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The development and testing of a conceptual model for the analysis of contemporary developmental relationships in nursing

Caroline M. Wright
University of Wollongong

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**THE DEVELOPMENT AND TESTING OF A CONCEPTUAL MODEL FOR THE
ANALYSIS OF CONTEMPORARY DEVELOPMENTAL
RELATIONSHIPS IN NURSING**

A thesis submitted in fulfilment of the
requirements for the award of the degree



DOCTOR OF PHILOSOPHY

from

UNIVERSITY OF WOLLONGONG

by

Caroline M. Wright, RN, RMN, Dip.Teach.(Nurs), MA(Hons).

**DEPARTMENT OF NURSING,
1992.**

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Completion of any major project encompasses much thanks and appreciation to multiple people, as it entails many years of thinking, inquiring, investigating, but most of all appreciation for the "listening" ears and supportive encouragement of many important nursing leaders in Australia, the United States of America, the United Kingdom, and in New Zealand.

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ABSTRACT

The purpose of this study was to develop and statistically analyse a conceptual model of contemporary developmental relationships in nursing. The conceptual model was formulated a priori and was based on both empirical and conceptual literature. No attempt was made to draw a distinction between the concepts of preceptor and mentor and focused on all helping, supporting, and developmental relationships that nurses form with their colleagues.

The study population was selected by means of stratification by area of work and random selection, and was drawn from the nursing population in hospitals and higher education institutions in New South Wales (n=445). A non-experimental retrospective research design was utilised for this study. Analysis of the conceptual model using structural equation modelling (SEM) was performed on data supplied by registered nurses (n=349) on a questionnaire. Follow-up telephone interviews were also undertaken with a convenience sample drawn from the respondents willing to participate further in the research study.

An instrument was developed by the researcher to collect data on the professional values of nurses (16 nurturing and 16 achievement items). Instrument evaluation using reliability and validity analysis measures is reported.

The study aimed to: 1) develop a conceptual framework of developmental nursing relationships from a literature review of personality, preceptorship and mentorship studies from both the conceptual and empirical literature; 2) identify reliable indicators to measure the above abstract concepts within the context of developmental relationships in nursing; 3) statistically analyse the conceptual model of developmental relationships in the occupation of nursing; and 4) expand the conceptual model through the development of the theoretical links between the abstract constructs based on the research findings from this nursing study.

The constructs examined in this study were: **Individual Personality (IP)** as measured by **Achievement Personality**, **Professional Values (PV)** as measured by loading the **Achievement** and **Nurturance** factors of the Wright Professional Value Inventory, **Work Context (WC)** a composite measure of area of nursing practice which was weighted by the number of years in the present position, and **Developmental Relationships (DREL)** as measured by loading the total number of relationships formed as a giver and as a receiver and the type of relationship variable (collegial vs supervisory).

Analysis of results confirmed the positive significance of paths from **Individual Personality** to **Work Context**, from **Professional Values** to **Work Context**, and from **Work Context** to **Developmental Relationships**. **Professional Values** was found to have a higher indirect effect on **Developmental Relationships** than **Individual Personality**. Although the hypotheses were supported, the predictive power of the model was relatively low (.153) indicating

the need for a search for more variables that are critical to the model to improve its predictive power.

The data supplied from follow-up interviews indicated that even though registered nurses described the relationship in different terms, almost all saw the relationship as a developmental one.

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CHAPTER 1

INTRODUCTION

Each individual is unique. This uniqueness is a result of the quality and quantity of life experiences. Life experience is a complex interaction of individual, family and social relationships. The early life experiences encountered by any one individual will be influenced by that person's biological sex (a primary socialisation effect), the socioeconomic level of the family (a socialisation and educational effect), as well as the cultural environment (a prescriptive or prohibitive effect). These cumulative early life experiences may be mediated by the age factor (a quantity effect) and occupational choice (a secondary socialisation effect).

Therefore, each individual nurse develops a composite set of personal preferences and professional values (intrapersonal drives) that influence intraprofessional relationship formation. Intraprofessional **helping** (Levinson, Darrow, Klien, Levinson and McKee, 1978:98; Long, Allison and McGinnis, 1979:818), **supporting** (Levinson et al., 1978:98; Fagan and Fagan, 1983; Long et al., 1979:818; Vance, 1977; Merriam, 1983), and **developmental** (Levinson et al., 1978:98; Vance, 1977; 1986; Hunt and Michael, 1983; May,

Meleis and Winstead, 1982) **relationships**, hereafter referred to as "**developmental**", can also be influenced by extrapersonal work systems, for example, the organisational structure and the specialty subgroup structure. Thus, the quality and quantity of intraprofessional relationships in nursing can be perceived to be a unique combination of individual and family life experiences, intrapersonal drives and extrapersonal work systems.

Of all the professions, and of all the traditionally feminised (evolving) professions, nursing is the most feminised in terms of its concentration of women. The formation of developmental intraprofessional relationships is viewed as part of the professionalisation process. The conceptualisation of developmental relationships for nurses may be either adopted from the traditional professions, or developed to meet the particular needs of nurses. An informed decision requires an analysis of the concurrent issues facing nurses as individuals and as an evolving profession.

1.1 The Male Mentor Model.

The popularity of the concept of mentoring began with the work of Levinson et al. (1978). In the developmental career stages of the men in their study, the importance of a mentor in occupational success was emphasised. Having a mentor was associated with increased job satisfaction, higher salary, faster promotion, firmer career plans, and the increased probability that the mentee would also become a mentor. Similar "success" criteria have also been used to evaluate the impact of mentor relationships in nursing in both the

administrative and academic contexts, the two avenues identified for career progression in the occupation of nursing (for example, Jowers, 1986; Rawl, 1989). The assumption is that women, the major group contributing to the nursing workforce in the United States of America (USA) and Australia, have the same achievement motivations for success as males in business careers.

The implied elitism and exclusiveness of the mentor model developed for career advancement of males is of concern for several reasons. First, upward movement may not be the key success criteria for mentoring in nursing. Development within a role versus career advancement within a hierarchy may need to be explored. Second, the literature describes the relationship as exclusive, non-democratic, personality-based, intense and emotional (for example, Vance, 1979; Hamilton, 1981). Such a description tends to infer that high achievement-oriented mentors actively seek out high achievement-oriented mentees. The emphasis on achievement in male mentoring models suggests that selection is based on the fit of personality styles. This hypothesis is supported by Levinson, *et al.*'s (1978:100) finding that intense male mentor relationships usually end in strong conflict of a competitive nature and bad feelings on both sides.

1.2 The Personality of Nurses.

In the 1960s and early 1970s, the personality of nurses was investigated by many researchers using a variety of instruments, at various times during training and the career life of nurses, as well as in many different academic

and work contexts (for example, Caine, 1964; Aldag and Christensen, 1967; George and Stevens, 1968; Bailey and Claus, 1969; Krall, 1970; Brown and Stones, 1972).

Over the fifteen years in which the major proportion of research occurred in the USA, one of the most widely used instruments in nursing personality studies, the Edwards Personal Preference Schedule (Edwards, 1959), has produced some interesting results. Two of the Edwards Personal Preference Schedule (EPPS) factors appear to have remained significant for nurses both at the student and registered nurse level. Research results indicate that: student nurses are more nurturing and less achievement oriented than the general female population (Levitt, Lubin and Zuckerman, 1962); there may be a change in the personality profile of registered nurses over time spent in a bureaucratic organisation (Levitt *et al.*, 1962); personality differences exist between registered nurses in various clinical specialty areas (Navran and Stauffacher, 1958); and, there is an association between the student nurse personality profile and biological sex (Alvarez, 1984). Given the achievement orientation of "male" mentor relationships and the nurturance orientation of the nursing population, the male mentor model is in direct conflict with the traditional attributes of the nursing population with a predominantly female composition.

1.3 The Evolution of Developmental Relationships in Nursing.

Maloney (1986:44-45) is convinced that many challenges need to be overcome before nursing can achieve professional status. These challenges include the

change in venue for nurse education, the theory/practice debate, and the entry into practice of unsocialised neophytes. It was in response to these challenges that the concepts of "preceptor" and "mentor" emerged in the nursing literature.

The term preceptor first appeared as a classification in the International Nursing Index in 1975. Shamian and Inhaber (1985) suggest that nursing has adapted and modified the term to describe a unit-based nurse involved in a one to one relationship with either a nursing student or new employee in addition to her (sic) regular duties. However, the term mentor has also been used to describe the relationship between the clinician and pregraduate nursing student in Australia (Wright, 1989,a;b;d;e; 1990,a;b) and at the postgraduate level in the USA (for example, Pardue, 1983). This situation is further complicated by a tendency for some authors to use the term preceptor and mentor synonymously, while others see the terms as having distinctly unique characteristics.

From the interpersonal perspective, these two contemporary relationships have been conceptualised on a continuum with mentors being the most intense and preceptors as less powerful in shaping the careers of neophytes (Kelly, 1978). Differentiation of the two terms has also been attempted using the length of the relationship as the discriminating variable (Puetz, 1986); Puetz (1986) and others (for example, Kelly, 1978; Hamilton, 1981) have used the context in which the relationship is formed to distinguish between the voluntary and informal mentor relationship and the more formalised preceptorship.

In a developmental orientation, Beaulieu (1980) recognises the potential for a clinical preceptorship to lead to a mentor relationship which suggests an element of transition. Hamilton (1981) suggests a link between preceptoring and role modelling, whereas mentoring has a link with leadership development. The difference in outcomes implies that the mentor and preceptor roles are heterogeneous yet nursing lacks a theory of how these two roles function in nursing (Wright, 1991).

1.4 Bureaucratic and Professional Value Systems.

Health care organisations which employ the majority of nurses are structured on bureaucratic principles. Because of the magnitude of the job to be done in the health care system and the limitations imposed by budget and public expectations, the hospital's primary focus is on the organisation, maintenance, and delivery of efficient and effective health care to a large number of clients (Kramer, McDonnell and Read, 1972). To do this, the hospital follows the tenets of the bureaucratic work system, dividing the total tasks among many workers, operating on a system of specialised tasks of a repetitive nature performed by employees particularly proficient in that task (Gerth and Mills, 1958). For such a division of labour to work, supervisory coordination is required. The end result is a hierarchical control structure. Socialisation into the health care system requires the acceptance of a disciplined compliance with the directives of supervisors.

Professional socialisation is the process whereby a professional culture is

transmitted. In nursing, this occurs during the period of formal nursing education. Professional socialisation in nursing is viewed by McCaIn (1985) as the interactive process by which an individual nurse integrates a professional role into the self-concept through the acquisition and internalisation of the requisite knowledge, skills, values, attitudes, and norms of the profession. Nurses educated in higher education institutions tend to view themselves as autonomous, professional persons (Kramer, 1970; Brown, Swift and Oberman, 1974) whereas nurses educated in the hospital system have a tendency to view compliance as part of professional behaviour (Maykovich, 1980:299).

The major difference between bureaucratic and professional ideals appears to be in the control structure (Maykovich, 1980:226). Distinct from the hierarchical control exercised in bureaucratic organisations, professionals use a form of self-control and collegial surveillance of performance by peers. Furthermore, from a "value" perspective, it is argued that health care organisations have a "concern for production" (within a service delivery model), whereas nurses have a "concern for people". Individual conflict may arise due to the lack of a system of shared values between the people who make up nursing and the health care organisations in which they work as well as the control structures that are in place to deal with those who do not conform to established organisational norms.

The importance of the two distinct socialisation processes introduced above, is demonstrated when new nurse graduates from higher education programs enter into the health care workforce. The extent of the "reality shock"

experienced by graduates during transition into the health care system has resulted in many disillusioned nurses leaving nursing (Kramer, 1974) or moving into supervision or education (Kramer *et al.*, 1972). Concern about high attrition and turn-over rate in hospitals has fostered the development of orientation programs which use preceptorships to facilitate graduate adjustment.

Nursing preceptorship literature tends to emphasise its applicability for socialisation into the work role (Shogan, Prior and Kolski, 1985; Goldenberg, 1987) using the technique of role modelling to achieve clinical competence (McGrath and Koewing, 1978; Plasse and Lederer, 1981; Bidwell and Brasler, 1989).

Mentorship in nursing, on the other hand, has been conceptualised as a developmental process and based on individual rather than organisational goals (Vance, 1977; Pilette, 1980; Hamilton, 1981; Fagan and Fagan, 1983). As the people entering nursing are higher on nurturing and lower on achievement than the general female population, mentorship may be more applicable to nursing as it is concerned with nurturing and caring for each other (Wright, 1991).

1.5 The Aims of the Study.

This study aims to: 1) develop a conceptual framework of developmental nursing relationships from a literature review of personality, preceptorship and

mentorship studies from both the conceptual and empirical literature; 2) identify reliable indicators to measure the above abstract concepts within the context of developmental relationships in nursing; 3) statistically analyse the conceptual model of developmental relationships in the occupation of nursing; and 4) expand the conceptual model through the development of the theoretical links between the abstract constructs based on the research findings from this nursing study.

CHAPTER II

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

In this chapter, selected nursing literature pertaining to individual characteristics, personality and professional developmental relationships will be reviewed. The main aim is to isolate the variables of interest and their theoretical interrelationship patterns for the formulation of a conceptual model. This research study does not intend specifically to explore developmental relationships in nursing from such narrow tangents as "pure mentor" or "pure preceptor" relationships. Rather, this study aims to develop a conceptual model, based on theoretically-driven constructs and their associated measurement variables, which is appropriate to the discipline of nursing. Furthermore, empirical and theoretical interactions between latent constructs will be analysed in the final chapter to assist in theoretical clarity and to reduce potential repetition.

2.1 Potential Explanatory Variables.

In this section certain variables, such as biological sex, age, and the socioeconomic level of the household of origin will be introduced. The rationale

for their inclusion is their hypothesised association with the personality construct which follows later in this chapter.

2.1.1 Individual Characteristics.

2.1.1.1 Biological Sex.

The biological sex mix in nursing has remained relatively constant over time. In recent years, however, there has been a relative increase in the proportion of males entering into nurse preparation programs in Australia, but this has mainly been in psychiatric and mental retardation programs based in hospitals (Wright, 1989,c: 1990,c). Wright argued that the findings could be explained by the way society perceives the various nursing roles. Both psychiatric and mental retardation nursing roles are viewed as requiring more physical strength and less nurturing qualities than general nursing and thus are more attractive to male recruits. Such an argument is supportive of 1) the assertion of Groff (1984), a male registered nurse, that a male in nursing has to battle two stereotypes -- not smart enough to be a doctor, and not caring enough to be a nurse, and 2) the findings of Bush (1976) that males in nursing have a tendency to select nursing roles where potential conflict with the societal role of men would be reduced.

2.1.1.2 Age.

Wright's (1989,c:37) review of published records in New South Wales (NSW) enabled her to conclude that the age at which students enter into nurse preparation programs has slowly increased over the past twenty years, and

that males have had a tendency to enter hospital programs at an older age than their female counterparts. This is also true in the United Kingdom (Brown and Stones, 1970) and in the USA (Mannino, 1963). Wright (1988) also found that higher education programs were more likely to attract more direct from school entry males and more mature age females than hospital programs.

Furthermore, Wright (1989,c:iv) established an association between biological sex, age of entry and choice of institution (hospital or higher education program) in both her NSW (1989,c) and national samples (1990,c). With the national transfer of nurse education into higher education institutions some changes may occur in the biological sex and age mix of nursing recruits and, thus, ultimately in the nursing workforce, but the direction of such change would be purely speculative.

2.1.1.3 The Socioeconomic Status of the Family of Origin.

It was hypothesised at the beginning of the previous chapter that the socioeconomic status (SES) of the family could influence the cumulative learning from early life experiences through socialisation and educational effects. Thus, it would be important to analyse the nursing literature on the family SES construct.

In 1958, Hughes, Hughes and Deutscher (1958) published a review of many locally-based American hospital studies. They gathered evidence to support their conclusion that nursing recruits in the USA were derived from middle class family backgrounds through excess proportions of daughters from

professional and managerial family origins (p.21) and that nurses tended to select husbands from higher status positions than their fathers. Wright (1989,c:28) argued that this finding suggests that nursing preparation was also being used by some recruits as a means of achieving social mobility. The findings regarding the socioeconomic status of nursing recruits in the USA have been supported by research literature in the Philippines (Joyce and Hunt, 1982), Singapore (Chew, 1969), and in Australia (Wright, 1989,c: 1990,c).

In many of the above research studies the socioeconomic status construct of either the family of origin or the family of orientation was predominantly measured by a single indicator, father's or partner's occupation. The assumption is that the occupational level of the father is associated with other factors, for example, income. However, it is argued that the association between these two factors is variant, due to the influence of other factors. This concern is even greater if such associated variables are not included in the research design. For example, education is associated with occupation in that a university lecturer would have a higher degree credential from a university and a plumber or a refrigerator mechanic would have a certificate from a technical and further education college. Using occupation and education as indicators of socioeconomic status, the university lecturer would be placed much higher on the scale than either the plumber or the repairman. When income is included as a third factor, the association becomes more complex. Experienced plumbers and refrigerator repairmen would receive a much higher annual income than university lecturers.

The complexity of the socioeconomic status construct becomes more intricate when the influence of the mother of the household is considered. From an economic perspective isolated from the influence of education and occupation, if the mother of the household is in paid employment, economic assets can be accumulated to finance post-secondary education for the children of the household. Conversely, if the mother of the household has attained a professional credential from a university and is not involved in paid employment outside the household, special processes operating within the home (see Rowe, 1989, for a detailed discussion of these processes) may be more directly related to the child's achievement at school, for example, attainment of the prerequisite grades for entry into post-secondary education at university level.

2.1.2 Interaction Effects between the Biological Sex, Age and the Socioeconomic Level of the Family of Origin Variables.

Maykovich (1980:298) cited evidence from the United States literature to support his claim that while baccalaureate programs tended to attract middle and upper class students, hospital programs tended to recruit students from the lower middle class and from the upwardly mobile group. As previously discussed, a major limitation of these studies is that the socioeconomic status of the family of origin and the family of orientation has been predominantly measured by a single variable, father's or partner's occupation. Using a composite indicator of socioeconomic status, namely, father's occupation, highest level of educational attainment, and annual income, Wright (1988) found that NSW hospital programs were less likely to recruit students from

lower socioeconomic households than college programs. Thus, research study results on the socioeconomic status construct may be biased by the variables used to measure the particular construct.

Eckland (1964) found that a composite index of social class was a better predictor of college success than the separate indicators of education, income, and occupation. In his review of the research studies, those using father's occupation or parents' education found college performance unrelated to social class, but three others using a composite index of social class found a positive relationship with college performance. Thus, it appears that measurement of the family socioeconomic status construct is more reliable when measured by a composite number of indicators, such as, father's occupation and the level of education achieved by both the father and the mother. There is an implication that the mother's occupation is also important as a measurement variable but its inclusion in a composite variable may be confounded by the proportion of mothers involved in home duties.

To date, no data is available on the composite nature of the socioeconomic status of the households of registered nurses in NSW. Nor is it possible to theoretically link this concept with the biological sex or age of any individual nurse. It may be plausible to hypothesise that the constructs may be associated, but there is no clear "causal" association. More importantly from a research perspective, it is hypothesised that registered nurses in NSW may be a relatively homogeneous group regarding the SES of the family of origin thus

reducing the predictive power of this construct in structural equation modelling.

2.2 The Personality of Nurses.

Nursing is a group that has been excessively popular among personality researchers in the USA. From a methodology perspective, Wright (1991) has advised caution in generalising these research findings to the registered nurse population throughout the USA. Her argument is based on the fact that although there is a great deal of personality data available, there is a diversity of nursing samples, students in different training programs, different times of instrumentation, as well as different personality inventories, making it difficult to draw any firm conclusions from the study findings. This argument holds for comparison between the USA and Australia.

From a broad research perspective, one of the most frequently used inventories for studying the personality profiles of nurses has been the Edwards Personal Preference Schedule (EPPS). The EPPS was designed primarily as an instrument for research and counselling purposes, to provide quick and convenient measures of a number of relatively independent *normal* personality variables (Edwards, 1959). The manifest needs associated with each of the 15 EPPS variables are:

- 1. Achievement:** To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be a recognised authority, to accomplish something of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.

2. Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

3. Order: To have written work neat and organised, to make plans before starting on a difficult task, to have things organised, to keep things neat and orderly, to make advance plans when taking a trip, to organise details of work, to keep letters and files according to some system, to have meals organised and a definite time for eating, to have things arranged so that they run smoothly without change.

4. Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and comment on one's appearance, to say things just to see what effect it will have on others, to talk about personal achievements, to be the centre of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

5. Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticise those in positions of authority, to avoid responsibilities and obligations.

6. Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

7. Intraception: To analyse one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyse the behaviour of others, to predict how others will act.

8. Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favours cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

9. Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

10. Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than when having one's own way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.

11. Nurturance. To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favours for others, to be generous with others, to sympathise with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

12. Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

13. Endurance: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick at a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.

14. Heterosexuality: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen to or to tell jokes involving sex, to become sexually excited.

15. Aggression: To attack contrary points of view, to tell others what one thinks about them, to criticise others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to become angry, to blame others when things go wrong, to read newspaper accounts of violence.

Percentile norms were developed for each sex from a national sample of 5105 households consisting of 4031 males and 4932 females. Split-half reliability coefficients were determined for the 15 personality variables on data gathered from 1509 subjects in the college normative group. The internal consistency coefficients, corrected by the Spearman-Brown formula, ranged from $r = .60$ to

.87. Test-retest reliability coefficients ranged from $r = .74$ to $.88$ over a one to two week interval (p.19).

As noted by Stauffacher and Navran (1968), the EPPS is frequently chosen because it was designed to control for subjects' tendencies to give socially desirable responses. In constructing the 210-item pairings, Edwards used sentences that were as close to each other in judged social desirability as the data permitted, so that when asked to decide which of the two sentences was more characteristic of the individual, the subject would be hard pressed to choose primarily on the basis of putting himself/herself in a more favourable light. Edwards also repeated 15 of the paired items and scattered them systematically through the item pool, to get a measure of the consistency with which the respondent was answering the items.

Navran's (1977) use of the EPPS over a twenty year period working as a clinical psychologist resulted in his recommending an alternative method of scoring the original items. His basic argument was that each of the EPPS scales contained several components or clusters that measured different aspects of a particular need. For example, the need for achievement was divided into four components: outstanding achievement per se; competitive ambition; desire for recognition by others; and, setting high standards for self. Although his method of rescoring has not been tested empirically, Navran found that component analysis was useful and effective in his work with clients.

Sherman and Poe (1970) attempted to ascertain the factor structure of the

EPPS using a normative form of the EPPS in a five-choice Likert format. Four new factor-analytic independent scales emerged: Interpersonal Orientation; Assertive-Aggressiveness; Persistence-Dependence; and, Thinking-Doing. In a later cross-validation study, Sherman and Poe (1972) used a 9-choice Likert format and were only able to replicate the first two factors from their previous study. These findings did not support the five factor model that emerged from Milton and Lipetz (1968) EPPS study using centroid factor analysis or the five factor model that is emerging from studies using Cattell's, Eysenck's and Guilford's personality instruments as reported by Digman (1990). Further refinement of the factor analytical methodology for measuring personality is needed for the development of a unified theory of personality.

Studies of the personality of nurses have used a variety of methodologies and sampling frames. A comparison of psychiatric nurses and Edwards' college women norms has been made (Navran and Stauffacher, 1957). Psychiatric nurses have been compared with general nurses (Navran and Stauffacher, 1958). General nurses have been compared with Edwards' college norms (Navran and Stauffacher, 1958; Cohen, Trehub and Morrison, 1965). A comparison of nursing students and psychiatric nurses has been reported (Levitt, Lubin and Zuckerman, 1962). Successful and unsuccessful nursing students were compared with each other and each with the normative group (Reece, 1961). Nursing students at three different universities were compared with each other (Bailey and Claus, 1969). Stein (1969) compared students entering nursing with Klett's (1957) high school girls' group. Nursing students in a baccalaureate program were compared to other women students in a

university (Casella, 1968). Public health nurses and psychiatric nurses were compared (George and Stephens, 1968). Stauffacher and Navran (1968) compared nursing students during a psychiatric affiliation and five years later.

Notwithstanding the methodological difficulties, some broad conclusions can be generated from these study findings. Given the sampling limitations it appears that the American nursing recruits studied were more nurturing-oriented and less achievement-oriented than the general female population as measured by the EPPS (Stauffacher and Navran, 1968). Helms (1983:172) summarised the "current state of the art" of personality research in nursing using the EPPS by concluding that it could be stated with some confidence that women who enter nursing will tend to demonstrate a pattern of needs characteristic of self-sacrificers and/or rebellion which appeared to be associated with their class level. Using due caution, Helms (1983:172) hypothesised that the empathic social interest factor among employed nurses was essentially equivalent to the "concern-for-others" factor among students which suggested a commonality of needs among women interested in nursing, represented by elevated needs for Nurturance, Intraception, Affiliation, Abasement and Change and depressed needs for Aggression, Autonomy, Order, Succourance, and Dominance or Achievement.

This researcher was only able to uncover one research study of the personality of nursing students in Australia that used the EPPS instrument. Trevethan (1987) gathered personality data from 55 nursing students in 1985 and 68 nursing students in 1986. No significant difference was demonstrated on the

15 personality traits between the incoming groups in the two years sampled. This unpublished study found that nursing students at one higher education institution in NSW scored higher on Succourance and Nurturance than the published norms for college women in the USA. Although the findings may not be generalisable to all state nursing recruits, nor to the States registered nurse workforce, the results were compared with 1) nursing students in university courses in the USA (Bailey and Claus, 1969) and 2) the research results from a female group of university students in Western Australia (Wheeler, 1969) (WA). These analytical results are contained in Appendix A and will be summarised here for discussion purposes.

Using the mean scores from the NSW and the USA nursing groups, this researcher found significant differences in the EPPS scores of beginning nursing students in higher education institutions between the two countries on ten of the fifteen factors. Nursing students in NSW scored significantly lower than nursing students in the USA on the following needs: Achievement, Deference, Intraception, Dominance, and Endurance. Nursing students in the USA scored significantly lower than nursing students in NSW on the needs for: Autonomy, Succourance, Change, Heterosexuality and Aggression.

Further insight regarding the differences between the two countries is gained when one compares the results between NSW nursing students and female university students in the state of WA (Wheeler, 1969). NSW nursing students scored significantly lower than female university students in WA on the following needs: Achievement, Deference, Intraception and Endurance but

scored significantly higher on the need for Succourance, Nurturance, and Heterosexuality. From the interactive perspective of biological sex, the statistical non-significance of results on the need for Order, Exhibition, Affiliation, and Abasement between the three female sub-groups suggests that the results may have been influenced by the interaction of an extraneous variable, that is, the biological sex socialisation effect of being female.

From an Australian perspective, the higher scores on Autonomy, Change and Aggression in the nursing student group may be associated with the Australian culture as both the nursing and female university sub-groups did not differ on these factors. Furthermore, the lack of significant difference found on the Nurturance need between the two international nursing groups and the significant difference found between NSW nursing students and WA female university students suggests that Nurturance may be the discriminating variable that differentiates nursing students from other female university students in both countries studied.

The above results need to be interpreted with due consideration being given to the fact that the biological sex and age range of the NSW student nurse data were not reported by the researcher.

2.2.1 Interaction Effects between Personality, Biological Sex, Age and the Socioeconomic Level of the Family of Origin Variables.

From the male biological sex factor and personality, nursing research studies in the USA have mainly focussed on baccalaureate male nurse students.

Williams' (1973) research study of male students' ranking of specialty interests in nursing demonstrated that male nurses were particularly interested in surgical nursing, intensive and coronary care nursing, as well as education. Alvarez (1984) argued that the findings from studies of male nurses using students as the unit of analysis may not be generalisable to the registered male nurse population. He argued that the male student population had yet to develop an occupational identity which would be influenced by years of actual work experience. Stated in simple terms by Alvarez (1984), a nurse, male or female, who worked in a bureaucratic hospital organisation for several years, would have scored differently than he or she would have as a student nurse. Such an argument appears to be based on the effects of two different socialisation processes: the professional socialisation effects encountered during the period of educational preparation for registration and the organisational socialisation process encountered on entry into the workforce.

The results of Alvarez's (1984) study of male registered nurses in general hospitals need to be interpreted with care due to sample size ($n=32$), the sample response rate (32 percent), and the sampling technique used (a convenience non-probability sample). Using the EPPS to assess the personality of male registered nurses, the study results are important as they provide a basis for an exploration of potential differences based on biological sex which has remained unexplored in studies using the EPPS instrument. A comparison between the male nurse group in the study by Alvarez (1984) and the study of female nurses in general medical and surgical units by Navran and Stauffacher (1958) provides some interesting insights. Male nurses appear to score higher

on Achievement, Exhibition, Autonomy, Intraception, Dominance, Change, Heterosexuality, and Aggression. Females appear to have higher needs for Deference, Order, Abasement, and Endurance. Of interest is the finding that the male nursing sample scored higher on Aggression than the normative male sample used as the control group by Alvarez (1984). Furthermore, Navran and Stauffacher's results indicate that the variables Order, Deference, and Endurance consistently occupied the first three places in all four female samples when cross-partitioned by region. In contrast, the findings for the male sample (Alvarez, 1984) demonstrate that the variables Heterosexuality, Dominance, and Aggression occupied the first three positions followed by the variables Exhibition and Autonomy in completing the cluster of variables contributing to the upper third of the rankings. Thus, the discriminating variables based on biological sex appear to be Order, Deference and Endurance based on being a female nurse and Achievement based on being a male nurse.

Again, there were differences between the male group (Alvarez, 1984) and a female group of public health nurses studied by George and Stephens (1968). Male nurses were higher on Achievement, Exhibition, Autonomy, Succourance, Dominance, Heterosexuality, and Aggression. Female public health nurses were higher on Deference, Order, Abasement, and Endurance. There was a close similarity between female medical and surgical nurses and female public health nurses. Given the time interval between the two studies it is also possible that history rather than biological sex may account for the differences found.

A study of 384 nurses working in medical and surgical areas in three general hospitals in Minnesota by Lentz and Michaels (1965) also used the EPPS instrument. Comparing the scores of the nurses in their study with those of school teachers and nurses studied by other investigators led them to conclude that age may be a crucial factor in the analysis of EPPS test patterns. Such a proposition is supported by Sharpe and Peterson (1972) who found that aging was positively related to Achievement need and negatively associated with Intraception. Although it is not easily discernible from the data available when age begins to impact on EPPS needs, it appears that certain needs may be altered. Moreover, as the age variable increases so also does the quantity of life experiences. It is not clear if the changes in EPPS needs are associated with age per se, or with the quantity of life experiences over time.

Another critical factor to be considered in the analysis of EPPS scores is the influence of different cultural orientations. Wheeler (1969), in connection with another investigation, distributed the EPPS to all full-time students entering the University of WA (excluding students from teachers' colleges). Using a sample of 443 students (349 males and 94 females), Wheeler compared WA males in one university with the normative group of college males in the United States. The Australian male sample scored significantly higher on Order, Abasement, Endurance, Aggression and Autonomy than their United States counterparts. The same pattern appeared for the females, who scored significantly higher than the United States sample on Autonomy, Endurance, Aggression and Achievement. United States males and females both scored

significantly higher than the WA sample on Exhibition, Affiliation, Dominance and Heterosexuality.

From an Australian cultural perspective, WA males scored significantly higher than females on Achievement, Dominance, Heterosexuality and Aggression, and significantly lower on Affiliation, Intraception, Succourance, Nurturance and Change. Wheeler concluded that although it appeared that the pattern of differences between the sexes was similar, the cross-sex and cross-cultural comparison showed that WA males did not differ significantly from the United States females on Dominance and Heterosexuality and that WA females were similar to United States males on Aggression and Autonomy. Although differences were also reported between faculties at the University of WA, the findings may have been biased by small sample sizes and the resultant clustering of faculties for comparative purposes.

There are some important implications for personality research studies that can be drawn from Wheeler's study results. Although it is not known if the WA male and female samples were similar or different to males and females in WA who were not university students, it may be possible to hypothesise that variation in personality scores may differ according to sex, regional (international), ethnic, occupational, cultural, as well as family background. The family background factor is implicated because the WA sample was a homogeneous group of university students who, at that period of Australian higher education history, came mainly from professional and managerial households (Anderson, Boven, Fensham and Powell, 1980:37).

Helms' (1983) interest in the scholarly aspects of the EPPS scales resulted in the production of "A Practitioner's Guide to the Edwards Personal Preference Schedule". One chapter (c.f. Ch.2: 25-47) explores demographic effects on the EPPS scales. To summarise this exploration, Helms (1983:44-45) concluded that: 1) male and female difference still exist in direction if not in absolute level; 2) comparisons involving groups of markedly different ages should not be undertaken without controlling for age effects; and, 3) educational persistence and plans to continue formal education seem to be positively related to needs for Achievement, Succourance, and Dominance and negatively related to needs for Abasement and Endurance or Deference.

With regard to the attitudes of female nurses to male nurses in the state of New York, Fottler (1976) found that more positive attitudes toward males were held by younger, better-educated nurses. However, this finding was not supported by a replication study in the state of Ohio eight years later (McCarragher, 1984) which suggests the presence of a regional interactional effect on the research results within the USA thus limiting the generalisability of the research findings.

The motivations for entering nursing appear to be associated with the choice of institutional preparation for a nursing credential. In the USA Reeder and Mauksch (1979) reported that nurses entering hospital-based programs had a desire to serve patients, to serve the physician, to be needed, and to work closely with others. Baccalaureate students, on the other hand, selected a

nursing career because it was a means for achieving personal advancement as well as helping people (Wren, 1971).

Kohn and Schooler's (1969) study of 3,100 men in the USA found a consistent relationship between social class and men's values -- both their values for themselves and those of their children -- and to their orientation to work, society, and self. They argued that basic to all the class relationships was the distinction between self-direction and conformity to external authority, the former being more highly valued by men of higher social class position, the latter by men of lower social class position. The researchers proposed that all the class relationships could be explained as resulting from the cumulative effects of education and occupational position. Education was seen to be important because it could foster the intellectual flexibility and breadth of perspective required for self-directed values and orientations. Occupational position was of importance because it determined the conditions that either facilitated or precluded the exercise of self-direction in the work context.

The concept of personality previously discussed, is concerned with moral conduct and expected consequences resulting from an individual's self-regulation of behaviour. This perception of the personality concept is operationalised as a "generalised" extrinsically-oriented drive which emphasises certain expected response consequences for the specific individual (Feather, 1988). Thus, Feather makes a distinction between 1) extrinsic and intrinsic motivations or drives, and 2) behavioural-oriented motives (actions) and the individual's cognitively-oriented value system (choices). From this

stand-point, it is possible to infer that general measures of personality are not consistent with measures of professional values which, it is argued, are more intrinsically-driven and tend to be associated with the more experienced professional.

Thus, the individual nurse, in the context of the present study, is more than the measurable behaviours and the hypothesised drives/needs that motivate individuals for self-satisfaction, as measured by general personality instruments. Furthermore, any individual nurse is viewed as an eclectic composite of preferences, values, attitudes and motivations. As this study aims to examine peer developmental relationships from both an Achievement (presumed to be motivated by an external system of rewards, for example, organisational promotion and progression within an hierarchy) and a Nurturance perspective (presumed to be motivated by an intrinsic reward system that is unique to each individual), general personality measures based on behavioural outcomes may not be appropriate for the measurement of the personal and professional ethics nurses hold concerning their work colleagues. Thus, there is a need to develop a professional value inventory appropriate to the personality of nurses which measures the underlying values associated with the type of professional and personal developmental relationships nurses form with their peers.

In summary, nurses are a relatively homogeneous group from the perspective that female nurses are higher on the nurturance factor than the general female population. There may be an association between the achievement factor, being

male, and SES suggesting that the achievement factor, as measured on the EPPS, may be a better predictor variable than the nurturance factor. Also, SES and age may have an association with personality but its power to predict has yet to be established.

Furthermore, each individual nurse needs to be viewed as a composite collection of general personality, specialty preferences, and professional values. Personality, as measured by the EPPS, is a general measure of drives or needs that motivate individuals to perform certain behaviours to achieve certain rewards or to avoid the unpleasant consequences that non-performance may initiate. The EPPS was not developed to measure the professional values held by an individual regarding his/her desirability for personal professional advancement or for the nurturing of less experienced recruits either into the profession or into the particular work context in which the individual nurse is involved.

2.3 The Nursing Work Context.

Professional nurses in Australia mainly work within health care organisations, universities, and community health centres. Within the health care organisation, the clinician may be practising in a general medical or surgical ward, in an acute care area, in a maternity unit, in a psychiatric ward or in administration. It is argued that there is a high correlation between the area of clinical practice and the educational level of the registered nurse, for example, specialty areas would be more likely to recruit nurses with certain additional

credentials other than a basic qualification. Similarly, in education and administration, registered nurses would be more likely to have attained a tertiary qualification than nurse practitioners working in medical or surgical units. The inherent high correlation between the nursing work context and the level of educational attainment, effectively eliminates the use of the educational level variable in structural equation modelling. This is because there are potential problems related to multicollinearity causing inflated estimators of variance as well as computational problems.

2.3.1 Interactional Effects Between Work Context, Personality, Professional Values, Biological Sex and Age.

Career progression for nurses is generally through either education or administration which removes them from direct bedside nursing. There is an assumption (Wright, 1990,d) that males are attracted to nursing because it provides a promotional career structure that advantages males. Dowell's (1982) study of male nurses in a large metropolitan hospital in South Australia identified that "getting ahead" in their career was a significant factor in choice of career. This was further supported by the finding that there was a tendency for males to choose the "career variable" over the "family relationship" variable as being important. To this end, it would appear that the administrative/educational/clinical division in nursing is potentially a male/female division (Game and Pringle, 1983:115).

From a national orientation, it is of interest to note that biological sex is a significant variable in the proportional representation in Director of Nursing

positions. Analysis of data provided by the Australian Institute of Health (1988) indicates that males were two to three times more likely than their female counterparts to be promoted to the highest leadership positions in hospital organisations as Directors of Nursing. It will be noted that literature previously reviewed in this section demonstrates a theoretical link between clinical specialty preference and biological sex.

Levitt et al. (1962) replicated a study by Zuckerman (1958) and compared the personality of student nurses, college women and graduate nurses. The student nurse sample consisted of the entire class of sophomore nurses in one university over three consecutive years. The entire student sample was compared with the graduate sample of general medical and surgical nurses in Navran and Stauffacher's (1958) study. The *t-test* results showed that the two groups differed significantly on all but four of the EPPS traits, most of the differences being significant at or beyond the 1 percent level. The widespread differences were interpreted by the researchers to suggest that the need system of the student nurse had undergone considerable transformation by the time she (sic) had been in practice for a number of years. The increase in Achievement needs and the decrease in the Succourance need, were interpreted as a growth in confidence as a function of the attainment of status and that the decrease in Heterosexuality need was age related. The striking decrease in Nurturance and the increases in Deference, Order and Endurance suggest to this writer a change from professional to organisational values which are reinforced by the structure of the reward system. Indeed, Lentz and Michaels (1965) considered the need for prompt investigation of the capacity for

change in both work attitudes and in personality syndromes for registered nurses and the interaction effects of education and length of work experience.

Navran and Stauffacher (1958) drew attention to the importance of personality in relation to job satisfaction in nursing. The authors perceived that the personality of the nurse was a major source of variance in establishing interpersonal relationships and suggested that researchers direct the use of personality measures to the placement or choice of clinical specialty. This proposition is strengthened by the results of Lentz and Michaels' (1965) study which suggested that nursing specialties may call for specific personality types.

In a comprehensive review of personality studies of nurses, Lewis and Cooper (1976) cited evidence from Stevenson (1970) which suggested that the EPPS Nurturance need was one of the best predictors of choice of nursing specialty. Students who chose surgical wards had the lowest need for Nurturance and Achievement, and the highest need for Change and Aggression. Medical wards were preferred by students with a high need Nurturance, and a low need for Aggression and Autonomy. The psychiatric specialty was favoured by students with high needs for Nurturance and Achievement.

The conclusion that the Nurturance factor was a predictor of nursing specialty choice appears to be premature as the research study sample comprised student nurses and the outcome variable was concerned with only two areas of specialisation. Moreover, the choice of a specialty area as an elective by nursing students is a different construct entirely to the construct which measures

career decision-making by registered nurses to specialise in a particular practice area. Indeed, one is an educational decision; the other a professional/occupational/career decision. In addition, the research findings of Levitt et al. (1962) are indicative of a potential instability in the Nurturance factor, as measured in samples of registered nurses, over time spent in a bureaucratic organisation. Moreover, the Achievement factor may be a more reliable predictor than the Nurturance factor.

Lukens (1965) recommended a replication of the study using different instruments and samples, an analysis of such variables as age, education and length of experience, an examination of needs and values according to demographic origins and type of undergraduate program.

In a study of female nurses in psychiatric and general medical and surgical specialties, Navran and Stauffacher (1958) used the EPPS and found that Order, Deference and Endurance were the most prominent characteristics of both groups, but that general nurses were significantly more Orderly and Deferent. Both groups gave relatively little emphasis to Exhibition, Autonomy, Affiliation, or Dominance, but there was a significant difference between the two groups in favour of the psychiatric nurse group. There were differences on four other variables, the psychiatric nurses scoring higher on Aggression, Intraception, and Heterosexuality, and scoring lower on Abasement.

A research study of particular note conducted by Mansfield, Yu, McCool, Vicary, and Packard (1989) was concerned with the association found between

stress and subsequent burnout in nursing which they perceived had reached crisis levels. The authors of the published paper addressed the problem with the development of a scale to improve the "fit" between the nurse and his/her work environment, thereby potentially increasing job satisfaction, reducing stress, and subsequent burnout. The researchers addressed the problem from individual, professional and organisational contexts.

The randomised pool of subjects was estimated to be approximately 5,000 nurses (based on the selection criteria of age range up to 55 years of age, and proportionate geographical representation across eastern USA). The results of the study were based on a sample of only 985 respondents (a response rate of 20 percent) from ten different clinical specialty areas. As a consequence of the low response rate, the researchers compared their sampling distribution with another state-wide survey and found very similar distributions of demographic and work characteristics between the two samples. Data were also collected on personal characteristics of nurses including race, gender, geographical location, age, marital status, the number of children under 18 years living at home, the level of the highest nursing degree, length of employment in the present health care organisation, individual annual salary, and total annual household income.

The Nurse Job Context Scale was factor analysed and the results indicated that the scale items loaded onto three major dimensions: 1) a general pressure/uncertainty factor; 2) a task routinisation dimension; and, 3) a coworker interdependence factor. Analysis of variance of the three job context

dimensions between clinical areas revealed significant differences. In terms of general work pressure/uncertainty, nurses who worked in the emergency room, intensive care and coronary care reported the highest levels of pressure and uncertainty, while those in paediatric, psychiatric and outpatient units reported the lowest levels. The degree to which nurses experienced their work in terms of routine, depersonalised or technical also varied significantly across clinical areas revealing that intensive care and coronary care nurses were significantly stronger on this dimension and that administration, education and outpatient nurses were significantly weaker than the other clinical areas. Finally, analysis of nurses' perceptions of interdependence among nursing staff in the various clinical areas showed that the highest rankings on this dimension were operating room, emergency, obstetrics and gynaecology while those ranking lowest were paediatric, outpatient and medical/surgical units. Mansfield *et al.* (1989) recommended that the placement of nurses in clinical areas needed to be guided with due consideration of individual differences in values, temperaments, and personalities.

The results of the factor analysis and analysis of variance between the various clinical areas in the study by Mansfield *et al.* (1989) tend to support the theories espoused by both Roe (1957) and Super (1957). Roe (1957) developed a theory of vocational choice in which she considered the vocation as a primary source of need satisfaction. She hypothesised that the formation of needs was related to certain patterns of early experience within the family which resulted in a basic orientation toward persons (social and nurturing) or nonpersons (achievement for self gratification). Roe's theory was further elaborated by

Super (1957), who suggested that vocational choice was a process of seeking to implement a concept of oneself. Thus, to the extent that an individual is able to perform (construct/negotiate) a role appropriate to his/her self-concept, the individual achieves self-actualisation. The implication is that there may be an interactional effect between instrumental and person oriented constructs as hypothesised by Risch and Beymer (1967).

The above association between personality, choice of nursing specialty, and job satisfaction, gains in reliability when one considers the findings from studies using different instruments as well as several instruments to measure the personality characteristics and values of nurses in different specialty areas. Lukens (1965) conducted a study to determine the particular needs, values and occupational perceptions that were characteristic of certain groups of nurses attracted to different fields of specialisation. The areas of specialisation included in this study were medical-surgical and psychiatric nursing. The sample consisted of 137 medical-surgical and 101 psychiatric nurses. The instruments used included 1) the Stern Activities Index (SAI); 2) the Poe Inventory of Values (PIV); 3) an open-ended questionnaire asking the three most important characteristics of their chosen clinical field; 4) an Intraception Scale; 5) Sharaf's Self-Deception Scale; and 6) a revised 10-item F-scale to measure authoritarianism or dogmatic stand on social issues. Using *analysis of variance* and the *Chi square* measure of association, the results suggested that the personality patterns of graduate nurses who specialise in medical-surgical areas differ from the personality patterns of graduate students who specialise in psychiatric areas; that medical-surgical nurses were more

authoritarian than psychiatric nurses; that medical-surgical nurses were higher on religious and humanitarian values than were the psychiatric nurses; and that psychiatric nurses value the type of work setting and the type of nurse-patient relationship expected in their field more than medical-surgical nurses value these in their field. Such findings strengthen the theoretical link between general personality, nurse specialisation, and the value patterns held by registered nurses in psychiatric, medical and surgical nursing units.

To summarise, the Work Context variable is of importance to this study and needs to include a wide range of nurse clinical specialty areas as well as the length of time spent in the particular nursing area of specialisation. There may be a potential association between biological sex, age and personality but the causal or theoretical links have yet to be established. Theoretical links have been established by previous researchers between personality, choice of nursing specialty, and professional value patterns, as well as a potential for personality to be modified over time spent in a bureaucratic health care organisation.

In addition, the importance of time spent in a particular area in a bureaucratic organisation negates the need for inclusion of the age variable (with its weak theoretical links) because of its high correlation with the time variable. This strengthens the proposed conceptual model.

2.4 The Concept of Developmental Relationships in Nursing.

Two examples of developmental relationships have been identified in the nursing research literature, namely, the preceptor and mentor concepts. At present, these two roles have not been conceptualised and lack a theoretical base. This may be due in part to their emergence as a response to issues arising from the transfer of nurse education rather than a critical analysis of the concepts. Another factor that may have partially influenced this research trend in the past was the lack of appropriate statistical analysis software needed to test hypothesised theoretical links between abstract constructs.

This part of the literature review will focus on both the preceptor as well as the mentor literature. As nursing has been the main occupation that has used and researched the preceptor concept and given that the aim of the research study is to develop and test a conceptual model of developmental relationships from a nursing perspective, the review of preceptor literature will focus on the occupation of nursing whereas the mentor review will mainly be oriented to the nursing literature with some comparisons drawn from studies considered to be examples of the traditional "male" model of mentoring.

2.4.1 The Preceptor Concept.

The preceptor concept has been applied in a variety of occupations, for example, medicine (Land, 1976; Anderson, 1982; Blumenthal, 1983), pharmacy (Smith, 1977; Brown, 1978), nursing (for example, Ferguson and Hauf, 1973; 1974; Crancer, Fournier and Maury-Hess, 1975; Dell and Griffith,

1977; Ferris, 1980; Friesen and Conahan, 1980; Helmuth and Guberski, 1980; Knauss, 1980; Limon, Bargagliotti and Spencer, 1982; Shamian and Lemieux, 1984; Barker, 1985) and education (Gardipee and Clemens, 1979). The concept of preceptor has the general connotation of tutor or instructor.

From a nursing perspective, the preceptor role has been utilised in a variety of ways involving differences of purpose, role definition, selection and preparation of preceptors. Furthermore, the preceptor concept has been used as part of the academic pre-registration program and at the post-graduate orientation of new employee level in health care institutions.

According to Shamian and Inhaber (1985), preceptor responsibilities include planning, teaching, role modelling and evaluation. Knauss (1980) argues that although all preceptors function as teachers and role models, only a few are responsible for program planning and evaluation of students and new employees. Thus, it appears that there may be two levels or grades of preceptors in nursing. From a review of pertinent literature regarding the concept and practice of preceptorship, Shamian and Inhaber (1985) hypothesised the existence of two primary responsibilities. These responsibilities included: 1) the acquisition of basic knowledge of unit policies and procedures as well as the teaching of the required technical skills; and 2) assistance in the socialisation process to reduce "reality shock".

A research study by Harrell (1988) explored senior baccalaureate nursing students' perception of the frequency of prescribed role performance of clinical

teachers as performed by clinical preceptors in comparison with the same performance by traditional faculty clinical instructors. The four prescribed role performance categories studied were: (1) role model; (2) designer of instruction; (3) resource person; and (4) supervisor. The clinical setting for the respondents' focus was the adult medical-surgical unit.

A fifty-two item structured questionnaire was developed for identifying the students' perception of the frequency of prescribed role performance by clinical preceptors or by faculty clinical instructors. It was administered to senior nursing students from nine accredited baccalaureate schools of nursing in the greater New York metropolitan area. The study sample consisted of 306 students; 155 students interacting with clinical preceptors, and 151 students interacting with faculty clinical instructors.

The purposes for undertaking the investigation were to describe the student's perceptions of: (1) the frequency of prescribed role performance of undergraduate clinical preceptors; (2) the frequency of prescribed role performance of undergraduate faculty clinical instructors; and (3) the differences in the frequency of prescribed role performance which existed between the two groups.

The study demonstrated that both clinical preceptors and traditional faculty clinical instructors assigned to adult medical-surgical nursing units were perceived by senior baccalaureate nursing students as performing in the prescribed roles of the clinical teacher as defined in the study. The study

further documented the perceptions of the surveyed nursing students that clinical preceptors consistently performed in the prescribed four roles of the clinical teacher more frequently than did the faculty clinical instructors. This conclusion implied that students perceived clinical preceptors to be performing as clinical teachers.

From a conceptual perspective, Harrell did not address the main concepts from a role theory perspective, namely, identity, position and role (Cole, 1988:8). This omission limits the reader's interpretation of the findings as both clinical and academic nurses were assumed to have the same identity, position and role. Such an assumption appears to be in conflict with the present conceptualisation of role theory (Cole, 1988:14).

The purposes of a study researched by Scheetz (1988) were: 1) to examine the differences in the gains in clinical competence between those students who participated in summer preceptorship programs and those students who worked as nursing assistants in non-instructional clinical settings; and 2) to describe how students in each group perceived various factors of their summer work experience relative to their preference.

Non-probability convenience sampling was used to obtain a sample of 72 female generic baccalaureate nursing students. A non-equivalent comparison group pretest/post-test design was utilised. Treatment group subjects participated in hospital-based summer preceptorship programs for nursing students. Comparison group subjects worked as nursing assistants in

hospitals that did not offer these students a planned instructional program during their employment.

Data were collected utilising the self-administered Participant Information Survey and Summer Experience Survey. Head nurses utilised the Clinical Competence Rating Scale to rate subjects' clinical competence at the beginning and end of the summer experience.

A *Chi square* analysis of the Participant Information Survey data indicated that both study groups were similar on most of the extraneous variables of concern in this study. *Anova* was performed on mean scores for the Clinical Competence Rating Scale. Both groups achieved gains in clinical competence from pretest to post-test. However, significantly greater gains in clinical competence were achieved by the treatment group subjects. Descriptive analysis of the Summer Experience Survey data indicated that subjects in both groups enjoyed a "buddy" relationship with either their registered nurse preceptor or a registered staff nurse on their unit. Subjects in both groups indicated that the summer experience was beneficial to them and that they improved their clinical competence.

Since the preceptor-preceptee relationship was either naturally or spontaneously created for most subjects in the study, one must search further to find an explanation for the difference in gains in clinical competence at the end of the summer work experience. Factors to be considered when examining this difference include other variables inherent in the preceptorship experience.

Additionally, continuous practice and other organisational variables may have contributed to the differences in gains in clinical competence.

Three concepts were explored in a study of preceptorship learning experiences for baccalaureate nursing students by Thornton (1985) and included self-concept, nursing competency and role conception. The study population consisted of 41 senior nursing students from two baccalaureate programs. Both programs offered similar types of preceptorship experiences, the major difference being the length of the preceptorship experience.

Using a pretest/post-test design, data from the two groups were analysed by correlated and independent sample *t*-tests, *two-way analysis of variance*, and *multiple classification analysis*. The results of statistical analyses revealed that there were significant differences found in 10 of the 12 hypotheses. From the analyses, the researcher concluded that the preceptorship experience was an effective teaching strategy, creating a positive change in the students' self-concept, nursing competency, and role conception in both university groups. The findings indicated that the four-week preceptorship was as effective in creating positive changes in students' self-concept and nursing competency as the eight-week preceptorship. By use of the *two-way analysis of variance*: (1) there were significant differences in self-concept and nursing competency in the two preceptorships; and (2) there were no significant differences found between age, prior nursing experience, ethnicity, quality point average, and the post-test scores on self-concept, nursing competency, and role conception. Interpretation of these results needs to be done with caution due to the small

sample size and the possible effect of an unexplored institutional confounding variable.

The intent of a study by Dobbs (1984) was to determine if anticipatory socialisation to the working role of a registered nurse occurs during the senior preceptorship experience. It was hypothesised that a decrease in students' perceived role deprivation and a change in their types of "ideal nurse" role models to work centred models were indicators of change in self-concept and in role expectations. These changes were measured by Corwin's Nursing Role Conception Scale which was administered to 103 students immediately prior to and following the preceptorship experience.

There was a significant decrease ($p = <.01$) in perceived role deprivation. When the deprivation decrease was contrasted to the relative stability of the role conception scores, it suggested that the students learned to adapt to conflicting role values while retaining the values learned in school. The number of students changing to work centred "ideal nurse" role models was also significant ($p = <.01$). The researcher concluded that since a change in one's role model also reflected a concurrent change in self-concept, those students changing their ideal role models to work centred nurses adapted their role expectations to those of nurses working successfully within the bureaucracy. Thus the advantage of the preceptor relationship is that it is an effective method for increasing new graduates' compatibility with bureaucracies.

The preceptorship concept was analysed from the organisational perspective in

a study by Huber (1981). Her study sought to determine if graduate nurses completing a hospital-based preceptorship orientation program would view their performance ability more positively than graduate nurses completing a hospital-based internship orientation program. The preceptorship program provided clinical nurse preceptors to guide participants and to serve as role models. The internship program did not have designated role models. Bandura's (1977) modelling theory of social learning was used as the theoretical referent in this study.

The study population consisted of graduate nurses who were asked to evaluate their performance ability prior to and again after completion of their orientation. Schwirian's Six Dimensional Scale of Nursing Performance was used to measure six areas of nursing performance: teaching/collaboration; critical care; planning/evaluation; interpersonal-relations/communication; professional development; and leadership.

Graduate nurses' self-ratings of the performance dimensions were analysed by *t-test* to determine orientation group differences. Both groups demonstrated significant performance gains in all six performance dimensions. However, neither group significantly differentiated their performance over the other group. The conclusion drawn from this study was that the presence of a clinical role model in the preceptorship program did not significantly improve graduate nurse performance over that of graduate nurses participating in an internship program. It would appear that formalised supportive peer relationships, such as preceptors, are as effective as informal supportive

relationships using performance in the health care organisation as the dependent variable.

To summarise, the preceptor concept has been investigated using such criteria as performance, role modelling, and socialisation into the bureaucratic organisation as the dependent variables. Three of the studies reviewed identified the potential for interaction between the organisational or institutional variables and the research results. Also, as the time variable spent with a preceptor in a bureaucratic organisation was not a predictor of successful or unsuccessful preceptorships this suggests that the human relations factor of developmental relationships in clinical practice is a factor in need of investigation in nursing research studies.

2.4.2 The Mentor Concept.

It was not until the 1980's that nursing authors began to critically analyse developmental relationships from a nursing perspective. It was during this time that analytical and conceptual questions were identified regarding the preceptor and mentor concepts in the career life of nurses. This section of the literature review will focus on both conceptual and research literature.

Pilette (1980) hypothesised the basic elements of nursing mentor relationships as being human-relatedness (the human presence; the spirited meeting; the encounter) and direction (inner: personal responsibility; outer: gentle guidance, leadership and the emergence of the mentee's personal and professional actualisation).

Hamilton's (1981) exploratory conceptualisation of mentorship was based on the assumption that such relationships could facilitate and expedite the maturation of future nurse leaders. Questions raised within her conceptual analysis addressed: the indiscriminant adoption and promotion of such supportive roles as the role model (or preceptor); and, the appropriateness of the male mentor model which uses such success criteria as: power; more money at a younger age; more likely to follow clear career paths; and, more highly educated, to the conceptualisation of nursing mentor relationships.

May et al. (1982) analysed the mentor concept from the academic perspective and a concern for the development of nursing scholarship. The authors' conceptualisation of nursing mentorship was developed within a theoretical framework of differences in biological sex socialisation and the outcomes of such socialisation processes for males and females. Their analysis added significantly to the conceptualisation of mentorship in nursing, through an analysis of academic structures and the influence of achievement and nurturing personalities within such a complex environment.

This conceptualisation of nursing mentorship was further refined by Cameron (1982) who introduced two important professional value factors: 1) the nurturing element of nursing mentorship; and 2) a change in relationship focus from competition and competitiveness to a sense of sharing, support and cohesion.

A research study conducted in 1980 and reported by Larson (1986), sought to determine whether nursing leaders in hospitals had mentor relationships and if these relationships affected their job satisfaction and subsequent mentor relationships. A conceptual framework was developed from literature in adult life stages, adult socialisation, reference group theory, and organisational and occupational socialisation, as well as studies in job satisfaction and mentor relationships.

Larson's analytical review of the literature identified the potential importance of such factors as: 1) the level of nursing practice and change in the level of nursing practice as a result of promotion; 2) the link between organisational socialisation and transformation of human "raw" material into "good" working members assessed by performance of prescribed roles; 3) power and support in mentor relationships where "power" was defined as the degree to which the mentor in clinical practice exerts dominance or authority in the relationship as opposed to being permissive, democratic, or submissive, and "support" was defined as the degree to which there had been a highly "affective" relationship as opposed to one with low "affectivity".

From the perspective of the individual's selection of reference group, Larson drew attention to the influence of environmental structures and prevailing cultural definitions. Furthermore, she hypothesised that there may be a distinct shift in reference individuals and role models as an individual moves through certain status sequences during the life cycle. The implication is that

nurses may have different needs from developmental relationships depending on their particular career-life stage.

There was, however, a definite blurring or confusion between occupational and organisational socialisation as the two terms were used synonymously. By way of example, the concept of "occupational socialisation" was defined in the following terms, 'organizational socialization has been described as the process of "learning the ropes", the process of being indoctrinated and trained, and the process of being taught what is important in an organization' (p.55). Such a definition is based on the assumption that organisational and occupational or professional goals are congruent; that all individuals in any given occupation have been moulded into a prescribed pattern of needs that are congruent with those prescribed by the organisation. From this viewpoint it is possible to infer that efficient and effective socialisation into the organisational structure can be reliability and validly measured by outcome criteria concomitant with high productivity. Such an inference has not been supported by research studies (for example, Smith, 1974:272). Furthermore, there is the assumption that high productivity and job satisfaction are correlated, and that job satisfaction is viewed primarily as a consequence of job experience. Such an assumption ignores the possible interactive effects of a third variable, that of the reward system. From the reward perspective, are all individuals motivated by extrinsic rewards, for example, the attainment of status through promotion, more money at a younger age, to name but a few? It is also possible to postulate that many individuals may be equally motivated by intrinsic rewards perceived by each individual in terms of having accomplished something worthwhile. From a

mentor orientation, the concept of job satisfaction may need to be measured by two factors: actual performance, and interpretation of the performance by the individual.

Larson's conceptualisation of nursing mentorship was further developed by Alexander (1986) as part of her doctoral studies at the University of Texas at Austin. The main focus of her study was the initiation phase of the mentor relationship as it existed and developed in nursing educational administration. Alexander's (1986) contribution was a theoretical expansion of the initiation phase of the mentor relationship, as it applied to nurse academics. This theoretical expansion was achieved by coupling the adult development stage theory used by Larson (1986) with Duck's (1973) theory relative to the formation of friendships, that is, interpersonal attraction.

This interpersonal relationship was viewed from self-perceptions and perceptions of mentors and mentees. Data were collected utilising the thirty-seven sub-scales of the Adjective Check List (ACL) from 101 chief executive officers of National League of Nursing (NLN) accredited baccalaureate and higher degree nursing programs. Statistical analysis was completed between the 59 participants without mentors and the 42 with mentors utilising the *Hotellings T²* and yielded no significant differences. A second comparison was completed between the self-perceptions of the 42 participants with mentors and their perceptions of their mentors.

Statistical significance was found using *Hotellings T²* and further analysis was

conducted utilising the *step-wise discriminant analysis* procedure. Analysis revealed five ACL sub-scales contributed to the differences between the two groups. These were communality, creative personality, masculine attributes, A-2 and achievement. A third comparison was completed between the self-perceptions of their mentees. Statistical analysis was again completed using the *Hotellings T²* and revealed no statistical significance.

Participants were also asked to identify those elements contributing to the development of the mentor relationship and these included: seeking input and opinions, being friendly, well-spoken, having expertise in area of interest and frequent, informal discussions. The elements identified as not contributing included: style of dress, publishing activities, involvement in research, and involvement in community activities.

From a conceptualisation viewpoint, this study identified the importance of such constructs as individuation and personality in the formation of nursing mentor relationships in academic institutions. From the stand-point of the personality concept, Alexander found that deans who had not experienced a mentor relationship were higher on Nurturance, Affiliation, and Femininity compared to deans who had experienced this relationship. Deans with a history of mentor relationships also differed from the non-mentored dean group, having attained a higher score on the Aggression factor. The mentored deans viewed themselves as scoring higher than their mentors on such personality attributes as: Favourable, Communality, Self-Control, Personal Adjustment. However, the mentored dean group scored themselves lower than

their mentors on the personality attributes of: Exhibitionism, Autonomy, Abasement, Deference and Creativity. The possible influence of a social desirability factor operating on the deans' responses was not explored in the research study. This premise is supported by the more favourable self-description provided by the deans when compared to their mentors. In addition, there is an inconsistency in the findings related to Nurturance and Aggression between deans and their mentors which is not supported by previous personality research studies.

Furthermore, from the more generalised perspective of developmental relationships in nursing, there was a proposed conceptual differentiation between the mentor role and the preceptor role, linking the latter to a type of secondary mentor who gives support to assist the accomplishment of certain tasks (p.7). There appears to be a conceptual link between preceptor, supervisor and orientator.

A limitation of note in this study was the assumption that professional women in nursing follow the same phases of adult development as identified by Levinson *et al.* (1978). Such an assumption implies that the "male" model of mentoring is conceptually appropriate to female nurses in academia. Such an assumption is a hypothesis in need of research investigation. Furthermore, the above assumption implies an expectation that females (for example, in nursing) and males (for example, in business and administration) are a homogeneous group and thus can be statistically compared for effects related to such outcome variables as career planning and decision-making processes. These

assumptions do not take into account the interacting effects of such variables as: time spent bearing and rearing children, geographical mobility relative to job promotional opportunities of the male partner, mature age entry into nurse preparation programs, to name but a few. More importantly, such conceptual models imply that males and females in the work context are equally motivated by the success criteria encouraged and extrinsically rewarded in bureaucratic organisations, for example, promotion within the career hierarchy and a consequent increase in salary. Conceptually, the above assumptions are, in reality, hypotheses in need of scholarly investigation by nurses.

The extent of inter-subjectivity, or shared agreement of meaning, of the concept of mentor between the disciplines of business and nursing was the purpose of Cole's (1988) conceptual study. A qualitative, inductive and deductive approach was the design of this investigation. This approach was used to inductively derive the attributes of the identity of mentor from the disciplinary perspective of business and then from the disciplinary perspective of nursing. The attributes were derived through the inductive procedures of content analysis and concept analysis. The derived attributes for each discipline were then compared for inter-subjectivity or shared agreement of meaning. Deductively, role theory was used to frame, or provide a context for, the resulting conceptualisation of mentor identity.

A major strength of Cole's study was his comprehensive and systematic analysis of the mentoring literature. Conceptually, Cole drew attention to: 1) the lack of a consistent definition of the mentor term (p.46); 2) the possibility

that mentor qualities are contextually bound (p.53); 3) the use of convenience sampling techniques in mentor studies as well as a failure to report on the reliability and validity of research instruments (p.54); 4) the existence of three distinct conceptualisations of the role of mentors, namely, the promotion of adult psychological development; one stage in an individual's career development; and, an example of one form of help available from a patron system (p.84); and 5) the finding that the mentor relationship has been conceptualised as both a power-dependent relationship as well as an interpersonal love relationship (p.98).

Cole's investigation revealed that the attributes of mentor identity for both disciplines were disposition, tenure, stature, and behaviour. While the attributes were the same for both disciplines, differences between business and nursing were found in the themes which converged to form the attributes. These differences indicate that the concept of mentor identity has been adapted to the nursing discipline and can, therefore, be considered a shared concept. From the results of this investigation, a middle-range role theory of mentors in nursing has been developed.

A potential limitation of Cole's study is that 60 percent of the conceptual literature surveyed was from academic and administrative leadership contexts; the two nursing areas that have been previously analysed within the framework of the male mentor model.

The mentoring concept was also analysed by Yoder (1990) who worked from the

premise that the nursing literature often confused the concept of mentoring with those of role modelling, sponsorship, precepting, and peer strategising. Yoder's (1990) concept analysis addressed mentoring from the perspective of an interpersonal relationship, as opposed to a structural role or an organisational phenomenon.

Within the interpersonal relationship context, Yoder (1990) attempted to clarify the concept of mentoring by presenting the attributes, antecedents, and consequences of this career development relationship, as well as differentiating between the mentor concept and other related concepts. Although the model developed depicted an organisational context for the relationship, Yoder drew attention to the fact that mentoring did not always have to occur within the context of an organisation. She composed the scenario that although the outcomes of professionalism, reduced turnover, and increased job satisfaction had been directly or indirectly linked with mentoring, organisational and personal consequences were clearly areas in need of further study.

The doctoral study completed by Vance (1977) was the first study to define and systematically investigate the mentor concept in the nursing profession. Indeed, this academic study was completed the year before Levinson *et al*'s (1978) popular study "The Seasons of a Man's Life", which explored the mentor concept in the career life of successful males, was published. Using Super's (1957) model of vocational life stages, Vance (1977; 1986) developed prototypes of mentoring influences that were important in the career life of the nurse influentials she investigated. The paradigm of mentor types included the

parent-sponsor, intellectual-guide, sociocultural role model, visionary-idealist, promoter-coach, peer-colleague, and mentor emeritus.

Olson (1984) studied the selection process of mentor-protégé relationships by 153 female nurse educators in both college and university settings in 13 Midwest states in the USA using a mail questionnaire adapted from Vance (1977) and Spengler (1982). Data analysis revealed no significant difference in career satisfaction between an assigned mentor-protégé relationship and a selected mentor-protégé relationship. Structured interviews by the researcher with 11 mentor and protégé pairs revealed a trend toward greater career satisfaction when the developmental relationship was mutually selected versus assigned.

From a research perspective, Fenske (1986) conducted an exploratory comparative study which aimed to describe the frequency and characteristics of mentor-protégé relationships among female chief academic officers of nursing and male chief academic officers of education. Data were gathered from a random sample using a mailed questionnaire designed by the researcher. The sample ($n=184$) was evenly distributed across both subgroups. The response rate was 139 returns (75%) from which 29 were discarded for reasons of incompleteness ($n=110$). A majority of both female and male subjects had mentors. Comparisons made between female and male chief academic officers indicated significant differences between females and males with regard to the time interval between earning a doctoral degree and becoming a chief academic officer, the biological sex of mentors, status of

protégés at the time the mentor-protégé relationship occurred, length of relationship, and the ways whereby relationships with most important mentor end. The majority of subjects who had mentors also served as mentors. Most mentors were the same sex as protégés.

This study found that females were appointed chief academic officers much sooner after earning doctoral degrees than were males. Males reported that most of their mentor-protégé relationships occurred during the time they were doctoral students and that their relationships with first mentors ended when they graduated or moved. In contrast, females reported that their mentors moved or died. Although many mentor-protégé relationships exceeded 15 years, males ended relationships with their first mentors earlier than did females. No significant differences existed between females and males with regard to their willingness to serve as mentors. Few subjects reported negative characteristics of mentor-protégé relationships.

The purpose of Jowers' (1986) study was to investigate the mentor-protégé relationship and the perceived degree of role conflict and role ambiguity among nurse academicians. Specifically, relationships were examined between five mentor-protégé variables -- mentor behaviours, characteristics of the mentor-protégé relationship, mentor characteristics, and protégé achievements -- and role conflict and role ambiguity. It was hypothesised that the mentor variables were mediating factors regarding role conflict and role ambiguity perceived by nurse faculty members. A correlational research design was used in this study. Mentorship was conceptualised as a type of role phenomenon. Therefore,

concepts from role theory formed the basis of the theoretical framework for this study.

The sample population included instructors and assistant professors in public nursing programs in the Southern region of the United States offering a master's degree accredited by the NLN. The population was further limited to include only female, full-time nurse academicians. Of the 805 original mailings, 524 (65%) questionnaires were returned. The total number of usable questionnaires was 477 (59%). The three-part questionnaire consisted of: 1) demographic and background data; 2) mentor scales developed and adapted by Pierce (1983), and 3) the role conflict and role ambiguity scale developed by Rizzo, House and Lirtzman (1970).

The data were analysed using descriptive statistics including *Pearsons product-moment correlations* and *multiple regression* analyses. A major outcome of this study was the identification and description of the mentor-protégé relationship. A majority (61.1%) of the respondents identified one or more mentors.

The results of *Pearsons product-moment correlations* indicated significant inverse relationships between mentor behaviours and role ambiguity, between characteristics of the mentor relationship and role ambiguity, between power and achievement characteristics of the mentor and role ambiguity, between personal qualities of the mentor and role ambiguity, and between the protégés' achievements and role ambiguity. *Regression analyses* revealed that the best predictors of a decrease in role ambiguity were characteristics of the mentor-

protégé relationship, power and achievement characteristics of the mentor, and years at the present school.

Two important limitations resulted from the research design used by Jowers. First, the main goal of the study was an examination of the relationship, yet the questionnaire used for data collection was focused mainly on the mentor. Second, Jowers did not acknowledge one important assumption implicit in her selection of research design and methodology, that is, that the male mentor model developed by males in business environments is equally applicable to nurses who are mainly female and are involved in a service-oriented occupation.

In a study conducted by Williams (1986), the emphasis was an examination of the relationship between current mentoring by senior faculty and the current productivity of junior faculty in nursing. One hundred and eighty-three nurse faculty from eight of the top twenty schools of nursing responded to a mailed questionnaire. Questions were asked about mentorship status of the respondents, the characteristics of mentors and functions carried out with mentees, types of productivity and productivity rate, and institutional support for mentoring and productivity. Measurements for productivity, mentorship and institutional support were the result of *factor analysis*. Data were analysed using *t-test*, *Pearsons correlation*, *Chi square*, and *multiple regression analysis*.

The results indicated that mentorship, when role specific modelling/teaching in nature, could predict research oriented productivity. Professionally stimulating

environments contributed to the ability to predict research activity among junior faculty. Mentoring was found to enhance the productivity of senior faculty who were mentors. Book publishing and professional service as other measures of productivity could be predicted by institutional and demographic variables of the sample.

A major conclusion drawn from this research study is that a collaborative model of mentorship can be effective in academia to increase productivity of both junior and senior faculty. Facilitating such a model of mentorship in academic institutions was proposed to help change the "revolving door" appointments for many junior faculty.

A study by Slagle (1986) investigated the phases of the mentor-protégé relationship from the protégé's perspective. Its purpose was to identify elements inherent in mentoring relationships and present a perspective on mentor-protégé relationships in the career development of nurses. The focus was on a mentor relationship as a type of helping relationship, involving an interpersonal encounter between mentor and protégé, in which caring, trust and concern for each other was essential. Processes involved in the beginning, development and end phases of the relationship were identified.

The study sample was drawn from 50 members of the Academy of Nursing who resided in four Northeastern states of the USA. These outstanding nurse scholars and leaders were most likely to have experienced a mentor relationship. Of the 44 who responded to a request to participate, 28 reported

having mentors, but only 25 nurses agreed to participate. Interviews were conducted using an instrument designed by the investigator. Demographic data were tape-recorded, pertinent data were abstracted and data were coded in several categories for analysis.

Study findings revealed that mentor-protégé relationships were significant factors in the career development of these nursing leaders. Relationships were characterised by the protégé's gradual shift from dependency on the mentor in the beginning of the relationship, to increasing independence and autonomy of the protégé as the relationship developed. Relationships were perceived as helpful and supportive, involving a two-way give-and-take process between the mentor and protégé that became more balanced as the relationship evolved. Relationships became collegial partnerships or friendships, depending on the extent of the involvement between the mentor and protégé. Mentors and protégés were perceived to share similar attitudes, beliefs and values. Relationships were affected by the protégés' abilities and needs, the stage of the protégés' career development, the talents and the willingness of the mentor to help and the setting in which the relationship developed. Protégés usually became mentors to other nurses.

An important limitation of Slagle's study is her assumption that nursing leaders are a group that is most likely to have experienced a mentor relationship. This is a research hypothesis which needs to be tested in nursing research studies. An important strength of Slagle's work is its development within a nursing and feminine model of nurture and support. There was also a

shift from the compatibility of personality construct to a compatibility of attitudes, beliefs and values.

Lee's (1988) research study aimed to compare the variables: need motivation, mentorship experiences, and selected demographic variables from a random sample of 150 registered nurses in leadership service at both the national and state levels. Motivational needs were the need for Achievement, Affiliation and Power. Demographic variables included basic initial education level, year of graduation, highest degree held, type of nursing position, national and state certification, birthdate, firstborn order, and race/descent. The questionnaire also assessed mentorship experiences by intensity, definition, role, and professional phase.

Analysis of variance demonstrated an interaction between mentorship experiences by intensity and role. Need motivation did not relate with level of leadership, but the achievement need was significantly related to academic completions, initial educational preparation and highest degree in nursing. Need for power was significantly related to first born order. Overall intensity was positively related to need for Achievement; the nurse manager group scores were negatively related with need Affiliation whereas the reverse was found for nurse educators.

The purpose of a study conducted by Rawl (1989) was to examine the influence of career stage, early life influences, academic preparation, mentoring relationships, supporting factors, and constraining factors on the

level of career development of nurse education administrators. Variables relevant to career development were gleaned from the literature.

Survey research methods were used in this correlational, retrospective study using a questionnaire developed by the researcher for data collection. Content validity of the questionnaire was established by a panel of five nursing education administrators. The instrument was pilot tested with a group of fifteen nursing education administrators not included in the study sample. Questionnaires were mailed to a randomly selected sample of 600 nursing education administrators in National League for Nursing (NLN) accredited baccalaureate and higher degree programs throughout the USA. Completed questionnaires were returned by 427 administrators yielding a response rate of 71.7 percent.

Multiple regression techniques were utilised to examine relationships between dependent variables and independent variables in the conceptual model. *One-way analysis of variance* and *Chi square* analysis were used to compare mentored and non-mentored groups on demographic variables, career aspiration variables, and on the dependent variable(s) of level of career development.

Results of the study indicated that nine variables explained 59 percent of the variance in level of career development scores for these nursing education administrators. Although mentoring contributed significantly ($p = <.01$) to prediction of level of career development, it explained less of the variance than

highest degree earned, number of years since completion of the highest degree, number of years as a full-time academic administrator, the scholarly difficulty index and the work commitment index. Other variables that contributed to prediction of level of career development were number of months of non-employment, number of children and type of institution where the highest degree was earned.

There appeared to be a lack of fit between the concepts reviewed in the literature by Rawl, for example, the differential socialisation of women (p.11), the need for a nurturing support system for women (p.12), the male cultural traditions in higher education (pp.13-15), differential treatment of women in academe (p.17), and the research design which focused on accelerated career advancement within the academic hierarchy as the dependent variable.

From a conceptual perspective, Rawl recommended that future mentor studies need to give consideration to the exploration of conceptual models that include gender and clinical specialty variables (p.178). From an analytical perspective, Rawl recommended that the statistical methods of *path analysis* or *structural equation modelling* be used to analyse the data in future research studies (or re-analyse the data gathered in her study). She argued that such methods would allow the assessment of both direct and indirect effects of each of the variables in the conceptual model and yield further information about the interaction of these variables (pp.178-179).

In summary, from a conceptual stand-point, the "male" model of mentoring is

achievement oriented and is perceived as a means of "fast-tracking" promising protégés up the promotional career ladder. The "male" mentor model is inequitable and of advantage to the chosen few. Indeed, many of these relationships end in disillusionment and crises (Levinson et al., 1978:251) which is frequently demonstrated in public trials including litigators for whom the boundaries of the mentor/mentee relationship have been violated. This is particularly the case in mixed gender dyads and has the potential to negatively affect the future development of such relationships.

Nursing scholars (for example, Pilette, 1980; Hamilton, 1981; May et al., 1982; Geissler, 1990) have argued that: 1) the discipline of nursing is concerned with supporting, helping, and nurturing the growth and development of clients; and 2) the femininity of the nursing role encapsulates the attributes of nurturance and affiliation as opposed to the need for achievement through competition. Nurses are therefore arguing the need for a different conceptual model of "mentoring" that is consistent with the philosophy of nursing and appropriate to the particular needs of nurses which incorporate: career life stage patterns; nurturing and achievement oriented professional values; and relationships based on collegiality, affectivity, and communality. These attributes were previously included within the definition of "developmental relationships".

In summation of the research literature on nursing mentorship it can be seen that the majority of the research has been descriptive in nature using selective samples. Two analytical frameworks have guided these research designs, the male model of productivity outcomes and career progress, and a

nursing/feminine model of interpersonal growth and development and individualised focus in the relationship. Furthermore, theoretical models of nursing mentorship need to be constructed and tested with either *path analysis* techniques or *structural equation modelling*.

2.5 Implications Drawn from the Review and Construction of the Conceptual Framework.

The review has mainly been drawn from the USA literature. The only personality study located in the Australian literature suggests that nurses in the two countries may not be a homogeneous group, except on the nurturance factor. There is a hypothetical association between biological sex, age, the socioeconomic status of the family of origin, and personality as measured by the Edwards Personal Preference Schedule. There is, however, no empirical evidence of theoretical links between the above concepts. Also, as nurses in both countries are homogeneous regarding the nurturance factor, as measured by the Edwards Personal Preference Schedule, its potential use as a predictor variable in the model is questionable.

In order to test the validity of the above argument, a preliminary analysis of the data will be performed using the *path analysis* technique in the LISREL software program (Jöreskog and Sörbom, 1989).

Theoretical links have been demonstrated between the Achievement factor, as measured by the Edwards Personal Preference Schedule, choice of nursing

practice area, the number of years spent in area of practice, the number of developmental relationships in which one has been involved as a giver in the relationship and as a receiver in the relationship, and in the type of relationship developed.

CHAPTER III

RESEARCH METHODOLOGY AND DESIGN

3.1 Purpose of the Study.

This study aims to develop and test a conceptual model which predicts the number and type of **Developmental Relationships** (helping, supportive, developmental) that registered nurses form with their colleagues. More specifically, the study aims to examine the influence of such constructs as: **Individual Personality** and **Professional Values**, on the **Work Context**, and on the dependent variable **Developmental Relationships**. A preliminary analysis of the data will be undertaken, using *Path Analysis*, to test the validity of the hypothesised relationship between Biological Sex, Age, Socioeconomic Status (SES) of the family of origin and the Nurturance Personality factor, on the indicator variables contained in the conceptual model, namely, the **Achievement Personality** factor, the **Nurturance** and **Achievement** factors of the **Professional Values** construct, the **Work Context**, the number and type of **Developmental Relationships** that nurses form with their colleagues.

Following the preliminary analysis, the main emphasis will focus on the

conceptual model which was developed from a review of theoretical and empirical literature. The model will be tested using the analysis of linear structural relations. This chapter will present an overview of and rationale for the proposed conceptual model, formulate the questions to be answered in this study, and give details of the significance of the present research study. Next, information will be provided regarding the instrument used to gather the data, sample selection, research design, and an introduction to structural equation modelling (SEM). The final section includes the formulation of hypotheses, conceptual and operational definitions of the constructs, the measurement and path analysis models, data analysis techniques, strategies used to test the validity of the research assumptions and the scope of the present study.

3.2 Overview and Rationale for the Proposed Conceptual Model.

In reviewing the literature in Chapter II, theoretical links have been established between: a) two nursing **Individual Personality** Factors (namely **Achievement** and **Nurturance**); b) **Personality**, choice of **Nursing Specialty** and the **Number of Years of Experience**; and c) **Personality**, the **Work Context** and the **Number** and **Type** of **Developmental Relationships** formed by nurses. More specifically, with regard to **Personality**, there is evidence to suggest that a) the **Achievement** factor increases and the **Nurturance** factor decreases over time spent in a bureaucratic organisation; and b) the **Achievement** factor may be a more reliable predictor in the conceptual model due to the homogeneity of the nursing population on the **Nurturance** factor.

The **Professional Value** construct was developed as a conceptual extension of the general personality theory (for example, Edwards, 1959) with a particular emphasis on two factors, namely, the male model of achievement-oriented work values developed by Stern (1970) and Kilpatrick, Cummings, and Jennings (1964), and the feminine model of nurturance-oriented behaviours developed by Geissler (1990). Both the conceptual model and the nurturance items of the **Wright Professional Value Inventory (WPVI)** were reviewed by Geissler who originally developed the items. Validation of the conceptual and philosophical bases within the context of nursing has been provided by nurse clinicians and nurse academics in the United Kingdom in 1990, the USA and New Zealand in 1991, and in Australia in 1990.

Figure 3.1 depicts the proposed conceptual model demonstrating the way relationships among selected abstract constructs act to influence the initiation of **Developmental Relationships** in nursing. This model posits that nurses' **Personality** and **Professional Value** orientations have indirect positive effects on their **Developmental Relationships**, mediated by **Work Context** factors. As a means of clarifying the hypothesised relationships, structural influences are given by unidirectional arrows and covariances by two-way arrows. Estimation of the effects (plus signs) among the constructs and their relative magnitudes constituted the major objectives of the study.

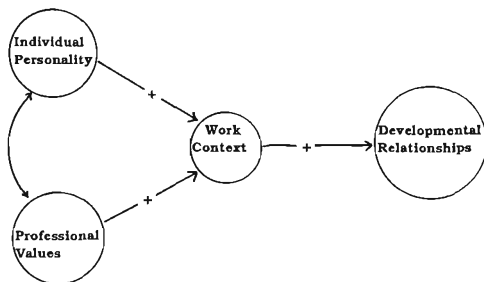


FIGURE 3.1: Proposed Conceptual Model of Developmental Relationships in Nursing.

3.3 Research Questions.

The specific research questions that were addressed in this study were:

1. Is the proposed model a good fit to the data given observed covariances among variables?
2. How well does the model explain variability in the Developmental Relationships construct?
3. To what extent does the **Individual Personality** construct affect the **Work Context** construct?
4. To what extent does the **Professional Values** construct affect the **Work Context** construct?
5. To what extent does the **Work Context** construct affect the **Developmental Relationships** construct?

6. What is the magnitude of the indirect effects of the **Individual Personality** construct and the **Professional Values** construct on the **Developmental Relationships** construct?

3.4 Significance of the Study.

The present study aims to fill the current void in nursing mentor research from a conceptual and analytical perspective. No studies were found that particularly measured a general **Individual Personality** construct, a **Professional Value** construct, a composite coverage of **Specialty Areas** in nursing, as well as **Years of Experience**, with the outcome variable measured by the total **Number of Developmental Relationships** in which the respondent has been involved (as a giver in the relationship and as a receiver in the relationship) and the **Type of Relationships** (collegial vs supervisory). No attempt is made to differentiate between "mentor" or "preceptor" relationships; a general description of "helping, supportive, developmental relationships" was used in the questionnaire. This approach was taken to avoid the popular consensus approach used in previous mentor research (Wrightsmann, 1981). By investigating all developmental relationships in the first instance, follow-up interviews with respondents would facilitate an exploration of the various developmental collegial relationships. If the relationship as described in this study is perceived differently by registered nurses, then a valid basis will have been established to guide future nursing theory development. This will be in contrast to the untested assumptions that have featured in mentor and preceptor research studies in the USA.

This researcher was unable to locate any mentor studies that used structural equation modelling in the research design as recommended by Wrightsman (1981).

3.5 Instruments Used for Data Collection.

Analysis of the proposed conceptual model was performed on data supplied by registered nurses on a questionnaire. Follow-up telephone interviews (Appendix D) were also carried out with a convenience sampling from the respondent group who identified their willingness to be further involved in the study.

The questionnaire consisted of two parts: the first part was developed by the researcher; the second part was the Edwards Personal Preference Schedule (Edwards, 1959). The researcher developed part of the questionnaire consisted of 51 items that were fixed alternative and open-ended questions and scales (see Appendix B). Demographic data such as age, gender, country of birth of respondent and parents, highest level of educational attainment of parents and partner, occupation of parents and partner, and respondent's highest level of education since leaving high school (Questions 1 to 7) were sought. Questions 8 to 39 comprised the WPVI which included both Nurturing and Achievement oriented items. The process used in the development of the WPVI section of the questionnaire is dealt with in detail in Chapter IV and will only be mentioned here. Questions 40 to 41 asked the respondents to write down three of their greatest strengths and three weaknesses they had identified in themselves that they would like to overcome. Questions 42 to 46 related to the identification of

the respondent's current nursing practice area, the number of years in present position, involvement in supportive, helping, developmental relationships with nursing colleagues, the number of such relationships as a receiver and as a giver in the relationship. Question 47 contained nine items developed by Wright (1990,b; 1991) asking the respondent to describe the relationships. The items were coded on a scale of 1 (denoting a collegial form of relationship) to 7 (denoting a supervisory form of relationship) and measured the following dimensions: Affiliative vs Non-Affiliative; Both Learners vs Expert-Neophyte; Supportive vs Directive; Egalitarian vs Authoritarian; Process-Oriented vs Task-Oriented; Intuitive, Responsive vs Planned, Set; Feelings vs Analysis; Cooperative vs Structured; Chosen Relationship vs Compelled Relationship. Questions 48 to 51 gathered information to assess the respondent's willingness to participate in a follow-up telephone interview.

The Edwards Personal Preference Schedule consists of 225 forced choice questions presented as dyads. The instrument measures fifteen **Personality** scales (personality needs), and two validity scales. The fifteen need scales are **Achievement, Deference, Order, Exhibition, Autonomy, Affiliation, Intraception, Succorance, Dominance, Abasement, Nurturance, Change, Endurance, Heterosexuality, and Aggression**. The responses were transferred on to a coded data sheet (Appendix B) and scores for each scale were tabulated. The maximum score that a person can receive on any one scale is 28 and the minimum score is 0. These factors were described in detail in 2.2 in Chapter II.

3.6 Sampling Frame for Data Collection.

3.6.1 Pre-Pilot Study.

Data for the test-retest reliability analysis of the **Achievement** and **Nurturance** factors of the **Wright Professional Value Inventory (WPVI)** was collected from a convenience sample of 35 registered nurses in an outer suburb of Sydney. The sample size was a result of subject availability and included nurse academics and nurse practitioners who were enrolled in a part-time program to convert their initial registration credential to degree status. The **Achievement** Scale had a test-retest reliability coefficient of $r = .75$ over a two week interval and the **Nurturance** Scale had a test-retest reliability coefficient of $r = .74$. A detailed discussion of the analysis follows in Chapter IV.

3.6.2 Pilot Study.

To assess the construct validity of the **Wright Professional Value Inventory (WPVI)** a pilot study was conducted using a convenience sample of 56 registered nurses in three hospitals in Western Sydney and a contrast group of 48 police officers in the same geographical area. Further details including rationale for group choice, the process and the results of the analysis are provided in Chapter IV.

3.6.3 Major Study.

The sampling frame was drawn from hospitals and universities in NSW. The restriction of the sampling frame to the state of NSW was dictated by both financial and resource constraints. Ideally, for purposes of generalising, the

study needs to be repeated in other states of Australia. Within these constraints an attempt was made to control for the potential confounding effect of certain organisational variables that may exist between Government-funded hospitals and private-funded hospitals on the results. This control was achieved by sampling the forty-one public hospitals in New South Wales that were previously involved in nurse preparation programs prior to the transfer of nurse education into the tertiary sector. The sample design procedures aimed to address the needs of the study, namely, to obtain stable cross-sectional data from the various areas of clinical practice. Thus, the sample design employed within each of the sampled strata was a three-stage cluster design in which health care organisations were selected with probability proportional to size, that is, the number of beds, at the first stage; three intact clinical practice areas selected randomly within each health care organisation, at the second stage; and five individual nurses in the selected clinical areas were included in the third stage ($p = .038$, $\alpha = .38$, as indicated from analysis performed on pilot study data). The level of sampling precision within each clinical stratum involved the specification of sampling tolerances $\pm 5\%$ for 95% confidence limits for item categories, and estimates of item means $\leq 10\%$ of the respondent's standard deviation. To satisfy these sampling constraints, it was calculated that a designed sample of at least 365 subjects would be required. However, given the possibility of non-responses, a more generous sample of 445 was drawn.

The director of nursing in each institution was contacted with a letter introducing and containing information regarding the proposed research (see

B.1 Appendix B). Attached to each letter was an information sheet (see B.2 Appendix B) which the directors completed to verify the proposed stratified sample of registered nurses by area of clinical practice for their institution. The director was also asked to provide the name of a contact person to distribute and collect the questionnaires (see B.3 Appendix B). From the sampling frame of forty-one hospitals, three institutions were eliminated as registered nurses from those institutions had been involved in the pilot study. From the remaining thirty-eight hospitals, one intact specialty area of nursing practice was selected randomly for the distribution of questionnaires in clusters of five.

Of the thirty-eight hospitals contacted, seven did not respond to the letter of introduction and four prescribed ethical review procedures and/or distribution strategies which were unacceptable to the researcher from a time and feasibility perspective. Thus the resulting sampling frame of NSW public hospitals consisted of twenty-seven (66%) of the original forty-one (see Table C.1: Appendix C). Also, three Universities were randomly selected for the sampling of the nurse academic specialisation group and 50 questionnaires were distributed (see Table C.1: Appendix C). The same procedure used for the hospital group, that is, the provision of introductory information and request for a contact person to distribute and collect the questionnaires was utilised with the higher education group.

Of the 445 questionnaires distributed, 349 were returned completed (78% response rate). The distribution and response rates are summarised in Table 3.1.

TABLE 3.1 Distribution and Response Patterns to Questionnaire by Area of Clinical Practice.

AREA	NUMBER SENT*	NUMBER RETURNED#	RESPONSE PERCENTAGE
General Wards	85	75	88.14%
Acute Care	75	63	84.00%
Midwifery	55	37	67.30%
Community	55	42	76.36%
Psychiatric	35	23	65.71%
Administration	90	82	91.11%
Academic	50	27	54.00%

* n = 445

n = 349.

3.7 Research Design.

The design utilised for this investigation was ex-post-facto [or retrospective non-experimental, as defined by Polit and Hungler (1983)]. The research questions probed involved relationships between non-manipulated variables. In the absence of manipulated variables, a non-experimental design was appropriate (Polit and Hungler, 1983).

3.8 Introduction to Structural Equation Modelling.

Structural equation modelling (SEM) is "tailor-made" for the comparison of complex causal models, so long as certain conditions are met. First, a relatively large sample size is required (Cole and Milstead, 1989). However, the appropriateness of sample size is intimately linked to the size of the model to be estimated (Tanaka, 1987). For example, fifty observations may be sufficient for a model hypothesising a single latent variable underlying four measured indicators. The same number of observations would be inadequate for a model with, say, twenty measured variables and four latent variables. Second, multiple measures of each construct are strongly recommended (Eggert, 1990). Third, the causal model must be structurally identified. That is, there must be sufficient raw information available to estimate the essential causal paths. Finally, all variables that might account for the causal relation of interest must be included in the model. Therefore, a structural equation model is an a priori causal model in which the sequence and direction of the paths in a graphical representation of the model are expressed as a series of algebraic equations. These specific relationships must evolve from the investigator's substantive knowledge, both theoretical and empirical, of the phenomenon of interest (Blalock, 1969; Pedhazur, 1982; Asher, 1983; Hinshaw, 1984).

Analysis of data was facilitated with the use of the LISREL V11 (Jöreskog and Sörbom, 1989) program. The LISREL program has some major advantages permitting (a) estimation of the posited structural associations and measurement associations (providing reliability tests of each indicator and the

set as a whole); (b) tests of theoretic propositions without the attenuating effects of measurement error (which seriously biases parameter estimates) by incorporating the fallibilities of measurement; (c) simultaneous estimate of all parameters in a causal model; and (d) use of powerful diagnostics for evaluating the fit between model and data (Eggert, Herting and Nicholas, 1988, cited by Eggert, 1990). These advantages mean a better assessment than is afforded by typical path analysis.

The estimation of theoretical models using LISREL typically involves two primary steps (c.f. Bentler, 1980; Herting, 1985; Herting and Costner, 1985): (1) a confirmatory factor analysis (CFA) to test the hypothesised measurement model and provide construct validity and "reliability"; and (2) a structural model analysis to estimate the specified hypotheses individually and simultaneously, thereby evaluating the overall causal model.

3.9 Hypotheses.

Hypothesis tests performed within this study were conducted in two stages, namely, preliminary and main.

3.9.1 Preliminary Hypotheses.

In order to test the applicability of the male mentor model to the nursing profession, the hypotheses tested in the preliminary data analysis were:

H₁. **AGE** will have an effect on **Socioeconomic Status (SES)**, **Achievement Personality** as measured by Edwards Personal Preference

Schedule (**EDACH**), **Nurturance Personality** as measured by Edwards Personal Preference Schedule (**EDNUR**), **Achievement Professional Values** as measured by the **Wright Professional Value Inventory (ACH)**, **Nurturing Professional Values** as measured by the **Wright Professional Value Inventory (NUR)**, the **Work Context** variable (**WC**), the **Number of Developmental Relationships (NUM)**, and the **Type of Relationship** formed (**TYPE**).

H₂. **Socioeconomic Status (SES)** will have an effect on **Achievement Personality (EDACH)**, **Nurturing Personality (EDNUR)**, **Achievement Professional Values (ACH)**, **Nurturing Professional Values (NUR)**, **Work Context (WC)**, the **Number (NUM)**, and **Type (TYPE)** of **Developmental Relationships**.

H₃. **Nurturance Personality (EDNUR)** will have an effect on **Achievement Professional Values (ACH)**, **Nurturing Professional Values (NUR)**, the **Work Context (WC)**, the **Number (NUM)**, and **Type (TYPE)** of **Developmental Relationships**.

H₄. The effect of **AGE** on **Socioeconomic Status (SES)**, **Achievement Personality (EDACH)**, **Nurturing Personality (EDNUR)**, **Achievement Professional Values (ACH)**, **Nurturing Professional Values (NUR)**, the **Work Context (WC)**, the **Number (NUM)** and **Type (TYPE)** will continue when the total, female and male groups are analysed.

3.9.2 Main Hypotheses

The hypotheses formulated from the conceptual model and tested in this study include:

H₁. **Individual Personality (IP)** will exhibit a positive direct effect on **Work Context (WC)**.

H₂. **Professional Values (PV)** will exhibit a positive direct effect on the **Work Context (WC)** construct .

H₃. The **Work Context (WC)** construct will exhibit a positive direct effect on **Developmental Relationships (DREL)**.

H₄. **Individual Personality (IP)** will exhibit a positive indirect effect on **Developmental Relationships (DREL)** through its effect on the **Work Context (WC)** construct.

H₅. The **Professional Values (PV)** construct will exhibit a positive indirect effect on the **Developmental Relationships (DREL)** construct through its effect on the **Work Context (WC)** construct.

3.10 Conceptual and Operational Definitions of Constructs.

The variables used in the preliminary path analysis and the constructs analysed in the main analysis were conceptualised and operationalised in the following manner:

3.10.1 Age (AGE).

The **AGE** of the respondent is operationally measured by Item 2 of the questionnaire (Appendix B). The respondent indicates his/her age at that time by writing in age in years in the space provided.

3.10.2 **Socioeconomic Status (SES).**

A composite **Socioeconomic (SES)** variable was constructed using a modified form of the index introduced by Anderson et al. (1980) so as to include the mother's highest level of education variable. Some recoding of values was needed to eliminate the "no information" group. To obtain a status score on an individual's family, each of the factors of father's occupation (Item 6 on the questionnaire contained in Appendix B), father's highest level of education (Item 5 on the questionnaire contained in Appendix B), and mother's highest level of education (Item 5 on the questionnaire contained in Appendix B) is given a scaled score and multiplied by a factor weight as determined by Anderson et al.'s (1980:225) sample. It was demonstrated by Anderson et al. (1980) and further validated by Wright's nursing sample (1989,c) that these are reliable optimum weights. The following factor score coefficients were used to weight the variables: .417 for father's education (a low score indicating a low level of educational attainment and a high score indicating the completion of a university degree); .368 for mother's education (a low score indicating a low level of educational attainment whereas a high score indicated the completion of a university degree); and, -.429 for father's occupation (coded 1 for an upper professional occupation and 10 for home duties). The results were saved for inclusion in the preliminary Path Analysis (detailed instructions for the construction of the composite **SES** variable as well as the recoding commands for the SPSS/PC program are contained in Appendix C).

3.10.3 Achievement Personality (EDACH).

Achievement Personality (EDACH) was conceptually defined in terms of a personality trait where an individual strives to do one's best, to be a recognised authority, to accomplish something of significance, to be able to do things better than others. **Achievement Personality (EDACH)** was operationally defined by summing the "A" responses to Items 6, 11, 16, 21, 26, 31, 36, 41, 46, 51, 56, 61, 66, 71, and the "B" responses to Items 2, 3, 4, 5, 76, 77, 78, 79, 80, 151, 152, 153, 154, 155 on the coding sheet of the Edwards Personal Preference Schedule which is included in Appendix B. The results were then converted to z-scores for use in further analysis.

3.10.4 Nurturing Personality (EDNUR).

Nurturing Personality (EDNUR) was conceptually defined in terms of a personality trait where an individual strives to help friends when they are in trouble, to assist those who are less fortunate, to treat others with kindness and sympathy, to show a great deal of affection toward others. **Nurturing Personality (EDNUR)** was operationally defined by summing the "A" responses to Items 151, 156, 161, 166, 171, 176, 181, 186, 191, 196, 206, 211, 216, 221, and the "B" responses to Items 51, 52, 53, 54, 55, 126, 127, 128, 129, 130, 202, 203, 204, 205 on the coding sheet (which appears in Appendix B) of the Edwards Personal Preference Schedule. The results were then converted to z-scores for use in further analysis.

3.10.5 Achievement-Oriented Professional Values (ACH).

The **Professional Value** Factor, **ACH**, was conceptually defined within an occupational context as a person who strives to get to the top, to direct the work of others, to get recognition from others, to know the right people, to take every opportunity to get to the top, to lead the decision-making process of work colleagues. The **Achievement Professional Value** factor (**ACH**) was operationally measured from Items 8, 9, 12, 15, 16, 18, 20, 21, 24, 27, 28, 31, 32, 34, 37, 39 of the questionnaire contained in Appendix B and operationalised by summing the scores of the individual items and the results were converted to *z*-scores for further analysis (see Appendix C for the command inputs used).

3.10.6 Nurturing-Oriented Professional Values (NUR).

The **Nurturing Professional Value** factor (**NUR**), was conceptualised within the occupational context as a person who strives to foster the growth and development of less experienced colleagues, to form productive interpersonal relationships, to facilitate the learning of other nurses, to act as an advocate for other nurses, to nurture the growth of new graduates. The **Nurturing Professional Value** factor (**NUR**) was operationalised from Items 10, 11, 13, 14, 17, 19, 22, 23, 25, 26, 29, 30, 33, 35, 36, 38 of the questionnaire contained in Appendix B and operationally measured by summing the scores of the individual items and the results were converted to *z*-scores for further analysis (see Appendix C for the command inputs used).

3.10.7 Individual Personality (IP).

The **Individual Personality (IP)** construct in the main analysis of the conceptual model was conceptualised from the premise that each individual is unique in terms of achievement needs. This uniqueness was operationalised by each individual's score on a range of scores operationally measured by the **Achievement Personality (EDACH)** factor (c.f. 3.10.3).

3.10.8 Professional Values (PV).

The **Professional Values (PV)** construct was conceptually defined as the professional values and attitudes that guide the individual nurse in his/her interactions with other nursing colleagues. The **Professional Values (PV)** construct was operationally measured by loading the **Achievement Professional Values (ACH)** and the **Nurturance Professional Values (NUR)** factors (c.f. 3.10.5 and 3.10.6) as measures of this construct.

3.10.9 Work Context (WC).

The **Work Context (WC)** construct was conceptualised within the environmental context and was based on the premise that the environmental structure of the specialty work area includes many empirical, social and psychosocial realities, authority patterns, expectations from within and without, and patterns of personality traits and behaviour (Lukens, 1965). The assumption is made here that the self is affected by socialisation with the individuals in the work environment, and that self-concept also affects that interaction. Thus, an individual will seek to be in a social system within a work environment that allows him/her the expression of individual needs

therefore allowing one to function effectively and to actualise one's personal and professional goals. The end result is personal satisfaction and occupational effectiveness. Conversely, if the work environment is incongruent with an individual's personality and values, the individual will soon leave by choice or expulsion.

The **Work Context (WC)** construct was operationally defined by **Specialty Area** and the **Number of Years** in present position from Items 42 and 43 on the questionnaire (see Appendix B). **Work Context (WC)** was operationally measured by multiplying the value of Item 42 by the number of years in present position (Item 43) and the results were converted to z-scores for use in further analysis.

3.10.10 Developmental Relationships (DREL).

The **Developmental Relationships (DREL)** construct was conceptually defined as those relationships nurses form with their colleagues that are described as **helping, supportive** and **developmental** in orientation. **Developmental Relationships (DREL)** was operationally measured by two indicator variables. The first indicator variable was the **Number of Relationships** in which the respondent was the "giver" added to the **Number of Relationships** in which the respondent was the "receiver" (these were converted to z-scores for use in further analysis). This measure was constructed from Items 45 and 46 on the questionnaire (see Appendix B). The second indicator variable used to operationally measure this construct was the **Type of Relationship** variable operationally defined in 3.10.11.

3.10.11 Type of Relationship (TYPE).

The **Type of Relationship (TYPE)** variable was conceptually defined within two distinctly different paradigms, namely, the values of the female ethos and the male-oriented value system. The female ethos is characterised by mutuality, cooperation, and affiliation while the male world is based on an ethos of power and competition (Rogers, 1988).

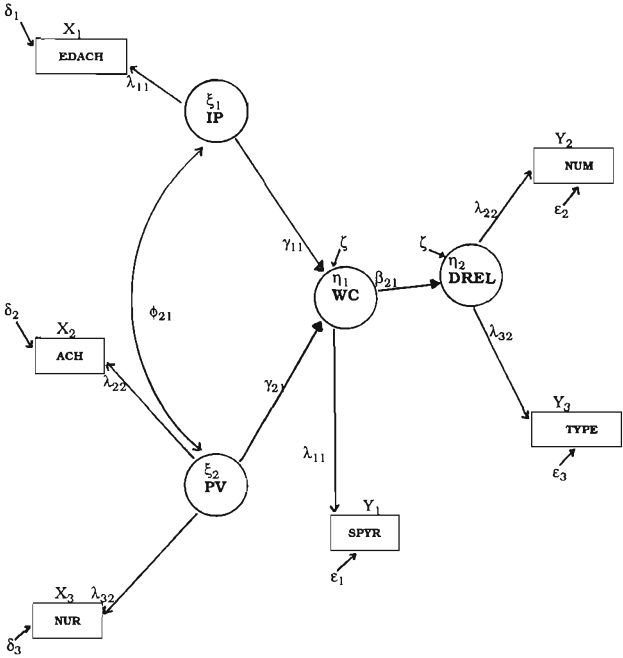
The **Type of Relationship (TYPE)** variable was operationally defined on a semantic differential scale structurally divided on a continuum ranging from the female ethos of leadership to the male ethos of management. The **TYPE** variable was operationally measured from the nine components contained in Item 47 on the questionnaire (see Appendix B). These nine items were submitted to a principal component Factor Analysis (facilitated by the SPSS/PC software program) with varimax rotation using Unweighted Least Squares (ULS) to assess the number of factors inherent within the **TYPE** variable. The results confirmed that the variable was a one factor solution. Reproducibility (reliability) of the Covariance Matrix for the Estimated Regression Factor Scores on a one-factor variable was estimated to be .90690. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was established at .92278 (range = .87082 to .95536) and the Bartlett Test of Sphericity was equal to 1533.8806, Significance = .000. The results confirmed the validity of using a combined score for the items in further statistical analysis.

3.10.12 Number of Relationships (NUM).

The **Number of Relationships (NUM)** was conceptually defined as the number of contemporary relationships any individual nurse forms with his/her colleagues as both a receiver in the relationship and as a giver in the relationship. The operational measurement of the **Number of Relationships (NUM)** was addressed in 3.10.10.

3.11 The Path Analysis and Measurement Models (SEM).

In Figure 3.2, unobserved or theoretical constructs are represented as circles while squares represent the indicators or measures of the theoretical constructs. Stated another way, the squares indicate the operationalisation of the theoretical constructs.



KEY:

INDICATOR VARIABLES

EDACH-Achievement Personality
ACH-Professional Achievement
NUR-Professional Nurturance
SPYR-Specialty Years
NUM-Number of Relationships
TYPE-Type of Relationship

UNOBSERVED CONSTRUCTS

IP-Individual Personality
PV-Professional Values
WC-Work Context
DREL-Developmental Relationships

FIGURE 3.2: Proposed Structural Equation Analysis Model of Developmental Nursing Relationships.

3.11.1 The Measurement Model.

Operationalisation of the exogenous variables, shown as ξ 's, are indicated by X's. **Individual Personality** is operationalised by **Achievement Personality (EDACH)** (X_1) demonstrated in the model by the straight single-headed arrow λ_{11} . The exogenous variable **Professional Values** is operationalised by two measures **Achievement Professional Values (ACH)** (X_2) and **Nurturing Professional Values (NUR)** (X_3) demonstrated in the model by the straight single-headed arrows identified as λ_{22} and λ_{32} . These lambdas (λ) are used to designate the links between latent variables and indicator variables. Lambdas may be viewed as factor loadings and are analogous to reliability coefficients (Boyd, Frey and Aaronson, 1988).

The endogenous variable **Work Context** is operationalised by the indicator variable **Specialty Years (SPYR)** displayed in the model as Y_1 . The factor loading single-headed arrow for this construct is identified in the model as λ_{11} . The remaining endogenous variable **Developmental Relationships** is operationalised by two indicator variables, Y_2 (**Number of Relationships**) and Y_3 (**Type of Relationship**). The factor coefficients to be estimated are identified in the model as λ_{22} and λ_{32} .

The deltas (δ) and epsilons (ϵ) are the errors of measurement for X_i and Y_i , respectively. They are disturbances that disrupt the relation between the latent and the indicator variables.

3.12 Data Analysis.

Data analysis was performed in two general stages. The first was composed of data screening, calculation of descriptive statistics, and generation of the covariance matrix used in the LISREL analysis. The second stage consisted of tests for model fit and tests of significance for path coefficients.

3.12.1 Treatment of Missing Values.

Missing values for the construction of the **Socioeconomic (SES)** composite variable were not included in the computation as the "no information" responses ranged from 1.2 percent (father's education) to 2.4 percent (father's occupation). If the missing number of responses on the Edwards Personal Preference Schedule was less than 5 percent, the random allocation method prescribed by Edwards (1959) was utilised. If a respondent had not been involved in a developmental relationship, a missing value of "0" was entered for the number of relationships as well as for the 9 items describing the type of relationship.

3.13 Scope of the Study.

As a result of the stratified random sampling procedure and the coverage of nursing practice contexts, the findings from this study can be generalised to the total registered nurse population in the state of NSW. The use of follow-up interviews was instituted in recognition of the limitations of questionnaire data

gathering procedures and assisted in clarifying the nuances and the comprehensiveness of the relationship.

3.14 Limitations of the Study.

The convenience sample used for the test-retest reliability analysis may be perceived to be less than optimal. However, this single analysis needs to be interpreted with due consideration being given to all the reliability and validity analyses performed on the **Wright Professional Value Inventory** factors (c.f. Chapter IV). Also, structural equation modelling is unable to establish causality; causal relationships inferred from the technique depend on prior theoretical and empirical foundations. Because of this, the veracity of these interpretations is dependent on the quality of the current theoretical construct and study design. Due to the present "state of the art" of mentoring research in nursing and other disciplines, an attempt has been made to treat assumptions as hypotheses which were analysed statistically as part of the research design.

3.15 Summary.

Information related to the design of the study has been presented in the previous sections. Methods and criteria used for sample selection were presented and a brief introduction to structural equation modelling was provided. Finally, measurement variables and constructs were conceptualised and operationalised; and, the hypotheses tested, the scope and limitations of

this study were identified to complete the discussion of study design and methods.

CHAPTER IV

THE CONSTRUCTION AND VALIDATION OF THE PROFESSIONAL VALUE INVENTORY

Although there are a myriad of **Personality** and occupational interest tests on the research market and although many theorists have speculated as to the characteristics of nurses and the **Developmental Relationships** that they form with their nursing colleagues, this researcher was not able to uncover any research instruments that were specifically designed to measure the **Professional Values** nurses have regarding the development of their colleagues and themselves in the organisational context in which they work. Thus, the nurse researcher is left with the choice either to construct measures that may, in the short term, be of questionable validity or to use published instruments that measure constructs that are significantly different from those of interest.

This chapter will trace the various steps taken by the researcher in the development of the **Wright Professional Value Inventory (WPVI)** and reports the reliability and validity results from statistical analysis of data from the pilot study.

4.1 Development of the Wright Professional Value Inventory.

The **Wright Professional Value Inventory (WPVI)** included two factors, namely, **Achievement** and **Nurturing** values within an occupational context. The inventory was constructed from: 1) the nurturing values identified by Geissler (1990) in her exploratory study of female nurses' experience of nurturing clients throughout the life span; and 2) the achievement work-oriented values described in the works of Stern (1970) and Kilpatrick, Cummings, and Jennings (1964). With regard to Stern's items, the values were developed for assessment in both educational and industrial environmental contexts, and in the case of Kilpatrick *et al.*, the items were developed for assessment in the federal service. Both were applicable to the work context in which nurses are involved. The **Nurturance** and **Achievement** Scales were structured to meet the requirements of instrument development set forth by Norbeck (1985). The **Nurturance** and **Achievement** items were developed specifically to reflect the degree of agreement or disagreement with the achievement and nurturance conceptual dimensions.

4.2 Content Validity of the Wright Professional Value Inventory.

Development of the **Wright Professional Value Inventory (WPVI)** occurred in several stages. In Phase 1, content validity was assessed in several ways. First, items were written which described **Nurturing** and **Achievement** values of nurses as indicated in specific research literature as well as the author's years of combined professional experiences in clinical, teaching and academic

environments. Second, the tool was submitted to ten academics, both nurses and psychologists, with educational backgrounds varying from undergraduate to doctoral degrees. The ten academics were asked to screen the items for appropriateness of wording, the content structure of each item as well as their rating impression of each item as either **Achievement-Oriented** or **Nurturing-Oriented**. Third, the tool was screened by Elaine M. Geissler at the University of Connecticut in the USA, an expert nurse who was the originator of the **Nurturant** behaviour model of nurses, for her opinion of the items in general and their relevance to the four themes perceived to be the structure of the **Nurturance** phenomenon. Test items were then revised to improve clarity based on the suggestions of nurse academics, qualified psychologists and a professional nurse expert. For the nurturance items "intensity" was separated from "caring" and "compassion" into a discrete item for data collection and analysis.

4.3 Pre-Pilot Test-Retest Reliability.

In Phase 2, the revised tool was pre-pilot-tested to assess item reliability on the test-retest occasions using a convenience sample of nurse academics and registered nurses undertaking the Bachelor of Health Science (Nursing) Conversion program (n=35) at two-week intervals. The two week interval was chosen in an attempt to be consistent with the time period used by Edwards and reported by Helms (1983:12).

The analysis results, using *Pearsons Product Moment Correlation Coefficients*,

indicated that the **Achievement Scale** had a test-retest reliability coefficient of $r = .75$ over a two week interval and the **Nurturance Scale** had a test-retest reliability coefficient of $r = .74$. These reliability coefficients fall within the range given for the EPPS factors.

4.4 Pilot Study Conducted to Assess the Construct Validity of the Wright Professional Value Inventory (WPVI) Using a Contrast Group.

Construct validity of the **Wright Professional Value Inventory (WPVI)** using an occupational contrast group aimed at addressing two questions: First, to what extent do between-occupation differences in mean ratings reflect true score variance? Second, are the differences among means large enough to be of practical value?

To estimate the construct validity of the **Wright Professional Value Inventory (WPVI)**, the questionnaire was distributed to a convenience sample of registered nurses in three hospitals in the western region of Sydney. The questionnaire (with minor modification of wording to make the questions more appropriate for the target group) was also distributed to a convenience sample of police officers in the same geographical area as a contrast group.

4.4.1 The Pilot Study Sample.

The pilot study consisted of a sample of 56 registered nurses and a contrast/control group of 48 police officers. The police force was selected as an appropriate contrast/control group on the following bases: the work context

involved a roster system; occupational involvement in providing a service to the community; and, that the organisational system in which they worked was structured along bureaucratic management principles.

There were no significant differences detected (at the 5% level) in the demographic variables: own country of birth, father's country of birth, mother's country of birth; father's education, mother's education, partner's education; father's occupation, and mother's occupation between the registered nurse and the police officer sub-groups using the χ^2 statistic. The police group consisted mainly of males (90.5%) and the nursing group was predominantly female (84.8%). The nursing sample was, in general, older (Mean = 38.67, S.D. = 9.0) than the police group (Mean = 30.33, S.D. = 8.4).

4.4.2 Construct Validity of the Wright Professional Value Inventory.

There was an expectation that nurses would have higher mean scores on the **Nurturance** items than police officers due to the interacting effect of the gender composition of the two service-oriented sub-groups. It was also hypothesised that nurses and police officers would not differ on the **Achievement** items because of the bureaucratic organisational effects common to both groups.

The **Nurturance** and **Achievement** items were constructed to assess the amount of agreement or disagreement with each item using a 7-point Likert scale. Strong agreement with an item was coded 7 and strong disagreement with an item was coded 1 (See Appendix B). A score of 7 indicating a high score

on the particular item and a score of 1 would indicate a low score on the particular item.

Based on the hypotheses formulated earlier, the **Nurturance** items were analysed by the one-tailed T-Test (Norušis, 1988:B-123), whereas the **Achievement** items were analysed by the two-tailed *T-Test* (Norušis, 1988:B-123) in order to detect differences in either direction.

There was a significant difference found in thirteen (13) of the sixteen (16) **Nurturance** items in the hypothesised direction between the nursing and police sub-groups. These results are detailed in Table 4.1 with a description of each **Wright Professional Value Inventory** item.

TABLE 4.1: Results of One-Tailed T-Test Statistical Analysis of the Nurturing Professional Value Items Between the Nursing and Police Sub-Groups.

ITEM	RN* \bar{X}	PO# \bar{X}	T-VALUE	D.F	PROB	ITEM DESCRIPTION
Nur1	5.28	4.19	2.55	102	.006	Enable/empower young professionals
Nur2	6.31	5.57	3.15	102	.001	Foster growth & development
Nur3	6.45	5.67	2.88	102	.003	Recognize individual worth
Nur4	5.16	4.81	0.94	102	n.s	Directed toward goal achievement
Nur5	6.25	5.43	3.13	102	.001	Facilitate learning
Nur6	6.11	5.14	3.42	102	.000	Focus on strengths rather than weaknesses
Nur7	5.76	4.76	3.66	102	.000	Promote independence
Nur8	6.22	5.29	4.80	102	.000	Assist problem-solving ability
Nur9	6.14	5.10	4.38	102	.000	Encourage development
Nur10	4.61	4.00	1.53	102	n.s	Act as advocate vs own advancement
Nur11	6.05	5.57	1.94	102	.027	Assess individual learning needs
Nur12	6.14	5.43	2.94	102	.002	Nurturing growth & development
Nur13	6.11	4.86	4.43	102	.000	Time for 2-way communication
Nur14	6.14	5.24	3.21	102	.001	Caring & compassionate relationship
Nur15	4.36	4.24	0.31	102	n.s	Emotional & intense relationship
Nur16	5.97	5.24	2.72	102	.004	Trusting relationship

*RN = Registered Nurse Group

#PO = Police Officer Group

Using the two-tailed *T*-Test for analysis of the **Achievement** items, based on the above theoretical hypothesis, it was found that the nursing sub-group differed from the police control group on only one (1) **Achievement** item. These results and the item descriptions are detailed in Table 4.2.

TABLE 4.2: Results of Two-Tailed T-Test Statistical Analysis of the Achievement Professional Value Items Between the Nursing and Police Sub-Groups.

ITEM	RN* \bar{X}	PO# \bar{X}	T-VALUE	D.F	PROB	ITEM DESCRIPTION
Ach1	4.48	5.19	-1.65	102	n.s	Seek out opportunities to get to the top
Ach2	4.88	4.90	-0.05	102	n.s	Do a better job than the next person
Ach3	5.69	5.00	1.84	102	n.s	Get ahead through hard work
Ach4	4.93	4.52	0.94	102	n.s	Direct the work of others
Ach5	4.81	4.71	0.23	102	n.s	Carry out our ideas without interference
Ach6	5.63	5.62	0.02	102	n.s	Get recognition for own work
Ach7	3.79	3.62	0.36	102	n.s	Need to know the right people to get ahead
Ach8	6.01	5.91	0.37	102	n.s	Need to develop own abilities
Ach9	5.73	5.52	0.58	102	n.s	Set high standards for self to achieve
Ach10	3.38	3.57	-0.36	102	n.s	Demonstrate risk-taking ability
Ach11	5.72	5.57	0.49	102	n.s	Recognised as a defender of own beliefs
Ach12	5.05	5.05	0.00	102	n.s	Take opportunity to advance own career
Ach13	4.51	4.86	-0.96	102	n.s	Lead the decision making process
Ach14	4.43	4.52	-0.24	102	n.s	Need to show a forceful stance
Ach15	4.20	4.90	-1.89	102	n.s	Influence decision-making
Ach16	5.75	5.09	2.33	102	.022	Demonstrate commitment to decisions

*RN = Registered Nurse Group

#PO = Police Officer Group

The analysis of results indicate that there were significant differences between the nurses and police officers used in this pilot study on the **Nurturance** items of the **Wright Professional Value Inventory (WPVI)**, the registered nurse group having higher mean scores than the police officer group, but not on the **Achievement** items.

These findings tend to suggest that nurses differ from police officers with regard to the value placed on nurturing the development of their colleagues. At

the same time, the hypothesised organisational effects on **Achievement-oriented values** is similar for both nurses and police officers.

4.4.3 Internal Consistency Reliability of the Wright Professional Value Inventory .

The reliability of the **Wright Professional Value Inventory (WPVI)** for the nursing subgroup (n = 56) was estimated by confirmatory factor analysis using the one-factor congeneric measurement model as suggested by Jöreskog and Sörbom (1989:122) and by the split-half parallel method (pp.166-167) using LISREL V11. The reliability of the one-factor congeneric model is by the estimation of the squared multiple correlation, the amount of variance explained, and the total coefficient of determination, the measure of how well the x-variables jointly serve as measurement instruments for the ξ variable. The χ^2 statistic is the measure of how well the data fit the model and is assessed relative to the degrees of freedom. The results from the one-factor congeneric measurement model are presented in Table 4.3 and the input data for LISREL is contained in Appendix C.

TABLE 4.3: Results of Confirmatory Factor Analysis of Congeneric Model Estimation for the Nurturance and Achievement Factors of the Wright Professional Value Inventory (WPVI).

VARIABLE	χ^2	D.F.	COEFFICIENT OF DETERMINATION
Nurturance	171.89	104	0.87
Achievement	169.28	104	0.83

The split-half reliability estimate was performed by randomly splitting the sixteen **Nurturance** items into two equal groups (X1 and X2 represent these summed scores) and the sixteen **Achievement** items for the nursing group into two equal groups (Y1 and Y2 represent these summed scores). These two split-halves were treated as parallel measures and the covariance matrix submitted for reliability analysis (the input data is contained in Appendix C). The reliability coefficients for the **Achievement** factor was 0.784 and 0.763 for the **Nurturance** factor. The instrument reliability coefficient was estimated to be 0.824 with a standard error of 0.189.

4.5 Summary.

The results of the test-retest analysis indicated that the **Achievement** and **Nurturance** items demonstrated a mean reliability score of .75 which is a an

acceptable level for this stage of the research (Nunnally, 1978). Preliminary analysis of the construct validity of the **Wright Professional Value Inventory (WPVI)** using a convenience sample of registered nurses and a contrast group of police officers, suggests that the **Nurturance** Items are able to differentiate between registered nurses and police officers. The results of the confirmatory factor analyses for internal consistency indicated that the **Nurturance** Scale explained 87 percent of the group variance and the **Achievement** Scale explained 83 percent of the group variance. Furthermore, the value of the χ^2 statistics was only 1.5 times the value of the degrees of freedom indicating a acceptable fit of the data to the model.

Further statistical analyses indicated that the **Nurturance** and **Achievement** Items had moderate to high split-half reliability and that the **Nurturance** and **Achievement** Scales were congeneric forms of measurement.

CHAPTER V

RESEARCH RESULTS

This chapter begins with a description of the sample characteristics prior to addressing the preliminary and main hypotheses formulated for testing in this study. Following the descriptive statistics is a presentation of the results and a discussion of the findings from the preliminary hypotheses data analysis. The next section contains the results of the main data analysis and a discussion of the slight revision made to the proposed model based on the analysis results. Finally, the results of follow-up interviews are described and documented.

5.1 Sample Characteristics.

Of the 445 questionnaires distributed, 349 registered nurses responded (78 percent response rate). The distribution of respondents by area of work was presented in Table 3.1 in Chapter III. Females represented 86 percent of the sample with males representing 14 percent. The age range of the sample was from 21 years to 63 years with a mean age of 37.87 and a standard deviation of 8.5 years. The sample was mainly Australian born (70.5%) with 14.3 percent born in the United Kingdom, 3.2 percent in New Zealand, 3.7 percent in

Europe and 4.3 percent in Asia. Of the group who were born in Australia, many were first generation Australians as only 59.9 percent of the fathers of the respondents were Australian born.

The respondents came from households where the mothers were more likely to have completed 4 years of secondary school (70.2%) than the fathers (65.3%). At the same time, the fathers were more likely to have completed a university course (9.2%) than the mothers (2.9%). Nine percent of the sample stated that their mother was a registered nurse, but only one respondent stated that his/her father was a registered nurse. More than 6 percent of the respondents had a partner who was a registered nurse.

More than 44 percent of the respondents came from households where the father's occupation was described as professional/semi-professional (23.5%) or managerial (21.2%). Only 30.4 percent of the respondents' fathers had been in a skilled or semi-skilled occupation. More than 6 percent of the respondents came from farmer households. The respondents' mothers were mostly involved in full-time home duties (45.6%), with 16.3 percent in lower professional occupations. The respondents' partners were mainly in professional (31.5%) or managerial occupations (17.4%).

Nineteen percent of the respondents had attained a single hospital certificate, 27 percent a double certificate, and 11 percent held a triple certificate. Twenty-one percent held a higher education diploma, fifteen percent a degree credential and 5.7 percent a higher degree at master's level.

5.2 Results of the Preliminary Hypotheses Tested.

Using the results of the squared multiple correlations for each of the structural equations in combination with the *t-values* as estimates of the significance or non-significance of the predictor variables for the total group, H_1 , H_2 , and H_3 were not supported and thus these variables were not added to the proposed model. With regard to the **Nurturance Individual Personality Factor (EDNUR)**, it was found that this variable had a low R^2 of .027 and a significant *t-value* of 2.279. In comparison, the **Achievement Individual Personality Factor (EDACH)** had a much higher R^2 (explanatory power) of .131 as well as a more significant *t-value* of -6.421. For these combined reasons, the **Achievement Individual Personality Factor (EDACH)** was retained in the Structural Equation Model in favour of the **Nurturing Individual Personality Factor (EDNUR)**, as was hypothesised in the literature review in Chapter II. These results are reproduced in Table 5.1.

TABLE 5.1: Results of the Path Analysis Performed to Test the Preliminary Hypotheses for the Total Group.

VARIABLE	R ²	T-VALUE*
AGE	.000 ^d	.000 ^d
SES	.004 ^d	-1.166 ^d
ACH	.032	3.369
NUR	.340	11.605
EDNUR	.027 ^d	2.279 ^d
EDACH	.131	-6.421
WORKCON	.237	2.323
COMREL	.118	3.552
TYPE	.065	3.764

* Diagonal T-Values are presented.

^d Deleted from Consideration as Part of the Conceptual Model.

TOTAL GROUP:

Goodness of Fit Index = .924.

Root Mean Square Residual = .107.

FEMALE GROUP:

Goodness of Fit Index = .858.

Root Mean Square Residual = .088.

MALE GROUP:

Goodness of Fit Index = .733.

Root Mean Square Residual = .182.

$\chi^2 = 1800.77$

D.F. = 90.

P = .000.

[Measure of the fit for all models in all the groups].

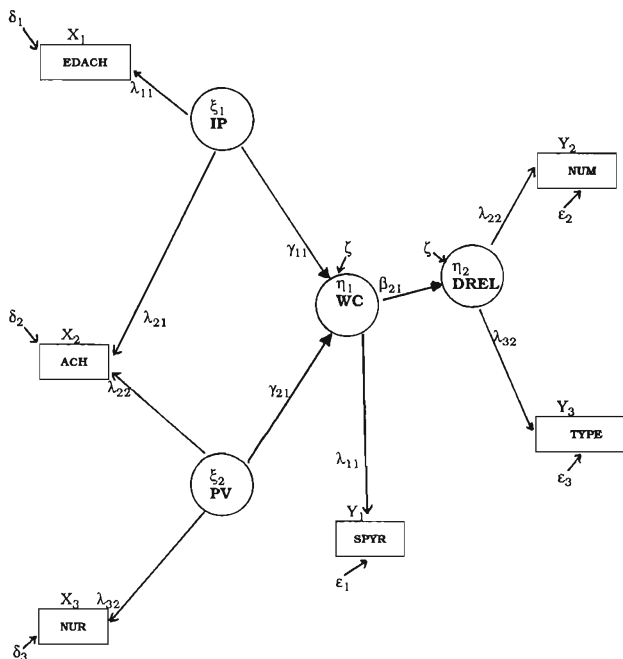
The above results for the female and male groups are not supportive of H_4 . Furthermore, the *Chi Square* result indicates that there is a lack of fit between the model, the total, female and male groups, and the data.

5.3 Results of Analyses and Minor Model Revision .

Findings derived from the analysis of the proposed model and the slightly revised model are presented within this section. The order of presentation is organised around the six research questions described previously and which will also enable the hypotheses to be addressed.

5.3.1 The Structural Model.

The first research question, namely, whether the model is plausible, given observed covariances among variables, is addressed here. Plausibility was tested by the overall goodness-of-fit of the data to the model.

**KEY:****EDACH-Achievement Personality****ACH-Professional Achievement****NUR-Professional Nurturance****SPYR-Specialty Years****NUM-Number of Years****TYPE-Type of Relationship****IP-Individual Personality****PV-Professional Values****WC-Work Context****DREL-Developmental Relationships****FIGURE 5.1: Revised Structural Equation Analysis Model of Developmental Nursing Relationships.**

Overall goodness-of-fit statistics for the proposed (Figure 3.2) and revised models (Figure 5.1) appear in Table 5.2. The Goodness-Of-Fit Index (GFI) and the Adjusted Goodness-Of-Fit Index (AGFI) are both greater than .95, indicating adequate fit for both models (Bollen, 1989; Jöreskog and Sörbom, 1989). Similarly, the Root Mean Square Residual (RMSR) also indicated a good fit (Jöreskog and Sörbom, 1989) for both models. In the revised model χ^2 was approximately equal to the degrees of freedom and non-significant ($\chi^2 = 8.49$; D.F. = 7; $p = .292$; $n = 349$) indicating a more adequate fit of the data to the model. Furthermore, according to Jöreskog and Sörbom (1989), the characteristics of the Q-plot indicative of good fit include (a) a linear distribution, (b) orientation approximately vertical to the abscissa, and (c) location approximately the abscissal midpoint. The characteristics of the Q plot for the hypothesised and revised models are displayed in Figures 5.2 and 5.3. The observed characteristics of the Q plot in Figure 5.3 provide further evidence of an improved fit in the revised model as compared to the hypothesised model, providing additional evidence for adequate fit of the model to the data.

TABLE 5.2: Goodness of Fit Statistics for the Hypothesised Model and Revised Model.

MODEL	STATISTICAL RESULTS					
	GFI ^a	AGFI ^b	RMSR ^c	χ^2	D.F.	P
Hypothesised	.985	.958	.04	15.94	7	.04
Revised	.992	.976	.03	8.49	7	.292

^a Goodness of Fit Index.

^b Adjusted Goodness of Fit Index.

^c Root Mean Square Residual.

FIGURE 5.2: Q-Plot of the Standardised Residuals of the Proposed Model.

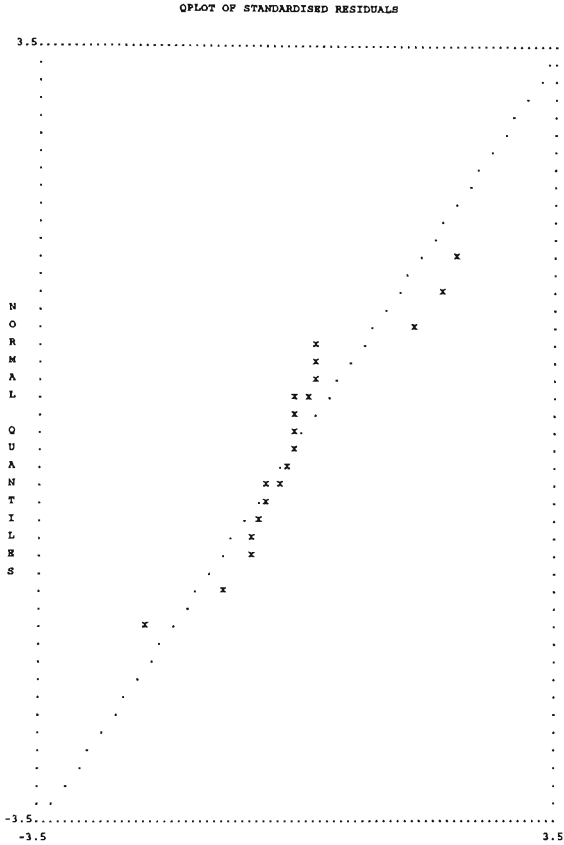
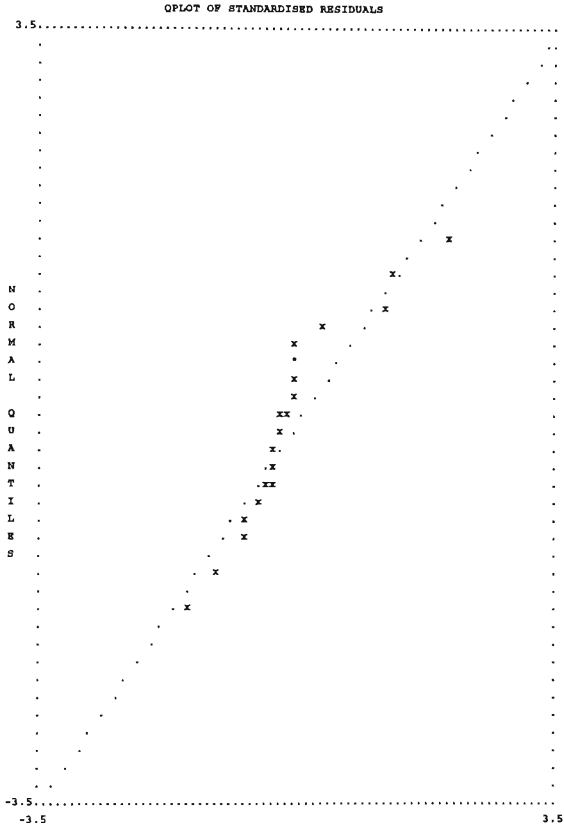


FIGURE 5.3: Q-Plot of the Standardised Residuals of the Revised Model.



The presentation of results and further discussion will be restricted to the revised model as it is consistent with theoretical development.

The second research question addresses the amount of variance explained in both the measurement model and the structural equation model. The variance explained by the individual constructs within the structural model accounted for 15.3 percent of the variance in **Work Context (WC)** and 29.4 percent of the variance in **Developmental Relationships (DREL)**. The total coefficient of determination for the structural equation model was 15.3 percent.

In response to questions three to five (c.f. Chapter III, p.73), Table 5.3 presents statistical results pertinent to evaluating the effects of exogenous and endogenous constructs on **Developmental Relationships (DREL)** in the revised model.

TABLE 5.3: Revised Structural Equation Model Parameter Estimates: Standardised (SS), Unstandardised (US), and Standard Errors (SE).

	γ_{11}	γ_{21}	β_{21}
SS	.197*	.339***	.542**
US	.115	.197	.774
SE	.048	.053	.259

* Significant at .05 level

** Significant at .01 level

*** Significant at .001 level.

Question 6 was concerned with the magnitude of the indirect effects of **Individual Personality (IP)** and **Professional Values (PV)** on the **Developmental Relationships (DREL)** construct. It was found that the standardised indirect effects of **Individual Personality (IP)** and **Professional Values (PV)** on **Developmental Relationships (DREL)** were .107 for **Individual Personality (IP)** and .184 for **Professional Values (PV)** (unstandardised: .089 for **Individual Personality (IP)** and .153 for **Professional Values (PV)**).

5.3.2 The Measurement Model.

The results of the confirmatory factor analysis are contained in Table 5.4.

TABLE 5.4: Results of the Confirmatory Factor Analysis of the Measurement Model for the Revised Model: Standardised (SS), Unstandardised (US), Standard Errors (SE).

	SS	US	SE
X Variables:			
λ_{11}	1.000	1.000	.000 ^c
λ_{21}	.141*	.141	.046
λ_{22}	.557**	.557	.061
λ_{32}	1.000	1.000	.000 ^c
Y Variables:			
λ_{11}	.582	1.000	.000 ^c
λ_{22}	.831	1.000	.000 ^c
λ_{32}	.249	.300	.183

* Significant at .05 level

** Significant at .01 level.

^c Constrained/Set Parameters.

The coefficient of determination for the Y variables was .784, the variance explained for each variable was 33.8 percent for **Specialty Years (SPYR)**, 69.1 percent for **Number of Relationships (NUM)** and 6.2 percent for **Type of Relationship (TYPE)**. The coefficient of determination for the X variables was 1.0, the variance explained for each variable was 99.6 percent for the **Achievement Individual Personality Factor (EDACH)**, 32.7 percent for the

Achievement Professional Value Factor (ACH), and 97.3 percent for the **Nurturing Professional Value Factor (NUR)**.

Furthermore, there is only one standardised loading less than .30 (unstandardised loading was equal to .30), that is the **Type of Relationship Factor (TYPE)** which is close to .30, therefore it appears that each variable is an appropriate measure of the underlying construct. However, the **Achievement Individual Personality Factor (EDACH)** was associated with a normalised residual of 2.108 suggesting a possible specification error. However, the modification index for the **Achievement Individual Personality Factor (EDACH)** (2.725) was less than the recommended indicator (more than 5) of a need for model modification (Yarcheski and Mahon, 1989). Furthermore, the normalised residual (unexplained variance) for **Work Context (WC)** was significant ($t = 2.438$) suggesting a need for the inclusion of more measurement variables to adequately measure this construct.

Several findings from the analyses are worth highlighting. First, the magnitude of the effects of the **Individual Personality (IP)** and **Professional Values (PV)** on the Y variables, namely, **Specialty Years (SPYR)**, **Number of Relationships (NUM)** and **Type of Relationship (TYPE)** are presented in Table 5.5. It can be seen that the magnitude of the total effects of **Professional Values (PV)** on the Y variables are constantly in excess of the effects of **Individual Personality (IP)** (approximately 58% more). These combined findings are suggestive of the relative importance of the **Professional Value** construct in a conceptual model of developmental relationships in the context of nursing.

TABLE 5.5: The Total Effects (Unstandardised) of Individual Personality (IP) and Professional Values (PV) on the Y Measurement Variables.

Y VARIABLES	IP	PV
SPYR	.115	.197
NUM	.089	.153
TYPE	.027	.046

Second, all the parameters are positive and significant. Positive path coefficients can be interpreted in the following manner: high scores on exogenous variables are associated with high scores on endogenous variables; and low scores on exogenous variables are associated with low scores on endogenous variables.

5.4 Summary of Statistical Analysis of the Revised Model.

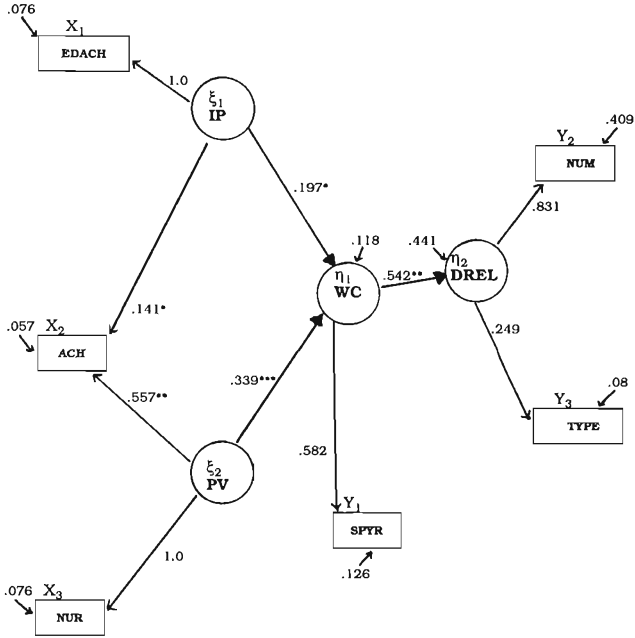
Preliminary hypothesis testing of the variables **AGE** and **Socioeconomic Status (SES)** of the family of origin and **Nurturing Individual Personality Factor (EDNUR)** lead to their omission from the conceptual model as was hypothesised in the literature review/theoretical framework. The hypothesised model was analysed and the results indicated that the model could be improved by eliminating the intercorrelational arrow between **Individual Personality (IP)** and **Professional Values (PV)** as well as including a

measurement parameter from **Achievement Professional Values (ACH)** to load onto the **Individual Personality (IP)** construct.

Results from the revised model were presented and discussed. The estimated path and measurement coefficients are provided in Figure 5.4.

To summarise:

1. The revised model was found to plausibly fit the observed covariances among the variables.
2. The variables in the structural analysis model explained 15.3 percent of the total variance.
3. **Individual Personality (IP)** was found to significantly affect **Work Context (WC)**.
4. **Professional Values (PV)** was found to significantly affect **Work Context (WC)**.
5. **Work Context (WC)** was found to significantly affect **Developmental Relationships (DREL)**.
6. **Individual Personality (IP)** and **Professional Values (PV)** were found to indirectly affect **Developmental Relationships (DREL)** through **Work Context (WC)**.



KEY:

EDACH-Achievement Personality
ACH-Professional Achievement
NUR-Professional Nurturance
SPYR-Specialty Years
NUM-Number of Relationships
TYPE-Type of Relationships

IP-Individual Personality
PV-Professional Values
WC-Work Context
DREL-Developmental Relationships

FIGURE 5.4: Standardised Path and Measurement Coefficients Within the Revised Structural Equation Analysis Model of Developmental Nursing Relationships.

5.5 Descriptive Findings from Follow-Up Interviews.

Follow-up interviews were conducted by telephone with a convenience sample of twenty-four registered nurses drawn from the number of respondents who indicated on the questionnaire their willingness to participate further in the research study. The semi-structured Interview Sheet is reproduced in Appendix D. Information was sought from two aspects during the interview: 1) when the respondent was the "giver" in the developmental relationship, and 2) when the respondent was the "receiver" in the relationship.

This section is descriptive in nature and aims to provide information about variables that may need to be considered for inclusion in the conceptual model in order to increase the explanatory power of the model. The variables of interest in the interview schedule were: (1) the age of the respondent when a Developmental Relationship commenced; (2) the biological sex of the participants in the relationship; (3) the length of the relationship; (4) the initiator of the relationship; (5) how the relationship was terminated and the reason the relationship terminated; (6) the respondent's perception of the relationship; (7) a description of the role characteristics; (8) a description of the relationship; (9) the focus of the relationship; (10) the personality of the participants in the relationship; and (11) the respondent's perception of the terms "Mentor" and "Preceptor".

5.5.1 Age at Which Developmental Relationships are Formed.

The respondents formed Developmental Relationships as a receiver at the mean age of 27.3 years; the mean age of the giver was 40.5 years (this is distinct from the age in years at the time of responding to the questionnaire). In three of the relationships, the respondents were older than the giver in the relationship and in two of the relationships both parties were the same age.

These same respondents formed Developmental Relationships as the giver in the relationship at the mean age of 30.9 years with receivers with a mean age of 28.5 years. In nine of these relationships, the receiver was older than the giver and was the same age in two of the relationships. It appears that the age at which Developmental Relationships form in nursing is decreasing as measured from one generation to the next. There is a remarkable similarity in the mean ages of both participants in the relationship. Furthermore, as 45 percent of the recipients who were interviewed were the same age or older than the givers in the second generation relationship this suggests that the age difference in the male mentor model may not be applicable in the female dominated profession of nursing.

5.5.2 The Biological Sex Mix in Developmental Relationships.

In the Developmental Relationships formed by the twenty-four respondents interviewed, 70 percent were same sex and 30 percent were mixed biological sex relationships. Given the biological sex mix in nursing, it appears that there is no gender bias operating in the formation of Developmental Relationships in nursing.

5.5.3 The Length of the Relationship by Biological Sex Mix.

In Developmental Relationships where the respondent was involved in either the giving or in the receiving role, the same biological sex relationships lasted for an average of 4.8 years whereas the mixed biological sex relationships lasted for an average of 4.3 years. There appears to be no association between the length of time variable and the biological sex mix of the relationship.

5.5.4 The Initiator of Developmental Relationships.

For the convenience sample ($n = 24$), in relationships where the respondent was the giver, 45 percent were initiated by the recipient, 15 percent by the giver in the relationship, and in 40 percent of the cases the relationship was mutually initiated. When the respondent was the receiver in a Developmental Relationship, 33.3 percent of these relationships were initiated by the giver, 38.8 percent were initiated by the receiver, and 27.7 percent were mutually initiated.

It appears that nurses who have benefited from a Developmental Relationship are more likely, as second generation givers, to form a Developmental Relationship initiated by the recipient than were the first generation givers in Developmental Relationships. Thus nurses are actively seeking out other nurses to meet their individual developmental needs.

5.5.5 The Terminal Phase of the Developmental Relationship.

In the interviewed sample ($n = 24$), when the relationship terminated, 77.5 percent of the respondents described the relationship as positive, very positive

or excellent. The relationship was described as negative or problematic at termination by 22.5 percent of the respondents. It is of interest to note that 45 percent of the respondents have continued the relationship on a friendship basis. The reasons for termination of the relationship were geographical move (37.5%) by one of the parties, 9.3 percent "outgrew" the giver, 3.1 percent felt deserted by the giver in the relationship, and in one case the giver in the relationship retired.

5.5.6 Respondents' Perception of the Relationship.

The respondents were asked to remember two particular relationships in which they had been involved: 1) the shortest relationship, and 2) the longest relationship. Two further aspects were explored: 1) as a giver in the relationship, and 2) as a receiver in the relationship. A random sample of respondents' perceptions of these relationships are reproduced in Table 5.6 as the giver in the relationship and Table 5.7 as the receiver in the relationship.

TABLE 5.6: Examples of Respondents' Perceptions as a Giver in the Shortest and Longest Relationship.

SHORTEST RELATIONSHIP	LONGEST RELATIONSHIP
<p>I recognised his potential, fostered his personal and professional development and facilitated his career progression.</p>	<p>We were both bright girls in the country. I started my degree and encouraged her to also. Our careers have paralleled in many ways and we have crossed paths on several occasions.</p>
<p>My memory is a sense of frustration and exhaustion. I remembered my earlier experiences and wanted to do the same for other people -- she is not willing to be independent at this stage.</p>	<p>It was easier for me to give. He had a wealth of potential and was more intelligent. He was hurting and this needed to be relieved. It was an intense and empathetic relationship and the most rewarding for me.</p>
<p>It was a nice relationship and a good friendship, we were like older sisters. It was a nurturing relationship as there was a certain amount of empathy when hard decisions had to be made. She felt safe, based on trust and caring.</p>	<p>She was similar in humour and cynicism to me. The relationship was built on honesty, a lot of support, mutual sharing. We had a similar family background, socially and value-wise. It was a very lasting relationship and was based on respect and trust.</p>
<p>He was eager to learn in the beginning, then he felt he knew it all..I was not as forceful as I could have been and did not pursue the relationship. We had different personalities.</p>	<p>She had similar work values to me, that is, to do the job well. She is a finisher and has gone from strength to strength.</p>
<p>The relationship was related to work. She saw me as more experienced and depended and relied on me. It was good for me because it helped me to keep up (knowledge) and it helped me to explore my knowledge base...we were both learners.</p>	<p>We were the same age. It was a mutual relationship. I was more expert in the field and she looked to me for guidance.</p>

(to be continued...)

TABLE 5.6 (continued).

SHORTEST RELATIONSHIP	LONGEST RELATIONSHIP
<p>There was a reasonable amount of resistance and suspicion. We were trying to develop a different style of management system. We talked, I gave her positive reinforcement, and led by example.</p>	<p>I was looking for someone who wanted to develop and be encouraged further. She was receptive and keen to develop further. I could see her potential.</p>
<p>She was a new graduate in midwifery. She was unable to cope. I helped her run the ward and cope with crisis management.</p>	<p>We studied together. We gave each other counsel and support. She left to go to another hospital. She asked me for advice, she had sleeping problems and was at the burn-out phase. She did not take my advice and terminated her new position...burnout again...Lots of disagreements.</p>
<p>I felt respected and looked up to. I passed on knowledge. There was humour in the relationship.</p>	<p>The relationship was on both a personal and professional level. There was a mutual regard for each other, we shared knowledge. I supported her and acted as a role model. The relationship evolved from a teaching-professional relationship to one that was based on work and family.</p>

TABLE 5.7: Examples of Respondents' Perceptions as a Receiver in the Shortest and Longest Relationship.

SHORTEST RELATIONSHIP	LONGEST RELATIONSHIP
<p>She was a negative role model who induced fear and intimidation in others. She was lacking in compassion, had a poor knowledge base. She assisted in my development by making me determined not to emulate her behaviours.</p>	<p>She employed me and was receptive to my potential for development. She offered positive reinforcement and developed my leadership skills. She encouraged me both personally and professionally and facilitated my career progression.</p>
<p>She had the ability to actively listen and took an interest in how I was feeling. She had skills in empathy and helping.</p>	<p>There was a certain kindness. She had the ability to make me feel that I could go on. She increased my belief in myself and facilitated my return back into the profession. She was an encourager.</p>
<p>It was a positive, open and reassuring relationship. She increased my self-confidence and shared her knowledge and was open and honest. She did not pull any punches but was always there to fall back on.</p>	<p>It was a great and new experience. I had a relationship that was more honest, more giving, more caring. It was similar to the shortest relationship I experienced <u>but</u> it was more lasting and focused on my personal and professional development.</p>
<p>We had a wonderful work and social relationship as colleagues.</p>	<p>She was an excellent teacher and an expert in her field. She was instrumental in the attainment of my current position. She had an ease of teaching and I learned a lot. She encouraged me and focused on my abilities.</p>
<p>The relationship was strained at the end. I did learn a lot. She was a brilliant lady and facilitated my learning. She energised me.</p>	<p>A real learning experience. There were three phases in the relationship: in ICU, through to a Senior position, and now in Administration.</p>

(to be continued...)

TABLE 5.7 (continued)

SHORTEST RELATIONSHIP	LONGEST RELATIONSHIP
<p>She gave me advice on both professional and career development aspects. She guided the direction I took.</p>	<p>I was a "baby" at the time. She served as a role model--she showed by example what I should and should not do. She had a sense of humour. She also lost her temper, which I learned not to do. She was also very assertive.</p>
<p>No such relationship.</p>	<p>I learned a lot about myself, about assessing other peoples' behaviour. She increased my "insightfulness" both personally and in regard to others.</p>
<p>The relationship had served its purpose in that he had something to offer. There was no friendship there to maintain the relationship. He had no further ambitions for the relationship.</p>	<p>It was a good relationship. She took me under her wing. she saw something in me that I was not aware of and fostered my growth and development. It was a comfortable relationship and I looked up to her. She was a role model. She also had a sense of humour and was non-judgemental.</p>

It is evident that the respondents were more at ease when discussing relationships in which they had been the receiver than in speaking about relationships in which they had been the giver. This may be a reflection of modesty on the part of these respondents and/or a reflection of the respondents' self-esteem and perceptions of self-worth.

The themes that emerged from the exploration of the respondent's perceptions of the longest and shortest relationships were the importance of friendship and a sense of humour.

5.5.7 Respondents' Description of the Characteristics of the Developmental Relationship Role.

In this question, the twenty-four respondents were asked to select one of three options which best described the characteristics of the role he/she had been involved in as the giver in the relationship. The overwhelming majority saw the role as one of a developer (86.6%) compared to 13.3 percent who saw the role as a supporter and only 6.6 percent saw the role as a helper.

5.5.8 Respondents' Descriptive Term for the Relationship.

Respondents ($n = 24$) were asked for a descriptive term to describe the relationships in which they had been involved. They were also informed that several prompts were available if needed. The majority of the respondents welcomed the use of prompting and all available prompts were read prior to selection. The prompts were: sponsor, preceptor, coach, mentor, teacher, role model. Responses to this question varied at the following distributions: mentor at 37.5 percent, role model at 25 percent, coach at 18.75 percent, preceptor at 12.5 percent, teacher at 6.25 percent.

The combined findings for the characteristics of the role and descriptive term for the relationship indicate that even though there was a variety of terms used to describe the relationship, there was widespread agreement that the role was a developmental one.

5.5.9 Responses Regarding the Focus or Concern in the Relationship .

The choices available for the question of the focus or concern in the relationship were: organisational or ward unit focus, professional focus, individual focus. Responses (n = 24) clustered at 68.75 percent for individual focus, 25 percent for professional focus, and 6.25 percent for organisational or ward unit focus. These clusterings are consistent with the respondents' choice of the word "developmental" to describe the characteristics of the role.

5.5.10 Respondents' Impressions of the Personalities of the Developmental Partners.

In situations where the respondent was the giver in the relationship, half of the respondents perceived the partners to be similar in personality; the other half perceived that the partners had dissimilar personalities. In relationships where the respondent was the receiver, 75 percent described the personalities as similar, the other 25 percent saw a dissimilarity in the personalities.

The personality aspect was explored in more detail and the respondents were asked to grade several personality characteristics as either more, less or the same. These responses are tabulated in Tables 5.8 and 5.9.

TABLE 5.8: Proportional Distribution of Response Patterns for Personality Characteristics of the Receiver Compared to the Respondent in the Giving Role.

VARIABLE	MORE	LESS	SAME	TOTAL
Ach ^a	6	6	12	24
Nur ^b	3	12	9	24
Ass ^c	12	3	9	24
Aff ^d	6	12	6	24
Agg ^e	15	0	9	24
Int ^f	12	6	6	24

^a Achievement

^b Nurturance

^c Assertive

^d Affiliative

^e Aggressive

^f Introverted

TABLE 5.9: Proportional Distribution of Response Patterns for Personality Characteristics of the Giver Compared to the Respondent in the Receiving Role.

VARIABLE	MORE	LESS	SAME	TOTAL
Ach ^a	9	9	6	24
Nur ^b	9	3	12	24
Ass ^c	18	3	3	24
Aff ^d	12	6	6	24
Agg ^e	18	6	0	24
Int ^f	6	12	6	24

^a Achievement

^b Nurturance

^c Assertive

^d Affiliative

^e Aggressive

^f Introverted

The above responses indicate that when in the receiving role, the respondents interpreted the giver in the relationship to be, in general, more Assertive, more Affiliative, and more Aggressive but less Introverted than they perceived themselves to be. When in the giving role, the respondents interpreted the receiver to be less Nurturing, less Affiliative, but more Introverted, more Aggressive, and more Assertive than they perceived themselves to be. These results do not appear to support the commonly held assumption that givers in developmental relationships seek out receivers who are similar in personality to themselves. Indeed, the "fit" of personality styles may be based on being different but complementary.

5.5.11 Respondents' Perceptions of the Mentor and Preceptor Terms.

Finally, the respondents were asked two questions: (1) What does the term "Mentor" mean to you? After hearing the respondent's answer, another question was posed: (2) What does the term "Preceptor" mean to you? A randomised selection of the nurses' responses to these two terms is reproduced in Table 5.10.

TABLE 5.10: A Random Selection of Nurses' Responses to the Mentor and Preceptor Terms

MENTOR	PRECEPTOR
A single person More experienced More knowledgeable Guides the development of another Acts as role model Has experience as a leader An adviser Has something to give A friend A teacher Someone you respect immensely Aspire to be like that person Someone you wish to follow They are there for you Individual development Guides your future path Develops your future career There when needed Comes later in your career Someone I admire They think "well" and act "well" A supporter, advocate, teacher, guide	Someone in the position Short-term relationship Guide and educate Plans a program Teach and advise new staff An organisational role Facilitate learning at work Development in skills More practical A teacher Resource person A doing kind of person Helper, physically and skill-based Comes early in career Helper A parenting role Protector of the novice There when commencing a new job

5.5.12 Summary of the Findings from Follow-Up Interviews .

These results indicate that registered nurses in NSW form relationships at a much earlier mean age than Levinson *et al*'s (1978) male sample. The age gap is much narrower between the giver and receiver in the relationship with almost half of the relationships being of a very similar age group. There does not appear to be a gender bias in the formation of these relationships and this lack of gender bias continued to persist when the length of the relationship was explored. Nurses are actively seeking out Developmental Relationships to meet their developmental needs.

The majority of these relationships terminate on a positive level and many maintain the friendship for many years. The respondents were more at ease when speaking about a nurse who had assisted in their development than when describing their developmental role in these relationships. A sense of humour in the relationship was emphasised by several of the respondents. Registered nurses view the role from an individual developmental perspective, but use various terms when describing the relationship. The personalities of nurses forming these Developmental Relationships are varied with many differences emerging. The nurses interviewed saw the preceptor role from a much narrower perspective being more short term, skill-based, and occurring earlier in the nurse's career. The mentor role tended to be viewed as a career Developmental Relationship; a relationship based on respect, trust, sharing and caring for each other.

CHAPTER VI

DISCUSSION

This chapter contains a discussion of the theoretical and practical importance of the findings reported in Chapter V. The chapter begins with a short review of the overall problems and purposes addressed within this thesis. Next, the results are presented and include implications drawn from the modification of the model, and interrelationships between the exogenous and endogenous predictor variables are evaluated. Due to the exploratory nature of this study, a constraint imposed by the atheoretical research designs used in previous studies in nursing as well as other disciplines, explicit theoretical development has been delayed until this final chapter where it will be examined in detail based on the empirical findings from this research study. The chapter closes with a discussion of the theoretical and pragmatic implications derived from the revised model.

6.1 Review of Overall Problem, Purposes, and Investigated Model.

The popularity of the concept of mentoring has been primarily based on the male work/career ethic using occupational success as the outcome variable. As

nursing is a predominantly female profession and nurses tend to be more Nurturing and less Achievement oriented than the general female population, the appropriateness of the male mentor model for the nursing population has generally been assumed by nurse researchers rather than treated as a hypothesis and tested as an integral part of the research design.

As discussed in Chapter I the validity of the male mentor model, from a career progression/success outcome, is of concern because males in business careers may make career decisions at a much earlier age than females who have a tendency to delay these decisions until after they have fulfilled the role of wife and mother. Furthermore, the "Achievement" orientation implied in the male mentor model may not be generalisable to a predominantly female profession such as nursing.

From a theoretical stand-point, the present investigation sought to theoretically develop the Developmental Relationship knowledge base through an analysis of the effects, both direct and indirect, of such variables as **Individual Personality (IP)**, **Professional Values (PV)**, and the **Work Context (WC)**, on the formation of **Developmental Relationships (DREL)** in nursing. Further, as a result of the development of a measurement and structural equation model and application of related statistical methods, the study aimed to develop new analytical insights into the simultaneous relationships between these constructs.

In addition, the study aimed to statistically analyse the validity of the

speculated association between **Age**, **Socioeconomic Status (SES)**, **Nurturing Individual Personality (EDNUR)**, and **Biological Sex**, as a basis for their inclusion in the model.

6.2 Results of Analysis of the Conceptual Model.

Analysis of the proposed structural equation model lead to a slight revision of the model where a measurement parameter from the **Achievement Professional Value Factor (ACH)** loaded onto the **Individual Personality (IP)** construct, suggesting that individuals who are high on the **Achievement Individual Personality Factor (EDACH)** also have a tendency to be high on the **Achievement Professional Value Factor (ACH)**. The following discussion relates to the slightly revised structural equation model.

6.2.1 Individual Personality (IP) .

Individual Personality (IP), as measured by **Achievement Individual Personality Factor (EDACH)** and the **Achievement Professional Value Factor (ACH)**, had a significant and positive effect on **Work Context (WC)** and a small indirect effect on **Developmental Relationships (DREL)**. Thus, individuals with high **Individual Personality (IP)** scores also had high **Work Context (WC)** scores. This finding suggests a positive correlation between high Achievement oriented individuals and promotion and progression within the hierarchy taking into account the number of years in the position. Furthermore, the weak indirect effect of **Individual Personality (IP)** on **Developmental Relationships (DREL)** may indicate that high **Achievement**

oriented nurses have a tendency to use **Developmental Relationships** in nursing to attain promotion and that they are less likely to form these relationships with less experienced colleagues.

6.2.2 Professional Values (PV).

There was a highly significant and positive effect between **Professional Values (PV)** and **Work Context (WC)** as well as a substantial indirect effect on **Developmental Relationships (DREL)**. In comparison to **Individual Personality (IP)**, the effect of **Professional Values (PV)** on **Work Context (WC)** was approximately 1.6:1 times greater. The effect of **Professional Values (PV)** on **Work Context (WC)** means that high scorers on **Professional Values (PV)** also have high scores on the **Work Context (WC)** and thus are more likely to progress in their careers as a result of their **Professional Values** and the number of years spent in the organisation. Furthermore, **Professional Values (PV)** had an indirect effect on **Developmental Relationships (DREL)** through **Work Context (WC)** indicating that these individual nurses also have a tendency to initiate **Developmental Relationships** with their colleagues. These combined findings suggest that these nurses are intrinsically rewarded through the development of these relationships. The **Nurturance Scale** had a higher loading than the **Achievement Scale** on this construct, suggesting that the Nurturing concept as applied to client care can also be generalised to **Developmental Relationships**.

It is also important to note the opposite analytical position. That is, nurses with low scores on **Professional Values (PV)** will also have low scores on **Work**

Context (WC), as measured by a composite weighting of area of work and number of years in position, and low scores on **Developmental Relationships (DREL)**. These associations suggest that nurses with low **Professional Value** scores are concentrated in nursing positions lower on the hierarchical career ladder. As these nurses would also have low scores on the number of years in present position, suggests that these individual nurses are also more likely to change work environments and may possibly leave nursing altogether. In this situation, given the individualised focus of **Developmental Relationships** in nursing, the initiation of a **Developmental Relationship** has the potential to act as an intervening variable in the above situation.

6.2.3 Work Context (WC).

The **Work Context (WC)** had a significant and positive effect on **Developmental Relationships (DREL)** indicating that individuals with high scores on **Work Context (WC)** also have high scores on **Developmental Relationships (DREL)**. As **Work Context (WC)** was a composite measure of position in the nursing career hierarchy weighted by the number of years in position suggests that **Work Context (WC)** is an intervening variable in the conceptual model. This finding implies a theoretical deviation from the male mentor model which conceptualises mentoring as a relationship in which a person who has made it to the top mentors another younger aspiring male. **Developmental Relationships** in nursing are: motivated by the **Professional Values** held by nurses; **Work Context** specific, that is there are differences in the number formed **between** the various areas in which nurses work but they

occur at all levels **within** each **Work Context** area: collegial rather than supervisory; and, experientially-based.

6.3 Miscellaneous Results.

When controlling for biological sex, the study results indicated that **AGE** and **Socioeconomic Status (SES)** were not able to predict the personality of nurses as has been speculated by other researchers (for example, Helms, 1983:44-45). In addition, no association was found in the preliminary analysis between **Age**, **Socioeconomic Status (SES)**, **Biological Sex**, **Nurturing Personality** and the formation of **Developmental Relationships** in the sample of registered nurses. Furthermore, the **Professional Values** construct was a more powerful direct predictor of scores on the **Work Context** construct as well as having a higher indirect effect on the **Developmental Relationship** construct through the **Work Context** construct. These combined findings call into question the validity of past research findings that used study designs based on the male mentor model and applied in the context of nursing.

An important finding emerged from this researcher's experience during the data collection phase of this study which has not been previously documented in other personality studies or research. It was with reference to the Heterosexuality factor of the Edwards Personal Preference Schedule. Personal communication between this researcher and some of the nominated institutional contact persons willing to distribute and collect the questionnaires, indicated that some nursing respondents objected to the

structural bias of the Heterosexuality Items. The objecting sub-group was a collection of both male and female registered nurses.

In the objecting sub-group there was one instance where the potential respondents were concerned that their scores on the Heterosexuality factor would somehow identify their homosexual preference. Another instance was identified during the follow-up telephone interview encounter where the respondent volunteered that he/she had completed the first part of the questionnaire but had asked a heterosexual colleague to complete the EPPS instrument to protect his/her privacy regarding sexual preference.

It is suggested that within the nursing population, that nurses, both male and female, are not homogeneous on the Heterosexuality factor, as is evidenced by the establishment of the National Association, Gay Nurses Alliance in the USA. Although the proportion of homosexual males and females in nursing is unknown and may be in reality a minority proportion, there are implications for the future use of this instrument in nursing because of its heterosexual bias. The objection evoked in some homosexual male and female registered nurses in NSW, brings into question the reliability of past research findings regarding the heterosexuality factor as measured by the Edwards Personal Preference Schedule.

6.4 Implications.

6.4.1 Implications for Future Research.

Although this is the first study to investigate the **Individual Personality (IP)**, **Professional Values (PV)**, **Work Context (WC)**, and **Developmental Relationships (DREL)** constructs in nursing or any other occupational group, a number of caveats should be mentioned. First, any conclusions as to cause and effect must be regarded as tentative. Although the findings constitute necessary conditions for inferring causality, they are not sufficient. Replications, longitudinal studies, and quasi-experiments will be required to validate the present findings.

The low explanatory power of the conceptual model may be a consequence of the multitude of nursing practice areas investigated in this study. The low explanatory power of the model may have been minimised by confining the nursing sample to one area of practice. The large residual or unexplained variance on the **Work Context (WC)** construct and its centrality to theoretical development, indicates a need for further exploration of each practice area in an effort to identify the influence of environmental structures and prevailing cultural definitions.

There is a need for further investigation into the conceptualisation of **Developmental Relationships** in nursing. Whilst the conceptual framework has been established in this study, further research efforts might include a

search for the critical variables and constructs that need to be included in the model to increase its explanatory power.

The following questions have arisen from this research study: (1) Is there an association between the scores on the **Wright Professional Value Inventory** and the degree of burnout experienced by registered nurses? (2) What is the effect of an intervening variable, such as, the initiation of a **Developmental Relationship**, on the degree of burnout experienced by a registered nurse? (3) What environmental variables impact on **Developmental Relationships (DREL)**? (4) What life cycle and status sequences affect the constructs included in the conceptual model? (5) What are the views of nurses who have not been the receiver in a **Developmental Relationship**? (6) Is there an association between the number of years spent out of the workforce and the constructs included in the conceptual model? (7) What is the effect of part-time employment on **Developmental Relationship (DREL)**? (8) Where does the agency nurse fit into this model? (9) Is the conceptual model applicable to registered nurses in other states, for example, Victoria, or registered nurses in other countries, for example, in New York state?

6.4.2 Implications for Organisational Nurse Administrators .

The **Work Context (WC) Developmental Relationships (DREL)** association has a number of implications for hospital and academic nurse administrators. The research suggests that individual differences in **Individual Personality (IP)** and **Professional Values (PV)** account for individual differences on **Work Context (WC)** and **Developmental Relationships (DREL)**. Consequently, the

allocation of nurses to practice areas could be undertaken with due consideration to individual scores on **Individual Personality (IP)** and **Professional Values (PV)** if contemporary **Developmental Relationships** are to be promoted.

Likewise, an increase in **Developmental Relationships (DREL)** will be promoted by increasing the **Professional Values (PV)** scores of individual nurses. Therefore, more emphasis on the **Professional Value of Nurturance** in academic programs is an important consideration.

6.5 Summary.

This study attempted to develop a conceptual model of Developmental Relationships in nursing. It was found that **Individual Personality (IP)** and **Professional Values (PV)** were important indicators in the relationship between **Work Context (WC)** and **Developmental Relationships (DREL)**. Although the explanatory power was not very high, the study served as a useful first step in the conceptualisation of Developmental Relationships in nursing and is an addition to the mentor literature by its use of the technique of structural equation modelling.

Several questions have been formulated which may be of assistance in identifying potential critical constructs for inclusion in the model to increase its explanatory power. Suggestions for future research have also been presented.

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APPENDIX A

ANALYSIS TABLES USED IN

LITERATURE REVIEW.

TABLE A1.1: EPPS Data Obtained from Nursing Students in 1985 and 1986 at Riverina Murray Institute of Higher Education in New South Wales.

VARIABLE	1985 STUDENT GROUP		1986 STUDENT GROUP	
	MEAN	S.D	MEAN	S.D
Achievement	12.9	4.3	11.8	4.0
Deference	10.3	3.9	9.6	3.9
Order	10.0	4.9	9.9	4.3
Exhibition	13.3	3.3	12.8	3.2
Autonomy	13.8	3.9	12.6	4.1
Affiliation	16.3	4.3	17.2	3.5
Intracception	16.2	5.2	16.1	3.9
Succorance	15.0	5.1	14.9	4.7
Dominance	9.8	3.6	10.3	4.4
Abasement	15.4	4.9	16.3	4.7
Nurturance	19.0	4.0	19.0	4.9
Change	17.8	5.0	17.5	5.0
Endurance	12.9	5.8	14.0	5.3
Heterosexuality	14.3	5.9	15.3	5.7
Aggression	12.8	5.5	13.2	5.6

TABLE A1.2: Results of T-Test Analyses of the Nursing Student Groups from One University in New South Wales* Compared with Nursing Students in the United States of America# and a Female Group of University Students in the State of Western Australia.**

	NSW NURSES		USA NURSES		T-TEST		WA STUDENTS		T-TEST	
EPPS	MEAN	S.D.	MEAN	S.D.	VALUE	SIG.	MEAN	S.D.	VALUE	SIG.
ACH	12.35	4.15	13.45	4.04	2.423	.016	14.13	4.05	3.174	.002
DEF	9.95	3.90	13.44	3.66	8.275	.000	11.99	3.79	3.880	.000
ORD	9.95	4.60	10.68	4.32	1.467	N.S.	10.38	4.54	0.687	N.S.
EXH	13.05	3.25	13.65	3.61	1.611	N.S.	12.54	3.77	1.047	N.S.
AUT	13.20	4.00	10.03	3.89	-7.247	.000	14.06	4.16	1.534	N.S.
AFF	16.75	3.90	17.45	3.79	1.642	N.S.	16.03	4.10	-1.309	N.S.
INT	16.15	4.55	19.45	4.28	6.702	.000	17.99	4.06	3.139	.002
SUC	14.95	4.90	11.81	4.03	-6.147	.000	11.95	4.45	-4.709	.000
DOM	10.05	4.00	13.36	4.61	7.120	.000	11.01	4.46	1.642	N.S.
ABA	15.85	4.80	15.10	4.65	-1.431	N.S.	15.78	4.74	-0.107	N.S.
NUR	19.00	4.45	18.83	4.18	-0.353	N.S.	16.72	4.89	-3.538	.001
CHG	17.65	5.00	16.40	4.25	-2.378	.018	18.08	4.56	0.660	N.S.
END	13.45	5.55	14.55	4.17	1.942	.054	15.46	4.87	2.835	.005
HET	14.80	5.80	12.52	5.56	-3.611	.000	11.15	5.52	-4.721	.000
AGG	13.00	5.55	9.02	4.44	-6.926	.000	12.72	4.67	-0.403	N.S.

* Trevethan, R. (1987) [N = 123]

Bailey, J.T. and Claus, K.E. (1969) [N = 247]

** Wheeler, D.K. (1969) [N = 94]

APPENDIX B**QUESTIONNAIRE USED FOR DATA COLLECTION
AND INFORMATION REGARDING EPPS AND SCORING SHEET****B.1 LETTER SENT TO DIRECTORS OF NURSING****B.2 INFORMATION SHEET****B.3 LETTER SENT TO CONTACT PERSON**

QUESTIONNAIRE

A STUDY OF SUPPORTIVE/COLLEGIAL RELATIONSHIPS IN NURSING

This survey aims to gather information from professional nurses in various environmental contexts. The study is concerned with demographic and social data, personality, the work context as well as each individual's perception of supportive, developmental relationships with peers in the work context.

The study is being conducted by a nurse who is currently undertaking a Doctor of Philosophy program at the University of Wollongong in New South Wales.

Whatever you write in this document will be treated as confidential and will not be seen by anyone other than the staff of the University acting in an advisory capacity for this research study. The information is for statistical purposes only and no individual cases will be cited in any paper or report.

Further, the information will not be used for administrative purposes by the institution in which you are currently working.

DIRECTIONS:

Please read each question carefully. Choose the most appropriate answer and fill in the adjacent oval completely using a soft lead pencil or by entering particular information (refer to the following examples):

If your age is 35 years, you would answer question 2 as follows:

2. Age 35 years.

If your gender is female you would mark the answer to Question 3 as follows:

3. Gender:
female
male

☒
 ☐

1. ID [1-3]

Please answer the following questions by either blackening in the appropriate oval or by inserting the appropriate information in the space provided.

2. Age — years. [4-5]

3. Gender:
 female ☐ (1) [6]
 male ☐ (2) [6]

4. What was your own country of birth and that of your father and mother?

	Yours [7]	Fathers [8]	Mothers [9]
Australia	<input type="checkbox"/> (1)	<input type="checkbox"/> (1)	<input type="checkbox"/> (1)
New Zealand	<input type="checkbox"/> (2)	<input type="checkbox"/> (2)	<input type="checkbox"/> (2)
United Kingdom	<input type="checkbox"/> (3)	<input type="checkbox"/> (3)	<input type="checkbox"/> (3)
North America	<input type="checkbox"/> (4)	<input type="checkbox"/> (4)	<input type="checkbox"/> (4)
European Country	<input type="checkbox"/> (5)	<input type="checkbox"/> (5)	<input type="checkbox"/> (5)
Asian Country	<input type="checkbox"/> (6)	<input type="checkbox"/> (6)	<input type="checkbox"/> (6)
Other	<input type="checkbox"/> (7)	<input type="checkbox"/> (7)	<input type="checkbox"/> (7)

5. What was your father's, mother's and partner's (if applicable) highest level of educational attainment?

	[10-11]	[12-13]	[14-15]
	Father	Mother	Partner
Primary school only	<input type="checkbox"/> (1)	<input type="checkbox"/> (1)	<input type="checkbox"/> (1)
Some secondary school	<input type="checkbox"/> (2)	<input type="checkbox"/> (2)	<input type="checkbox"/> (2)
4 years high school	<input type="checkbox"/> (3)	<input type="checkbox"/> (3)	<input type="checkbox"/> (3)
5-6 years secondary school	<input type="checkbox"/> (4)	<input type="checkbox"/> (4)	<input type="checkbox"/> (4)
Nurse training	<input type="checkbox"/> (5)	<input type="checkbox"/> (5)	<input type="checkbox"/> (5)
Some tertiary (non-university)	<input type="checkbox"/> (6)	<input type="checkbox"/> (6)	<input type="checkbox"/> (6)
Completed tertiary (non-university)	<input type="checkbox"/> (7)	<input type="checkbox"/> (7)	<input type="checkbox"/> (7)
Some university	<input type="checkbox"/> (8)	<input type="checkbox"/> (8)	<input type="checkbox"/> (8)
Completed university	<input type="checkbox"/> (9)	<input type="checkbox"/> (9)	<input type="checkbox"/> (9)

(.....continued overpage.)

6. Which of the following general categories is the closest to the present or last main occupation of your father, mother, and partner?

	[16-17]	[18-19]	[20-21]
	Father	Mother	Partner
Upper professional (generally requires a university degree or equivalent; e.g. law, medicine, science, engineering).	<input type="checkbox"/> (1)	<input type="checkbox"/> (1)	<input type="checkbox"/> (1)
Lower professional (generally requires a diploma or equivalent; e.g. journalist, librarian, nurse, accountant).	<input type="checkbox"/> (2)	<input type="checkbox"/> (2)	<input type="checkbox"/> (2)
Large scale employer or manager (employs, plans, or manages about 25 or more persons; e.g. a senior public servant [who is not a professional], an owner of a large business, a local government inspector, a financial manager).	<input type="checkbox"/> (3)	<input type="checkbox"/> (3)	<input type="checkbox"/> (3)
Small scale employer or manager (employs, plans, or manages an operation with fewer than 25 persons, or self-employed with a middle or higher income; e.g. a shop proprietor, self-employed insurance or real estate agent, manager of a small business).	<input type="checkbox"/> (4)	<input type="checkbox"/> (4)	<input type="checkbox"/> (4)
Intermediate non-manual worker. (employees having some supervisory role or skill; e.g. bookkeeper middle level public servant, postmaster non-commissioned officer, insurance or real estate employee).	<input type="checkbox"/> (5)	<input type="checkbox"/> (5)	<input type="checkbox"/> (5)

(.....continued overpage.)

	[16-17]	[18-19]	[20-21]
	Father	Mother	Partner
Clerical or skilled worker (Employees without special skills or supervisory responsibilities; e.g., clerk, postal officer, shop assistant, commercial traveller, policemen).	<input type="checkbox"/> (6)	<input type="checkbox"/> (6)	<input type="checkbox"/> (6)
Foreman or skilled worker, (Employees with specific skills; e.g., fitter and turner, plumber, other qualified technician or tradesman).	<input type="checkbox"/> (7)	<input type="checkbox"/> (7)	<input type="checkbox"/> (7)
Semiskilled manual worker (Employees with no or only a small amount of skill or training; e.g., driver, care- taker, medical attendant, labourer).	<input type="checkbox"/> (8)	<input type="checkbox"/> (8)	<input type="checkbox"/> (8)
Farmowner.	<input type="checkbox"/> (9)	<input type="checkbox"/> (9)	<input type="checkbox"/> (9)
Full-time home duties.	<input type="checkbox"/> (10)	<input type="checkbox"/> (10)	<input type="checkbox"/> (10)

7. What is your highest level of education since leaving compulsory high school? [22]

Single Nursing Certificate	<input type="checkbox"/> (1)
Double Nursing Certificate	<input type="checkbox"/> (2)
Triple Nursing Certificate	<input type="checkbox"/> (3)
Higher Education Diploma	<input type="checkbox"/> (4)
Higher Education Degree	<input type="checkbox"/> (5)
Masters Degree	<input type="checkbox"/> (6)
Doctorate	<input type="checkbox"/> (7)

(.....continued overpage.)

DIRECTIONS FOR THE FOLLOWING QUESTIONS:

In each of the following statements, circle the number which best describes how much you "agree" or "disagree" with the statement, from your own personal perspective:

8. To me, it is important in my nursing career, to seek out opportunities to get to the top. [23]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

9. It is important to me, as a nurse, to do a better job than the next person. [24]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

10. Part of my role in nursing is to enable/empower younger professionals in making decisions about their nursing careers. [25]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

11. To me, it is important to foster the growth and development of new nurses entering the profession. [26]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

12. From my perspective, success and advancement in nursing is mainly a matter of hard work. [27]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree
(.....continued overpage.)

13. To me, in order to form productive interpersonal relationships in nursing there is a need to recognise the worth of the individual. [28]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

14. Helping relationships in nursing are directed toward goal achievement. [29]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

15. It is satisfying to me to direct the work of others. [30]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

16. For me, it is important as part of my nursing role, to be able to carry out my own ideas without interference. [31]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

17. To me, it is important to have time to facilitate the learning of less experienced nurses. [32]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

18. Getting recognition for my own nursing work is important to me. [33]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree
(.....continued overpage.)

19. To establish supportive and helping relationships in nursing, it is important to focus on the strengths of my peers rather than on their weaknesses. [34]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree	Moderately Agree	Fair Agreement	Fair Disagreement	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------------------	----------------------	------------------------	----------------------

20. To succeed in nursing, it is important for me to know the right people. [35]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree	Moderately Agree	Fair Agreement	Fair Disagreement	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------------------	----------------------	------------------------	----------------------

21. To me, it is important in nursing to have the chance to develop my own special abilities. [36]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree	Moderately Agree	Fair Agreement	Fair Disagreement	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------------------	----------------------	------------------------	----------------------

22. In order to develop my nursing peers, it is important that I promote their independence. [37]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree	Moderately Agree	Fair Agreement	Fair Disagreement	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------------------	----------------------	------------------------	----------------------

23. To me, part of the nurses' role, is to assist peers in using their problem-solving abilities. [38]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree	Moderately Agree	Fair Agreement	Fair Disagreement	Moderately Disagree	Strongly Disagree
-------------------	---------------------	-------------------	----------------------	------------------------	----------------------

(.....continued overpage.)

24. As a nurse, it is important to me, to set higher standards for myself than anyone else would, and to work hard to achieve them. [39]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1
Strongly Agree Moderately Agree Fair Disagreement Fair Moderately Disagree Strongly Disagree

25. An important part of my nursing role is to encourage the development of younger professionals. [40]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1
Strongly Agree Moderately Agree Fair Disagreement Fair Moderately Disagree Strongly Disagree

26. As a nurse, it is more important to me to act as an advocate for a younger professional rather than for my own personal advancement. [41]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1
Strongly Agree Moderately Agree Fair Disagreement Fair Moderately Disagree Strongly Disagree

27. To establish a good reputation with my nursing colleagues, it is important for me to demonstrate that I am willing to take risks. [42]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1
Strongly Agree Moderately Agree Fair Disagreement Fair Moderately Disagree Strongly Disagree

28. As a nurse, it is important for me to be recognised as a person who is able to defend my own beliefs. [43]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1
Strongly Agree Moderately Agree Fair Disagreement Fair Moderately Disagree Strongly Disagree

29. As a nurse, it is important to me to assess the learning needs of my less experienced peers and to support them in their decisions regarding further learning needs. [44]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1
Strongly Agree Moderately Agree Fair Disagreement Fair Moderately Disagree Strongly Disagree
(.....continued overpage.)

30. To me, the helping aspect of nursing also involves nurturing the growth of new graduates so that their needs are met. [45]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Moderately Fair Fair Moderately Strongly
Agree Agree Agreement Disagreement Disagree Disagree

31. To be promoted in nursing, it is important for me to take every possible opportunity to advance my own career. [46]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Moderately Fair Fair Moderately Strongly
Agree Agree Agreement Disagreement Disagree Disagree

32. When part of a group discussion, it is important to me to know that I have had a significant effect in leading the decision-making process. [47]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Moderately Fair Fair Moderately Strongly
Agree Agree Agreement Disagreement Disagree Disagree

33. To me, the development of supportive and helping relationships with nursing peers involves the setting aside of time for two-way interaction and communication. [48]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Moderately Fair Fair Moderately Strongly
Agree Agree Agreement Disagreement Disagree Disagree

34. As a nurse, if I want to convince my peers to support my personal recommendations, it is important for me to demonstrate a firm and forceful stance. [49]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Moderately Fair Fair Moderately Strongly
Agree Agree Agreement Disagreement Disagree Disagree

(.....continued overpage.)

35. To me, positive relationships with nursing peers involve such attributes as caring and compassion. [50]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

36. Mentor relationships in nursing are both emotional and intense. [51]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

37. When interacting as part of a nursing team discussion, I can assess my achievement by how well I have been able to influence the decision-making process of the group. [52]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

38. In nursing if I choose to develop others, it is important for me to understand that individuals differ and to trust the motives/intentions of others. [53]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

39. To establish a good reputation with my nursing colleagues, it is important for me to demonstrate that I am committed to decisions. [54]

7 _____ 6 _____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Strongly Agree Moderately Agree Fair Agreement Fair Disagreement Moderately Disagree Strongly Disagree

(.....continued overpage.)

40. Would you now write down three of your greatest strengths: [55]

1. _____
2. _____
3. _____

41. Would you now write down three weaknesses you have identified in yourself that you would like to overcome: [56]

1. _____
2. _____
3. _____

42. In which of the following nursing practice areas are you currently involved? [57]

- | | |
|---|------------------------------|
| General Hospital Ward | <input type="checkbox"/> (1) |
| Psychiatric Unit | <input type="checkbox"/> (2) |
| Midwifery Unit | <input type="checkbox"/> (3) |
| Community | <input type="checkbox"/> (4) |
| Acute Care Unit | <input type="checkbox"/> (5) |
| Academic Institution | <input type="checkbox"/> (6) |
| Administration (Hospital or Higher Education) | <input type="checkbox"/> (7) |

43. How many years have you worked in your present practice area?

Number of years _____ (enter the number of years) [58]

44. Have you ever been involved in a supportive, helping, developmental relationship with a nursing colleague? [59]

- Yes ☐ (1)
 No ☐ (2)

45. In the supporting/helping/developmental relationships in which you have been involved, you were the supporter/helper/developer in _____ (enter number) of such relationships. [60]

46. In the supporting/helping/developmental relationships in which you have been involved, you were the person being supported/helped/developed in _____ (enter number) of such relationships. [61]

(.....continued overpage.)

47. Would you describe the supportive/helping/ developmental relationships in which you have been involved on the following scale by circling one of the following numbers for each scale:

Affiliative	[62]	Non-Affiliative
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

Both Learners	[63]	Expert-Neophyte
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

Supportive	[64]	Directive
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

Egalitarian	[65]	Authoritarian
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

Process Oriented	[66]	Task Oriented
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

Intuitive, Responsive	[67]	Planned, Set
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

Feelings	[68]	Analysis
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

Cooperative	[69]	Structured
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

Chosen Relationship	[70]	Compelled Relationship
1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7		

(.....continued overpage.)

WITH YOUR PERMISSION I WOULD LIKE TO FOLLOW UP THIS SURVEY BY COLLECTING DETAILED INFORMATION BY MEANS OF PERSONAL INTERVIEWS. THESE INTERVIEWS COULD BE CONDUCTED ON A PERSONAL BASIS OR (IF YOU PREFER) BY TELEPHONE.

48. Would you be prepared to participate further in a personal interview? [71]

Yes ☐ (1)
No ☐ (2)

49. If yes, which type of interview situation would you prefer: [71]

Personal Contact ☐ (1)
Telephone ☐ (2)

50. If your preferred option is a personal interview, please provide the following information:

Name: _____

Address: _____

Telephone Number: ()

A convenient time for interviewing:

Day _____

Time _____

51. If your preferred option is a telephone interview, please provide the following information:

Telephone Number: ()

A Code Name: _____

Most convenient time for telephone interview:

Day _____

Time _____

(.....continued overpage.)

Thank you for your time and your participation in this nursing research study which aims to expand the frontiers of nursing knowledge and nursing theory.

Caroline M. Wright,
Senior Lecturer,
Faculty of Nursing
and Community Studies,
University of Western Sydney,
Hawkesbury,
RICHMOND. NSW. 2753.

PLEASE CONTINUE ON TO COMPLETION OF THE
PERSONALITY INSTRUMENT ATTACHED

EDWARDS PERSONAL PREFERENCE SCHEDULE

Allen L. Edwards

DIRECTIONS

This schedule consists of a number of pairs of statements about things that you may or may not like; about ways in which you may or may not feel. Look at the example below:

A. I like to talk about myself to others.

B. I like to work toward some goal that I have set for myself.

Which of these two statements is more characteristic of what you like? If you like "talking about yourself to others" **more than** you like "working toward some goal that you have set for yourself", then you should choose **A** over B. If you like "working toward some goal that you have set for yourself" **more than** you like "talking about yourself to others", then you choose **B** over A.

You may like both A and B. In this case, you would have to choose between the two and you should choose the one that you **dislike less**.

Some of the pairs of statements in the schedule have to do with your likes, such as A and B above. Other pairs of statements have to do with how you feel. Look at the example below:

A. I feel depressed when I fail at something.

B. I feel nervous when giving a talk before a group.

Which of these two statements is more characteristic of how you feel? If "being depressed when you fail at something" is **more characteristic** of you than "being nervous when giving a talk before a group", then you should choose **A** over B. If **B** is **more characteristic** of you than A, then you should choose **B** over A.

If **both** statements describe how you feel, then you should choose the one which you think is more characteristic. If **neither** statement accurately describes how you feel, then you should choose the one which you consider to be less inaccurate.

MAKE A CHOICE FOR EVERY PAIR OF STATEMENTS ON THE FOLLOWING PAGES BY DRAWING A CIRCLE AROUND THE LETTER (A or B) THAT INDICATES THE STATEMENT YOU HAVE SELECTED.

- 1 A I like to help my friends when they are in trouble.
B I like to do my very best in whatever I undertake.
- 2 A I like to find out what great men and women have thought about various problems in which I am interested.
B I would like to accomplish something of great significance.
- 3 A Any written work that I do I like to have precise, neat, and well organized.
B I would like to be a recognized authority in some job, profession, or field of specialization.
- 4 A I like to tell amusing stories and jokes at parties.
B I would like to write a great novel or play.
- 5 A I like to be able to come and go as I want to.
B I like to be able to say that I have done a difficult job well.
- 6 A I like to solve puzzles and problems that other people have difficulty with.
B I like to follow instructions and to do what is expected of me.
- 7 A I like to experience novelty and change in my daily routine.
B I like to tell my superiors that they have done a good job on something, when I think they have.
- 8 A I like to plan and organize the details of any work that I have to undertake.
B I like to follow instructions and to do what is expected of me.
- 9 A I like people to notice and to comment upon my appearance when I am out in public.
B I like to read about the lives of great men and women.
- 10 A I like to avoid situations where I am expected to do things in a conventional way.
B I like to read about the lives of great men and women.
- 11 A I would like to be a recognized authority in some job, profession, or field of specialization.
B I like to have my work organized and planned before beginning it.
- 12 A I like to find out what great men and women have thought about various problems in which I am interested.
B If I have to take a trip, I like to have things planned in advance.
- 13 A I like to finish any job or task that I begin.
B I like to keep my things neat and orderly on my desk or workspace.
- 14 A I like to tell other people about adventures and strange things that have happened to me.
B I like to have my meals organized and a definite time set aside for eating.
- 15 A I like to be independent of others in deciding what I want to do.
B I like to keep my things neat and orderly on my desk or workspace.
- 16 A I like to be able to do things better than other people can.
B I like to tell amusing stories and jokes at parties.
- 17 A I like to conform to custom and to avoid doing things that people I respect might consider unconventional.
B I like to talk about my achievements.
- 18 A I like to have my life so arranged that it runs smoothly and without much change in my plans.
B I like to tell other people about adventures and strange things that have happened to me.
- 19 A I like to read books and plays in which sex plays a major part.
B I like to be the center of attention in a group.
- 20 A I like to criticize people who are in a position of authority.
B I like to use words which other people often do not know the meaning of.
- 21 A I like to accomplish tasks that others recognize as requiring skill and effort.
B I like to be able to come and go as I want to.
- 22 A I like to praise someone I admire.
B I like to feel free to do what I want to do.
- 23 A I like to keep my letters, bills, and other papers neatly arranged and filed according to some system.
B I like to be independent of others in deciding what I want to do.
- 24 A I like to ask questions which I know no one will be able to answer.
B I like to criticize people who are in a position of authority.
- 25 A I get so angry that I feel like throwing and breaking things.
B I like to avoid responsibilities and obligations.
- 26 A I like to be successful in things undertaken.
B I like to form new friendships.
- 27 A I like to follow instructions and to do what is expected of me.
B I like to have strong attachments with my friends.
- 28 A Any written work that I do I like to have precise, neat, and well organized.
B I like to make as many friends as I can.
- 29 A I like to tell amusing stories and jokes at parties.
B I like to write letters to my friends.
- 30 A I like to be able to come and go as I want to.
B I like to share things with my friends.
- 31 A I like to solve puzzles and problems that other people have difficulty with.
B I like to judge people by why they do something—not by what they actually do.
- 32 A I like to accept the leadership of people I admire.
B I like to understand how my friends feel about various problems they have to face.
- 33 A I like to have my meals organized and a definite time set aside for eating.
B I like to study and to analyze the behavior of others.

- 34 A I like to say things that are regarded as witty and clever by other people.
B I like to put myself in someone else's place and to imagine how I would feel in the same situation.
- 35 A I like to feel free to do what I want to do.
B I like to observe how another individual feels in a given situation.
- 36 A I like to accomplish tasks that others recognize as requiring skill and effort.
B I like my friends to encourage me when I meet with failure.
- 37 A When planning something, I like to get suggestions from other people whose opinions I respect.
B I like my friends to treat me kindly.
- 38 A I like to have my life so arranged that it runs smoothly and without much change in my plans.
B I like my friends to feel sorry for me when I am sick.
- 39 A I like to be the center of attention in a group.
B I like my friends to make a fuss over me when I am hurt or sick.
- 40 A I like to avoid situations where I am expected to do things in a conventional way.
B I like my friends to sympathize with me and to cheer me up when I am depressed.
- 41 A I would like to write a great novel or play.
B When serving on a committee, I like to be appointed or elected chairperson.
- 42 A When I am in a group, I like to accept the leadership of someone else in deciding what the group is going to do.
B I like to supervise and to direct the actions of other people whenever I can.
- 43 A I like to keep my letters, bills, and other papers neatly arranged and filed according to some system.
B I like to be one of the leaders in the organizations and groups to which I belong.
- 44 A I like to ask questions which I know no one will be able to answer.
B I like to tell other people how to do their jobs.
- 45 A I like to avoid responsibilities and obligations.
B I like to be called upon to settle arguments and disputes between others.
- 46 A I would like to be a recognized authority in some job, profession, or field of specialization.
B I feel guilty whenever I have done something I know is wrong.
- 47 A I like to read about the lives of great men and women.
B I feel that I should confess the things that I have done that I regard as wrong.
- 48 A I like to plan and organize the details of any work that I have to undertake.
B When things go wrong for me, I feel that I am more to blame than anyone else.
- 49 A I like to use words which other people often do not know the meaning of.
B I feel that I am inferior to others in most respects.
- 50 A I like to criticize people who are in a position of authority.
B I feel timid in the presence of other people I regard as my superiors.
- 51 A I like to do my very best in whatever I undertake.
B I like to help other people who are less fortunate than I am.
- 52 A I like to find out what great men and women have thought about various problems in which I am interested.
B I like to be generous with my friends.
- 53 A I like to make a plan before starting in to do something difficult.
B I like to do small favors for my friends.
- 54 A I like to tell other people about adventures and strange things that have happened to me.
B I like my friends to confide in me and to tell me their troubles.
- 55 A I like to say what I think about things.
B I like to forgive my friends who may sometimes hurt me.
- 56 A I like to be able to do things better than other people can.
B I like to eat in new and strange restaurants.
- 57 A I like to conform to custom and to avoid doing things that people I respect might consider unconventional.
B I like to participate in new fads and fashions.
- 58 A I like to have my work organized and planned before beginning it.
B I like to travel and to see the country.
- 59 A I like people to notice and to comment upon my appearance when I am out in public.
B I like to move about the country and to live in different places.
- 60 A I like to be independent of others in deciding what I want to do.
B I like to do new and different things.
- 61 A I like to be able to say that I have done a difficult job well.
B I like to work hard at any job I undertake.
- 62 A I like to tell my superiors that they have done a good job on something, when I think they have.
B I like to complete a single job or task at a time before taking on others.
- 63 A If I have to take a trip, I like to have things planned in advance.
B I like to keep working at a puzzle or problem until it is solved.
- 64 A I sometimes like to do things just to see what effect it will have on others.
B I like to stick at a job or problem even when it may seem as if I am not getting anywhere with it.

- 65 A I like to do things that other people regard as unconventional.
B I like to put in long hours of work without being distracted.
- 66 A I would like to accomplish something of great significance.
B I like to kiss attractive persons of the opposite sex.
- 67 A I like to praise someone I admire.
B I like to be regarded as physically attractive by those of the opposite sex.
- 68 A I like to keep my things neat and orderly on my desk or workspace.
B I like to be in love with someone of the opposite sex.
- 69 A I like to talk about my achievements.
B I like to listen to or to tell jokes in which sex plays a major part.
- 70 A I like to do things in my own way and without regard to what others may think.
B I like to read books and plays in which sex plays a major part.
- 71 A I would like to write a great novel or play.
B I like to attack points of view that are contrary to mine.
- 72 A When I am in a group, I like to accept the leadership of someone else in deciding what the group is going to do.
B I feel like criticizing someone publicly if he or she deserves it.
- 73 A I like to have my life so arranged that it runs smoothly and without much change in my plans.
B I get so angry that I feel like throwing and breaking things.
- 74 A I like to ask questions which I know no one will be able to answer.
B I like to tell other people what I think of them.
- 75 A I like to avoid responsibilities and obligations.
B I feel like making fun of people who do things that I regard as stupid.
- 76 A I like to be loyal to my friends.
B I like to do my very best in whatever I undertake.
- 77 A I like to observe how another individual feels in a given situation.
B I like to be able to say that I have done a difficult job well.
- 78 A I like my friends to encourage me when I meet with failure.
B I like to be successful in things undertaken.
- 79 A I like to be one of the leaders in the organizations and groups to which I belong.
B I like to be able to do things better than other people can.
- 80 A When things go wrong for me, I feel that I am more to blame than anyone else.
B I like to solve puzzles and problems that other people have difficulty with.
- 81 A I like to do things for my friends.
B When planning something, I like to get suggestions from other people whose opinions I respect.
- 82 A I like to put myself in someone else's place and to imagine how I would feel in the same situation.
B I like to tell my superiors that they have done a good job on something, when I think they have.
- 83 A I like my friends to be sympathetic and understanding when I have problems.
B I like to accept the leadership of people I admire.
- 84 A When serving on a committee, I like to be appointed or elected chairperson.
B When I am in a group, I like to accept the leadership of someone else in deciding what the group is going to do.
- 85 A If I do something that is wrong, I feel that I should be punished for it.
B I like to conform to custom and to avoid doing things that people I respect might consider unconventional.
- 86 A I like to share things with my friends.
B I like to make a plan before starting in to do something difficult.
- 87 A I like to understand how my friends feel about various problems they have to face.
B If I have to take a trip, I like to have things planned in advance.
- 88 A I like my friends to treat me kindly.
B I like to have my work organized and planned before beginning it.
- 89 A I like to be regarded by others as a leader.
B I like to keep my letters, bills, and other papers neatly arranged and filed according to some system.
- 90 A I feel that the pain and misery that I have suffered has done me more good than harm.
B I like to have my life so arranged that it runs smoothly and without much change in my plans.
- 91 A I like to have strong attachments with my friends.
B I like to say things that are regarded as witty and clever by other people.
- 92 A I like to think about the personalities of my friends and to try to figure out what makes them as they are.
B I sometimes like to do things just to see what effect it will have on others.
- 93 A I like my friends to make a fuss over me when I am hurt or sick.
B I like to talk about my achievements.
- 94 A I like to tell other people how to do their jobs.
B I like to be the center of attention in a group.
- 95 A I feel timid in the presence of other people I regard as my superiors.
B I like to use words which other people often do not know the meaning of.
- 96 A I like to do things with my friends rather than by myself.
B I like to say what I think about things.

- 97 A I like to study and to analyze the behavior of others.
B I like to do things that other people regard as unconventional.
- 98 A I like my friends to feel sorry for me when I am sick.
B I like to avoid situations where I am expected to do things in a conventional way.
- 99 A I like to supervise and to direct the actions of other people whenever I can.
B I like to do things in my own way without regard to what others may think.
- 100 A I feel that I am inferior to others in most respects.
B I like to avoid responsibilities and obligations.
- 101 A I like to be successful in things undertaken.
B I like to form new friendships.
- 102 A I like to analyze my own motives and feelings.
B I like to make as many friends as I can.
- 103 A I like my friends to help me when I am in trouble.
B I like to do things for my friends.
- 104 A I like to argue for my point of view when it is attacked by others.
B I like to write letters to my friends.
- 105 A I feel guilty whenever I have done something I know is wrong.
B I like to have strong attachments with my friends.
- 106 A I like to share things with my friends.
B I like to analyze my own motives and feelings.
- 107 A I like to accept the leadership of people I admire.
B I like to understand how my friends feel about various problems they have to face.
- 108 A I like my friends to do many small favors for me cheerfully.
B I like to judge people by why they do something—not by what they actually do.
- 109 A When with a group of people, I like to make the decisions about what we are going to do.
B I like to predict how my friends will act in various situations.
- 110 A I feel better when I give in and avoid a fight, than I would if I tried to have my own way.
B I like to analyze the feelings and motives of others.
- 111 A I like to form new friendships.
B I like my friends to help me when I am in trouble.
- 112 A I like to judge people by why they do something—not by what they actually do.
B I like my friends to show a great deal of affection toward me.
- 113 A I like to have my life so arranged that it runs smoothly and without much change in my plans.
B I like my friends to feel sorry for me when I am sick.
- 114 A I like to be called upon to settle arguments and disputes between others.
B I like my friends to do many small favors for me cheerfully.
- 115 A I feel that I should confess the things that I have done that I regard as wrong.
B I like my friends to sympathize with me and to cheer me up when I am depressed.
- 116 A I like to do things with my friends rather than by myself.
B I like to argue for my point of view when it is attacked by others.
- 117 A I like to think about the personalities of my friends and to try to figure out what makes them as they are.
B I like to be able to persuade and influence others to do what I want to do.
- 118 A I like my friends to sympathize with me and to cheer me up when I am depressed.
B When with a group of people, I like to make the decisions about what we are going to do.
- 119 A I like to ask questions which I know no one will be able to answer.
B I like to tell other people how to do their jobs.
- 120 A I feel timid in the presence of other people I regard as my superiors.
B I like to supervise and to direct the actions of other people whenever I can.
- 121 A I like to participate in groups in which the members have warm and friendly feelings toward one another.
B I feel guilty whenever I have done something I know is wrong.
- 122 A I like to analyze the feelings and motives of others.
B I feel depressed by my own inability to handle various situations.
- 123 A I like my friends to feel sorry for me when I am sick.
B I feel better when I give in and avoid a fight, than I would if I tried to have my own way.
- 124 A I like to be able to persuade and influence others to do what I want.
B I feel depressed by my own inability to handle various situations.
- 125 A I like to criticize people who are in a position of authority.
B I feel timid in the presence of other people I regard as my superiors.
- 126 A I like to participate in groups in which the members have warm and friendly feelings toward one another.
B I like to help my friends when they are in trouble.
- 127 A I like to analyze my own motives and feelings.
B I like to sympathize with my friends when they are hurt or sick.
- 128 A I like my friends to help me when I am in trouble.
B I like to treat other people with kindness and sympathy.
- 129 A I like to be one of the leaders in the organizations and groups to which I belong.
B I like to sympathize with my friends when they are hurt or sick.

- 130 A I feel that the pain and misery that I have suffered has done me more good than harm.
B I like to show a great deal of affection toward my friends.
- 131 A I like to do things with my friends rather than by myself.
B I like to experiment and to try new things.
- 132 A I like to think about the personalities of my friends and to try to figure out what makes them as they are.
B I like to try new and different jobs—rather than to continue doing the same old things.
- 133 A I like my friends to be sympathetic and understanding when I have problems.
B I like to meet new people.
- 134 A I like to argue for my point of view when it is attacked by others.
B I like to experience novelty and change in my daily routine.
- 135 A I feel better when I give in and avoid a fight, than I would if I tried to have my own way.
B I like to move about the country and to live in different places.
- 136 A I like to do things for my friends.
B When I have some assignment to do, I like to start in and keep working on it until it is completed.
- 137 A I like to analyze the feelings and motives of others.
B I like to avoid being interrupted while at my work.
- 138 A I like my friends to do many small favors for me cheerfully.
B I like to stay up late working in order to get a job done.
- 139 A I like to be regarded by others as a leader.
B I like to put in long hours of work without being distracted.
- 140 A If I do something that is wrong, I feel that I should be punished for it.
B I like to stick at a job or problem even when it may seem as if I am not getting anywhere with it.
- 141 A I like to be loyal to my friends.
B I like to go out with attractive persons of the opposite sex.
- 142 A I like to predict how my friends will act in various situations.
B I like to participate in discussions about sex and sexual activities.
- 143 A I like my friends to show a great deal of affection toward me.
B I like to become sexually excited.
- 144 A When with a group of people, I like to make the decisions about what we are going to do.
B I like to engage in social activities with persons of the opposite sex.
- 145 A I feel depressed by my own inability to handle various situations.
B I like to read books and plays in which sex plays a major part.
- 146 A I like to write letters to my friends.
B I like to read newspaper accounts of murders and other forms of violence.
- 147 A I like to predict how my friends will act in various situations.
B I like to attack points of view that are contrary to mine.
- 148 A I like my friends to make a fuss over me when I am hurt or sick.
B I feel like blaming others when things go wrong for me.
- 149 A I like to tell other people how to do their jobs.
B I feel like getting revenge when someone has insulted me.
- 150 A I feel that I am inferior to others in most respects.
B I feel like telling other people off when I disagree with them.
- 151 A I like to help my friends when they are in trouble.
B I like to do my very best in whatever I undertake.
- 152 A I like to travel and to see the country.
B I like to accomplish tasks that others recognize as requiring skill and effort.
- 153 A I like to work hard at any job I undertake.
B I would like to accomplish something of great significance.
- 154 A I like to go out with attractive persons of the opposite sex.
B I like to be successful in things undertaken.
- 155 A I like to read newspaper accounts of murders and other forms of violence.
B I would like to write a great novel or play.
- 156 A I like to do small favors for my friends.
B When planning something, I like to get suggestions from other people whose opinions I respect.
- 157 A I like to experience novelty and change in my daily routine.
B I like to tell my superiors that they have done a good job on something, when I think they have.
- 158 A I like to stay up late working in order to get a job done.
B I like to praise someone I admire.
- 159 A I like to become sexually excited.
B I like to accept the leadership of people I admire.
- 160 A I feel like getting revenge when someone has insulted me.
B When I am in a group, I like to accept the leadership of someone else in deciding what the group is going to do.
- 161 A I like to be generous with my friends.
B I like to make a plan before starting in to do something difficult.

- 162 A I like to meet new people.
B Any written work that I do I like to have precise, neat, and well organized.
- 163 A I like to finish any job or task that I begin.
B I like to keep my things neat and orderly on my desk or workspace.
- 164 A I like to be regarded as physically attractive by those of the opposite sex.
B I like to plan and organize the details of any work that I have to undertake.
- 165 A I like to tell other people what I think of them.
B I like to have my meals organized and a definite time set aside for eating.
- 166 A I like to show a great deal of affection toward my friends.
B I like to say things that are regarded as witty and clever by other people.
- 167 A I like to try new and different jobs—rather than to continue doing the same old things.
B I sometimes like to do things just to see what effect it will have on others.
- 168 A I like to stick at a job or problem even when it may seem as if I am not getting anywhere with it.
B I like people to notice and to comment upon my appearance when I am out in public.
- 169 A I like to read books and plays in which sex plays a major part.
B I like to be the center of attention in a group.
- 170 A I feel like blaming others when things go wrong for me.
B I like to ask questions which I know no one will be able to answer.
- 171 A I like to sympathize with my friends when they are hurt or sick.
B I like to say what I think about things.
- 172 A I like to eat in new and strange restaurants.
B I like to do things that other people regard as unconventional.
- 173 A I like to complete a single job or task at a time before taking on others.
B I like to feel free to do what I want to do.
- 174 A I like to participate in discussions about sex and sexual activities.
B I like to do things in my own way without regard to what others may think.
- 175 A I get so angry that I feel like throwing and breaking things.
B I like to avoid responsibilities and obligations.
- 176 A I like to help my friends when they are in trouble.
B I like to be loyal to my friends.
- 177 A I like to do new and different things.
B I like to form new friendships.
- 178 A When I have some assignment to do, I like to start in and keep working on it until it is completed.
B I like to participate in groups in which the members have warm and friendly feelings toward one another.
- 179 A I like to go out with attractive persons of the opposite sex.
B I like to make as many friends as I can.
- 180 A I like to attack points of view that are contrary to mine.
B I like to write letters to my friends.
- 181 A I like to be generous with my friends.
B I like to observe how another individual feels in a given situation.
- 182 A I like to eat in new and strange restaurants.
B I like to put myself in someone else's place and to imagine how I would feel in the same situation.
- 183 A I like to stay up late working in order to get a job done.
B I like to understand how my friends feel about various problems they have to face.
- 184 A I like to become sexually excited.
B I like to study and to analyze the behavior of others.
- 185 A I feel like making fun of people who do things that I regard as stupid.
B I like to predict how my friends will act in various situations.
- 186 A I like to forgive my friends who may sometimes hurt me.
B I like my friends to encourage me when I meet with failure.
- 187 A I like to experiment and to try new things.
B I like my friends to be sympathetic and understanding when I have problems.
- 188 A I like to keep working at a puzzle or problem until it is solved.
B I like my friends to treat me kindly.
- 189 A I like to be regarded as physically attractive by those of the opposite sex.
B I like my friends to show a great deal of affection toward me.
- 190 A I feel like criticizing someone publicly if he or she deserves it.
B I like my friends to make a fuss over me when I am hurt or sick.
- 191 A I like to show a great deal of affection toward my friends.
B I like to be regarded by others as a leader.
- 192 A I like to try new and different jobs—rather than to continue doing the same old things.
B When serving on a committee, I like to be appointed or elected chairperson.
- 193 A I like to finish any job or task that I begin.
B I like to be able to persuade and influence others to do what I want.

- 194 A I like to participate in discussions about sex and sexual activities.
B I like to be called upon to settle arguments and disputes between others.
- 195 A I get so angry that I feel like throwing and breaking things.
B I like to tell other people how to do their jobs.
- 196 A I like to show a great deal of affection toward my friends.
B When things go wrong for me, I feel that I am more to blame than anyone else.
- 197 A I like to move about the country and to live in different places.
B If I do something that is wrong, I feel that I should be punished for it.
- 198 A I like to stick at a job or problem even when it may seem as if I am not getting anywhere with it.
B I feel that the pain and misery that I have suffered has done me more good than harm.
- 199 A I like to read books and plays in which sex plays a major part.
B I feel that I should confess the things that I have done that I regard as wrong.
- 200 A I feel like blaming others when things go wrong for me.
B I feel that I am inferior to others in most respects.
- 201 A I like to do my very best in whatever I undertake.
B I like to help other people who are less fortunate than I am.
- 202 A I like to do new and different things.
B I like to treat other people with kindness and sympathy.
- 203 A When I have some assignment to do, I like to start in and keep working on it until it is completed.
B I like to help other people who are less fortunate than I am.
- 204 A I like to engage in social activities with persons of the opposite sex.
B I like to forgive my friends who may sometimes hurt me.
- 205 A I like to attack points of view that are contrary to mine.
B I like my friends to confide in me and to tell me their troubles.
- 206 A I like to treat other people with kindness and sympathy.
B I like to travel and to see the country.
- 207 A I like to conform to custom and to avoid doing things that people I respect might consider unconventional.
B I like to participate in new fads and fashions.
- 208 A I like to work hard at any job I undertake.
B I like to experience novelty and change in my daily routine.
- 209 A I like to kiss attractive persons of the opposite sex.
B I like to experiment and to try new things.
- 210 A I feel like telling other people off when I disagree with them.
B I like to participate in new fads and fashions.
- 211 A I like to help other people who are less fortunate than I am.
B I like to finish any job or task that I begin.
- 212 A I like to move about the country and to live in different places.
B I like to put in long hours of work without being distracted.
- 213 A If I have to take a trip, I like to have things planned in advance.
B I like to keep working at a puzzle or problem until it is solved.
- 214 A I like to be in love with someone of the opposite sex.
B I like to complete a single job or task before taking on others.
- 215 A I like to tell other people what I think of them.
B I like to avoid being interrupted while at my work.
- 216 A I like to do small favors for my friends.
B I like to engage in social activities with persons of the opposite sex.
- 217 A I like to meet new people.
B I like to kiss attractive persons of the opposite sex.
- 218 A I like to keep working at a puzzle or problem until it is solved.
B I like to be in love with someone of the opposite sex.
- 219 A I like to talk about my achievements.
B I like to listen to or to tell jokes in which sex plays a major part.
- 220 A I feel like making fun of people who do things that I regard as stupid.
B I like to listen to or to tell jokes in which sex plays a major part.
- 221 A I like my friends to confide in me and to tell me their troubles.
B I like to read newspaper accounts of murders and other forms of violence.
- 222 A I like to participate in new fads and fashions.
B I feel like criticizing someone publicly if he or she deserves it.
- 223 A I like to avoid being interrupted while at my work.
B I feel like telling other people off when I disagree with them.
- 224 A I like to listen to or to tell jokes in which sex plays a major part.
B I feel like getting revenge when someone has insulted me.
- 225 A I like to avoid responsibilities and obligations.
B I feel like making fun of people who do things that I regard as stupid.

10

1	1	6	11	16	21	26	31	36	41	46	51	56	61	66	71	76
2	2	7	12	17	22	27	32	37	42	47	52	57	62	67	72	77
3	3	8	13	18	23	28	33	38	43	48	53	58	63	68	73	78
4	4	9	14	19	24	29	34	39	44	49	54	59	64	69	74	79
5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
6	6	11	16	21	26	31	36	41	46	51	56	61	66	71	76	81
7	7	12	17	22	27	32	37	42	47	52	57	62	67	72	77	82
8	8	13	18	23	28	33	38	43	48	53	58	63	68	73	78	83
9	9	14	19	24	29	34	39	44	49	54	59	64	69	74	79	84
10	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
11	11	16	21	26	31	36	41	46	51	56	61	66	71	76	81	86
12	12	17	22	27	32	37	42	47	52	57	62	67	72	77	82	87
13	13	18	23	28	33	38	43	48	53	58	63	68	73	78	83	88
14	14	19	24	29	34	39	44	49	54	59	64	69	74	79	84	89
15	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
16	16	21	26	31	36	41	46	51	56	61	66	71	76	81	86	91
17	17	22	27	32	37	42	47	52	57	62	67	72	77	82	87	92
18	18	23	28	33	38	43	48	53	58	63	68	73	78	83	88	93
19	19	24	29	34	39	44	49	54	59	64	69	74	79	84	89	94
20	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
21	21	26	31	36	41	46	51	56	61	66	71	76	81	86	91	96
22	22	27	32	37	42	47	52	57	62	67	72	77	82	87	92	97
23	23	28	33	38	43	48	53	58	63	68	73	78	83	88	93	98
24	24	29	34	39	44	49	54	59	64	69	74	79	84	89	94	99
25	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
26	26	31	36	41	46	51	56	61	66	71	76	81	86	91	96	101
27	27	32	37	42	47	52	57	62	67	72	77	82	87	92	97	102
28	28	33	38	43	48	53	58	63	68	73	78	83	88	93	98	103
29	29	34	39	44	49	54	59	64	69	74	79	84	89	94	99	104
30	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105
31	31	36	41	46	51	56	61	66	71	76	81	86	91	96	101	106
32	32	37	42	47	52	57	62	67	72	77	82	87	92	97	102	107
33	33	38	43	48												

DO NOT WRITE BELOW THIS LINE

APPENDIX B.1-B.3

APPENDIX B.1

LETTER SENT TO DIRECTORS OF NURSING

The Director of Nursing Services

Dear Colleague,

By way of introduction my name is (Mrs) Caroline M. Wright, a Senior Lecturer in the Faculty of Nursing and Community Studies at the University of Western Sydney, Hawkesbury, at Richmond in New South Wales. I am currently undertaking a Doctor of Philosophy program at the University of Wollongong.

I am requesting your assistance in collecting data for my research study about the type of supportive, helping, developmental relationships that nurses form with their colleagues. The variables of interest are gender, age, level of nurse education, socioeconomic background, personality, professional values and the area of specialisation. A pilot study has been conducted using police officers as a control group.

The research proposal (see Attachment 2) has been granted ethical approval from the University of Wollongong and the University of Western Sydney, Hawkesbury, where I have received a "seeding" grant for the pilot study. I have also attached a questionnaire (Attachment 3) for your information.

If you are willing to assist in this important research study, I would very much appreciate your completion of the attached Information Sheet.

In anticipation of an early and positive response,

I remain,

C. Wright

(Mrs) Caroline M. Wright, RN, RMN, Dip.Teach.(Nurs), MA(Hons), FCN(NSW), FRCNA.

APPENDIX B.2
INFORMATION SHEET

Organisational Name: _____

Address: _____

The contact person to distribute and collect the questionnaires is:

Name: _____

Position: _____

Telephone Number: _____

The following table summarises the number of registered nurses, male and female from a particular specialty area, to be surveyed in your organisation.

Specialty Area	Number
General Ward	5
Acute Care	
Midwifery	5
Community	
Psychiatric	5
Administration	
TOTALS	15

PLEASE RETURN TO:

(Mrs) Caroline M. Wright
 Faculty of Nursing and Community Studies,
 University of Western Sydney, Hawkesbury,
 RICHMOND. NSW. 2753.

APPENDIX B.3
LETTER TO CONTACT PERSON

Dear _____,

You have been nominated by your Director of Nursing as the contact person who is willing to assist in collecting data for my study of the helping, supportive, developmental relationships that nurses form with their colleagues. I have attached the Information Sheet which targets specific specialty areas for data collection.

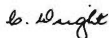
The study is specifically aimed at background factors (age, education, family socioeconomic background), personality, professional values, the work context, the number and type of relationships in which nurses have been involved.

I am attempting to develop an instrument regarding the professional values of nurses. As such, there is a control instrument, the Edwards Personal Preference Schedule (EPPS) necessary for statistical analysis of the reliability and validity of the new instrument. The EPPS is lengthy and time consuming and many respondents may be inclined not to complete it. Unfortunately, such respondents will need to be eliminated from the analysis due to the lack of a control measure.

For this reason, an explanation from you may motivate respondents to complete the questionnaire in total and thus assist in validating the response rate of the sample.

May I take this opportunity to thank you for agreeing to assist in this important nursing study.

Yours sincerely,



(Mrs) Caroline M. Wright.

APPENDIX C

SAMPLING FRAME FOR THE MAIN STUDY

INPUT DATA FOR SPSS/PC AND LISREL ANALYSES

TABLE C.1: Distribution of the Stratified Sample According to Institution and Nursing Specialty Area.

INST I.D.	CLINICAL PRACTICE CONTEXT							TOTAL
	GEN	ICU	MID	COMM	PSY	ADM	ACAD	N
01	5	5	5		5			20
02	5			5		5		15
03	5			5	5	5		20
04	5		5			5		15
05	5	5						10
06	5		5					10
07	5			5		5		15
08			5	5		5		15
09	5			5		5		15
10			5	5		5		15
11	5	5						10
12	5	5				5		15
13			5	5		5		15
14		5	5	5	5			20
15	5					5		10
16		10	5	5				20
17		5	5			5		15
18	5				5			10
19	5	5				5		15
20	5	5		5		5		20
21					10	5		15
22	5	5	5			5		20
23		5		5	5	5		20
24	5	5						10
25		5				5		10
26	5		5			5		15
27		5						5
28							15	15
29							15	15
30							20	20
	85	75	55	55	35	90	50	445

3.0

RELIABILITY OF NURT AND ACH SPLIT SCORES.....NURSES

DA NI=4 NO=56

CM

61.830

44.558 51.907

15.357 17.953 28.847

22.686 18.759 22.667 30.569

MO NX=2 NY=2 NK=1 NE=1

VA 1 LX(1) LX(2) LY(1) LY(2)

EQ TD(1) TD(2)

EQ TE(1) TE(2)

OU SE

3.1

COMPARING MEASUREMENT MODELS...CONGENERIC NURTURANCE

DA NI=16 NO=56

LA

NUR1 NUR2 NUR3 NUR4 NUR5 NUR6 NUR7 NUR8 NUR9 NUR10 NUR11 NUR12

NUR13 NUR14 NUR15 NUR16

KM

1.

.245 1.

.151 .295 1.

-.064 -.008 .341 1.

.275 .174 .471 .242 1.

.286 .128 .091 .012 .180 1.

.271 .042 .046 .075 .186 .323 1.

.307 .203 .152 .275 .438 .312 .591 1.

.200 .222 .297 .232 .462 .144 .538 .571 1.

.064 .363 .380 .150 .259 .303 .074 .261 .225 1.

.244 .224 .464 .369 .514 .155 .365 .362 .462 .283 1.

.422 .347 .128 .084 .350 .326 .402 .179 .419 .136 .537 1.

.100 .151 .186 .066 .324 .031 .140 .311 .185 .113 .293 .053 1.

.272 .131 .101 .050 .124 .150 .322 .330 .360 .141 .432 .287 .181 1.

-.148 -.118 .245 .244 .213 -.167 .051 -.129 .234 .158 .264 .060 -.045 .203 1.

.025 .135 .166 .189 .182 .272 .330 .409 .319 .096 .450 .081 .186 .324 .045 1.

MO NX=16 NK=1 LX=FR PH=ST

LK

PROVALN

OU SE ALL

3.2

COMPARING MEASUREMENT MODELS...CONGENERIC ACHIEVEMENT

DA NI=16 NO=56

LA

ACH1 ACH2 ACH3 ACH4 ACH5 ACH6 ACH7 ACH8 ACH9 ACH10 ACH11 ACH12
ACH13 ACH14 ACH15 ACH16

KM

1.

.364 1.

.242 .142 1.

.216 .356 -.122 1.

.454 .207 .178 .225 1.

.344 .145 .160 .349 .327 1.

.314 .205 -.134 .359 .275 .071 1.

.152 .184 .263 .156 .063 .413 -.154 1.

-.056 .165 -.015 .044 .018 -.025 .159 -.036 1.

.398 .169 -.061 .284 .388 .212 .457 .088 -.072 1.

.319 -.097 -.193 .050 .379 .155 .373 .077 .183 .395 1.

.323 .038 -.084 .187 .221 .042 .361 .233 .123 .236 .465 1.

.260 .171 .227 .070 .246 .079 .180 .333 -.135 .360 .231 .308 1.

.155 .166 -.004 .291 .192 -.019 .237 -.036 .147 .244 .230 .335 .244 1.

.306 .163 .144 .199 .410 .364 .134 .243 -.097 .281 .442 .297 .397 .396 .391 1.

-.107 -.081 -.109 .394 .039 .047 .048 .073 .151 .131 -.016 .211 .150 .315 .285 1.

MO NX=16 NK=1 LX=FR PH=ST

LK

PROVALA

OU SE ALL

3.3

DATA INPUT FOR RECODING AND CONSTRUCTION OF COMPOSITE VARIABLES.

```

COMPUTE ACH=ACH1+ACH2+ACH3+ACH4+ACH5+ACH6+ACH7+ACH8+ACH9+
  ACH10+ACH11+ACH12+ACH13+ACH14+ACH15+ACH16.
COMPUTE NUR=NURT1+NURT2+NURT3+NURT4+NURT5+NURT6+NURT7+NURT8+
  NURT9+NURT10+NURT11+NURT12+NURT13+NURT14+NURT15+NURT16.
COMPUTE NUM=NOMENTOR+NOMENTEE.
COMPUTE TYPE=AFFILNON+LEARNEXP+SUPPDIR+EGALAUTH+PROCTASK+
  INTPLAN+FEELANAL+CHOSCOMP.
COMPUTE SPYR=CLINCONT*NOYRPP.
CONDESCRPTIVE ACH NUR EDACH EDNUR NUM TYPE SPYR
/OPTIONS=3.
RECODE EDUCFATH EDUCMOTH (5=7)(6=5)(7=6)(8=7)(9=8)(10=-9).
RECODE OCCUPFA (10=-9)(11=-9).
MISSING VALUES EDUCFATH EDUCMOTH OCCUPFA(-9).
CONDESCRPTIVE EDUCFATH EDUCMOTH OCCUPFA
/OPTIONS=3.
COMPUTE VALEDUCF=ZEDUCFAT*.417.
COMPUTE VALEDUCM=ZEDUCMOT*.368.
COMPUTE VALOCCFA=ZOCCUPFA*-.429.
COMPUTE SES=VALEDUCF+VALEDUCM+VALOCCFA.
CORRELATION VARIABLES=AGE SES ZACH ZNUR ZNUM ZEDACH
  ZEDNUR ZTYPE ZSPYR
/OPTIONS=2 3
/STATISTICS=1.
SELECT IF (SEX EQ 1).
CORRELATION VARIABLES=AGE SES ZACH ZNUR ZNUM ZEDACH
  ZEDNUR ZTYPE ZSPYR
/OPTIONS=2 3
/STATISTICS=1.
SELECT IF (SEX EQ 2).
CORRELATION VARIABLES=AGE SES ZACH ZNUR ZNUM ZEDACH
  ZEDNUR ZTYPE ZSPYR
/OPTIONS=2 3
/STATISTICS=1.

```

3.4 PROPOSED MODEL

LISREL RUN FOR TOTAL GROUP

DA NI=9 NO=349 MA=KM

LA

AGE SES ACH NUR NUM EDACH EDNUR TYPE SPYR

KM

1.0000

-.0624 1.0000

.0043 .1771 1.0000

.1761 .2193 .5392 1.0000

.1705 .0024 .1494 .1494 1.0000

-.0222 -.0038 .1318 -.0165 .0711 1.0000

-.0629 .0045 -.0935 .0390 -.1940 -.3396 1.0000

.0554 -.0682 .0155 .0333 .2068 .1317 -.0439 1.0000

.4745 -.0670 .1781 .1868 .2633 .1139 -.0521 .0553 1.0000

SE

SPYR NUM TYPE EDACH ACH NUR/

MO NY=3 NX=3 NE=2 NK=2 LY=FU,FI LX=FU,FI BE=FU,FI GA=FU,FI PS=DI PH=SY,FI

LE

WC DREL

LK

IP PV

FR LX 3 2 LY 3 2 PH 2 1

ST 1 LX 1 1 LX 2 2 LY 1 1 LY 2 2

FR BE 2 1 GA 1 1 GA 1 2

OU SE SS MI TV EF RS ADD=OFF

3.5 REVISED MODEL

LISREL RUN FOR TOTAL GROUP

DA NI=9 NO=349 MA=KM

LA

AGE SES ACH NUR NUM EDACH EDNUR TYPE SPYR

KM

1.0000

-.0624 1.0000

.0043 .1771 1.0000

.1761 .2193 .5392 1.0000

.1705 .0024 .1494 .1494 1.0000

-.0222 -.0038 .1318 -.0165 .0711 1.0000

-.0629 .0045 -.0935 .0390 -.1940 -.3396 1.0000

.0554 -.0682 .0155 .0333 .2068 .1317 -.0439 1.0000

.4745 -.0670 .1781 .1868 .2633 .1139 -.0521 .0553 1.0000

SE

SPYR NUM TYPE EDACH ACH NUR/

MO NY=3 NX=3 NE=2 NK=2 LY=FU,FI LX=FU,FI BE=FU,FI GA=FU,FI PS=DI PH=SY,FI

LE

WC DREL

LK

IP PV

FR LX 2 1 LX 2 2 LY 3 2

ST 1 LX 1 1 LX 3 2 LY 1 1 LY 2 2

FR BE 2 1 GA 1 1 GA 1 2

OU SE SS MI TV EF RS ADD=OFF

3.6

LISREL INPUT FOR PATH ANALYSIS TO TEST THE PRELIMINARY HYPOTHESES FOR THE TOTAL GROUP

DA NI=9 NO=349 MA=KM

LA

AGE SES ACH NUR NUM EDACH EDNUR TYPE WC

KM

1.0

-.0624 1.0

.0043 .1771 1.0

.1761 .2193 .5392 1.0

.1705 .0024 .1494 .1494 1.

-.0222 -.0038 .1318 -.0165 .0711 1.0

-.0629 .0045 -.0935 .0390 -.1940 -.3396 1.0

.0554 -.0682 .0155 .0333 .2068 .1317 -.0439 1.0

.4745 -.0670 .1781 .1868 .2633 .1139 -.0521 .0553 1.0

SE

SES AGE EDACH EDNUR ACH NUR WC NUM TYPE/

MO NY=9 BE=SD PS=DI

OU SE SS MI TV EF RS

3.7

LISREL INPUT FOR GROUP PATH ANALYSIS COMPARISONS..TOTAL GROUP

DA NI=9 NO=349 MA=KM NG=3

LA

AGE SES ACH NUR NUM EDACH EDNUR TYPE WC

KM

1.0

-.0624 1.0

.0043 .1771 1.0

.1761 .2193 .5392 1.0

.1705 .0024 .1494 .1494 1.

-.0222 -.0038 .1318 -.0165 .0711 1.0

-.0629 .0045 -.0935 .0390 -.1940 -.3396 1.0

.0554 -.0682 .0155 .0333 .2068 .1317 -.0439 1.0

.4745 -.0670 .1781 .1868 .2633 .1139 -.0521 .0553 1.0

SE

SES AGE EDACH EDNUR ACH NUR WC NUM TYPE/

MO NY=9 BE=SD PS=DI

OU SE SS MI TV EF RS

(...CONTINUED OVER PAGE..)

LISREL INPUT FOR GROUP PATH ANALYSIS COMPARISONS..FEMALE GROUP

DA NO=302

LA

AGE SES ACH NUR NUM EDACH EDNUR TYPE WC

KM

1.0

-.0812 1.0

-.0278 .1528 1.0

.1455 .2246 .5229 1.0

.1677 .0024 .1448 .1343 1.0

-.0103 -.0458 .1921 .0290 .0982 1.0

-.1132 -.0336 -.0743 .0699 -.1801 -.3702 1.0

.0930 -.0712 -.0066 .0448 .2332 .1512 -.0205 1.0

.4779 -.0921 .1395 .1316 .2500 .1195 -.0425 .0879 1.0

SE

SES AGE EDACH EDNUR ACH NUR WC NUM TYPE/

MO BE=IN PS=IN

OU SE SS MI TV EF RS

LISREL INPUT FOR GROUP PATH ANALYSIS COMPARISONS..MALE GROUP

DA MO=47

LA

AGE SES ACH NUR NUM EDACH EDNUR TYPE WC

KM

1.0

.1390 1.0

.4518 .3222 1.0

.4523 .1920 .6981 1.0

.2324 -.0035 .1782 .2506 1.0

.0993 .2406 -.2615 -.2431 -.0854 1.0

-.0102 .02890 -.0867 -.2424 -.3305 .0122 1.0

-.0978 -.0797 .0954 .0231 .0444 -.1579 -.0177 1.0

.6900 .0722 .3438 .5405 .3394 .0540 .0421 -.2208 1.0

SE

SES AGE EDACH EDNUR ACH NUR WC NUM TYPE/

MO BE=IN PS=IN

OU SE SS MI TV EF RS

APPENDIX D

INTERVIEW SCHEDULE

INTERVIEW SCHEDULE FOR PH.D STUDY

ID: AGE: SEX: CLINICAL AREA:

HELPER (SUPPORTER, DEVELOPER) ASPECT.
THE RECEIVERS PERSPECTIVE

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....
 YOUR AGE AT THAT TIME:.....
 WHO INITIATED THE RELATIONSHIP:.....
 HOW WAS THE RELATIONSHIP TERMINATED:.....
 REASON:.....

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....
 YOUR AGE AT THAT TIME:.....
 WHO INITIATED THE RELATIONSHIP:.....
 HOW WAS THE RELATIONSHIP TERMINATED:.....
 REASON:.....

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....
 YOUR AGE AT THAT TIME:.....
 WHO INITIATED THE RELATIONSHIP:.....
 HOW WAS THE RELATIONSHIP TERMINATED:.....
 REASON:.....

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....
 YOUR AGE AT THAT TIME:.....
 WHO INITIATED THE RELATIONSHIP:.....
 HOW WAS THE RELATIONSHIP TERMINATED:.....
 REASON:.....

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....
 YOUR AGE AT THAT TIME:.....
 WHO INITIATED THE RELATIONSHIP:.....
 HOW WAS THE RELATIONSHIP TERMINATED:.....
 REASON:.....

SELECT THE SHORTEST RELATIONSHIP AND TELL ME WHAT YOU REMEMBER ABOUT IT

.....

SELECT THE LONGEST RELATIONSHIP AND TELL ME WHAT YOU REMEMBER ABOUT IT

.....

WHICH OF THE FOLLOWING WORDS BEST DESCRIBES THE CHARACTERISTIC OF THE ROLE YOU WERE INVOLVED IN?

HELPER SUPPORTER DEVELOPER

COULD YOU GIVE ME A DESCRIPTIVE TERM TO DESCRIBE THE
RELATIONSHIP?.....

PROMPT: SPONSOR, PRECEPTOR, COACH, MENTOR, TEACHER, ROLE MODEL.

WAS THE RELATIONSHIP FORMALISED (ORGANISATION INITIATED) OR
INFORMAL?.....

WHICH OF THE FOLLOWING WAS THE FOCUS, OR CONCERN IN THE
RELATIONSHIP:

- * ORGANISATIONAL OR WARD UNIT FOCUS?
- * PROFESSIONAL FOCUS?
- * INDIVIDUAL FOCUS?

WITH REGARD TO THE PERSONALITY OF THE RECIPIENT AND YOURSELF, WOULD
YOU DESCRIBE YOUR PERSONALITIES AS SIMILAR OR DISSIMILAR?.....

WAS THE RECIPIENT:

- MORE / LESS / SAME ACHIEVEMENT ORIENTED?
- MORE / LESS / SAME NURTURING ORIENTED?
- MORE / LESS / SAME ASSERTIVE?
- MORE / LESS / SAME AFFILIATIVE?
- MORE / LESS / SAME AGGRESSIVE?
- MORE / LESS / SAME INTROVERTED?

WHAT DOES THE TERM "MENTOR" MEAN TO YOU?

.....

WHAT DOES THE TERM "PRECEPTOR" MEAN TO YOU?

.....

HELPER (SUPPORTER, DEVELOPER) ASPECT.
THE GIVER'S PERSPECTIVE

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....

YOUR AGE AT THAT TIME:.....

WHO INITIATED THE RELATIONSHIP:.....

HOW WAS THE RELATIONSHIP TERMINATED:.....

REASON:.....

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....

YOUR AGE AT THAT TIME:.....

WHO INITIATED THE RELATIONSHIP:.....

HOW WAS THE RELATIONSHIP TERMINATED:.....

REASON:.....

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....
 YOUR AGE AT THAT TIME:.....
 WHO INITIATED THE RELATIONSHIP:.....
 HOW WAS THE RELATIONSHIP TERMINATED:.....
 REASON:.....

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....
 YOUR AGE AT THAT TIME:.....
 WHO INITIATED THE RELATIONSHIP:.....
 HOW WAS THE RELATIONSHIP TERMINATED:.....
 REASON:.....

AGE:..... SEX:..... LENGTH OF RELATIONSHIP:.....
 YOUR AGE AT THAT TIME:.....
 WHO INITIATED THE RELATIONSHIP:.....
 HOW WAS THE RELATIONSHIP TERMINATED:.....
 REASON:.....

SELECT THE SHORTEST RELATIONSHIP AND TELL ME WHAT YOU REMEMBER ABOUT IT

.....

SELECT THE LONGEST RELATIONSHIP AND TELL ME WHAT YOU REMEMBER ABOUT IT

.....

WHICH OF THE FOLLOWING WORDS BEST DESCRIBES THE CHARACTERISTIC OF THE ROLE THIS PERSON PERFORMED?

HELPER SUPPORTER DEVELOPER

COULD YOU GIVE ME A DESCRIPTIVE TERM TO DESCRIBE THE RELATIONSHIP?.....

PROMPT: SPONSOR, PRECEPTOR, COACH, MENTOR, TEACHER, ROLE MODEL.

WAS THE RELATIONSHIP FORMALISED (ORGANISATION INITIATED) OR INFORMAL?.....

WHICH OF THE FOLLOWING WAS THE FOCUS, OR CONCERN IN THE RELATIONSHIP:

- * ORGANISATIONAL OR WARD UNIT FOCUS?
- * PROFESSIONAL FOCUS?
- * INDIVIDUAL FOCUS?

WITH REGARD TO THE PERSONALITY OF THE(USE DESCRIPTIVE TERM FROM ABOVE) AND YOURSELF, WOULD YOU DESCRIBE YOUR PERSONALITIES AS SIMILAR OR DISSIMILAR?.....

.....[USE DESCRIPTIVE TERM FROM ABOVE]:

MORE / LESS / SAME ACHIEVEMENT ORIENTED?

MORE / LESS / SAME NURTURING ORIENTED?

MORE / LESS / SAME ASSERTIVE?

MORE / LESS / SAME AFFILIATIVE?

MORE / LESS / SAME AGGRESSIVE?

MORE / LESS / SAME INTROVERTED?

WHAT DOES THE TERM "MENTOR" MEAN TO

YOU?.....

WHAT DOES THE TERM "PRECEPTOR" MEAN TO

YOU?.....

**AT CONCLUSION OF THE INTERVIEW, PROVIDE RESPONDENT WITH VERBAL
FEEDBACK REGARDING THE STUDY, PARTICULARLY THE PILOT STUDY
RESULTS COMPARING REGISTERED NURSES WITH POLICE OFFICERS.**