organisational Climate and Job Satisfaction in a Hospital," p. 635-648.

[43] G. Tumulty, I.E. Jernigan, and G.F. Kohut, "The Impact of Perceived Work Environment on Job Satisfaction of Hospital Staff Nurses," p. 84-90.

.188}, Hindrance {r=-.437} and Disengagement {r=-.395}. These negative correlations indicate that as Aloofness, Hindrance and Disengagement increase, then job satisfaction will decrease. Therefore, in order to maintain high levels of job satisfaction among nurses these negative components of organisational climate must remain low. It is important to emphasise that of the three negative components Disengagement had the highest negative correlation with job satisfaction in the present study.

The reader may recall that in Chapter Five it was reported that Disengagement had obtained a mean score of 1.8 making it the only negative component to receive a score close to 1.0 (scores close to 1.0 are preferred for negative components). This indicates that nurses in the present study considered this component of their organisational climate to be fairly satisfactory and hence the largest negative correlation between Disengagement and job satisfaction {r= -.350, n=598, p<0.0005}.

Other research studies found similar findings despite using different instruments. Donohue[44] found significant negative correlations at the p<.01 level between Aloofness, Hindrance and Disengagement and most of the components of job satisfaction as measured by the Job Descriptive Index. Lyon and Ivancevich[45] found a significant negative correlation at the p<.01 level between Hindrance and Self-actualisation and between Disengagement and Self-actualisation. There was no significant correlation between Aloofness and Self-actualisation. Rather interesting

[44] J.D. Donohue, "Faculty Perception of Organisational Climate and Expressed Job Satisfaction in Selected Baccalaureate Schools of Nursing," p. 373-379.

[45] H.L. Lyon, and J.M. Ivancevich, "An Exploratory Investigation of Organisational Climate and Job Satisfaction in a Hospital," p. 635-648.

are the findings of a study by Duxbury *et al.*[46] These researchers found no significant correlations between Aloofness and job satisfaction as measured by the Minnesota Satisfaction Questionnaire or between Hindrance and job satisfaction. They did, however, find a significant negative correlation between Disengagement and job satisfaction. It must be stressed, however, that these studies all used different instruments to those used in the present study.

In the preceding paragraphs, it was reported that the only component of organisational climate that was not significantly correlated with job satisfaction was Intimacy. This suggests that the extent to which nurses enjoy friendly, social relations with each other (Intimacy) is no predictor of job satisfaction as measured by the IWS. What is particularly interesting about such findings is that they are similar to those reported by Urden,[47] Duxbury *et al.*[48], and Lyon and Ivancevich.[49] Other studies, however, have reported different results. Donohue,[50] for example, reported significant correlations between Intimacy and all the components of job satisfaction. It must be pointed out, however, that Donohue used different instruments to those used in the present study, to measure organisational climate and job satisfaction.

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[46] M.L. Duxbury, G.A. Henly, and G.D. Armstrong, "Measurement of the Nurse Organisational Climate of Neonatal Intensive Care Units," p. 83-88.

[47] L.D. Urden, "The Impact of Organisational Climate on Nurse Satisfaction," p. 44-48.

[48] M.L. Duxbury, G.A. Henly, and G.D. Armstrong, "Measurement of the Nurse Organisational Climate of Neonatal Intensive Care Units," p. 83-88.

[49] H.L. Lyon, and J.M. Ivancevich, "An Exploratory Investigation of Organisational Climate and Job Satisfaction in a Hospital," p. 635-648.

[50] J.D. Donohue, "Faculty Perception of Organisational Climate and Expressed Job Satisfaction in Selected Baccalaureate Schools of Nursing," p. 373-379.

Keuter *et al.*[51] also reported a significant correlation between organisational climate and job satisfaction. Of interest here is the fact that *support*, which in Keuter *et al.*'s study is a component of organisational climate, was strongly correlated with job satisfaction. Once again it is important to point out that Keuter *et al.* used a different instrument to that used in the present study to measure organisational climate. In addition, the sample was very small (n=33). Pallant[52] suggests that researchers should be careful in interpreting correlation coefficients when they are obtained from a small section of the population since they are often different from studies where larger samples have been used.

In a study to explore the impact of work environment on the job satisfaction of nurses, Tumulty *et al.*[53] found that the work environment contributed significantly to the level of job satisfaction of nurses. In particular, these authors found that *work relationship factors* rather than *systems maintenance factors* of the work environment contributed the most to the job satisfaction of nurses. It would appear then, that the findings regarding the correlation between Intimacy and job satisfaction are mixed. One possible interpretation of these findings is that friendships among co-workers exist independently of job satisfaction. While we might expect that a pleasant climate might support the formation of friendly, social relations, it may be just as likely that nurses will seek out camaraderie in an unpleasant climate in order to make the work experience more tolerable.

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[51] K. Keuter, E. Byren, J. Voell, and E. Larson, "Nurses Job Satisfaction and Organisational Climate in a Dynamic Work Environment," p. 46-49.

[52] J. Pallant, SPSS Survival Manual, p. 111-112.

[53] G. Tumulty, I.E. Jernigan, and G.F. Kohut, "The Impact of Perceived Work Environment on Job Satisfaction of Hospital Staff Nurses," p. 84-90.

7.6 Results from the Multiple Regression Analysis

The multiple regression analyses allowed two questions to be answered. The first question was: how well do the six components of the Nurse Organisational Climate Description Questionnaire (NOCDQ) predict job satisfaction as measured by the Index of Work Satisfaction (IWS)? In other words, how much variance in job satisfaction scores can be explained by scores for the six components for the NOCDQ. The regression of the dependent variable (job satisfaction) on six predictor variables (Humanistic Thrust, Esprit, Intimacy, Aloofness, Disengagement, and Hindrance) accounted for 46.7 per cent of the variance and was significant at the $p<.0005$ level. These results confirm that organisational climate components made a significant unique contribution to the prediction of job satisfaction.

The second question posed was: which of the six components of organisational climate is the best predictor of job satisfaction? Of these six variables Esprit made the largest contribution (Beta=.366) and Humanistic Thrust the second largest contribution (Beta=.272). Intimacy and Aloofness did not make a significant contribution to job satisfaction. These findings confirm that the extent to which nurses enjoy friendly, social relations (Intimacy) with each other and whether the behaviour of the leader or manager is characterised as formal or impersonal (Aloofness) are not significant predictors of job satisfaction as measured by the Index of Work Satisfaction (IWS).

Comparing these findings with those of other research studies was not possible because researchers who had used the IWS questionnaire to measure job satisfaction did not report multiple regression analyses.

7.7 Summary and Conclusion

This chapter discussed the findings from the present study in relation to previous research. In addition, explanations were given when inconsistencies in research findings were noted. By focusing the chapter around the study's seven purposes and nine hypotheses, this researcher was able to demonstrate to the reader whether the purposes of the study were achieved and the hypotheses accepted or rejected. Briefly, the main descriptive findings revealed low to moderate levels of job satisfaction among nurses. The Total Scale Score was 183.2 which confirms that the overall level of job satisfaction for nurses in the present study was only 59 % of the total possible score.

Comparing these findings with other studies reported in the literature was quite difficult since many researchers did not report the actual score obtained for job satisfaction. Nevertheless, comparisons with results obtained from the authors of the database in the United States revealed that the findings from the present study were similar to the average for eleven other studies (Total Scale Score = 183.5). In addition, the findings from the present study confirmed that the IWS components that made the greatest contribution to nurses' current level of job satisfaction were Professional Status, Interaction, and Autonomy while the components that made less of a contribution were Task Requirements, Organisational Policies, and Pay. These findings were similar to those reported in the literature.

This study was also able to determine the difference between (a) the IWS components that nurses regard as being *important* to their job satisfaction and (b) the IWS components that were more likely to *contribute* to nurses' current level of job satisfaction. The results revealed that Autonomy, Pay, and Interaction, in this order

were regarded as being important to nurses' job satisfaction, while components such as Professional Status, Interaction, and Autonomy in this order contributed to nurses' current level of job satisfaction. These results indicate that the components nurses consider to be important to their job satisfaction may be different to those that actually contribute to their current level of job satisfaction. Most of these findings are similar to those reported in the literature.

With regard to organisational climate the findings from the present study revealed only moderate ratings for the six components of organisational climate. Specifically, nurses seemed fairly satisfied with organisational climate components such as Humanistic Thrust and Intimacy. Esprit, however, did not receive ratings that were as favourable as Humanistic Thrust and Intimacy. These findings confirm that respondents in the present study were not satisfied with the way in which their social needs were met. With reference to the negative components of organisational climate (Aloofness, Hindrance, and Disengagement), the results revealed that on the whole nurses considered these components of their organisational climate to be fairly satisfactory.

The bivariate analyses revealed some interesting findings. The findings confirmed that:

(a) There were no significant differences between gender and job satisfaction.

(b) Age does indeed play a role in explaining job satisfaction among nurses.

(c) Nurses working in the private healthcare sector are more likely to enjoy greater job satisfaction than those working in the public healthcare sector.

(d) Nurses with lower level nursing qualifications were more satisfied than those with higher-level nursing qualifications.

(e) Nurses working in an acute hospital environment are less satisfied with their jobs than nurses working in non-acute environments.

(f) There are significant differences in job satisfaction scores for nurses working in different positions within the organisation.

(g) There are no significant differences between tenure and job satisfaction.

In some instances, it was difficult to discuss these findings in light of previous research since many researchers did not examine the effects of biographical factors on job satisfaction. Nevertheless, the findings from those studies that did examine these factors revealed both similarities and differences to the findings from the present study. What is clear from these findings is that further research remains to be done.

Significant correlations between organisational climate components and job satisfaction were also reported. With regard to the positive components of organisational climate there were significant positive correlations between Esprit and job satisfaction, and between Humanistic Thrust and job satisfaction. These results suggest that high levels of Esprit and Humanistic Thrust are associated with higher levels of job satisfaction among nurses. A rather interesting result to emerge from the present study was that no significant correlation was found between the organisational climate component of Intimacy and job satisfaction. What this tells us is that the extent to which nurses enjoy friendly, social relations (Intimacy) with each other is no predictor of job satisfaction. With regard to the negative components of organisational climate there was a significant negative correlation between Disengagement and job satisfaction. This confirms that low levels of Disengagement are associated with higher levels of job satisfaction and vice versa. With a few exceptions these results were generally consistent with those reported in the literature.

All seven purposes of the present study were fulfilled. In addition, each hypothesis was tested and reported. In summarising the findings on job satisfaction it is evident that the findings from the present study were consistent with those of other international studies. In interpreting such findings three issues should be noted. Firstly, that nurses in the Republic of Ireland are similar to their international colleagues with regard to their job satisfaction levels. Secondly, given that the job satisfaction findings from the present study were compared primarily with those of studies that used the Index of Work Satisfaction (IWS) to measure job satisfaction, then this instrument has demonstrated both reliability and validity. Thirdly, because low levels of job satisfaction among nurses have been reported in other countries, it is reasonable to conclude that the magnitude of the problem has now reached global proportions. Therefore, attempts to resolve the issue of nurse job satisfaction may well benefit from international collaboration.

With regard to the results on biographical factors no firm conclusions can be drawn. For the most part the findings from the present study have shown a connection between some biographical factors and job satisfaction. When these findings are compared with those of other studies both similarities and differences were noted. To some extent this may be because individuals choose a job from which they are likely to derive some satisfaction, whatever their biographical profile. This does not in any way indicate that biographical factors are not important only that other organisational factors may be of greater importance at the present time.

Following the bivariate analysis, the data were subjected to additional analyses using two-way between-groups analysis of variance (ANOVA) and one-way between-groups multivariate analysis of variance (MANOVA) in order to explore further the

differences between biographical factors and job satisfaction. For the most part, the two-way between-groups analysis of variance (ANOVA) indicated that the interaction effect between variables did not reach statistical significance. The one-way between-groups multivariate analysis of variance (MANOVA), however, did reveal statistically significant differences between some of the biographical factors and the six dependent variables. These findings are important because of their potential utility within the healthcare sector. Health service administrators and nursing managers could use these findings to design organisational innovations aimed at improving job satisfaction among all staff within their organisations.

The findings from the correlation analysis were more consistent with those of other studies. It is important to stress once again that in many instances the comparisons were with studies that used different instruments to those used in the present study. Nevertheless, the results are clear. Organisational climate components such as Esprit and Humanistic Thrust are significantly correlated with job satisfaction. Thus, health service administrators and nursing managers must make every effort to promote these positive components within their organisations. Conversely, there were significant negative correlations between organisational climate components such as Aloofness, Disengagement and Hindrance and job satisfaction. Because these negative components of organisational climate result in lower levels of job satisfaction, every effort should be made to reduce or eliminate their presence within organisations. The multiple regression analyses confirmed that organisational climate variables accounted for 46.7 % (47%) of the variance in job satisfaction.

To conclude, it is reasonable to suggest that the findings from the present study provided an insight into the current state of job satisfaction among nurses in the

Republic of Ireland and reinforced the view that organisational climate factors do affect the job satisfaction of nurses. Moreover, the present study has given rise to numerous findings of practical or clinical significance, which of course is a major reason for investigating job satisfaction.

CHAPTER EIGHT

CONFIRMATION OF THE FRAMEWORK

8.1 Introduction

Chapter Three in Volume One of this dissertation discussed the theoretical literature on job satisfaction and organisational climate and informed the reader of the reason why theory was not tested in the present study. As a consequence, a tentative framework was developed and used to guide this study. The framework was constructed in two parts: part one is predictive and part two is descriptive. Part one of the framework was developed using the variables under investigation and assumptions, acquired from previous research, to predict the outcomes between the independent and dependent variables. Part two of the framework was developed using a conceptual map of Herzberg's Two-Factor theory.[1] This decision was based on the outcome of a focus group interview and a review of the literature.

The literature had indicated that the Index of Work Satisfaction (IWS) which was used to measure job satisfaction in the present study, was similar in design to the intrinsic and extrinsic factors described in Two-Factor theory. It is important to point out, however, that only part one of the framework was tested statistically. Part two of the framework, as illustrated in Figure 14, was not tested. Its use within the framework was concerned primarily with assisting in interpreting the findings from the IWS questionnaire.

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[1] F. Herzberg, B. Mausner, and B. Snyderman, The Motivation to Work (New York: Wiley, 1959).

The purpose of this chapter is to: (a) amend the framework in light of the findings from the present study, (b) confirm the usefulness of the framework in investigating job satisfaction among nurses and (c) link the framework to the larger body of knowledge on job satisfaction in nursing. This chapter is organised into four main sections excluding the introduction and conclusion. Firstly, it discusses the background to the construction of the framework. Secondly, it explains the original framework that was proposed and presented in Chapter Three of this dissertation. This facilitates comparisons between the original framework and its modified version without the reader having to return to Chapter Three. Thirdly, the chapter discusses the usefulness of the framework in investigating job satisfaction among nurses and in addition, reports the amendments made to the framework in light of the findings from the present study. Fourthly, a brief discussion of the implications of the framework for future research and clinical practice is given before concluding with a summary of the main issues.

8.2 Background to the Construction of the Framework

Earlier in this dissertation it was reported that a dominant-less dominant mixed method design was used in the present study. In this design, the study is presented within a single dominant paradigm with a small component from the alternative paradigm. Combining methods in a single study has several purposes[2] but in the present study it was used developmentally, wherein the first method was used sequentially to help inform the second method. The idea of using a focus group interview as a preliminary technique to explore nurses' views, experiences and perceptions about their work, the organisation where they worked and the factors that

[2] J.C. Greene, V.J. Caracelli, and W.E. Graham, "Toward a Conceptual Framework for Mixed-method Evaluation Designs," Educational Evaluation and Policy Analysis 11 3 (1989): p. 255-274.

contributed to their job satisfaction was suggested by the academic supervisors to the present study. The findings from the focus group interview suggested that two different sets of factors were related to nurses' job satisfaction and dissatisfaction. Factors such as autonomy and the intrinsic aspects of the work itself when present in the work situation were responsible for job satisfaction, but whose absence did not appear to result in job dissatisfaction. A second set of factors, including pay and the physical working conditions when inadequate in the work situation resulted in job dissatisfaction, but which when adequate did not necessarily lead to job satisfaction. Such findings would appear to have some similarities with the intrinsic and extrinsic factors described in Two-Factor theory. While the findings from the focus group interview were considered to be a useful first step, it was important, nonetheless, that a review of the relevant literature was undertaken before proceeding to construct a framework for the study.

A review of the theoretical literature had revealed that while there are several theories that can be used to investigate job satisfaction, only one theory might be suitable for investigating organisational climate. Furthermore, it would seem that a rigorously proven theory concerning organisational climate and job satisfaction does not exist. This lack of a suitable theory meant that the testing of theory within the present study was not feasible. As a consequence, a tentative framework that could be used to guide the overall study was proposed instead. This framework was constructed in two parts. The first part, referred to as part one of the framework, was created using the variables under investigation and assumptions, acquired from previous research to predict the outcomes between the independent and dependent variables. The second part, referred to as part two of the framework, was constructed using a conceptual map of Herzberg's Two-Factor theory which was used to demonstrate the similarities

between this theory and the components of the Index of Work Satisfaction (IWS). The decision to incorporate this second part into the framework was based on the following considerations. Firstly, the findings from the focus group interview, undertaken during the early stages of the present study, suggested that the factors responsible for job satisfaction and dissatisfaction among nurses were similar to the intrinsic and extrinsic factors described by Two-Factor theory.[3] Secondly, the components of the Index of Work Satisfaction (IWS) fit into a similar design as that used in Two-Factor theory namely, intrinsic or motivator factors and extrinsic or hygiene factors.[4] Thirdly, given the similarities between the components of the IWS and the intrinsic and extrinsic factors used in Two-Factor theory then it seemed plausible to incorporate this theory into the framework so that it can be used to interpret the findings from the IWS. Two-Factor theory, however, was not tested. Its use within the framework was confined to interpreting the findings from the IWS. The original or tentative version of the framework as proposed in Chapter Three of this dissertation is illustrated in Figures 13 and 14.

8.3 The Original or Tentative Framework

In the literature on nursing there are several contradictory views regarding terms such as models, theory, ideology, and conceptual framework.[5] Theorists such as Fawcett[6] adhere to rigid criteria of what constitutes a theory and therefore would argue that models are indeed different from theories. On the other hand, authors such as

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[3] The results from the focus group interview were discussed in Chapter Four of this dissertation.

[4] P.L. Stamps, Nurses and Work Satisfaction: An Index for Measurement, p. 192.

[5] H. Mckenna, Nursing Theories and Models (London: Routledge, 1997), p. 14-23.

[6] J. Fawcett, Analysis and Evaluation of Conceptual Models of Nursing 3rd ed. (Philadelphia: F.A. Davis, 1995), p. 1-50.

Meleis[7,8] and Stevens-Barnum[9] take a different stance on the issue. These authors argue that it matters little what labels are used. In their view, nurses devote too much time debating issues about what constitutes a theory and a model, when the time should be spent instead on how models and theories can be applied to patient care. These authors further suggest that theories go through different stages of development and that models are indeed theories albeit at a more abstract level than those theories that were developed through extensive research. Given such a debate, this researcher decided to use the term "framework" to describe the model that was developed to guide the overall study, interpret its findings and link the findings from the present study to the larger body of knowledge on job satisfaction in nursing.

As already stated, the original or tentative framework was developed in two parts. Part one was constructed using the variables under investigation and assumptions, acquired from previous research to predict the outcomes between the independent and dependent variables. As shown in Figure 13 the two independent variables Biographical Factors and Organisational Climate are positioned on the left of the figure while the dependent variable Job Satisfaction is on the right of the figure.

Each of the independent variables is made up of several components or variables. The direction of influence flows from left to right as is demonstrated by the arrows connecting the independent variables with the dependent variable. The present study predicted a positive relationship between Humanistic Thrust and job satisfaction. In

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[7] Afaf I. Meleis, "Development of Theory from Practice", Workshop Presentation in Kristianstad, Sweeden, quoted in H. Mc Kenna, Nursing Theories and Models (London: Routledge, 1997), p. 14-23.

[8] Afaf I. Meleis, Theoretical Nursing: Development and Progress 3rd ed. (Philadelphia: Lippincott, 2005), p. 8-22.

[9] B.J. Stevens-Barnum, Nursing Theory: Analysis, Application, Evaluation 5th Ed. (Philadelphia: Lippincott 1998), p. 1-18.

other words, as Humanistic Thrust increases so too will job satisfaction. A positive or negative sign is placed along the arrows between organisational climate and job satisfaction to represent the nature of the relationship predicted between each of the components and the dependent variable. The term "some difference" is used along the arrows leading from the biographical factors to the dependent variable to indicate that the framework is proposing that differences do exist between the groups within each of the biographical components and job satisfaction. The present study, for example, predicted that the level of job satisfaction would be different between female and male nurses. It was then incumbent on the present study to determine whether these predictions did indeed exist and to modify the framework accordingly.

Part two of the framework, displayed in Figure 14, utilised a conceptual map of Two-Factor theory to demonstrate the similarities between the intrinsic and extrinsic factors as described in this theory and the components of the IWS questionnaire. This part of the framework was descriptive, since it was used only to assist in interpreting the findings from the IWS. Therefore, no amendments were necessary since no predictions were proposed for testing.

Framework – Part One
Predicted Outcomes Between the
Independent and Dependent Variables

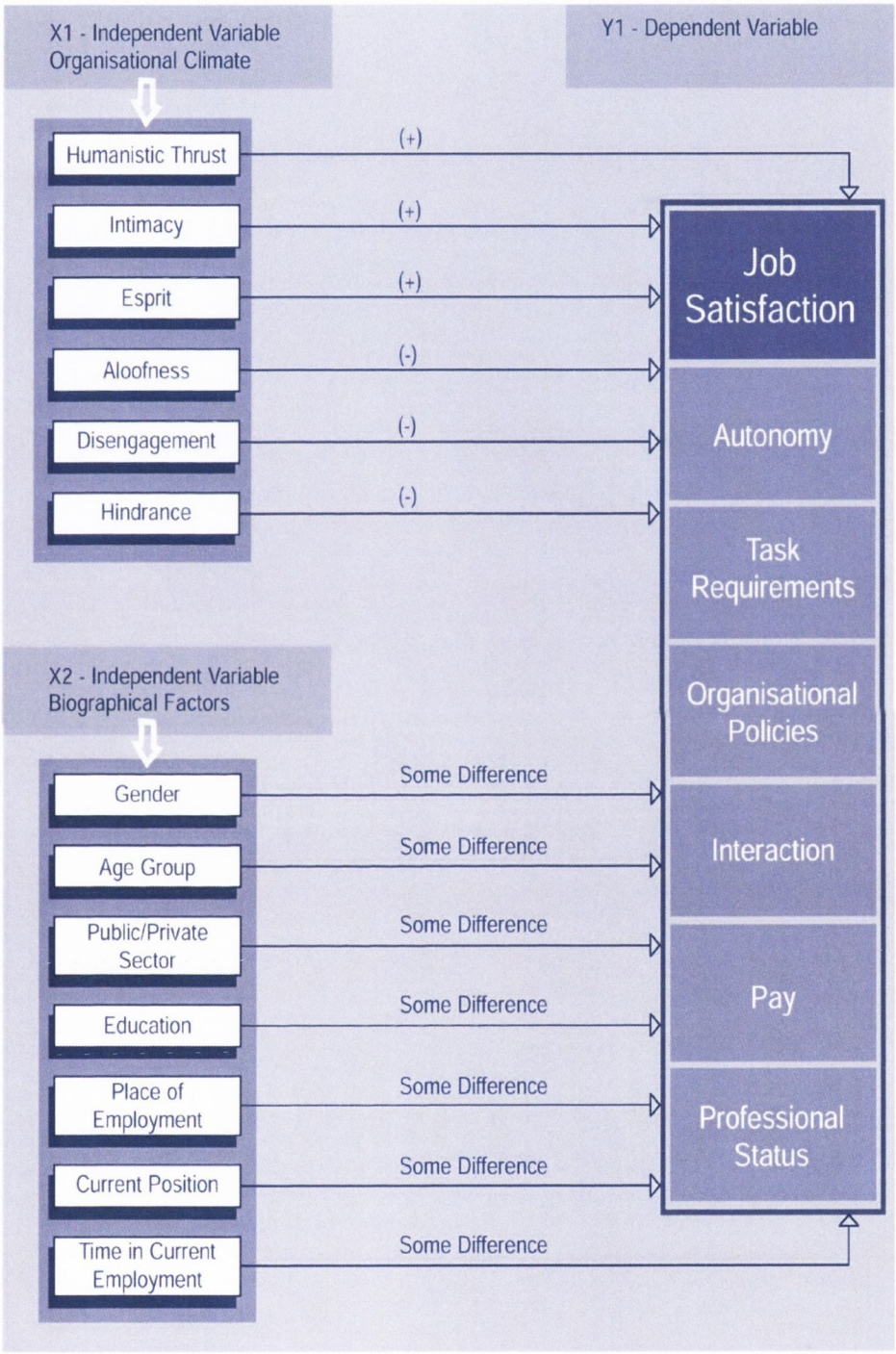

Figure 13

Framework – Part Two
Conceptual Map Showing Similarities Between Two-Factor Theory and IWS Components

Section A

Herzberg's Two-Factor Theory

Intrinsic or Content Factors also known as Motivator Factors	Difference Between Satisfaction and Dissatisfaction	
Achievement Recognition Interest of the Work Responsibility Advancement Growth	Motivator factors when present in the working situation lead to job satisfaction.	⇨ Job Satisfaction
When Motivator factors are not present the worker is not dissatisfied because hygiene factors are responsible for job dissatisfaction. Instead the worker feels neutral or indifferent.		⇨ Neutral State
Extrinsic or Context Factors also known as Hygiene Factors	Difference Between Satisfaction and Dissatisfaction	
Company Policy and Administration Supervision Relationship with Supervisor Work Conditions Relationship with Peers Relationship with Subordinates Salary	Hygiene factors when inadequate in the working situation lead to job dissatisfaction.	⇨ Job Dissatisfaction
When Hygiene factors are adequate the worker is not satisfied as motivators are responsible for job satisfaction. Instead the worker feels neutral or indifferent.		⇨ Neutral State

Section B

Similarities Between IWS Components and Motivator and Hygiene Factors as Described by Two-Factor Theory

IWS Components	Components Similar to Herzberg's Motivators	
Autonomy Task Requirements Professional Status	These three components of the IWS are similar to what Herzberg described as intrinsic or motivator factors.	IWS can Indicate which components are (1) Important to nurses' Job Satisfaction and (2) Contribute to their current Level of Job Satisfaction
IWS Components	Components Similar to Herzberg's Hygiene Factors	
Organisational Policies Interaction Pay	These three components of the IWS are similar to Herzberg's extrinsic or hygiene factors.	
The scores from the six IWS components are ranked in order to determine (a) which components are considered to be important to job satisfaction and (b) which components make the greatest contribution to nurses' current level of job satisfaction.		

Figure 14.

Figure 14 forms part two of the framework developed by this researcher. It will be used only to interpret the findings from the IWS questionnaire.

8.4 The Modified Framework: How Useful and Relevant was the Framework?

Before modifying the framework it is important to comment briefly on the usefulness of the framework within the present study. The framework was useful during all stages of this research study. Specifically, it assisted in narrowing the focus of the study. It determined what hypotheses were to be addressed by the research, and it provided ideas regarding the type of statistical procedures one might use for analysing the data. In addition, the framework was particularly useful in predicting the outcomes between the independent and dependent variables and in interpreting the findings on job satisfaction as reported in Chapter Seven.

In order to link the framework to the larger body of knowledge on job satisfaction, it was important that the findings from the present study were incorporated into the framework. With regard to the predictions between organisational climate and job satisfaction, the nature (positive or negative) of the correlations remained unchanged. Therefore, all that was necessary here was to include the strength of the correlations between each of the six climate components and job satisfaction. As can be seen in Figure 15, there are significant correlations between five of the organisational climate components and job satisfaction. In particular, Esprit and Humanistic Thrust had the strongest correlations {r=.552} and {r=.447} respectively.

With regard to the predictions between biographical factors and job satisfaction a few modifications to the framework were required. Firstly, the findings from the present study revealed no differences in job satisfaction scores for female and male nurses. Secondly, no differences were noted in job satisfaction scores for those nurses working in their current place of employment for under five years and those in employment for over five years. The remaining biographical factors did demonstrate

some differences in job satisfaction scores as previously predicted. The results, for example, indicated that there were differences in job satisfaction scores between nurses working in the private and public healthcare sectors. Despite such findings, however, the effect size (strength of association) was quite small for all of the predictions between the biographical factors and job satisfaction as illustrated in Figure 15. The effect size between public and private healthcare sector and job satisfaction was only .02. In other words, the type of healthcare sector nurses work in accounts for only 2% of the variance in job satisfaction. These findings suggest that while biographical factors are important in predicting job satisfaction among nurses, they do not appear to be as important as organisational climate factors. This will be addressed further in section 8.4.1. Based on these findings the framework was duly modified. It appears in modified form in Figure 15.

Having amended part one of the framework two points are worthy of note. Firstly, the framework was fairly accurate in its predictions between the independent and dependent variables. Secondly, the findings from the present study have indicated that organisational climate components are fairly reliable indicators of job satisfaction among nurses. The only component that did not result in statistically significant findings was Intimacy. What this suggests is that the extent to which nurses enjoy friendly, social relations with each other is no predictor of job satisfaction as measured by the IWS. With regard to biographical factors, a somewhat different picture emerged. While some of the results demonstrated statistically significant differences between biographical factors and job satisfaction, the effect size or strength of association was very small in each case. What is clear from the findings reported here is that further research, aimed at exploring the effects of biographical factors on job satisfaction, remains to be done. Nevertheless, this researcher believes

that both parts one and two of the framework made a significant contribution to the present study. Part one of the framework was indeed useful in predicting job satisfaction among nurses while part two assisted in interpreting the findings from the IWS questionnaire. Further research is needed, however, before any firm conclusions can be drawn regarding the framework as a whole. More importantly, the role of biographical factors within the framework is less clear and therefore will require extensive research.

8.4.1 Linking the Framework to the Larger Body of Knowledge

Thus far the discussion regarding the framework has been based on the findings from the descriptive and bivariate analyses of the data. What will now be attempted is to examine part one of the framework in light of the multiple regression analyses. This undoubtedly will strengthen the link between the framework and the larger body of knowledge on job satisfaction in nursing.

The multiple regression analyses were undertaken to fulfil two questions. Firstly, how well do the six components of the Nurse Organisational Climate Description Questionnaire (NOCDQ) predict job satisfaction as measured by the Index of Work Satisfaction (IWS)? In other words, how much variance in job satisfaction scores can be explained by scores for the six components for the NOCDQ. Secondly, which of the six components of organisational climate is the best predictor of job satisfaction? The regression of the dependent variable (job satisfaction) on six predictor variables (Humanistic Thrust, Esprit, Intimacy, Aloofness, Disengagement, and Hindrance) accounted for 46.7 % of the variance and was significant at the $p<.0005$ level. These findings provide an answer to the first question. Of the six variables *Esprit* made the largest contribution (Beta = .336) and *Humanistic Thrust* made the second largest

contribution (Beta .272). Intimacy and Aloofness did not make a significant contribution to the dependent variable and are therefore, not strong predictors of job satisfaction as measured by the Index of Work Satisfaction (IWS). These findings provide an answer to the second question.

In the present study biographical factors were not reliable predictors of job satisfaction. Nonetheless, their inclusion within this study's framework was useful and therefore should continue to be investigated in future studies. On the other hand, organisational climate variables were able to explain 46.7 % of the variance in job satisfaction and thus were reliable predictors of job satisfaction among nurses. Given that this researcher was unable to locate studies that utilised multiple regression analyses, the findings from the present study, have in this researcher's view, made a significant contribution not only to the study's framework but also to the larger body of knowledge in nursing.

Framework – Part One
Predicted Outcomes Between the Independent and Dependent Variables

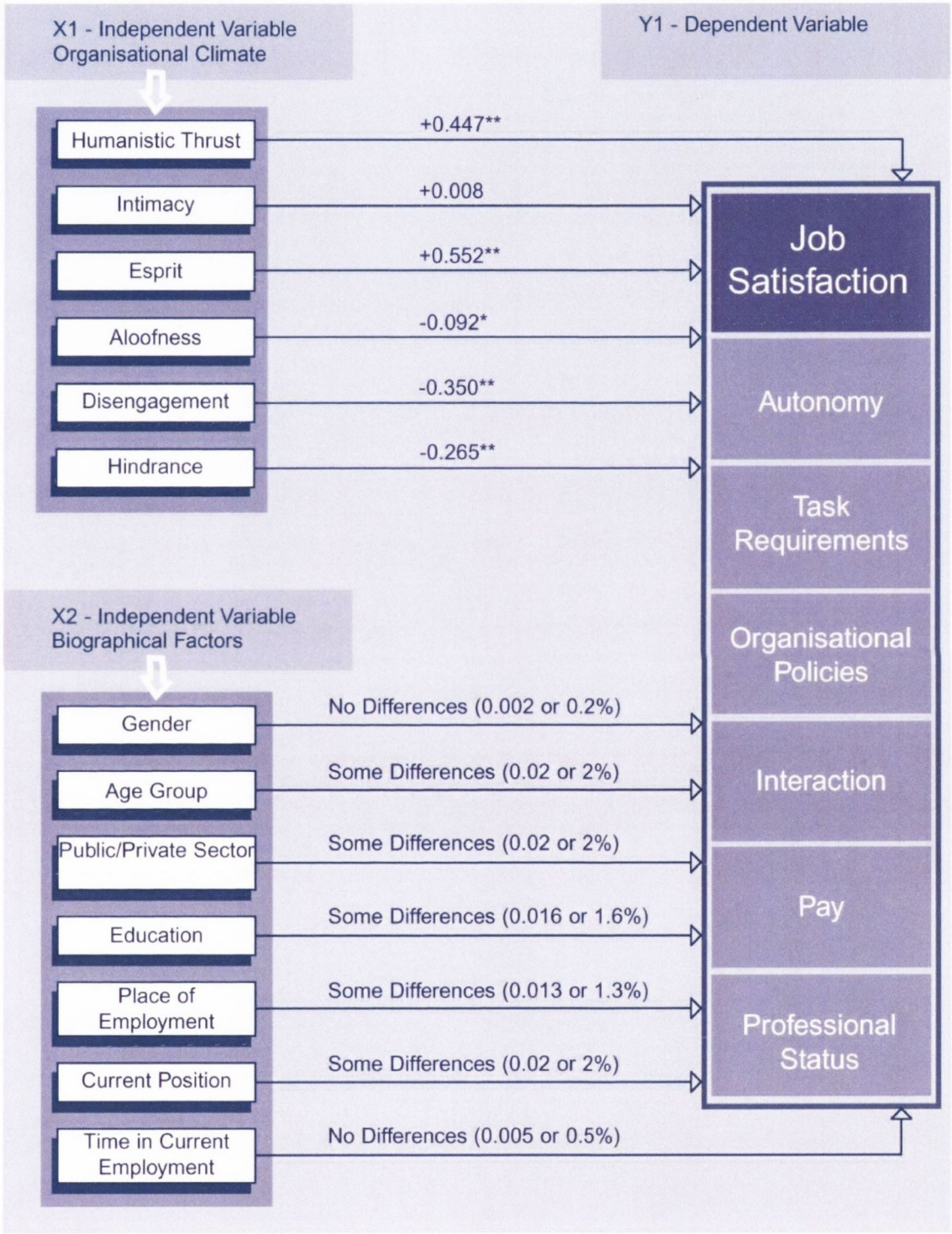

Figure 15

Key

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

8.5 Implications of the Framework

It has already been reported that the framework was useful during several stages of this research study but more importantly it was useful in predicting job satisfaction among nurses. This conclusion is based on the fact that the findings from the present study were in general, consistent with the predictions made in the original framework. Furthermore, the findings from the multiple regression analysis revealed that organisational climate variables were able to explain 46.7 % of the variance in the dependent variable and therefore were reliable predictors of job satisfaction. So, a reasonable question to ask at this stage is *"What are the implications of the modified framework?"* This researcher believes that the framework has implications not only for future research but also for clinical practice. Given that in the present study, part one of the framework was useful in predicting job satisfaction among nurses, a reasonable recommendation would be for the framework to be used again in its present format. The findings from such research would either support or refute the relevance of the framework in investigating the same variables as those used in the present study.

In part two of the framework a conceptual map as illustrated in Figure 14 was used to demonstrate the similarities between the intrinsic and extrinsic factors described by Two-Factor theory and the components of the Index of Work Satisfaction (IWS) questionnaire. This part of the framework, as was demonstrated in Chapter Seven, was used only to interpret the findings from the IWS. The reader may recall that in Two-Factor theory intrinsic or motivator factors, when present in the work situation, lead to job satisfaction, but when absent do not lead to dissatisfaction but to a neutral state. These factors are separate from extrinsic or hygiene factors, which when inadequate in the work situation, lead to job dissatisfaction but when adequate do not

lead to job satisfaction but to a neutral state. The results from the present study demonstrated that an IWS component similar to the extrinsic factors described in Two-Factor theory made a significant contribution to nurses' job satisfaction. Given that extrinsic factors when inadequate are meant to result in job dissatisfaction and when adequate to a neutral state this was a rather interesting finding. In addition, another IWS component similar to the intrinsic factors used in Two-Factor theory made less of a contribution to job satisfaction than would normally be expected. Again, this is an interesting finding since intrinsic factors when fulfilled are meant to result in job satisfaction. Such results could lead one to suggest that in some samples both intrinsic and extrinsic factors may result in either job satisfaction or dissatisfaction. Because the present study, however, did not test Two-Factor theory, extreme caution is taken in interpreting these findings. Therefore, while these results support the usefulness of part two of the framework in interpreting the findings on job satisfaction, they cannot be used to either support or refute Two-Factor theory. Given such findings, a logical recommendation is for future research to test the usefulness of Herzberg's Two-Factor theory in investigating job satisfaction among nurses.

Another implication of this framework concerns its relevance to clinical practice. It is quite possible that the framework could be modified for use in clinical practice. Before modifying the framework, however, this researcher would recommended that nurse clinicians use the existing framework to assess job satisfaction and climate within their organisations. After this initial assessment the framework could then be modified to include organisational initiatives specifically designed to improve organisational climate and job satisfaction. Such research would be of immense value to nurse clinicians and the nursing profession as a whole. Not only will investigators be able to determine the current level of job satisfaction among their staff and the

present state of the climate within their organisations, but they will also be able to establish whether the organisational initiatives they have introduced resulted in a better climate and higher levels of job satisfaction among nurses.

Earlier in this chapter, it was reported that the framework was useful during several stages of the present study but that it was especially useful in predicting job satisfaction among nurses. In previous chapters, it was reported also that the findings from the present study have made a significant contribution to the existing body of knowledge in nursing. The framework, as discussed in this chapter, was amended in light of the findings from the present study. If the findings from the present study have made a significant contribution to the existing body of knowledge in nursing and if the framework has been amended in light of the findings, then a reasonable conclusion is that the framework has made a contribution not only to the present study but also to the existing body of knowledge in nursing.

8.6 Summary and Conclusion

Essentially this chapter used the findings from the present study to confirm the usefulness of the framework that was proposed in Chapter Three. After a short introduction the chapter moved on to discuss how the framework was developed. Basically, the framework was constructed using the results of a focus group interview and the outcomes of a review of the theoretical literature. Next, the original framework that was proposed in Chapter Three of this dissertation was presented and explained. This facilitated comparisons between the original framework and its amended version without the reader having to return to Chapter Three. The chapter then moved on to discuss the usefulness and relevance of the framework in investigating job satisfaction. Briefly, the framework was useful during several stages

of the present study but it was particularly useful in predicting the outcomes between the independent and dependent variables. In order to link the framework to the larger body of knowledge on job satisfaction it was necessary to amend the framework in light of the findings from the present study. The chapter concluded by informing the reader of the implications of the framework for future research and clinical practice.

CHAPTER NINE

SUMMARY AND CONCLUSION

9.1 Introduction

The present study, as was pointed out in Chapter One of this dissertation grew out of a longstanding interest in job satisfaction and its relationship with organisational climate. In addition, several interesting discussions over a period of about five years between nursing students and myself, concerning the need for research on this topic in Ireland, finally convinced me that such research was important and would be of considerable interest to nurses and indeed the nursing profession. Furthermore, while the published literature suggested that nurses generally report low levels of job satisfaction, none of these studies were carried out in the Republic of Ireland. Despite these positive indications for further research on job satisfaction, however, it was essential to clarify two questions before proceeding. Firstly, is job satisfaction worthy of investigation? Secondly, given the vast amount of research on this topic, what aspect of job satisfaction should be investigated?

An initial review of the literature provided answers to both these questions. With reference to the first question, the literature indicated that job satisfaction was indeed a valid topic to research, since it affected the lives of millions of workers. With regard to the second question, the literature suggested that one way in which our understanding of job satisfaction can be improved is to focus research efforts toward helping to improve employee satisfaction. In other words, researchers should research issues that are relevant and important to those who participate in their studies. Therefore, a study that sought to (a) determine the current level of job

satisfaction among nurses, (b) identify the factors that made the greatest contribution to nurses' job satisfaction and (c) determine the effect of biographical factors on job satisfaction and the nature of the relationship between organisational climate factors and job satisfaction is both relevant and important to nurses and thus worthy of investigation.

Against this backdrop, the present study was completed using a dominant-less dominant mixed method design and a randomly selected sample of nurses in order to achieve several purposes and test a number of hypotheses. The present chapter has several aims. Firstly, it will summarise the content of this dissertation. Secondly, this chapter will provide a synopsis of the main findings from the study. Thirdly, it will respond to a question that is important to every research study: *has the study contributed to research on the topic?* Fourthly, it will emphasise the usefulness of the findings by discussing the implications for theory, research, education and practice. Fifthly, this chapter will identify and examine the study's main theoretical and methodological limitations.

9.2 Summary of Dissertation

The present dissertation is composed of nine chapters. Chapter One, entitled "Introduction", provided the background and justification for the study. In addition, it provided information such as the purpose of the study, the hypothesis to be tested, and the assumptions underpinning the present study. Chapter Two discussed the scholarly literature about the variables under investigation. The purpose of the chapter was to share with the reader the results of other relevant research studies and to emphasise the need for the present study, by drawing attention to the deficiencies identified in the literature. Chapter Three, entitled "A Theoretical Perspective", examined the

theoretical literature on job satisfaction and organisational climate. The conclusion drawn from this review is that while there are several theories of job satisfaction that could be used to investigate job satisfaction, it would appear that only one theory might be suitable for investigating organisational climate. More importantly however, no theory suitable for investigating both job satisfaction and organisational climate exist at the present time. Consequently, theory was not tested in the present study. Instead, a framework based on assumptions derived from the literature was developed and used, not only to predict the outcomes between the independent and dependent variables but also to guide the overall study.

Chapter Four, entitled "Methodology", provided the reader with information as to how the present study was planned and implemented. In addition, this chapter provided a report on the conduct and outcome of the focus group interview. Chapter Five reported the descriptive findings from the questionnaire survey. Chapter Six, entitled "Data Analysis", presented the bivariate and multiple regression analyses. Findings were presented for each of the nine hypotheses and the reader was informed whether the null hypotheses were rejected or accepted. Chapter Seven discussed the findings from the present study in relation to previous research. In brief, the findings on the current level of job satisfaction were similar to those reported in other studies. In addition, the findings regarding the correlations between organisational climate and job satisfaction were also consistent with those of previous research. The findings from the biographical data, however, were mixed. In some instances the findings were similar to those of previous research, while at other times they demonstrated differences. Chapter Eight, entitled "Confirmation of the Framework", addressed the usefulness of the framework within the present study and discussed the implications of the framework for future research and clinical practice. The final chapter, entitled

"Summary and Conclusion", summarised the entire dissertation and provided a synopsis of the main findings. In addition, it discussed the implications of the findings for theory, research, education and practice in nursing.

9.3 Summary of Main Findings

The concluding chapter of a dissertation should remind the reader of the purpose of the study, the hypotheses that were formulated and tested, and the main findings. To achieve this, the findings are summarised for each purpose and then for each hypothesis.

9.3.1 Purpose of the Present Study

1. The first purpose of the present study was to determine the current level of job satisfaction among nurses in the Republic of Ireland and to undertake a comparative analysis of these findings with other international studies. The findings confirmed low to moderate levels of job satisfaction among nurses in the Republic of Ireland. In addition, the comparative analysis revealed that the findings from the present study were similar to the average of eleven other studies.

2. The second purpose was to identify which of the IWS components made the greatest contribution to nurses' current level of job satisfaction (Part B of IWS). The findings demonstrated that Professional Status, Interaction, and Autonomy made the greatest contribution to nurses' job satisfaction.

3. The third purpose was to determine the difference between (a) the IWS components that nurses regard as being *important* to their job satisfaction (Part A of IWS) and (b) the IWS components that are more likely to *contribute* to nurses' current level of job

satisfaction (Part B of IWS). The results revealed that Autonomy, Pay, and Interaction in that order, were regarded as being *important* to nurses' job satisfaction, while components such as Professional Status, Interaction, and Autonomy in that order, *contributed* most to nurses' current level of job satisfaction.

4. The fourth purpose was to determine nurses' current perceptions of organisational climate. The results revealed only moderate ratings for the six components of organisational climate.

5. Fifthly, the present study hoped to (a) establish the nature of the relationships between organisational climate components and job satisfaction and (b) determine the effects of biographical factors on job satisfaction. To achieve this purpose hypotheses were formulated for testing. This purpose was achieved but the findings will be summarised under the eighth and ninth hypotheses.

6. The sixth purpose was to use the findings from the present study to confirm the usefulness of the framework developed and presented in Chapter Three. The discussion regarding this purpose took place in Chapter Eight. The outcome of this discussion was that the framework was indeed useful for predicting job satisfaction among nurses. Therefore, this purpose was achieved.

7. The final purpose was to submit the data from the present study to the authors of a database that has been complied in the United States. This database contains data from international research studies that have used the IWS to measure job satisfaction and the procedures specified in the IWS manual for scoring the questionnaire. The primary use of this database is to provide data to researchers who wish to compare their findings with those of other research studies. Therefore, the data from the

present study are now available to other researchers who wish to investigate job satisfaction. This purpose was achieved.

9.3.2 Hypotheses Formulated and Tested

In addition to the purposes presented above nine null hypotheses were formulated and tested. The results for each hypothesis are now summarised.

1. Null Hypothesis 1 stated that there is no significant difference in the job satisfaction scores for females and males. Null hypothesis 1 was accepted since the findings indicated no significant differences between gender and job satisfaction.

2. Null Hypothesis 2 stated that there are no differences in job satisfaction scores for nurses in the following age groups: 18-25 years, 26-36 years, 36-45 years, 46-55 years, and over 55 years. The findings from the present study confirmed that age does play a role in job satisfaction. Nurses in the 36-45 and 46-55 age groups were more satisfied than nurses in the other age groups. Therefore, Null Hypothesis 2 was rejected.

3. Null Hypothesis 3 stated that there is no significant difference in the job satisfaction scores for nurses working in the private and public healthcare sectors. The findings confirmed that nurses working in the private healthcare sector were more satisfied with their jobs than nurses working in the public healthcare sector. Thus, Null Hypothesis 3 was rejected.

4. Null Hypothesis 4 stated that there is no statistically significant difference in the job satisfaction scores for registered nurses and midwives, nurses with diplomas, and nurses with degrees. The findings indicated that registered nurses and midwives had

higher job satisfaction scores than did nurses with diplomas and degrees. The nurses with diplomas and those with degrees did not differ significantly from each other with regard to their job satisfaction scores. Therefore, Null Hypothesis 4 was rejected.

5. Null Hypothesis 5 stated that there is no statistically significant difference in job satisfaction scores for nurses working in an acute hospital environment and those working in non-acute environments. The findings confirmed that nurses working in an acute hospital environment were less satisfied with their jobs than their colleagues working in non-acute environments. Therefore, Null Hypothesis 5 was rejected.

6. Null Hypothesis 6 stated that there is no difference in job satisfaction scores for student nurses and midwives, qualified clinical nurses and non-clinical nurses (those in managerial positions). The findings confirmed that student nurses and midwives had lower levels of job satisfaction than did their colleagues in the other two groups. In addition, non-clinical nurses or managers reported higher levels of job satisfaction than did qualified clinical nurses. Thus, Null Hypothesis 6 was rejected.

7. Null Hypothesis 7 stated there is no significant difference in job satisfaction scores for nurses who have been working in their current place of employment for less than five years and those who have been working in their current place of employment for five years and over. The findings confirmed no significant differences in job satisfaction scores between these two groups of respondents. Therefore, Null Hypothesis 7 was accepted.

8. Null Hypothesis 8 stated that there are no significant positive or negative correlations between organisational climate components and job satisfaction components. The findings confirmed significant positive correlations between

Humanistic Thrust and Autonomy, between Esprit and Autonomy, and between Esprit and Organisational Policies. In addition, there were significant negative correlations between Hindrance and almost all the IWS components and between Disengagement and almost all the IWS components. Therefore, Null Hypothesis 8 was rejected.

9. Null Hypothesis 9 stated that there are no significant positive or negative correlations between organisational climate components and total job satisfaction. With regard to the nature of the relationships between organisational climate and job satisfaction the findings confirmed significant positive correlations between Esprit and job satisfaction and between Humanistic Thrust and job satisfaction. No significant correlation was found between Intimacy and job satisfaction. In addition, there were significant negative correlations between Disengagement and job satisfaction. Thus, Null Hypothesis 9 was rejected.

9.4 Has the Present Study Contributed to Knowledge on Job Satisfaction?

In Chapter One and briefly in the introduction to the present chapter, it was pointed out that job satisfaction is a well-researched topic with several published articles and dissertations every year. This, no doubt, reinforces the view that job satisfaction is a matter of concern to the working public and of considerable interest to researchers. With regard to nursing, there has also been extensive research in the area of nurse satisfaction. When the literature was reviewed, however, a consistent picture did not emerge. Not only were findings contradictory but also the ways in which job satisfaction was conceptualised and measured were diverse. Nevertheless, it is important not to dwell excessively on such issues but to focus attention instead on whether job satisfaction research has increased our understanding of the topic in a significant way. This researcher believes that it has, despite the fact that this

increased understanding has sometimes led to contradictions in findings, as discussed in Chapter Two.

Having planned and completed the present study, a reasonable question to ask at this stage is: *whether the study has made a contribution to research on job satisfaction in nursing?* My response would be that it has. Firstly, the present study investigated an aspect of job satisfaction that has not been extensively researched within healthcare. The decision to explore the effects of biographical factors on job satisfaction and the association between organisational climate variables and job satisfaction was to some extent based on the deficiencies identified in the literature. Given that one of the functions of research is to advance knowledge, and given that one way in which this can be achieved is to investigate topics or variables that have not been extensively researched, then a fair conclusion is that the findings from the present study has made a contribution to job satisfaction research in nursing.

Secondly, this researcher believes that organisations have tremendous effects on the employees who work in them. Some of these effects, as this dissertation has revealed, are reflected in how employees feel about different aspects of their work. Negative feelings can result in behaviours that are detrimental to both the employee and the organisation. Therefore, it is in everyone's interest that organisations function effectively and efficiently. Organisational practices that maximise job satisfaction will no doubt function well since such practices are more likely to result in employee cooperation, commitment, and a state of positive well-being. Given that the findings from the present study confirmed statistically significant correlations between organisational climate factors and job satisfaction, then this study, in this researcher's view, has contributed to research in this area.

Thirdly, to the best of this researcher's knowledge, no known research studies of this kind have been completed in the Republic of Ireland. Consequently, the findings from the present study could be potentially useful to both nurses and the nursing profession in Ireland. Fourthly, the findings from the present study have been entered into a database in the United States of America. This database was the brainchild of an American professor of nursing whose research has been devoted to understanding the factors that contribute to the satisfaction of healthcare workers, especially nurses. She is also the author of the Index of Work Satisfaction (IWS), one of the instruments used in the present study. This database contains a collection of studies that have used (a) the Index of Work Satisfaction (IWS) to measure job satisfaction among nurses and (b) the standardised procedures developed for scoring the IWS. Given that one of the goals of this database is to provide information that can be used by researchers to compare the level of job satisfaction of one sample of nurses with that of others, then the entry of the data from the present study into this database will no doubt make a significant contribution to advancing research on job satisfaction.

When discussing the contribution of the findings from the present study, it is important to emphasise not only how they have contributed to research on job satisfaction but also that these findings are of practical significance to the nursing profession. The present study found that the current level of job satisfaction among nurses is low to moderate; that nurses are only moderately satisfied with organisational climate components; that organisational climate factors such as Esprit and Humanistic Thrust are strongly correlated with job satisfaction. In addition, it confirmed that there are significant negative correlations between the negative components of organisational climate (Disengagement, Aloofness, and Hindrance) and job satisfaction. Therefore, health service administrators and nursing managers

who wish to avoid problems in their organisations can use findings such as these to assist them in designing organisational innovations, aimed at improving job satisfaction.

The point that must be emphasised here is this: organisations that wish to maximise job satisfaction among nurses must make every effort to increase the positive factors of organisational climate and reduce or eliminate the negative factors. While it is true that no research study is without its limitations and that includes the present study, it is my view, nonetheless, that the present study has made a significant contribution to research on job satisfaction and therefore to nursing knowledge. Figure 16 summarises the main outcomes discussed in this section.

Summary of Main Outcomes of the Present Study

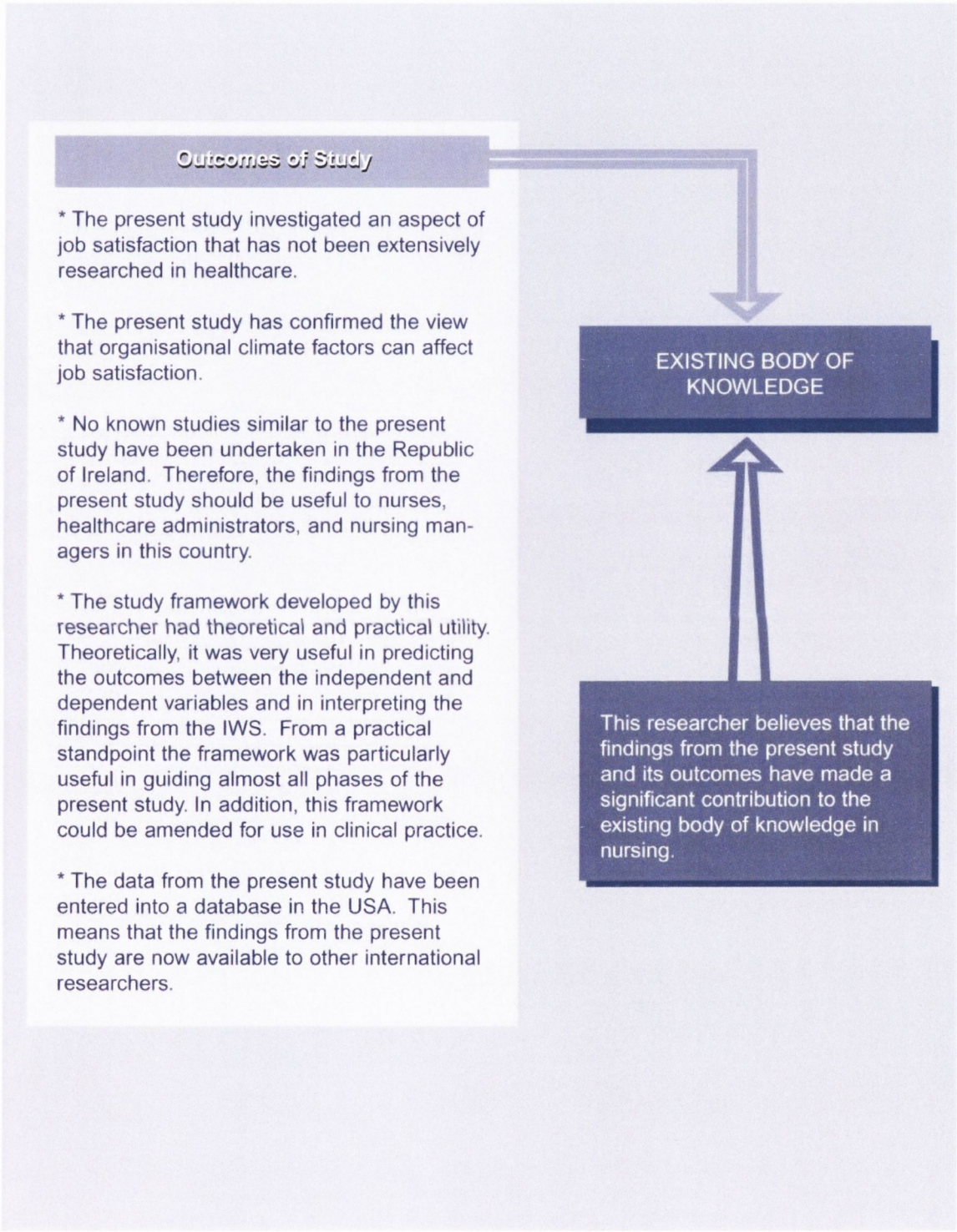

Figure 16

9.5 Implication of Findings

Interpretation of a study's findings is incomplete until the implications of the study have been identified. The findings from the present study have potentially important implications for theory, research, education, and practice in nursing. These are now addressed.

9.5.1 Implications for Theory

Despite not having tested theory, this researcher developed a framework and used it to predict the outcomes between the independent and dependent variables and to interpret the findings from the IWS questionnaire. The framework was developed in two parts. Part one was constructed using the variables under investigation and assumptions acquired from previous research to predict the outcomes between the independent and dependent variables. Part two of the framework utilised a conceptual map of Two-Factor theory to demonstrate the similarities between this theory and the components of the Index of Work Satisfaction (IWS) which was used to measure job satisfaction.

In order to address the implications of the findings for theory, a number of questions must now be examined. Firstly, was the framework useful for investigating job satisfaction? This framework was useful during all stages of the research study. It assisted this researcher in limiting the focus of the study. It determined the type of hypotheses to be addressed by the research and it provided ideas regarding the statistical techniques one might use for analysing the data. Moreover, the findings from the study confirmed that part one of the framework was useful in predicting the outcomes between the independent and dependent variables and that part two of the framework was useful in interpreting the results from the IWS questionnaire. More

importantly, however, this researcher believes that the framework could be amended for use in clinical nursing practice.

Secondly, did the findings uncover contradictions or inconsistencies in the framework? This issue has already been addressed in Chapters Seven and Eight, so only a brief comment is made here. The reader may recall that the second part of the framework was constructed using a conceptual map of Two-Factor theory and that this map was used to interpret the findings from the IWS questionnaire. In part, the rationale for this was based on the fact that the components of the IWS fit into a similar design as that used in Two-Factor theory, namely intrinsic or motivator factors and extrinsic or hygiene factors. The findings from the present study revealed that Task Requirements, which is similar to an intrinsic factor and should have made a substantial contribution to job satisfaction did not do so. Likewise, Interaction which is similar to an extrinsic factor, made a significant contribution to job satisfaction when in fact it was not expected to do so. These findings were inconsistent with Two-Factor theory which states that intrinsic factors, when fulfilled, are responsible for job satisfaction and that extrinsic factors, when inadequate, result in job dissatisfaction. Such findings, albeit interesting, cannot be used to either support or refute Two-Factor theory since this theory was not tested in the present study. What can be recommended, however, is for Two-Factor theory to be tested in future research studies in order to determine its suitability for investigating job satisfaction among nurses.

Thirdly, did the findings add to or expand knowledge about job satisfaction among nurses? This issue was addressed in section 9.4 of this chapter so only a brief comment is given here. Research that addresses deficiencies, identified in the

literature, is in this researcher's view one way in which knowledge can be advanced. Given that the present study took account of the deficiencies identified in the literature, then a reasonable conclusion is that this study has made a contribution to nursing knowledge.

9.5.2 Implications for Research

Job satisfaction, as has already been suggested in this dissertation, is one of the most extensively researched topics. Its importance has grown over the years, as evidenced by the huge amount of research reporting the relationship of job satisfaction with personal and organisational factors. Given the significance of the topic, it is vital to support further research endeavours in this area. To this end, some recommendations for advancing job satisfaction research in nursing are now given.

Taking into account that the findings from the present study have shown only a small effect between biographical factors such as age on job satisfaction, it is difficult to argue against the inclusion of these variables in future research on job satisfaction. Two additional variables that researchers should consider including in future studies, are race and personality. Racial differences have been generally ignored in past research studies but with the number of ethnic groups within our communities increasing this variable may well become important in the future. If one takes the view that job satisfaction is the result of the interaction between a person and his environment, then it is difficult to ignore the value of personality traits in the study of job satisfaction. One point, however, is worthy of note. While this researcher would support the theoretical utility of research involving biographical factors, serious reservations can be raised about their practical significance. An overemphasis on biographical factors suggests a situation in which selected qualities or features within

a person are considered more important than the context of the work. Such an emphasis would have grave consequences and would no doubt give rise to serious ethical concerns.

The present study used a dominant-less dominant mixed method design. This design was used developmentally, whereby the first method was used sequentially to help inform the second method. Therefore, this researcher would like to recommend that future research on this topic be undertaken using a sequential mixed method design. In such a design, the researcher conducts a qualitative phase of the study and a separate quantitative phase. The advantage of using this design is twofold. Firstly, it could be used to obtain convergence of results. Secondly, it could be used complementarily, in that different facets of a phenomenon may emerge. Another recommendation is for future studies to consider the use of longitudinal surveys. In the literature on nursing few studies on job satisfaction have utilised this design. It is quite possible that examining the same sample over a longer period of time may produce findings that are different to those obtained from a study that used a survey design. This approach would be especially useful if the main aim of the research is to assess change or development over time.

Another recommendation for future job satisfaction research would be to use a case study method. Researchers could either investigate a group of nurses from different organisations or nurses from one organisation. The first option would be useful if the researcher plans to use nurses as the unit of analysis. The second option could be used if the intention is to use the organisation as the unit of analysis. This design would be particularly useful for evaluating practice since it would enable nurses and nursing managers to learn about the factors that contribute to job satisfaction and

dissatisfaction, and about the perceptions nurses have about the climate of their organisations.

The findings from the present study are relevant only to nurse clinicians. Therefore, a final recommendation would be to undertake a similar survey using a sample of nurse educators. The findings from such a study can be compared with the findings from the present study, in order to identify similarities and differences between these two samples. In this researcher's view, such research would be of enormous value to the nursing profession in the Republic of Ireland since the findings could serve as a base from which to develop an action plan for improving the climate within organisations and ultimately job satisfaction.

Job satisfaction research in the future can follow many paths. Researchers may continue to undertake exploratory descriptive studies or correlational surveys. Alternatively, they could embark on longitudinal surveys or studies utilising quasi-experimental or experimental designs. Whatever path is taken, one thing is certain, job satisfaction research must continue.

9.5.3 Implications for Education

The research process does not come to an end after a research study is completed. The scientific knowledge obtained from the research must be communicated to others in the field. Education is the process of communicating this knowledge. Therefore, all research has some implication for education.

Earlier in this chapter it was stated that the present study did make a significant contribution to knowledge on job satisfaction. Therefore, it is important that the findings from the present study are communicated to nurses of all grades. This can be

achieved in several ways including publication, presentation at conferences and through nurse education programmes. While this researcher will make every effort to communicate the findings from the present study through publications and presentations at relevant conferences, she believes that the most important contribution to education will be made through education programmes for nurses.

While it is tempting to suggest that the findings from the present study and indeed those of other studies be emphasised and communicated via speciality education programmes, it is important to remember that many nurses and healthcare workers progress up the career ladder without attending speciality programmes. Therefore, the recommendation proposed here is not only for speciality programmes but all nursing programmes. All nursing education programmes should devote some of their content to issues such as leadership, planning, motivation, and communication, since these very factors have consequences for the climate of an organisation and ultimately job satisfaction. More importantly, however, nursing programmes should assist students not only in identifying those factors or variables that contribute to both high and low levels of job satisfaction but also to ways in which these variables can be manipulated to increase job satisfaction among staff.

This researcher is convinced that many nursing education programmes would benefit from a management component. It is her intention to propose to the Academic Forum affairs in the School of Nursing and Midwifery, where she works, that a through review of the existing content of all nursing programmes be initiated. A working group could then be set up to examine this information and make recommendations for further actions.

9.5.4 Implications for Practice

In this researcher's view the most important implications of the findings from the present study are for practice. There are two reasons for this. Firstly, a significant part of this study was concerned with the relationship between organisational climate and job satisfaction. Secondly, the sample consisted of nurse clinicians. For this reason, some of the recommendations put forward below are more precise in content. There is no doubt that health service administrators and nursing managers face a particularly challenging task in designing and implementing initiatives to meet employee needs, while at the same time fulfilling the goals of the organisations, often within stringent financial constraints. Nevertheless, it is incumbent upon them to treat employees well and provide an organisational climate that maximises job satisfaction.

The present study found that Professional Status, Interaction and Autonomy made the most significant contribution to nurses' current level of job satisfaction. The implications of such findings are clear. Organisations must implement strategies that will promote or increase these components within the workplace. Promotion and career advancement strategies can be put in place to support the professional status of nurses. One such strategy is to encourage nurses to specialise in a specific area of practice. Specialisation brings opportunities for acquiring new skills, taking on more responsibility and greater job autonomy. Tasks associated with highly specialised jobs, however, can become repetitive in nature and it is important that nurses and nursing managers are aware of this. Another strategy that can be used to increase professional status among nurses is to redesign their jobs. Redesigning jobs through job enrichment activities is likely to lead to self-actualisation and psychological growth in the individual. Job enrichment adds meaning and challenge to a job but

above all, it encourages the individual to take responsibility for decisions concerning their job.

Management practices that promote flexibility, open communication and participation in decision-making are crucial to increasing the autonomy of nurses. Practices that remove decision-making powers from the individual also remove the possibility of the individual applying her or his own skills to a job. Only jobs that permit an individual to apply his or her skills can be expected to contribute to growth in self-esteem. Therefore, it is important that nursing managers develop management practices that embrace nurse autonomy, participative decision-making and empowerment.

With regard to organisational climate, nurses in the present study were moderately satisfied with Humanistic Thrust and Intimacy. Esprit, however, did not receive similar ratings. One strategy that might improve Esprit (morale) is to increase the amount of input nurses have in preparing their own work schedule. In fact, the findings from the present study confirmed that nurses wanted greater input into scheduling their own work shifts. Another strategy involves the use of more flexible working schedules. Although fixed work schedules are still practiced in most organisations, increasingly employees are requesting more flexible arrangements. Many varieties of flexible schedules are available to managers but it is worth remembering that whatever choice is made it is important that the needs of employees are taken into consideration. Another suggestion for improving Esprit is recognition. For many nurses, their work or achievements will require recognition, if it is to be sustained. Recognition, whatever its form, can result in increased self-esteem,

morale, job satisfaction, staff retention and organisational citizenship behaviour.[1] A simple form of recognition that managers could use is verbal comments such as praise. Giving praise is so simple, yet it is often overlooked as a strategy for improving morale. Most employees value being praised by managers and peers for their work. Therefore, health care administrators and nursing managers, who wish to improve job satisfaction among nurses, must place recognition high on their agenda of organisational initiatives.

Findings from the present study indicated significant negative correlations between Hindrance and almost all the job satisfaction components and between Disengagement and almost all the job satisfaction components. Therefore, nursing managers will have to develop strategies that will result in a decrease of these negative components of organisational climate. Many of the suggestions discussed earlier can be used to reduce Hindrance and Disengagement. For example, creating a climate that fosters participation in decision-making could increase autonomy and morale, which in turn, will reduce Aloofness and Disengagement. In addition, managers should adopt a less directive or prescriptive approach to management. Getting nurses to identify areas in their work that need urgent attention and advancement, is a much better strategy to use since it embraces a participative rather than an authoritarian approach to management. This approach is more likely to result in increased participation because it gives ownership of the task to the nurses, and increases their autonomy and decision-making powers.

One of the questions that researchers must address when discussing the implications of research findings is this: *What will or might happen if no change is introduced?*

[1] Organisational Citizenship Behaviour refers to behaviour by an employee that is intended to help colleagues or the organisation.

This researcher believes that if changes such as those recommended here are not carried out, it is quite possible that nurses' job satisfaction will decrease even further in the future. It is quite possible also that a failure to initiate these changes may well result in an increase in nurse turnover rates in the Republic of Ireland.

9.6 Limitations of the Present Study

In most research studies, it is not feasible to investigate every aspect of a problem or to deal with every intervening variable.[2] Limitations, therefore, are restrictions within a study over which the researcher has no control or chooses to ignore because of cost or time constraints. These factors are referred to as extraneous variables, which can threaten the validity of the study. Thus, it is important that researchers identify the limitations which may later influence the findings of their study.[3,4] With regard to the present study two types of limitations are addressed: theoretical and methodological.

9.6.1 Theoretical Limitations

The present study did not test theory. While this is regrettable, it is nonetheless, unavoidable, given that a theory suitable for investigating organisational climate and job satisfaction does not exist at the present time. Instead, a framework was constructed and applied to the study. This framework was developed in two parts: part one was constructed using the variables under investigation and assumptions derived from the research literature to predict the outcomes between the independent and dependent variables. Part two of the framework used a conceptual map of Two-

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[2] Type of extraneous variable that cannot be controlled and whose effect on the study cannot be measured.

[3] L.A. Talbot, Principles and Practice of Nursing Research, p. 190-191.

[4] N. Burns, and S.K. Grove, Understanding Nursing Research, p. 39.

Factor theory to demonstrate the similarities between this theory and the components of the IWS questionnaire. Part one of this framework was predictive and therefore was tested. Part two, however, was descriptive. Its use within the study was confined to interpreting the findings from the IWS questionnaire.

The findings from the present study confirmed the usefulness of both parts of the framework for investigating job satisfaction among nurses. Nonetheless, no firm conclusions can be drawn until part one of the framework has been subjected to further testing. With regard to the second part of the framework, the findings indicated that it was useful in interpreting the findings from the IWS questionnaire. Two-Factor theory, nevertheless, should be tested in the future in order to determine its usefulness in investigating job satisfaction among nurses.

9.6.2 Methodological Limitations

The response rate for the main survey was 30.5% (610 completed questionnaires). While this was a disappointing result, it is important to note nonetheless, that in large-scale postal surveys a response rate as low as 15% is not unusual. One possible explanation for a response rate of 30.5% is that the sampling frame used may not have contained up-to-date information (e.g. addresses) for some of the nurses who were selected for inclusion in the sample. The sampling frame used in the present study was prepared by *An Bord Altranais* (Irish Nursing Board).

To help improve the response rate of a postal survey a follow-up system is recommended. One way in which this can be done is to follow-up the first mailing of the survey pack with reminder postcards. This can be followed by sending other reminders or by posting the survey pack a second time. Unfortunately, however, a

follow-up was not possible in the present study because this researcher did not have access to the sampling frame. *An Bord Altranais* who selected the random sample and distributed the survey packs on behalf of this researcher were unable to carry out a follow-up system.

Although it was recorded in the respondent inclusion criteria that both female and male nurses were eligible to participate in the study, it is not known how many male nurses actually received questionnaires. The response rate from male nurses was quite low (8.7%). The implication therefore, is that these findings may be more applicable to female nurses. In addition, this low response rate may have contributed to the acceptance of Null Hypothesis 1.

Another limitation relates to the issue of comparing the findings from the present study with those of previous research. Often researchers use different instruments to measure the variables they are investigating. This diverse use of measurement instruments presents a significant problem for researchers in that they may find it difficult to compare their findings with those of prior research studies. With regard to the present study, the comparative analysis carried out was confined to job satisfaction. It included only those research studies that used the Index of Work Satisfaction (IWS) questionnaire to measure job satisfaction. Comparing the findings on organisational climate, however, was more problematic. Only one research study was found which used the same instruments as those used in the present study to measure organisational climate. Thus, comparisons for the most part, were made with research studies that used a variety of measurement instruments.

9.7 Summary and Conclusion

This chapter began by reminding the reader of the circumstances that led to the present study. It then went on to provide a summary of the content of every chapter in the dissertation. The study's main findings were reaffirmed before moving on to discuss the ways in which the present study had contributed to nursing knowledge. Interpretation of a study's findings is incomplete until the implications of the study have been addressed. Hence, the implications for theory, research, education, and practice were discussed. Every research study has limitations and it is essential that researchers identify and discuss these limitations. Therefore, the final section in this chapter addressed the theoretical and methodological limitations of this study.

Planning and completing this research study has been both exciting and rewarding. Yes, it had its rough moments and on several occasions, I wished it would come to an end. Overall, however, this study has increased not only my interest in research but also my interest in job satisfaction. I feel privileged to have been able to complete this study in the Republic of Ireland and honoured to have made a contribution to research, albeit in a small way. But, I was fortunate. This study would not have been possible without the efforts of the many nurse researchers who preceded me and who have devoted a significant part of their careers to the study of job satisfaction among nurses.

The present study brought together three sets of variables namely, job satisfaction, organisational climate and biographical factors. As already pointed out, there has been a great deal of research on nurses' job satisfaction. Fewer, however, have investigated the effects of biographical factors on job satisfaction, and even fewer have explored the relationship between organisational climate factors and job

satisfaction within healthcare. More importantly, the present study is as far as this researcher can ascertain, the first research study of its kind to have been completed in the Republic of Ireland.

In concluding, it is appropriate to draw attention once again to the study's main contribution to knowledge on job satisfaction. Firstly, this study investigated an aspect of job satisfaction that has not been extensively researched in healthcare and has given rise to numerous findings of practical significance. For example this study's findings have confirmed that organisational climate does have an effect on nurses' job satisfaction and that some biographical factors have small effects on job satisfaction. Secondly, the theoretical framework developed for the study has theoretical and practical utility. Theoretically, it was fairly accurate in predicting the outcomes between the independent and dependent variables. From a practical perspective the framework was useful in guiding almost all phases of the study.

Thirdly, the data from the present study have been entered into a database in the USA. Given that one of the goals of this database is to provide information that can be used by researchers to compare their findings on job satisfaction with those of other studies, then the entry of the data from the present study into this database will no doubt make a significant contribution to knowledge on job satisfaction. Fourthly, job satisfaction is an important and valid topic to research since it affects the lives of millions of workers. Therefore, the findings from this study have made a contribution to knowledge in this area.

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APPENDIX ONE

Focus Group Interview Pack

Contents Include:

Appendix 1 A – Key Issues in Planning the Focus Group Interview.

Appendix 1 B – Focus Group Interview Schedule.

Appendix 1 C – Check List for Evaluating the Focus Group Interview.

Appendix 1 D – Consent Form.

Appendix 1 E – Ethical Protocol Used to Guide this Research Study.

Appendix 1 F – Copy of Letter to Participants of Focus Group Interview.

Selecting Participants:

In selecting participants for a focus group it is often more important to consider minimising sample bias rather than achieving generalisability (Morgan, 1997). This shift away from generalisability also means a shift from random sampling. Two reasons are offered for this. First, the small number of participants involved in focus groups means that it is unlikely that such a sample would be adequate to represent larger populations, regardless of random selection. Second, a random sample is unlikely to have a shared perspective on a topic and may not even be able to contribute in a meaningful way to the discussions. Therefore, the participants for this focus group will be selected purposively (Morgan, 1997).

Controlling the composition of the group to match chosen categories of participants is known as segmentation. Segmented samples are linked to homogeneity in the composition of focus groups and according to Morgan, (1997:35) homogeneous samples not only allow for more "free-flowing" discussions within the group but also facilitates comparative analysis between groups. In recruiting the participants for this focus group the researcher will segment the sample by number of years working in the Irish Health Service. To be included in this group the nurse must be in continuous employment for a minimum of six years. The rationale for this decision is based on the assumption that if participants have been working as nurses for roughly the same length of time then each should have something to contribute to the topic and feel comfortable saying it in the presence of each other. Wide gaps in the number of years working as a nurse may defeat this condition. However, it is important to stress that the goal is homogeneity in number of years working as a nurse not homogeneity of attitudes or views. Finally, this researcher decided that the group should consist of strangers rather than acquaintances. The rationale for this decision is simple. The researcher believes that using acquaintances could restrict the free flow of the discussion in one of two ways. Firstly, by mutual agreement not to discuss certain issues and secondly, because of fear that acquaintances within the group might disagree with a participant's comments (Morgan, 1997).

Facilitating the Focus Group:

The facilitator opens the session by introducing himself, the researcher and independent observer. The topic is introduced in a general fashion and the purpose of the focus group is then explained. Rules about the conduct of the interview are then explained. The facilitator then begins the interview with a few general or warm-up questions. This part of the interview should take no more than about 25 minutes. For further details on the conduct of the interview please refer to the interview schedule.

In starting the actual discussion, a main objective is to get a response from each participant to the first question. Another important reason for trying to secure a response from everyone is that it helps to discourage the tendency for some participants to suppress their disagreements in favour of agreeing with the group.

One activity that can be used by the facilitator to encourage all to participate in the discussion is to ask participants to take a few minutes to write their thoughts on the cards provided. During the discussion the facilitator will have the freedom to probe more deeply where necessary, skip over issues that have been discussed earlier, and pursue new issues if they arise. It is also possible that the facilitator may have to use prompts, probes or checks. It is important to emphasise, however, that in using prompts or probes it is not acceptable for the facilitator to demand that participants answer questions. The intention is to gently encourage participants to share their knowledge or thoughts on a specific point (Denscombe 1998). Prompts provide the interviewee with a range of possible answers and can be used in the following situations:

a) when respondents remain silent.
b) when respondents ask for the question to be repeated.
c) when respondents ask for an example.

The prompts included in the interview schedule used in this study were based on organisational factors or job attitudes and were acquired from the literature. It is important to point out, however, that the prompts were not used during the focus group interview.

Probes are secondary questions used by the facilitator during an interview when additional information is required about an issue addressed in a primary question (Sarantakos, 1993). Examples of probes include the following:

a) would you like to add anything more?
b) can you expand or clarify what you just said?
c) can you give me an example?

In addition to prompts and probes interviews also allow the facilitator opportunities to check that he has understood the information given by respondents correctly. Such checks will occur on an ongoing basis throughout this interview and not just at the end (Denscombe, 2000). Examples of checks include:

a) if I understand you correctly .....
b) what this means is that .....

Concluding the Focus Group:

Just as moving between the introduction to the main discussion presents a clear beginning to the focus group, the facilitator should also indicate when the session is nearing the end. To accomplish this a "cool off period" has been included in the interview schedule. The facilitator may ask participants to give a final summary statement about the discussion. This technique can be quite useful because participants may feel that this final statement may not be interrupted and may encourage a more honest view that he or she may have been withholding during the open discussion.

Alternatively, the facilitator may ask a direct question as is outlined in the interview schedule. The discussion finally ends when the tape recorder is switched off. Participants are thanked for their contribution and the facilitator reiterates issues regarding confidentiality and anonymity.

Ethical Considerations:

Ethical considerations with regard to conducting this research project have been addressed. For example, this researcher prepared an information pack for all participants. Each pack contained information about (a) ethical standards in research practice, the researcher-respondent relationship, which includes how anonymity and confidentiality will be maintained (b) a consent form, (c) information outlining the research problem, purpose of the research, purpose of focus group interview and justification for this study.

Appendix 1 B

Focus Group Interview Schedule

Date of Interview:	18.04.02
Time of Interview:	10.00 hrs
Venue:	Seminar Room A, Portakabin St. James's Hospital Trinity College
Duration of Interview:	2 hours 30 minutes
Facilitator:	Richard Redmond
Independent Observer:	Patricia White
Researcher:	Elizabeth A. Curtis

Sequence of Activities:

1. Introduction: *25 minutes*

The facilitator introduces himself, the researcher and the independent observer and explains that the researcher will be recording notes during the interview and that the independent observer's role is to ensure that the interview is conducted accurately and ethically. The facilitator reminds participants about the purpose of the focus group interview and discusses how confidentiality and anonymity will be maintained. Permission to record notes and tape the interview is requested.

1.1 Purpose of Focus Group Interview:

This focus group has two main purposes. The first is to explore your views, experiences and perceptions about (a) your work, (b) the organisation where you work and (c) those factors that contribute to your job satisfaction.

The second purpose is to use the focus group developmentally, wherein the information from the group discussions will be used to plan the larger survey on job satisfaction among nurses in Ireland.

1.2 Conduct of Interview:

The interview will last approximately two and a half (2 1/2) hours. During the interview we would appreciate if only one person speak at any given time.

You should speak slowly and clearly in order to facilitate the taping of the interview. Kindly wear the name (pseudonym) badges provided. The names have been randomly assigned. Please feel free to write your thoughts on the cards provided in your pack during the interview.

2. Warm-up Questions:

These non-threatening general questions are used at the beginning of the interview in an attempt to create a relaxed environment. Examples include the following:

a) Did any of you have difficulty finding this venue?

b) Has everyone got an information pack?

c) Can I ask you to read the information in your pack and sign the consent form. The researcher will collect them in a few minutes.

d) Kindly complete the biographic questionnaire in your pack

e) Kindly wear the name (pseudonym) badges and identify yourself by this name when responding to questions.

3. Main Body of Interview:

This section consists of loosely phrased questions. However, it may be necessary to use a series of prompts, probes or checks during the interview.

Question 1 **18 minutes**

One of the issues that we are particularly interested in is how satisfied nurses are with their work. **Can you share with us your views and experiences about your work?**

Prompt

- What makes you satisfied about your work?
- What factors or aspects of your work do you consider to be important to making you feel satisfied with your work? For example an important factor is autonomy.

Question 2 **18 minutes**

We would now like you to rank the factors you identified in question one in order of importance. For example, (1 = most important 7 = least important)

Question 3 **18 minutes**

Can you tell us about those factors at work that cause you to be less satisfied?

Prompt

- Does lack of autonomy cause you to be less satisfied?
- Does lack of support from management cause you to be less satisfied?

Question 4 **18 minutes**

Can you tell us how you determine that you are satisfied?

Prompt

- Is your satisfaction influenced by whether personal needs or values are met?
- Is your satisfaction influenced by your perceptions of others' (in similar jobs) satisfaction?

Question 5 **18 minutes**

We would now like to ask you to share your views about another issue, that is, your organisation. **How do you feel about the organisation in which you work?**

Prompt

- For example, would you describe your organisation as (a) considerate, supportive, and warm (b) reward orientated (c) one that encourages individual autonomy (d) or is it the opposite of these?
- In your opinion which organisational factors do you consider to be important in improving your level of satisfaction with your work?

Question 6 **18 minutes**

We would now like you to rank the organisational factors you have identified in order of importance. For example, (1 = most important 7 = least important).

4. Cool-off Period *15 minutes*

The facilitator winds up the interview by summarising the main points discussed.

Our purpose today was to discuss your views and experiences about (a) your work (b) the organisation where you work and (c) those factors that contribute to your job satisfaction. Do you think there are other questions that could have been asked about these issues? The facilitator asks each participant to comment. An alternative approach would be to ask each participant for a summary statement of the discussion.

5. Conclusion *5 minutes*

The facilitator thanks respondents for participating in the study and once again reassures them about anonymity and confidentiality of data. The tape recorder is switched off. Following the interview refreshments were provided.

Appendix 1 C

Checklist for Evaluating the Focus Group Interview

Evaluation of Interview	Yes	No
Did the facilitator observe the necessary formalities at the beginning of the interview? (introductions, confidentiality of information, anonymity, purpose of study and permission to take notes and tape record proceedings)		
Were the rights of the respondents respected? (consent, sensitivity)		
Did the facilitator collect relevant details from the respondents? (respondents must complete the biographical questionnaire in their information pack)		
Did the facilitator manage the interview process well? (timing and pacing of the session, follow the interview schedule)		
Was a non-judgemental approach upheld throughout the interview?		
Was the discussion documented appropriately in terms of: • respondents' key points? • trying to identify inconsistencies within the group? • looking for dismissive answers? • identifying emotional responses?		
Were notes taken about non-verbal communication (gestures, eye rolling etc)?		
Were prompts, probes and checks used where appropriate?		
Were the necessary courtesies given at the end of the interview? (expressions of thanks and assurances of confidentiality and anonymity)		
Any Additional Comments:		

Source: Denscombe, 2000

Signature:_____

Independent Observer

Appendix 1 D

Organisational Climate, Biographical Factors and Job Satisfaction:
A National Survey of Nurses in the Republic of Ireland

CONSENT FORM
(Focus Group Interview)

I the undersigned understand that I am participating of my own free will in a research study to examine the relationship between organisational climate, biographical factors and job satisfaction among nurses.

The nature and purpose of the research has been explained in writing and I am aware that I may terminate my service as a participant in this research study at any time if I so wish.

I understand also that I am participating in a focus group interview. The facilitator has explained the purpose of this interview to me both in writing and verbally and I am aware that the findings will be used to inform a second phase (survey) of this research study.

I am fully aware that during the focus group interview both the facilitator and the researcher will be taking notes and that the interview will be tape-recorded and I have agreed to this.

The researcher has issued a statement outlining how she intends to protect anonymity and confidentiality and I am happy with these arrangements.

While I understand that there are no known or potential risks associated with this research I am aware that it is not possible to identify all potential risks in a research study. An independent observer has been appointed to monitor the proceedings of the interview and may terminate the interview at the request of participants.

Signed: _____ Date: _____

Name of Researcher:	E.A. Curtis	Telephone: 6083533
Names of Supervisors:	Professor J.V. Rice School of Higher Education & Educational Research Arts Building The University of Dublin Trinity College Dublin 2	Dr. N. Mc Donald Lecturer Department of Psychology The University of Dublin Trinity College Dublin 2

Appendix 1 E

Ethical Protocol Used to Guide this Research Study

Rights of Subjects

All researchers have a responsibility to set out clearly how the rights of research participants or subjects will be protected. By agreeing to participate in this study each individual has the following rights.

Right to Self-Determination
This right implies that as a human being you are treated autonomously. You have the opportunity to choose whether to participate in this study and your choice must be free from coercion. This right also allows you to withdraw from the study without penalty. Another requirement of autonomy is the provision of adequate information about the study. Enclosed in this survey pack is an information sheet which provides information on the purpose of the study, the study design, sample strategy, data collection procedures, type of analysis and the possibility of publication following the completion of the study. However, should you require further information please feel free to contact me at the number given below.

Right to Privacy
This right allows you to determine the extent and circumstances under which private information is shared with others. One's attitudes, beliefs, opinions and records are all regarded as private information. When private information is disclosed without an individual's consent an invasion of privacy is said to have occurred. Therefore, by participating in this study you have agreed to share the information contained in the questionnaire with the researcher.

Right to Anonymity and Confidentiality
The right to privacy underpins the right to anonymity and the right to confidentiality. In this study complete anonymity is assured, as your identity cannot be linked with your responses. Confidentiality will be maintained by adhering to the following procedures. (a) Access to the raw data will be restricted to the researcher and statistician (b) all information will be kept in a locked cabinet and computer file that is pass-word protected (c) data from this study will be analysed collectively and results will be presented such that individual subjects cannot be identified by their responses.

Right to Fair Treatment
This right stems from the ethical principle of justice. This principle stipulates that people should be treated fairly. One area in which violation of this principle could occur is in sample selection. Subjects should be selected in order to fulfil the criteria of a study and not because of easy availability, manipulability or friendship with the researcher. To eliminate such an injustice subjects for this survey were selected using systematic random sampling. As the researcher I am unaware of your identity as An Bord Altranais selected the sample. In addition, all subjects who participate in the study will be treated fairly regardless of age, sex, race, or educational level.

Right to Protection from Harm and Discomfort

These rights are based on the principles of nonmaleficence and beneficence. Nonmaleficence means that an individual should not intend nor permit harm to another person. Therefore, research that can result in direct harm to subjects should not be undertaken. Beneficence suggests that an individual should act to prevent or remove harm to another person. In research harm and discomfort can be physical, emotional, social and economic. During this questionnaire survey the researcher will not interact directly with the subjects. Therefore, no anticipated effects on subjects are likely. Although participation in this study may not benefit subjects directly it will undoubtedly benefit the nursing profession. The findings from this study should advance our understanding of job satisfaction among nurses but more importantly, it should help to explain the relationship between organisational climate and job satisfaction.

Integrity of this Researcher

Nurse researchers must have knowledge and skills that will allow them to fulfil the demands of their research studies. I can inform you that as a nurse researcher I do possess knowledge and skills about the research process and have undertaken several research projects. Despite this however, the present research study is being undertaken under the supervision of two experienced researchers at the University of Dublin, Trinity College. This is important for maintaining professional credibility.

Researchers should inform sponsors or supervisors of any relevant prejudices that may influence their research. I have informed my supervisors that I have no personal prejudices that may influence this research study.

Researchers must indicate in their final report whether their involvement may have affected the subjects and, consequently, the validity of the data. My role as the researcher in this study has, to the best of my knowledge, had no effect on subjects. The sample, as stated earlier, was selected using systematic random sampling which means that even if a subject may know me I have no way of identifying these individuals because no names or identification numbers were used on the questionnaire.

All researchers have a responsibility to disseminate the results and promote the use of their research. Therefore, it is my intention to publish the results of this study. In preparing reports for publication the contributions of others will be duly acknowledged and any limitations of the research will be discussed. Be assured that the results will be published collectively and as a subject you will remain completely anonymous.

Finally, the Ethics Committee, Department of Psychology, Trinity College granted ethical approval for this study.

Should you require any further information please do not hesitate to contact me at the number below:

Telephone: 1-6083533

Appendix 1 F

Copy of Letter to Participants of Focus Group Interview

Ms. S. Manuka
26 Old Site
New Road
Republic of Ireland

Dear Ms. Manuka,

RE: Focus Group Interview

This letter is a follow up on our earlier discussions on the telephone with regard to your participation in a focus group interview.

As indicated previously this focus group forms a small part of a larger research study I am currently undertaking. The value of this study will be greatly increased by your contribution and I would like to take this opportunity to thank you for agreeing to participate.

All views, opinions and experiences shared as part of the discussion will be treated in a confidential manner. While it is true that I am interested in each individual's responses I am not interested in individual names. Furthermore, I believe that ethical issues are important in any research study and for this reason have prepared information on how I plan to uphold the rights of participants. This information will be made available to you at the interview. Having read all the information provided you will be asked to sign a consent form prior to the commencement of the interview. I wish to remind you that as a volunteer you have the right to withdraw from this study at anytime if you so wish.

The arrangements for the focus group interview are as follows:

Day and Date of Interview:	**Thursday 18th April 2002.**
Time of Interview:	**10.00 am**
Length of Interview:	**Two and a half hours**
Venue:	**Seminar Room A, Portakabin, School of Nursing & Midwifery Studies, St. James's Hospital, James's Street, Dublin 8.**

The Portakabin is situated between the Trinity Centre for Health Sciences and the grey stone building (School of Physiotherapy) in St. James's Hospital.

Once again I would like to thank you for agreeing to participate in this interview. Should you require any further information please do not hesitate to contact me at 6083533.

P.S. Light refreshment will be served after the interview has concluded.

Yours sincerely,

_____

E. A. Curtis
School of Nursing and Midwifery
c/o Trinity Centre for Health Sciences
St. James's Hospital
Dublin 8

Research Supervisors:

Dr. N. Mc Donald
Department of Psychology
The University of Dublin
Trinity College
Dublin 2

Professor J. V. Rice
School of Higher Education &
Educational Research
4048 Arts & Social Science
Building
The University of Dublin
Trinity College
Dublin 2

APPENDIX TWO

Copies of Letters to Authors Seeking Permission to use Questionnaires

Contents Include:

Appendix 2 A – Copy of Letter to Professor P. Stamps Seeking Permission to use the IWS.

Appendix 2 B – Copy of Letter to Professor Mitzi Duxbury Seeking Permission to use the NOCDQ.

Appendix 2 A

Professor Paula Stamps Ph.D
Community Health Studies Department
School of Public Health and Health Sciences
Arnold House
University of Massachusetts
Amherst, MA 01003
USA

Dear Professor Stamps,

RE: Permission to use the Index of Work Satisfaction

I write to request permission to use the Index of Work Satisfaction questionnaire either in its original format or an amended format.

My interest in job satisfaction among nurses is long standing and has subsequently led to the planning of a research study to investigate the nature of the relationship between biographical factors, organisational climate and job satisfaction among nurses in Ireland. Although in its early stages the study has several purposes. Firstly, it seeks to determine the current level of job satisfaction among nurses in Ireland and to undertake a comparative analysis of these findings with other international studies. Secondly, it hopes to identify which of the IWS components make the greatest contribution to nurses' current level of job satisfaction. Thirdly, it seeks to establish the difference between (a) the IWS components that nurses regard as being *important* to their job satisfaction and (b) the IWS components that are more *likely to contribute* to nurses' current level of job satisfaction. Fourthly, the study seeks to determine nurses' perceptions of organisational climate. Fifthly, the present study hopes to (a) establish the nature of the relationships between organisational climate components and job satisfaction components and (b) determine how biographical factors affect job satisfaction among nurses.

The study will use a dominant-less dominant mixed method design. The dominant phase of the design will utilise a quantitative approach and data will be collected by means of a postal survey. A focus group interview will provide the data for the less-dominant phase of the study. A random national sample will be used for the survey and the Index of Work Satisfaction is one of three instruments that will be used to collect data.

I plan to incorporate Herzberg's Two-Factor theory into the framework that is being developed to guide the study. In view of this, I would be grateful if you could let me know whether the Index of Work Satisfaction is suitable for testing Two-Factor theory.

Finally, I would be grateful if you could let me know how to obtain the most recent validity and reliability scores for the Index of Work Satisfaction and guidelines for analysing the data from the IWS.

I look forward to hearing from you as soon as possible.

Kind regards.

Yours sincerely,

Elizabeth A. Curtis
School of Nursing & Midwifery Studies
c/o Trinity Centre for Health Sciences
St. James's Hospital
Dublin 8
Ireland
e-mail curtise@tcd.ie

Appendix 2 B

Professor Mitzi L. Duxbury Ph.D
School of Nursing
University of Minnesota
Minneapolis
USA

Dear Professor Duxbury,

RE: Permission to use the Nurse Organisational Climate Description Questionnaire (NOCDQ)

I write to request permission to use the Nurse Organisational Climate Description Questionnaire either in its original format or an amended format.

My interest in job satisfaction among nurses is long standing and has subsequently led to the planning of a research study to investigate the nature of the relationship between biographical factors, organisational climate and job satisfaction among nurses in Ireland. Although in its early stages the study has several purposes. Firstly, it seeks to determine the current level of job satisfaction among nurses in Ireland and to undertake a comparative analysis of these findings with other international studies. Secondly, it hopes to identify which of the IWS components make the greatest contribution to nurses' current level of job satisfaction. Thirdly, it seeks to establish the difference between (a) the IWS components that nurses regard as being *important* to their job satisfaction and (b) the IWS components that are more *likely to contribute* to nurses' current level of job satisfaction. Fourthly, the study seeks to determine nurses' perceptions of organisational climate. Fifthly, the present study hopes to (a) establish the nature of the relationships between organisational climate components and job satisfaction components and (b) determine how biographical factors affect job satisfaction among nurses.

The study will use a dominant-less dominant mixed method design. The dominant design will utilise a quantitative approach and data will be collected by means of a postal survey. A focus group interview will provide the data for the less-dominant phase of the study. A random national sample will be used for the survey and the Nurse Organisational Climate Description Questionnaire is one of three instruments that will be used to collect data.

Finally, I would be grateful if you could let me know how to obtain the most recent validity and reliability scores for the Nurse Organisational Climate Description Questionnaire and whether there are any guidelines for analysing the data from the NOCDQ.

I look forward to hearing from you as soon as possible.

Kind regards.

Yours sincerely,

Elizabeth A. Curtis
School of Nursing & Midwifery Studies
c/o Trinity Centre for Health Sciences
St. James's Hospital
Dublin 8
Ireland
e-mail curtise@tcd.ie

APPENDIX THREE

Postal Survey Pack

Contents Include:

Appendix 3 A – Copy of Questionnaire Booklet.

Appendix 3 B – Information about the Research Study.

Appendix 3 C – Copy of Letter to Respondents.

Appendix 3 D – Copy of Letter to *An Bord Altranai*s Requesting Selection of Random Sample.

Appendix 3 E – Ethical Protocol Used to Guide Research Study.

Biographical Factors, Organisational Climate, And Job Satisfaction: A National Survey Of Nurses In The Republic of Ireland

Undertaken By
Elizabeth A. Curtis

Survey of National Sample of Nurses and Midwives 2003

University of Dublin Trinity College

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Section B	Nurse Organisational Climate Description Questionnaire	5
Section C	The Index of Work Satisfaction Questionnaire	7

SECTION A
Biographic and Demographic Factors
©

Please read this section carefully and place a tick in the appropriate boxes.

Question 1
Gender

Female ☐ Male ☐

Question 2
Age Group

18-25 ☐ 26-35 ☐ 36-45 ☐

46-55 ☐ Over 55 ☐

Question 3
Public or Private Sector
Please indicate whether you are working in the Private Healthcare Sector or Public Healthcare Sector.

1 Private Healthcare Sector ☐

2 Public Healthcare Sector ☐

Question 4
Health Board Area
Please indicate in which Health Board Area you are currently working.

1 North Eastern Health Board ☐
2 Eastern Regional Health Authority ☐
3 Southern Health Board ☐
4 Mid-western Health Board ☐
5 Western Health Board ☐
6 North-western Health Board ☐
7 Midland Health Board ☐
8 South-eastern Health Board ☐

Question 5
Nursing Education
Place a tick { ✔ } in the appropriate box only if you have completed your studies. For example, if you are a registered nurse or midwife and currently undertaking a primary degree tick registered nurse or midwife not primary degree. You may tick as many as appropriate.

1 Registered Nurse (pre diploma) ☐
2 Registered Midwife (pre diploma) ☐
3 Diploma in Nursing ☐
4 Diploma in Midwifery ☐
5 Primary Degree ☐
6 Master Degree ☐
7 PhD ☐

Question 6
Country in which Nursing or Midwifery training (RGN or RM only) was undertaken:

1 Ireland	☐	4 Canada	☐
2 United Kingdom	☐	5 Australia	☐
3 USA	☐	6 Other (please specify)	

Question 7
Registration Details
Please indicate in which of the following parts of the register held by An Bord Altranais you are registered. You may tick { ✔ } as many as appropriate.

1 General	☐	4 Sick Children	☐
2 Psychiatric	☐	5 Midwifery	☐
3 Mental Handicap	☐	6 Public Health	☐

Question 8
Employment:
Please indicate your current place of employment by placing a tick { ✔ } in the appropriate box.

1 Acute General Care Services (hospital)	☐	6 Residential Care Services (intellectual disabilities)	☐
2 Acute Psychiatric Care Services (hospital)	☐	7 Nursing Home Services	☐
3 Acute Midwifery Care Services (hospital)	☐	8 Palliative Care Services	☐
4 Community Care Services	☐	9 General Practice Services	☐
5 Residential Care Services (general disabilities)	☐	10 Other (please specify)	

Question 9
Current Position:
Please indicate your current position at work. Tick { ✔ } only one box. If you are in an acting position (for example acting clinical nurse specialist) then place a tick opposite clinical nurse specialist.

1 Student Nurse	☐	6 Clinical Nurse Specialist	☐
2 Student Midwife	☐	7 Advanced Nurse Practitioner	☐
3 Staff Nurse	☐	8 Assistant Director of Nursing	☐
4 Midwife	☐	9 Director of Nursing/Matron	☐
5 Clinical Manager	☐	10 Other (please specify)	

Question 10
Length of Time in Current Place of Employment:
Please indicate how long you have been working in your current place of employment. Tick only one box.

1 Under 11 months ☐

2 1-3 years ☐

3 5-7 years ☐

4 Over 7 years ☐

SECTION B
Nurse Organisational Climate Description Questionnaire
©

Instructions to subjects
Indicate how frequently the following occur by circling one choice for each question where, (a) "nurses" – you and your RGN or RM peers who comprise your unit, (b) clinical nurse manager (1, 2, 3) – your supervisor, and (c) "unit" – your work group or ward, made up of those RGN/RM who report to your supervisor.

R = Rarely occurs
S = Sometimes occurs
O = Often occurs
VF = Very frequently occurs

1.	Routine duties interfere with the job of practicing nursing.	R	S	O	VF
2.	Nurses seek special favours from the clinical nurse manager	R	S	O	VF
3.	The clinical nurse manager sets an example by working hard.	R	S	O	VF
4.	Patient charting and reports require too much work.	R	S	O	VF
5.	Staff meetings are mainly clinical nurse manager report meetings.	R	S	O	VF
6.	Nurses' closest friends are other nurses from this unit.	R	S	O	VF
7.	The morale of nurses is high.	R	S	O	VF
8.	The mannerisms of nurses on this ward/unit are annoying.	R	S	O	VF
9.	The clinical nurse manager is well prepared when speaking at nursing meetings.	R	S	O	VF
10.	The clinical nurse manager helps staff members settle minor differences.	R	S	O	VF

11.	Nurses know the family background of other nurses.	R	S	O	VF
12.	The clinical nurse manager runs staff meetings like a business meeting.	R	S	O	VF
13.	Nurses at this hospital show much spirit.	R	S	O	VF
14.	Staff meetings are organised according to a tight agenda.	R	S	O	VF
15.	Nurses leave the unit during their assignments.	R	S	O	VF
16.	There is a minority group of nurses who always oppose the majority.	R	S	O	VF
17.	Nurses talk about their personal life to other nurses in the unit.	R	S	O	VF
18.	The clinical nurse manager checks the ability of nurses.	R	S	O	VF
19.	Nurses exert group pressure on nonconforming nurses.	R	S	O	VF
20.	The clinical nurse manager goes out of the way to help nurses.	R	S	O	VF
21.	Administrative paperwork is burdensome at this hospital.	R	S	O	VF
22.	Housekeeping service is available when needed.	R	S	O	VF
23.	Nurses invite other nurses to visit them at home.	R	S	O	VF
24.	Nurses have too many committee requirements.	R	S	O	VF
25.	The clinical nurse manager uses constructive criticism.	R	S	O	VF
26.	The nurses accomplish their work with vim, vigour and pleasure.	R	S	O	VF

SECTION C

The Index of Work Satisfaction Questionnaire ©

Part A (Paired Comparisons)

Listed and briefly defined below are six terms or factors that are involved in how people feel about their work situation. Each factor has something to do with "work satisfaction". We are interested in determining which of these is **most important** to you in relation to the others.

Please carefully read the definitions for each factor as given below:

- ➔ ***Pay*** -- euro remuneration and fringe benefits received for work done
- ➔ ***Autonomy*** -- amount of job related independence, initiative, and freedom, either permitted or required in daily work activities.
- ➔ ***Task Requirements*** -- tasks or activities that must be done as a regular part of the job
- ➔ ***Organizational Policies*** -- management policies and procedures put forward by the hospital and nursing administration of this hospital
- ➔ ***Interaction*** -- opportunities presented for both formal and informal social and professional contact during working hours
- ➔ ***Professional Status*** -- overall importance or significance felt about your job, both in your view and in the view of others

Instructions:
These factors are presented in pairs on the next page. A total of 15 pairs are presented: this is every set of combinations. No pair is repeated or reversed. For each pair of terms, decide which one is *more important* for your job satisfaction or morale, and check the appropriate box. For example, if you feel that Pay (as defined above) is more important than Autonomy (as defined above), check the box for Pay.

It will be difficult for you to make choices in some cases. However, please do try to select the factor which is more important to you. Please make an effort to answer every item; do not go back to change any of your answers.

Part A (Paired Comparisons, Continued)

Please complete each of the 15 pairs. Choose the one member of each pair which is *most important* to you.

1.	☐	Professional Status	or	☐ Organizational Policies
2.	☐	Pay Requirements	or	☐ Task Requirements
3.	☐	Organizational Policies	or	☐ Interaction
4.	☐	Task Requirements	or	☐ Organizational Policies
5.	☐	Professional Status	or	☐ Task Requirements
6.	☐	Pay	or	☐ Autonomy
7.	☐	Professional Status	or	☐ Interaction
8.	☐	Professional Status	or	☐ Autonomy
9.	☐	Interaction	or	☐ Task Requirements
10.	☐	Interaction	or	☐ Pay
11.	☐	Autonomy	or	☐ Task Requirements
12.	☐	Organizational Policies	or	☐ Autonomy
13.	☐	Pay	or	☐ Professional Status
14.	☐	Interaction	or	☐ Autonomy
15.	☐	Organizational Policies	or	☐ Pay

Part B (Attitude Questionnaire)

The following items represent statements about how satisfied you are with your current nursing job. Please respond to each item. It may be very difficult to fit your responses into the seven categories; in that case, select the category that *comes closest* to your response to the statement. It is very important that you give your *honest* opinion. Please do not go back and change any of your answers.

Instructions:
Please circle the number that most closely indicates how you feel about each statement. The *left* set of numbers indicates degrees of *agreement*. The *right* set of numbers indicates degrees of *disagreement*. For example, if you strongly agree with the first item, circle 1; if you agree with this item, circle 2; if you moderately agree with the first statement, circle 3. The middle response (4) is reserved for feeling neutral or undecided. Please use it as little as possible. If you moderately disagree with this first item, you should circle 5; to disagree, circle 6; and to strongly disagree, circle 7.

Part B (Attitude Questionnaire, Continued)

Remember: The more strongly you feel about the statement, the further from the center you should circle, with agreement to the left and disagreement to the right. Use 4 for neutral or undecided if needed, but please try to use this number as little as possible.

		Agree ⟵						Disagree ⟶
1.	My present salary is satisfactory.	1	2	3	4	5	6	7
2.	Nursing is not widely recognized as being an important profession.	1	2	3	4	5	6	7
3.	The nursing personnel on my ward/unit pitch in and help one another out when things get in a rush.	1	2	3	4	5	6	7
4.	There is too much clerical and "paperwork" required of nursing personnel in this hospital.	1	2	3	4	5	6	7
5.	The nursing staff has sufficient control over scheduling their own shifts in my hospital.	1	2	3	4	5	6	7
6.	Physicians in general cooperate with nursing staff on my unit.	1	2	3	4	5	6	7
7.	I feel that I am supervised more closely than is necessary.	1	2	3	4	5	6	7
8.	It is my impression that a lot of nursing personnel at this hospital are dissatisfied with their pay.	1	2	3	4	5	6	7
9.	Most people appreciate the importance of nursing care to hospital patients.	1	2	3	4	5	6	7
10.	It is hard for new nurses to feel 'at home' in my unit.	1	2	3	4	5	6	7
11.	There is no doubt whatever in my mind that what I do on my job is really important.	1	2	3	4	5	6	7
12.	There is a great gap between the administration of this hospital and the daily problems of the nursing service.	1	2	3	4	5	6	7
13.	I feel I have sufficient input into the program of care for each of my patients.	1	2	3	4	5	6	7
14.	Considering what is expected of nursing personnel at this hospital, the pay we get is reasonable.	1	2	3	4	5	6	7
15.	I think I could do a better job if I did not have so much to do all the time.	1	2	3	4	5	6	7
16.	There is a good deal of teamwork and cooperation between various levels of nursing personnel on my ward/unit.	1	2	3	4	5	6	7
17.	I have too much responsibility and not enough authority.	1	2	3	4	5	6	7

Part B (Attitude Questionnaire, Continued)

Remember: The more strongly you feel about the statement, the further from the center you should circle, with agreement to the left and disagreement to the right. Use 4 for neutral or undecided if needed, but please try to use this number as little as possible.

		Agree ←						→ Disagree
18.	There are not enough opportunities for advancement of nursing personnel at this hospital.	1	2	3	4	5	6	7
19.	There is a lot of teamwork between nurses and doctors on my own unit.	1	2	3	4	5	6	7
20.	On my ward/unit, my supervisors make all the decisions. I have little direct control over my own work.	1	2	3	4	5	6	7
21.	The present rate of increase in pay for nursing personnel at this hospital is not satisfactory.	1	2	3	4	5	6	7
22.	I am satisfied with the types of activities that I do on my job.	1	2	3	4	5	6	7
23.	The nursing personnel on my ward/unit are not as friendly and outgoing as I would like.	1	2	3	4	5	6	7
24.	I have plenty of time and opportunity to discuss patient care problems with other nursing personnel.	1	2	3	4	5	6	7
25.	There is ample opportunity for nursing staff to participate in the administrative decision-making process.	1	2	3	4	5	6	7
26.	A great deal of independence is permitted, if not required, of me.	1	2	3	4	5	6	7
27.	What I do on my job does not add up to anything really significant.	1	2	3	4	5	6	7
28.	There is a lot of "rank consciousness" on my unit: nurses seldom mingle with those with less experience or different types of educational preparation.	1	2	3	4	5	6	7
29.	I have sufficient time for direct patient care.	1	2	3	4	5	6	7
30.	I am sometimes frustrated because all of my activities seem programmed for me.	1	2	3	4	5	6	7
31.	I am sometimes required to do things on my job that are against my better professional nursing judgment.	1	2	3	4	5	6	7
32.	From what I hear about nursing service personnel at other hospitals, we at this hospital are being fairly paid.	1	2	3	4	5	6	7
33.	Administrative decisions at this hospital interfere too much with patient care.	1	2	3	4	5	6	7
34.	It makes me proud to talk to other people about what I do on my job.	1	2	3	4	5	6	7

Part B (Attitude Questionnaire, Continued)

Remember: The more strongly you feel about the statement, the further from the center you should circle, with agreement to the left and disagreement to the right. Use 4 for neutral or undecided if needed, but please try to use this number as little as possible.

		Agree ←						→ Disagree
35.	I wish the physicians here would show more respect for the skill and knowledge of the nursing staff.	1	2	3	4	5	6	7
36.	I could deliver much better care if I had more time with each patient.	1	2	3	4	5	6	7
37.	Physicians at this hospital generally understand and appreciate what the nursing staff does.	1	2	3	4	5	6	7
38.	If I had the decision to make all over again, I would still go into nursing.	1	2	3	4	5	6	7
39.	The physicians at this hospital look down too much on the nursing staff.	1	2	3	4	5	6	7
40.	I have all the voice in planning policies and procedures for this hospital and my unit that I want.	1	2	3	4	5	6	7
41.	My particular job really doesn't require much skill or "know-how".	1	2	3	4	5	6	7
42.	The nursing administrators generally consult with the staff on daily problems and procedures.	1	2	3	4	5	6	7
43.	I have the freedom in my work to make important decisions as I see fit, and can count on my supervisors to back me up.	1	2	3	4	5	6	7
44.	An upgrading of pay schedules for nursing personnel is needed at this hospital.	1	2	3	4	5	6	7

I would like to take this opportunity to thank you for taking the time to complete this questionnaire. Your cooperation is truly appreciated. I would also like to assure you that the information given in this questionnaire will be treated in a confidential manner and that the researcher is unable to link this questionnaire to the identity of the respondent.

Appendix 3 B

Information About the Research Study

Topic: **Organisational Climate, Biographical Factors, and Job Satisfaction Among Nurses in Ireland**

Researcher: **Elizabeth A. Curtis M.Ed.; DMS; Dip. Research Methods; RGN; ONC; Dip. Community Health & Health Promotion**

Information for Respondents

Purpose of Study:
The study has several purposes. Firstly, it seeks to determine the current level of job satisfaction among nurses in Ireland and to undertake a comparative analysis of these findings with other international studies. Secondly, it hopes to identify which of the IWS components make the greatest contribution to nurses' current level of job satisfaction. Thirdly, it seeks to establish the difference between (a) the IWS components that nurses regard as being *important* to their job satisfaction and (b) the IWS components that are more *likely to contribute* to nurses' current level of job satisfaction. Fourthly, the study seeks to determine nurses' perceptions of organisational climate. Fifthly, the present study hopes to (a) establish the nature of the relationships between organisational climate components and job satisfaction components and (b) determine how biographical factors affect job satisfaction among nurses.

Method:
Study Design
A dominant-less dominant mixed method design was selected for this study.
Sample
Two samples were used. The sample for the less dominant qualitative phase of the study was selected using purposive sampling and a systematic random sampling procedure was used for the questionnaire survey. As the researcher I am not aware of your identify because the sample was selected by *An Bord Altranais*.
Data Collection
Two data collection procedures were used. For the qualitative phase of the study data was collected through a focus group interview and the participants as indicated above, were selected using purposive sampling. Data for the quantitative phase of the study was collected by postal questionnaire.
Data Analysis
The data from the survey will be analysed by computer using appropriate statistical procedures. Quantitative data analysis is complex and for this reason a statistician was consulted for advice on statistical procedures during the design and planning stage of the study.

Ethical Considerations:
An ethical framework was developed to guide this research study. Based on this framework an ethics protocol was prepared specifically for respondents. This protocol is composed of two main sections. The first section outlines how as a researcher I plan to uphold the rights of respondents while the second section summarises how I plan to maintain integrity as a researcher. A copy of the protocol is enclosed in this survey pack. The Ethics Committee, Department of Psychology, Trinity College granted ethical approval for his study.

Procedures:
As a respondent in this study all that you will be required to do is complete the three sections in the questionnaire booklet enclosed in this pack. Each section of the questionnaire gives instructions for accurate completion. For the purposes of this study I do not require your name or the name of the organisation where you work so please refrain from including such information. Having completed the questionnaire kindly place it in the envelope provided and return it to me promptly.

Publication:
Following completion of the study I plan to disseminate the findings in several ways. For example, I hope to present papers at national and international conferences and publish in appropriate journals. Once again please be assured that your right to anonymity and confidentiality will be upheld.

Research Supervisors:
This survey is being undertaken to support academic research in the University of Dublin, Trinity College. Two full-time academic staff members are supervising this study. Their details are given below.

Professor J.V. Rice
Research Professor of Education
& Senior Fellow
4048 Arts & Social Science Building
Trinity College
Dublin 2

Dr. N. McDonald
Senior Lecturer
Department of Psychology
Trinity College
Dublin 2

Appendix 3 C

24th September 2003

Dear Colleague,

I wish to request your cooperation in participating in a research study to support academic research. The main purpose of the study is to determine the nature of the relationship between organisational climate and job satisfaction and how biographical factors affect job satisfaction among nurses in Ireland. *An Bord Altranais* selected the sample using a random sampling procedure. Therefore, as the researcher I am unaware of your identity. A separate information sheet about the study is enclosed for your information.

Several studies have demonstrated the importance of employee job satisfaction. However, there would appear to be general consensus in the literature that nurses report relatively low levels of job satisfaction and that low job satisfaction leads to increased turnover.

As a nurse you are one of a large but influential group of professionals. Therefore, your feelings and views about job satisfaction are extremely important. I do believe that the findings from this study will be of value to the profession as a whole and to managers within healthcare organisations in the Republic of Ireland.

The information, which I hope you will give in the enclosed questionnaire, will be on an anonymous basis. For the purposes of this study, I am interested in the totality of responses. Furthermore, I believe that ethical issues are important in relation to any research study and for this reason I have enclosed an ethical protocol outlining how I plan to uphold your rights as a respondent.

The value of this study will be greatly increased if you can give each statement or question your considered judgement. When you have completed the questionnaire I should be grateful if you would place it in the envelope provided and return it to me as soon as is convenient.

I would like to take this opportunity to thank you for participating in this study and wish you every professional success in the future.

Yours sincerely,

E.A. Curtis
Lecturer/BNS Programme Co-ordinator
School of Nursing and Midwifery Studies
Trinity Centre for Health Sciences
St. James's Hospital
Dublin 8

Appendix 3 D

Ms. Ann Marie Ryan
Chief Education Officer
An Bord Altranais
31/32 Fitzwilliam Square
Dublin 2

19th May 2003

Dear Ms. Ryan,

RE: Request for Survey Sample

I write to request that *An Bord Altranais* extract two survey samples on my behalf.

The samples are required for a planned survey of nurses currently on the active register to support academic research. Two academic staff members from the University of Dublin, Trinity College, are supervising this research project. Enclosed please find a letter endorsing the research study.

The first sample requires 200 respondents for a pilot study and the second sample requires 2000 respondents for the main survey. These large samples are necessary for several reasons. Firstly, I wish to use a sample that would be representative of the larger population: the larger the sample the more representative it will be. Secondly, large samples will reduce the possibility of sampling error. Thirdly, samples must be large enough to show statistical significance (when there is significance). Finally, it is anticipated that multiple regression analysis will be used in the study; this analysis procedure requires the use of large samples if it is to be effective.

I am aware that in general you provide smaller samples than I have requested. However, for the reasons outlined above, I would appreciate your indulgence in this instance. The criteria for the sample are attached.

The pilot study is scheduled to take place in mid June 2003 and the main study during the first week in September 2003. The letter to respondents will state clearly that the sample was selected randomly by *An Bord Altranais* in order to ensure anonymity. A copy of this letter is enclosed for your attention.

I would like to take this opportunity to thank you for your assistance in this matter and look forward to hearing from you as soon as possible.

Yours sincerely,

_____

E.A. Curtis
School of Nursing & Midwifery Studies
C/O Faculty of Health Sciences
St. James's Hospital
James's Street
Dublin 8

Appendix 3 E

Ethical Protocol Used to Guide this Research Study

Rights of Subjects

All researchers have a responsibility to set out clearly how the rights of research participants or subjects will be protected. By agreeing to participate in this study each individual has the following rights.

Right to Self-Determination
This right implies that as a human being you are treated autonomously. You have the opportunity to choose whether to participate in this study and your choice must be free from coercion. This right also allows you to withdraw from the study without penalty. Another requirement of autonomy is the provision of adequate information about the study. Enclosed in this survey pack is an information sheet which provides information on the purpose of the study, the study design, sample strategy, data collection procedures, type of analysis and the possibility of publication following the completion of the study. However, should you require further information please feel free to contact me at the number given below.

Right to Privacy
This right allows you to determine the extent and circumstances under which private information is shared with others. One's attitudes, beliefs, opinions and records are all regarded as private information. When private information is disclosed without an individual's consent an invasion of privacy is said to have occurred. Therefore, by participating in this study you have agreed to share the information contained in the questionnaire with the researcher.

Right to Anonymity and Confidentiality
The right to privacy underpins the right to anonymity and the right to confidentiality. In this study complete anonymity is assured, as your identity cannot be linked with your responses. Confidentiality will be maintained by adhering to the following procedures. (a) Access to the raw data will be restricted to the researcher and statistician (b) all information will be kept in a locked cabinet and computer file that is pass-word protected (c) data from this study will be analysed collectively and results will be presented such that individual subjects cannot be identified by their responses.

Right to Fair Treatment
This right stems from the ethical principle of justice. This principle stipulates that people should be treated fairly. One area in which violation of this principle could occur is in sample selection. Subjects should be selected in order to fulfil the criteria of a study and not because of easy availability, manipulability or friendship with the researcher. To eliminate such an injustice subjects for this survey were selected using systematic random sampling. As the researcher I am unaware of your identity as *An Bord Altranais* selected the sample. In addition, all subjects who participate in the study will be treated fairly regardless of age, sex, race, or educational level.

Right to Protection from Harm and Discomfort

These rights are based on the principles of nonmaleficence and beneficence. Nonmaleficence means that an individual should not intend nor permit harm to another person. Therefore, research that can result in direct harm to subjects should not be undertaken. Beneficence suggests that an individual should act to prevent or remove harm to another person. In research harm and discomfort can be physical, emotional, social and economic. During this questionnaire survey the researcher will not interact directly with the subjects. Therefore, no anticipated effects on subjects are likely. Although participation in this study may not benefit subjects directly it will undoubtedly benefit the nursing profession. The findings from this study should advance our understanding of job satisfaction among nurses but more importantly, it should help to explain the relationship between organisational climate and job satisfaction.

Integrity of this Researcher

Nurse researchers must have knowledge and skills that will allow them to fulfil the demands of their research studies. I can inform you that as a nurse researcher I do possess knowledge and skills about the research process and have undertaken several research projects. Despite this however, the present research study is being undertaken under the supervision of two experienced researchers at the University of Dublin, Trinity College. This is important for maintaining professional credibility.

Researchers should inform sponsors or supervisors of any relevant prejudices that may influence their research. I have informed my supervisors that I have no personal prejudices that may influence this research study.

Researchers must indicate in their final report whether their involvement may have affected the subjects and, consequently, the validity of the data. My role as the researcher in this study has, to the best of my knowledge, had no effect on subjects. The sample, as stated earlier, was selected using systematic random sampling which means that even if a subject may know me I have no way of identifying these individuals because no names or identification numbers were used on the questionnaire.

All researchers have a responsibility to disseminate the results and promote the use of their research. Therefore, it is my intention to publish the results of this study. In preparing reports for publication the contributions of others will be duly acknowledged and any limitations of the research will be discussed. Be assured that the results will be published collectively and as a subject you will remain completely anonymous.

Finally, the Ethics Committee, Department of Psychology, Trinity College granted ethical approval for this study.

Should you require any further information please do not hesitate to contact me at the number below:

Telephone: 1-6083533

APPENDIX FOUR

Table of Z Values

Contents Include:

Appendix 4 A – Table A-1

This table is taken from Stamps, P. (2001) Scoring Workbook for the Index of Work Satisfaction.

Table A-1

Table of Normal Deviates Z Corresponding to Proportions p of a Dichotomized Unit Normal Distribution

p	0	1	2	3	4	5	6	7	8	9
.99	2.326	2.366	2.409	2.457	2.512	2.576	2.652	2.748	2.878	3.090
.98	2.054	2.075	2.097	2.120	2.144	2.170	2.197	2.226	2.257	2.290
.97	1.881	1.896	1.911	1.927	1.943	1.960	1.977	1.995	2.014	2.034
.96	1.751	1.762	1.774	1.787	1.799	1.812	1.825	1.838	1.852	1.866
.95	1.645	1.655	1.665	1.675	1.685	1.695	1.706	1.717	1.728	1.739
.94	1.555	1.563	1.572	1.580	1.589	1.598	1.607	1.616	1.626	1.635
.93	1.476	1.483	1.491	1.499	1.506	1.514	1.522	1.530	1.538	1.546
.92	1.405	1.412	1.419	1.426	1.433	1.440	1.447	1.454	1.461	1.468
.91	1.341	1.347	1.353	1.359	1.366	1.372	1.379	1.385	1.392	1.398
.90	1.282	1.287	1.293	1.299	1.305	1.311	1.317	1.323	1.329	1.335
.89	1.227	1.232	1.237	1.243	1.248	1.254	1.259	1.265	1.270	1.276
.88	1.175	1.180	1.185	1.190	1.195	1.200	1.206	1.211	1.216	1.221
.87	1.126	1.131	1.136	1.141	1.146	1.150	1.155	1.160	1.165	1.170
.86	1.080	1.085	1.089	1.094	1.098	1.103	1.108	1.112	1.117	1.122
.85	1.036	1.041	1.045	1.049	1.054	1.058	1.063	1.067	1.071	1.076
.84	.994	.999	1.003	1.007	1.011	1.015	1.019	1.024	1.028	1.032
.83	.954	.958	.962	.966	.970	.974	.978	.982	.986	.990
.82	.915	.919	.923	.927	.931	.935	.938	.942	.946	.950
.81	.878	.882	.885	.889	.893	.896	.900	.904	.908	.912
.80	.842	.845	.849	.852	.856	.860	.863	.867	.871	.874
.79	.806	.810	.813	.817	.820	.824	.827	.831	.834	.838
.78	.772	.776	.779	.782	.786	.789	.793	.796	.800	.803
.77	.739	.742	.745	.749	.752	.755	.759	.762	.765	.769
.76	.706	.710	.713	.716	.719	.722	.726	.729	.732	.736
.75	.674	.678	.681	.684	.687	.690	.693	.697	.700	.703
.74	.643	.646	.650	.653	.656	.659	.662	.665	.668	.671
.73	.613	.616	.619	.622	.625	.628	.631	.634	.637	.640
.72	.583	.586	.589	.592	.595	.598	.601	.604	.607	.610
.71	.553	.556	.559	.562	.565	.568	.571	.574	.577	.580
.70	.524	.527	.530	.533	.536	.539	.542	.545	.548	.550
.69	.496	.499	.502	.504	.507	.510	.513	.516	.519	.522
.68	.468	.470	.473	.476	.479	.482	.485	.487	.490	.493
.67	.440	.443	.445	.448	.451	.454	.457	.459	.462	.465
.66	.412	.415	.418	.421	.423	.426	.429	.432	.434	.437
.65	.385	.388	.391	.393	.396	.399	.402	.404	.407	.410
.64	.358	.361	.364	.366	.369	.372	.375	.377	.380	.383
.63	.332	.335	.337	.340	.342	.345	.348	.350	.353	.356
.62	.305	.308	.311	.313	.316	.319	.321	.324	.327	.329
.61	.279	.282	.285	.287	.290	.292	.295	.298	.300	.303
.60	.253	.256	.259	.261	.264	.266	.269	.272	.274	.277
.59	.228	.230	.233	.235	.238	.240	.243	.246	.248	.251
.58	.202	.204	.207	.210	.212	.215	.217	.220	.222	.225
.57	.176	.179	.181	.184	.187	.189	.192	.194	.197	.199
.56	.151	.154	.156	.159	.161	.164	.166	.169	.171	.174
.55	.126	.128	.131	.133	.136	.138	.141	.143	.146	.148
.54	.100	.103	.105	.108	.111	.113	.116	.118	.121	.123
.53	.075	.078	.080	.083	.085	.088	.090	.093	.095	.098
.52	.050	.053	.055	.058	.060	.063	.065	.068	.070	.073
.51	.025	.028	.030	.033	.035	.038	.040	.043	.045	.048
.50	.000	.003	.005	.008	.010	.013	.015	.018	.020	.023

Table of Normal Deviates Z Corresponding to Proportions p of a Dichotomized Unit Normal Distribution

p	0	1	2	3	4	5	6	7	8	9
.49	- .025	- .023	- .020	- .018	- .015	- .013	- .010	- .008	- .005	- .003
.48	- .050	- .048	- .045	- .043	- .040	- .038	- .035	- .033	- .030	- .028
.47	- .075	- .073	- .070	- .068	- .065	- .063	- .060	- .058	- .055	- .053
.46	- .100	- .098	- .095	- .093	- .090	- .088	- .085	- .083	- .080	- .078
.45	- .126	- .123	- .121	- .118	- .116	- .113	- .111	- .108	- .105	- .103
.44	- .151	- .148	- .146	- .143	- .141	- .138	- .136	- .133	- .131	- .128
.43	- .176	- .174	- .171	- .169	- .166	- .164	- .161	- .159	- .156	- .154
.42	- .202	- .199	- .197	- .194	- .192	- .189	- .187	- .184	- .181	- .179
.41	- .228	- .225	- .222	- .220	- .217	- .215	- .212	- .210	- .207	- .204
.40	- .253	- .251	- .248	- .246	- .243	- .240	- .238	- .235	- .233	- .230
.39	- .279	- .277	- .274	- .272	- .269	- .266	- .264	- .261	- .259	- .256
.38	- .305	- .303	- .300	- .298	- .295	- .292	- .290	- .287	- .285	- .282
.37	- .332	- .329	- .327	- .324	- .321	- .319	- .316	- .313	- .311	- .308
.36	- .358	- .356	- .353	- .350	- .348	- .345	- .342	- .340	- .337	- .335
.35	- .385	- .383	- .380	- .377	- .375	- .372	- .369	- .366	- .364	- .361
.34	- .412	- .410	- .407	- .404	- .402	- .399	- .396	- .393	- .391	- .388
.33	- .440	- .437	- .434	- .432	- .429	- .426	- .423	- .421	- .418	- .415
.32	- .468	- .465	- .462	- .459	- .457	- .454	- .451	- .448	- .445	- .443
.31	- .496	- .493	- .490	- .487	- .485	- .482	- .479	- .476	- .473	- .470
.30	- .524	- .522	- .519	- .516	- .513	- .510	- .507	- .504	- .502	- .499
.29	- .553	- .550	- .548	- .545	- .542	- .539	- .536	- .533	- .530	- .527
.28	- .583	- .580	- .577	- .574	- .571	- .568	- .565	- .562	- .559	- .556
.27	- .613	- .610	- .607	- .604	- .601	- .598	- .595	- .592	- .589	- .586
.26	- .643	- .640	- .637	- .634	- .631	- .628	- .625	- .622	- .619	- .616
.25	- .674	- .671	- .668	- .665	- .662	- .659	- .656	- .653	- .650	- .646
.24	- .706	- .703	- .700	- .697	- .693	- .690	- .687	- .684	- .681	- .678
.23	- .739	- .736	- .732	- .729	- .726	- .722	- .719	- .716	- .713	- .710
.22	- .772	- .769	- .765	- .762	- .759	- .755	- .752	- .749	- .745	- .742
.21	- .806	- .803	- .800	- .796	- .793	- .789	- .786	- .782	- .779	- .776
.20	- .842	- .838	- .834	- .831	- .827	- .824	- .820	- .817	- .813	- .810
.19	- .878	- .874	- .871	- .867	- .863	- .860	- .856	- .852	- .849	- .845
.18	- .915	- .912	- .908	- .904	- .900	- .896	- .893	- .889	- .885	- .882
.17	- .954	- .950	- .946	- .942	- .938	- .935	- .931	- .927	- .923	- .919
.16	- .994	- .990	- .986	- .982	- .978	- .974	- .970	- .966	- .962	- .958
.15	- 1.036	- 1.032	- 1.028	- 1.024	- 1.019	- 1.015	- 1.011	- 1.007	- 1.003	- .999
.14	- 1.080	- 1.076	- 1.071	- 1.067	- 1.063	- 1.058	- 1.054	- 1.049	- 1.045	- 1.041
.13	- 1.126	- 1.122	- 1.117	- 1.112	- 1.108	- 1.103	- 1.098	- 1.094	- 1.089	- 1.085
.12	- 1.175	- 1.170	- 1.165	- 1.160	- 1.155	- 1.150	- 1.146	- 1.141	- 1.136	- 1.131
.11	- 1.227	- 1.221	- 1.216	- 1.211	- 1.206	- 1.200	- 1.195	- 1.190	- 1.185	- 1.180
.10	- 1.282	- 1.276	- 1.270	- 1.265	- 1.259	- 1.254	- 1.248	- 1.243	- 1.237	- 1.232
.09	- 1.341	- 1.335	- 1.329	- 1.323	- 1.317	- 1.311	- 1.305	- 1.299	- 1.293	- 1.287
.08	- 1.405	- 1.398	- 1.392	- 1.385	- 1.379	- 1.372	- 1.366	- 1.359	- 1.353	- 1.347
.07	- 1.476	- 1.468	- 1.461	- 1.454	- 1.447	- 1.440	- 1.433	- 1.426	- 1.419	- 1.412
.06	- 1.555	- 1.546	- 1.538	- 1.530	- 1.522	- 1.514	- 1.506	- 1.499	- 1.491	- 1.483
.05	- 1.645	- 1.635	- 1.626	- 1.616	- 1.607	- 1.598	- 1.589	- 1.580	- 1.572	- 1.563
.04	- 1.751	- 1.739	- 1.728	- 1.717	- 1.706	- 1.695	- 1.685	- 1.675	- 1.665	- 1.655
.03	- 1.881	- 1.866	- 1.852	- 1.838	- 1.825	- 1.812	- 1.799	- 1.787	- 1.774	- 1.762
.02	- 2.054	- 2.034	- 2.014	- 1.995	- 1.977	- 1.960	- 1.943	- 1.927	- 1.911	- 1.896
.01	- 2.326	- 2.290	- 2.257	- 2.226	- 2.197	- 2.170	- 2.144	- 2.120	- 2.097	- 2.075
.00		- 3.090	- 2.878	- 2.748	- 2.652	- 2.576	- 2.512	- 2.457	- 2.409	- 2.366

APPENDIX FIVE

Positively and Negatively Worded Items from the Index of Work Satisfaction Questionnaire (IWS) and the Nurse Organisational Climate Description Questionnaire (NOCDQ)

Contents Include:

Appendix 5 A – List of Positively Worded Items from the IWS.

Appendix 5 B – List of Negatively Worded Items from the IWS.

Appendix 5 C – List of Positively Worded Items from the NOCDQ.

Appendix 5 D – List of Negatively Worded Items form the NOCDQ.

Appendix 5 A

Positively Worded Items from the IWS Questionnaire for which the Scoring is Strongly Agree = 7, Strongly Disagree = 1

Pay

01. My present salary is satisfactory.
14. Considering what is expected of nursing service personnel at this hospital, the pay we get is reasonable.
32. From what I hear about nursing service personnel at other hospitals, we at this hospital are being fairly paid.

Autonomy

13. I feel I have sufficient input into the programme of care for each of my patients.
26. A great deal of independence is permitted, if not required, of me on my job.
43. I have the freedom in my work to make important decisions as I see fit, and can count on my supervisors to back me up.

Task Requirements

22. I am satisfied with the types of activities that I do on my job.
24. I have plenty of time and opportunity to discuss patient care problems with other nursing service personnel.
29. I have sufficient time for direct patient care.

Organisational Policies

05. The nursing staff has sufficient control over scheduling their own work shifts, in my hospital.
25. There is ample opportunity for nursing staff to participate in the administrative decision-making process.
40. I have all the voice in planning policies and procedures for this hospital and my unit that I want.
42. The nursing administrators generally consult with the staff on daily problems and procedures.

Professional Status

09. Most people appreciate the importance of nursing care to hospital patients.
11. There is no doubt whatever in my mind that what I do on my job is really important.
34. It makes me proud to talk to other people about what I do on my job.
38. If I had the decision to make all over again, I would still go into nursing.

Interaction: Nurse-Nurse

03. The nursing personnel on my ward pitch in and help one another when things get in a rush.
16. There is a good deal of teamwork and cooperation between various levels of nursing personnel on my ward.

Interaction: Nurse-Physician

06. Physicians in general cooperate with the nursing staff on my unit.
19. There is a lot of teamwork between nurses and doctors on my unit.
37. Physicians at this hospital generally understand and appreciate what the nursing staff does.

Appendix 5 B

Negatively Worded Items from the IWS Questionnaire for which the Scoring is Strongly Agree = 1, Strongly Disagree = 7

Pay

08. It is my impression that a lot of nursing service personnel at this hospital are dissatisfied with their pay.
21. The present rate of increase in pay for nursing personnel at this hospital is not satisfactory.
44. An upgrading of pay schedules for nursing personnel is needed at this hospital.

Autonomy

07. I feel that I am supervised more closely than necessary.
17. I have too much responsibility and not enough authority.
20. On my ward or unit, my supervisors make all the decisions, I have little direct control over my own work.
30. I am sometimes frustrated because all of my activities seem programmed for me.
31. I am sometimes required to do things on my job that are against my better professional nursing judgment.

Task Requirements

04. There is too much clerical and 'paperwork' required of nursing personnel in this hospital.
15. I think I could do a better job if I did not have so much to do all the time.
36. I could deliver much better care if I had more time with each patient.

Organisational Policies

12. There is a great gap between the administration of this hospital and the daily problems of the nursing service.
18. There are not enough opportunities for advancement of nursing personnel at this hospital.
33. Administrative decisions at this hospital interfere too much with patient care.

Professional Status

02. Nursing is not widely recognised as being an important profession.
27. What I do on my job doesn't add up to anything really significant.
41. My particular job really doesn't require much skill or 'know-how'.

Interaction: Nurse-Nurse

10. It is hard for new nurses to feel 'at home' on my unit.
23. The nursing personnel on my ward or unit are not as friendly and outgoing as I would like.
28. There is a lot of 'rank consciousness' on my ward or unit: nurses seldom mingle with those with less experience or different types of educational preparation.

Interaction: Nurse-Physician

35. I wish the physicians here would show more respect for the skill and knowledge of the nursing staff.
39. The physicians at this hospital look down too much on the nursing staff.

Appendix 5 C

Positively Worded Items from the NOCDQ Questionnaire for which the Response Categories are R=Rarely Occurs S=Sometimes Occurs O= Often Occurs and VF=Very Frequently Occurs

Humanistic Thrust

03. The clinical nurse manager sets an example by working hard.
09. The clinical nurse manager is well prepared when speaking at nursing meetings.
10. The clinical nurse manager helps staff members settle minor differences.
18. The clinical nurse manager checks the ability of nurses.
20. The clinical nurse manager goes out of her/his way to help nurses.
25. The clinical nurse manager uses constructive criticism.

Esprit

07. The morale of nurses is high.
13. Nurses at this hospital show much spirit.
26. The nurses accomplish their work with vim, vigour and pleasure.

Intimacy

06. Nurses closest friends are other nurses from this unit.
11. Nurses know the family background of other nurses.
17. Nurses talk about their personal life to other nurses in the unit.
23. Nurses invite other nurses to visit them at home.

Appendix 5 D

Negatively Worded Items from the NOCDQ Questionnaire for which the Response Categories are R=Rarely Occurs S=Sometimes Occurs O= Often Occurs and VF=Very Frequently Occurs

Aloofness

05. Staff meetings are mainly clinical nurse manager report meetings.
12. The clinical nurse manager runs staff meetings like a business meeting.
14. Staff meetings are organised according to a tight agenda.

Hindrance

01. Routine duties interfere with the job of practicing nursing.
04. Patient charting and reports require too much work.
21. Administrative paperwork is burdensome at this hospital.
22. Housekeeping service is available when needed.
24. Nurses have too many committee requirements.

Disengagement

02. Nurses seek special favours from the clinical nurse manager.
08. The mannerisms of nurses on this ward/unit are annoying.
15. Nurses leave the unit during their assignments.
16. There is a minority group of nurses who always oppose the majority.
19. Nurses exert group pressure on nonconforming nurses.

APPENDIX SIX

Tables Containing Scores for Each of the Six Components of the IWS

Contents Include:

Appendix 6 A – Component Score for Professional Status.

Appendix 6 B – Component Score for Autonomy.

Appendix 6 C – Component Score for Organisational Policies.

Appendix 6 D – Component Score for Task Requirements.

Appendix 6 E_1 – Component Score for Nurse-Nurse Interaction.

Appendix 6 E_2 – Component Score for Nurse-Physician Interaction.

Please Note: - the Component Score for Pay was presented in Chapter Five.

Appendix 6 A - Component Score for Professional Status

Calculating the Component Score for Professional Status

Response Category	Professional Status	Item # 2	Item # 9	Item # 11	Item # 27	Item # 34	Item # 38	Item # 41
Strongly Agree	Score	1	7	7	1	7	7	1
	# of resp.	130	206	337	18	160	212	22
	Sub-total	**130**	**1442**	**2359**	**18**	**1120**	**1484**	**22**
Agree	Score	2	6	6	2	6	6	2
	# of resp.	117	188	132	21	152	76	19
	Sub-total	**234**	**1128**	**792**	**42**	**912**	**456**	**38**
Moderately Agree	Score	3	5	5	3	5	5	3
	# of resp.	107	97	65	33	101	57	33
	Sub-total	**321**	**485**	**325**	**99**	**505**	**285**	**99**
Undecided	Score	4	4	4	4	4	4	4
	# of resp.	45	28	28	26	52	57	17
	Sub-total	**180**	**112**	**80**	**104**	**208**	**228**	**68**
Moderately Disagree	Score	5	3	3	5	3	3	5
	# of resp.	78	34	33	73	55	38	39
	Sub-total	**390**	**102**	**99**	**365**	**165**	**114**	**195**
Disagree	Score	6	2	2	6	2	2	6
	# of resp.	72	33	15	181	39	49	103
	Sub-total	**432**	**66**	**30**	**1086**	**78**	**98**	**618**
Strongly Disagree	Score	7	1	1	7	1	1	7
	# of resp.	58	20	5	251	45	114	371
	Sub-total	**406**	**20**	**5**	**1757**	**45**	**114**	**2597**
Total of Item		2093	3355	3690	3471	3033	2779	3637
Total # of Respondents		607	606	607	603	604	604	604
Average Score		3.45	5.54	6.08	5.76	5.02	4.60	6.02
Component Score		**36.48 (sum of average scores)**						
Component Mean Score		**5.21 (component score ÷ number of items)**						

Table: A

The table above demonstrates how the Component Score for Professional Status was calculated. Both the Component Score and Component Mean Score were used to calculate the Total Scale Score.

Appendix 6 B - Component Score for Autonomy

Calculating the Component Score for Autonomy

Response Category	Autonomy	Item # 7	Item # 13	Item # 17	Item # 20	Item # 26	Item # 30	Item # 31	Item # 43
Strongly Agree	Score	1	7	1	1	7	1	1	7
	# of resp.	30	164	93	64	89	72	66	80
	Sub-total	**30**	**1148**	**93**	**64**	**623**	**72**	**66**	**560**
Agree	Score	2	6	2	2	6	2	2	6
	# of resp.	33	168	101	59	150	87	65	92
	Sub-total	**66**	**1008**	**202**	**118**	**900**	**174**	**130**	**552**
Moderately Agree	Score	3	5	3	3	5	3	3	5
	# of resp.	39	112	105	73	137	98	108	111
	Sub-total	**117**	**560**	**315**	**219**	**685**	**294**	**324**	**555**
Undecided	Score	4	4	4	4	4	4	4	4
	# of resp.	49	34	65	29	67	60	35	45
	Sub-total	**196**	**136**	**260**	**116**	**268**	**240**	**140**	**180**
Moderately Disagree	Score	5	3	5	5	3	5	5	3
	# of resp.	89	43	106	104	62	112	78	90
	Sub-total	**445**	**129**	**530**	**520**	**186**	**560**	**390**	**270**
Disagree	Score	6	2	6	6	2	6	6	2
	# of resp.	191	50	77	167	59	122	123	88
	Sub-total	**1146**	**100**	**462**	**1002**	**118**	**732**	**738**	**176**
Strongly Disagree	Score	7	1	7	7	1	7	7	1
	# of resp.	172	30	58	103	38	53	129	98
	Sub-total	**1204**	**30**	**406**	**721**	**38**	**371**	**903**	**98**
Total of Item		3204	3111	2268	2760	2818	2443	2691	2391
Total # of Respondents		603	601	605	599	602	604	604	604
Average Score		5.31	5.18	3.75	4.61	4.68	4.04	4.45	3.96
Component Score		**35.98 (sum of average scores)**							
Component Mean Score		**4.49 (component score ÷ number of items)**							

Table B

The table above demonstrates how the Component Score for Autonomy was calculated. Both the Component Score and Component Mean Score were used to calculate the Total Scale Score.

Appendix 6 D - Component Score for Task Requirements

Calculating the Component Score for Task Requirements

Response Category	Task Requirements	Item # 4	Item # 15	Item # 22	Item # 24	Item # 29	Item # 36
Strongly Agree	Score	1	1	7	7	7	1
	# of resp.	226	214	113	69	57	261
	Sub-total	**226**	**214**	**791**	**483**	**399**	**261**
Agree	Score	2	2	6	6	6	2
	# of resp.	133	130	158	115	107	143
	Sub-total	**266**	**260**	**948**	**690**	**642**	**286**
Moderately Agree	Score	3	3	5	5	5	3
	# of resp.	110	108	137	105	95	94
	Sub-total	**330**	**324**	**685**	**525**	**475**	**282**
Undecided	Score	4	4	4	4	4	4
	# of resp.	31	43	40	20	34	21
	Sub-total	**124**	**172**	**160**	**80**	**136**	**84**
Moderately Disagree	Score	5	5	3	3	3	5
	# of resp.	41	57	72	91	88	35
	Sub-total	**205**	**285**	**216**	**273**	**264**	**175**
Disagree	Score	6	6	2	2	2	6
	# of resp.	46	27	51	115	108	29
	Sub-total	**276**	**162**	**102**	**230**	**216**	**174**
Strongly Disagree	Score	7	7	1	1	1	7
	# of resp.	16	25	33	83	108	16
	Sub-total	**112**	**175**	**33**	**83**	**108**	**112**
Total of Item		1539	1592	2935	2364	2240	1374
Total # of Respondents		603	604	604	598	597	599
Average Score		2.55	2.64	4.86	3.95	3.75	2.29
Component Score		**20.04 (sum of average scores)**					
Component Mean Score		**3.34 (component score ÷ number of items)**					

Table: D

The table above demonstrates how the Component Score for Task Requirements was calculated. Both the Component Score and Component Mean Score were used to calculate the Total Scale Score.

Appendix 6 E_1 - Component Score for Interaction – Nurse-Nurse

Calculating the Component Score for Interaction – Nurse – Nurse Interaction

Response Category	Interaction	Item # 3	Item # 10	Item # 16	Item # 23	Item # 28
Strongly Agree	Score	7	1	7	1	1
	# of resp.	212	46	155	30	35
	Sub-total	**1484**	**46**	**1085**	**30**	**35**
Agree	Score	6	2	6	2	2
	# of resp.	167	57	188	35	35
	Sub-total	**1002**	**114**	**1128**	**70**	**70**
Moderately Agree	Score	5	3	5	3	3
	# of resp.	111	76	130	49	54
	Sub-total	**555**	**228**	**650**	**147**	**162**
Undecided	Score	4	4	4	4	4
	# of resp.	32	36	34	52	24
	Sub-total	**128**	**144**	**136**	**208**	**96**
Moderately Disagree	Score	3	5	3	5	5
	# of resp.	33	75	36	86	67
	Sub-total	**99**	**375**	**108**	**430**	**335**
Disagree	Score	2	6	2	6	6
	# of resp.	25	169	34	167	156
	Sub-total	**50**	**1014**	**68**	**1002**	**936**
Strongly Disagree	Score	1	7	1	7	7
	# of resp.	18	137	21	178	225
	Sub-total	**18**	**959**	**21**	**1246**	**1575**
Total of Item		3336	2880	3196	3133	3209
Total # of Respondents		598	596	598	597	596
Average Score		5.58	4.83	5.34	5.25	5.38
Component Score						
Component Mean Score						

Table: E_1

The table above gives the scores for Nurse-Nurse Interaction only. The scores for the Nurse-Physician Interaction are contained in the table on the next page. It was difficult to fit a table with the ten items that make up the Interaction component on one page. Therefore, two tables were used instead. As a result, the Component Score and Component Mean Score are not given above. These scores will be calculated and presented in the table E_2 on the next page.

Appendix 6 E_2 - Component Score for Interaction – Nurse-Physician

Calculating the Component Score for Interaction – Nurse Physician Interaction

Response Category	Interaction	Item # 6	Item # 19	Item # 35	Item # 37	Item # 39
Strongly Agree	Score	7	7	1	7	1
	# of resp.	92	88	167	95	58
	Sub-total	**644**	**616**	**167**	**665**	**58**
Agree	Score	6	6	2	6	2
	# of resp.	197	175	111	126	67
	Sub-total	**1182**	**1050**	**222**	**756**	**134**
Moderately Agree	Score	5	5	3	5	3
	# of resp.	121	112	110	144	83
	Sub-total	**605**	**560**	**330**	**720**	**249**
Undecided	Score	4	4	4	4	4
	# of resp.	47	48	34	43	53
	Sub-total	**188**	**192**	**136**	**172**	**212**
Moderately Disagree	Score	3	3	5	3	5
	# of resp.	67	86	54	83	111
	Sub-total	**201**	**258**	**270**	**249**	**555**
Disagree	Score	2	2	6	2	6
	# of resp.	45	46	69	60	114
	Sub-total	**90**	**92**	**414**	**120**	**684**
Strongly Disagree	Score	1	1	7	1	7
	# of resp.	31	44	54	45	111
	Sub-total	**31**	**44**	**378**	**45**	**777**
Total of Item		2941	2812	1917	2727	2669
Total # of Respondents		600	599	599	596	597
Average Score		4.90	4.69	3.20	4.58	4.47
Component Score		**48.22 (sum of average scores i.e. nurse-nurse + nurse physician**				
Component Mean Score		**4.82 (component score ÷ number of items i.e. 10)**				

Table: E_2

The table above demonstrates how the Component Score for Interaction was calculated. Please note that in order to calculate the Score for this component the average scores from Nurse-Nurse Interaction and Nurse-Physician Interaction were added together. It was difficult to fit all the items from the two components into one table so two tables were used instead. The table above contain the results for Nurse-Physician Interaction. In addition, the Component Score (sum of average scores for all ten items) and Component Mean Scores are given. The Component Mean Score was calculated by dividing the Component Score by 10. The Component Score (48.22) was then used to calculate the Total Scale Score.

APPENDIX SEVEN

Tables Containing Frequency Distributions for Each of the Six Components of Part B of the IWS

Contents Include:

Appendix 7 A – Frequency Distribution Analysis for Pay.

Appendix 7 B – Frequency Distribution Analysis for Autonomy.

Appendix 7 C – Frequency Distribution Analysis for Task Requirements.

Appendix 7 D – Frequency Distribution Analysis for Organisational Policies.

Appendix 7 E – Frequency Distribution Analysis for Professional Status.

Appendix 7 F_1 – Frequency Distribution Analysis for Nurse-Nurse Interaction.

Appendix 7 F_2 – Frequency Distribution Analysis for Nurse-Physician Interaction.

Please Note:

The frequency distribution analyses for the six components of Part B of the IWS questionnaire are presented in the tables below. Each statement was numbered 1-7 where the left set of numbers indicates "degrees of agreement" and the right set of numbers represents "degrees of disagreement". For example, if a respondent strongly agreed with the first item, in table A then she or he must circle 1; if they agree with the item they circle 2; if they moderately agreed with the statement then they must circle 3 and so on.

Appendix 7 A – Frequency Distribution Analysis for Pay

Frequency Distribution for Pay

Items (paraphrased from questionnaire)	Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree
Pay							
1. My present Salary is satisfactory.	36 5.9%	95 15.6%	111 18.2%	37 6.1%	81 13.3%	115 18.9%	132 21.6%
8. It is my impression that .... A lot of nurses are dissatisfied with pay.	169 27.7%	117 19.2%	108 17.7%	49 8.0%	70 11.5%	55 9.0%	33 5.4%
14. Considering what is expected, the pay is reasonable.	30 4.9%	60 9.8%	95 15.6%	39 6.4%	97 15.9%	123 20.2%	159 26.1%
21. The present rate of increase in pay is not satisfactory.	171 28.0%	132 21.6%	112 18.4%	54 8.9%	53 8.7%	54 8.9%	26 4.3%
32. From what I hear, we at this hospital are being fairly paid.	67 11.0%	86 14.1%	105 17.2%	122 20.0%	68 11.1%	57 9.3%	94 15.7%
44. An upgrading of pay schedules is needed at this hospital.	223 36.6%	125 20.5%	104 17.0%	66 10.8%	35 5.7%	29 4.8%	19 3.2%

Table: A

The findings in table A indicate that nurses in this sample were not satisfied with Pay. As demonstrated, the majority of positively worded items (1, 14, 32) obtained high scores for the response category *strongly disagree* while the negatively worded items (8, 21, 44) received high scores for the *strongly agree* category.

Appendix 7 B – Frequency Distribution Analysis for Autonomy

Frequency Distribution for Autonomy

Items (paraphrased from questionnaire)	Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree
Autonomy							
7. I feel that I am supervised more closely than is necessary.	30 4.9%	33 5.4%	39 6.4%	49 8.0%	89 14.6%	191 31.3%	172 28.2%
13. I feel I have sufficient input into care of patients.	164 26.9%	168 27.5%	112 18.4%	34 5.6%	43 7.0%	50 8.2%	30 4.9%
17. I have too much responsibility and not enough authority.	93 15.2%	101 16.6%	105 17.2%	65 10.7%	106 17.4%	77 12.6%	58 9.5%
20. On my ward/unit my supervisors make decisions regarding my work.	64 10.5%	59 9.7%	73 12.0%	29 4.8%	104 17.0%	167 27.4%	103 16.9%
26. A great deal of independence is permitted.	89 14.6%	150 24.6%	137 22.5%	67 11.0%	62 10.2%	59 9.7%	38 6.2%
30 I am sometimes frustrated because my activities seem programmed for me.	72 11.8%	87 14.3%	98 16.1%	60 9.8%	112 18.4%	122 20.0%	53 8.7%
31. I am sometimes required to do things against my judgement.	66 10.8%	65 10.7%	108 17.7%	35 5.7%	78 12.8%	123 20.2%	129 21.1%
43. I have the freedom to make decisions as I see fit.	80 13.1%	92 15.1%	111 18.2%	45 7.4%	90 14.8%	88 14.4%	98 16.1%

Table: B

The results presented in table B would appear to indicate that nurses in this study are generally satisfied with Autonomy. The majority of responses for the positively worded items (13, 26, 43) received high scores for the response categories *strongly agree* or *agree* while the negatively worded items received high scores for the response categories *strongly disagree* or *disagree*. Worthy of note is that a larger number of nurses agreed rather than disagreed with item 17 which suggests that they were less satisfied with this item. In summary, these findings suggest that nurses were generally satisfied with items 7 and 13 but less satisfied with items 30, 43, and 17.

Appendix 7 C – Frequency Distribution Analysis for Task Requirements

Frequency Distribution for Task Requirements

Items (paraphrased from questionnaire)	Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree
Task Requirements							
4. There is too much paper work required of nurses.	226 37.0%	133 21.8%	110 18.0%	31 5.1%	41 6.7%	46 7.5%	16 2.6%
15. I think I could do a better job if I didn't have so much to do.	214 35.1%	130 21.3%	108 17.7%	43 7.0%	57 9.3%	27 4.4%	25 4.1%
22. I am satisfied with the activities I do.	113 18.5%	158 25.9%	137 22.5%	40 6.6%	72 11.8%	51 8.4%	33 5.4%
24. I have plenty of time to discuss patient care.	69 11.3%	115 18.9%	105 17.2%	20 3.3%	91 14.9%	115 18.9%	83 13.6%
29. I have sufficient time for patient care.	57 9.3%	107 17.5%	95 15.6%	34 5.6%	83 14.4%	108 17.7%	108 17.7%
36. I could deliver better care if I had more time.	261 42.8%	143 23.4%	94 15.4%	21 3.4%	35 5.7%	29 4.8%	16 2.6%

Table: C

The findings presented in table C suggest that nurses in the present study were not very satisfied with this component. Two of the positively worded items (22, 24) received high scores for the response categories *agree* and *strongly agree*. However, item 29 received high scores for the response categories *disagree* and *strongly disagree*. All the negatively worded items (4, 15, 36) received higher scores for the response categories *strongly agree* or *agree* suggesting that nurses were not satisfied with this component. In summary, nurses were generally satisfied with the types of activities they do in their jobs. However, they were less satisfied with items 15, 4, and 29.

Appendix 7 D – Frequency Distribution Analysis for Organisational Policies

Frequency Distribution for Organisation al Policies

Items (paraphrased from questionnaire)	Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree
Organisational Policies							
5. The nursing staff has sufficient control over scheduling their own shifts.	92 15.1%	122 20.0%	85 13.9%	36 5.9%	58 9.5%	80 13.1%	123 20.2%
12. There is a great gap between administration and daily problems of nursing.	251 41.1%	103 16.9%	88 14.4%	29 4.8%	50 8.2%	49 8.0%	28 4.6%
18. There are not enough opportunities for advancement.	170 27.9%	129 21.1%	93 15.2%	33 5.4%	91 14.9%	54 8.9%	31 5.1%
25. There is opportunity for participation in decision-making.	29 4.8%	69 11.3%	89 14.6%	45 7.4%	105 17.2%	131 21.5%	130 21.3%
33. Administrative decisions interfere with patient care.	108 17.7%	87 14.3%	105 17.2%	66 10.8%	78 12.8%	91 14.9%	62 10.2%
40. I have all the voice in planning policies that I want.	44 7.2%	55 9.0%	78 12.8%	46 7.5%	95 15.6%	129 21.1%	153 25.1%
42. The nursing administrators generally consult with staff.	60 9.8%	76 12.5%	82 13.4%	30 4.9%	75 12.3%	101 16.6%	174 28.5%

Table: D

The findings in table D above indicate that nurses were not satisfied with this component. Three of the four positively worded items (25, 40, 42) received higher scores for the response categories *strongly disagree* and *disagree* suggesting that nurses were not satisfied with these items. With regard to the negative items (12, 18, 33) all received higher scores for the response categories *strongly agree* and *agree* indicating low satisfaction for these items. In summary, nurses were generally more satisfied with item 5 and least satisfied with item 12.

Appendix 7 E – Frequency Distribution Analysis for Professional Status

Frequency Distribution for Professional Status

Items (paraphrased from questionnaire)	Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree
Professional Status							
2. Nursing is not recognised as being an important profession.	130 21.3%	117 19.2%	107 17.5%	45 7.4%	78 12.8%	72 11.8%	58 9.5%
9. Most people appreciate the importance of nursing care.	206 33.8%	188 30.8%	97 15.9%	28 4.6%	34 5.6%	33 5.4%	20 3.3%
11. There is no doubt in my mind that what I do is important.	337 55.2%	132 21.6%	65 10.7%	20 3.3%	33 5.4%	15 2.5%	5 .8%
27. What I do on my job doesn't add up to anything significant.	18 3.0%	21 3.4%	33 5.4%	26 4.3%	73 12.0%	181 29.7%	251 41.1%
34. It makes me proud to talk to other people about what I do on my job.	160 26.2%	152 24.9%	101 16.6%	52 8.5%	55 9.0%	39 6.4%	45 7.4%
38. If I had the decision to make again, I would still go into nursing.	212 34.8%	76 12.5%	57 9.3%	57 9.3%	38 6.2%	49 8.0%	114 18.7%
41. My job doesn't really require much skill.	22 3.6%	19 3.1%	33 5.4%	17 2.8%	39 6.4%	103 16.9%	371 60.8%

Table: E

The results in table E above suggest that for this sample of nurses Professional Status is very important. All the positively worded items (9, 11, 34, 38) received high scores for the response categories *agree* and *strongly agree* indicating high satisfaction with these items. With regard to the negatively worded items (2, 27, 41) item 2 received high scores for the response categories *strongly agree*, *agree*, and *moderately agree* suggesting that nurses were less satisfied with this item. The remaining two negative items received high scores for the response categories *disagree* and *strongly disagree* which means that nurses were satisfied with these items. In summary, these findings indicate that nurses feel that their job is important, requires skill, and is significant. They were less likely however to believe that nursing is recognised by others as important.

Appendix 7 F_1 – Frequency Distribution Analysis for Nurse-Nurse Interaction

Frequency Distribution for Nurse-Nurse Interaction

Items (paraphrased from questionnaire)	Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree
Interaction: Nurse-Nurse							
3. The nursing personnel on my ward/unit help one another.	212 34.8%	167 27.4%	111 18.2%	32 5.2%	33 5.4%	25 4.1%	18 3.0%
10. It is hard for new nurses to feel "at home".	46 7.5%	57 9.3%	76 12.5%	36 5.9%	75 12.3%	169 27.7%	137 22.5%
16. There is a good deal of teamwork between levels of nursing personnel.	155 25.4%	188 30.8%	130 21.3%	34 5.6%	36 5.9%	34 5.6%	21 3.4%
23. The nursing personnel are not as friendly as I would like.	30 4.9%	35 5.7%	49 8.0%	52 8.5%	86 14.1%	167 27.4%	178 29.2%
28. There is a lot of "rank consciousness" on my ward/unit.	35 5.7%	35 5.7%	54 8.9%	24 3.9%	67 11.0%	156 25.6%	225 36.9%

Table: F_1

The table above gives the results for the Nurse-nurse Interaction component. In this study most of the nurses were satisfied with this component. The two positively worded items (3, 16) received high scores for the response categories *strongly agree* and *agree* indicating satisfaction with these items. The negatively worded items (10, 23, 28) received high scores for the *strongly disagree* and *disagree* response categories suggesting satisfaction with these items. In summary, these results indicate that nurses were generally satisfied with their interaction with other nursing staff.

Appendix 7 F_2 – Frequency Distribution Analysis for Nurse-Physician Interaction

Frequency Distribution for Nurse-Physician Interaction

Items (paraphrased from questionnaire)	Strongly Agree	Agree	Moderately Agree	Undecided	Moderately Disagree	Disagree	Strongly Disagree
Interaction: Nurse-Physician							
6. Physicians in general cooperate with the nursing staff on my unit.	92 15.1%	197 32.3%	121 19.8%	47 7.7%	67 11.0%	45 7.4%	31 5.1%
19. There is a lot of teamwork between nurses and doctors on my ward/unit.	88 14.4%	175 28.7%	112 18.4%	48 7.9%	86 14.1%	46 7.5%	44 7.2%
35. I wish physicians would show more respect for nursing staff.	167 27.4%	111 18.2%	110 18.0%	34 5.6%	54 8.9%	69 11.3%	54 8.9%
37. Physicians understand what the nursing staff does.	95 15.6%	126 20.7%	144 23.6%	43 7.0%	83 13.6%	60 9.8%	45 7.4%
39. The physicians look down too much on the nursing staff.	58 9.5%	67 11.0%	83 13.6%	53 8.7%	111 18.2%	114 18.7%	111 18.2%

Table: F_2

The table above demonstrates the responses for the Nurse-Physician Interaction component of the IWS. It would appear that most of the nurses were fairly satisfied with this component. The three positively worded items (6, 19, 37) all received high scores for the response categories *agree* and *moderately agree*. The responses for the two negatively worded items (35, 39) were mixed. Item 35 received high scores for the response categories *strongly agree*, *agree* and *moderately agree* indicating low satisfaction with this item. Item 39 on the other hand received high scores for the *strongly disagree* and *disagree* response categories which suggests satisfaction with this item. When the two interaction components are viewed together it would appear that nurses were more satisfied with their interactions with other nurses and less satisfied with their interactions with their medical colleagues.