THE INFLUENCE OF WORK STRESS AND WORK SUPPORT ON BURNOUT IN PUBLIC HOSPITAL NURSES

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KEYWORDS

Burnout, emotional exhaustion, depersonalisation, personal accomplishment, work stress, work stressors, lack of professional recognition and support, patient care uncertainty, job conditions, interpersonal conflict, role overload, role conflict, role ambiguity, social support, work support, emotional support, instrumental support, coworker support, supervisor support, nurses.
ABSTRACT

Lazarus and Folkman’s (1984) transactional stress-strain-coping theory provides the theoretical background for the present thesis. This theory proposes that strain (i.e., burnout) occurs when demands (i.e., work stressors) exceed coping resources (e.g., social support). The current thesis explores the influence of social support on the stress-burnout relationship in nurses. A sample of Australian nurses working across three public hospitals in Brisbane’s metropolitan district were recruited to investigate the nature and level of burnout experienced by nurses. Burnout is characterised by emotional exhaustion, depersonalisation and reduced personal accomplishment. The present research addresses gaps in the empirical literature by investigating the key work stressors experienced by Australian nurses and by establishing nurses’ referent levels of work stress, social support, and burnout. In addition, the research explores the complex relationships between work stress, social support and burnout.

The majority of nursing studies have failed to consider how support from within the nurses’ work environment mitigates burnout. The present research builds upon previous nursing literature by examining the ‘main’ and ‘buffering’ effect hypotheses. Studies have consistently found support for the main effect model, however the hypothesis that social support buffers the negative effects of stress has resulted in highly conflicting findings. Some theorists (Cohen & Wills, 1985; Cutrona & Russell, 1990) propose that the buffering effects of social support will only be found if there is an adequate match between the needs elicited by the stressful event and the type of support an individual receives. The present study extends the stressor-support matching theory by exploring the matching between specific types of
stressors to specific types (i.e., emotional and instrumental) and sources (i.e., supervisor and coworkers) of support. Cutrona (1990) suggests that the controllability of a stressor is the primary dimension in determining an appropriate match between stressors and types of support. Cutrona proposes that controllable stressful events elicit needs for instrumental support and uncontrollable events elicit needs for emotional support. Heeding Cutrona’s advice, independent raters classified nurses’ work stressors as controllable or uncontrollable stressful events prior to investigating the stressor-support matching theory.

Three sequential studies were undertaken to explore the variables of interest to this research program. In Study 1, focus groups were conducted with 68 nurses (11 males, 34 females) from two public hospitals. The qualitative data was subjected to content analysis. The findings revealed that Australian nurses are exposed to a range of job-specific stressors (i.e., Job Conditions, Job Uncertainty, Interpersonal Conflict and a Lack of Professional Recognition and Support) and generic role stressors (i.e., Role Overload, Role Conflict and Role Ambiguity). The findings prompted the research to utilise Wolfgang’s (1988) Health Professions Stress Inventory to measure nurses’ job-specific stressors and Osipow and Spokane’s (1987) Occupational Roles Questionnaire to measure nurses’ role stressors in Study 2.

The findings from Study 1 also confirmed that the way nurses perceive work support is consistent with current social support literature. Nurses indicated that their two main sources of support were their coworkers and their supervisor. Furthermore, nurses discussed social support from a multidimensional perspective, recognising different types of support that were broadly classified as emotional and instrumental support. Based on these findings, the researcher developed a work support measure specifically for the purpose of this research. Items were taken from established social
support scales and were slightly modified to ensure that they were contextually relevant to nurses.

In Study 2, 273 nurses (38 males, 235 females) completed a multi-measure questionnaire. While there was sufficient research evidence to indicate that the Occupational Roles Questionnaire (Osipow & Spokane, 1987) and the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996) possess adequate levels of reliability and validity, less was known about Wolfgang’s Health Professions Stress Inventory and the work support scales designed for this research program. Factor analysis of the Health Professions Stress Inventory revealed a four-factor solution: Lack of Professional Recognition and Support, Patient Care Uncertainty, Job Conditions, and Interpersonal Conflict. Cronbach’s coefficient alphas ranged from .62 to .83. Factor analysis of the Coworker Support Scale revealed a two-factor solution, representing emotional and instrumental support. Cronbach’s coefficient alphas for the Emotional Coworker Support and Instrumental Coworker Support were .92 and .88 respectively. Contrary to expectations, factor analysis of the Supervisor Support Scale revealed a one-factor solution. It was therefore deemed appropriate to examine Supervisor Support as a unidimensional construct in subsequent analyses. Cronbach’s coefficient alpha for the Supervisor Support scale was .96. Overall, the results from Study 2 provided supporting evidence to suggest that the measures used in the current research program were psychometrically sound.

In Study 3, the data collected in Study 2 was subjected to further statistical analysis. The findings from Study 3 indicated that overall, the sample of Australian nurses reported low to moderate levels of work stress, moderate levels of work support and moderately high levels of burnout. For Emotional Exhaustion, predictor variables accounted for 42.2% of the total variance. Sociodemographic factors
explained a small but significant proportion of the variance (2.7%). Work stressors however, were the main predictors of Emotional Exhaustion, explaining 41.5% of the total variance. Role Overload, Job Conditions and Role Conflict were the main determinants of Emotional Exhaustion, with Role Overload explaining most of the variance. For Depersonalisation, the predictor variables accounted for 34.2% of the total variance. Sociodemographic factors (11.5%) and work stressors (33.6%) both explained a significant proportion of the variance. Role Conflict and Patient Care Uncertainty were the main determinants of Depersonalisation, with Role Conflict explaining most of the variance. For Personal Accomplishment, Role Conflict and Role Ambiguity explained 20.5% of the total variance, with Role Conflict explaining most of the variance. Sociodemographic factors and job-specific stressors were not significant predictors of Personal Accomplishment. Evidence for main effects of work support on burnout were limited. There was no evidence to suggest that work support had significant main effects on Emotional Exhaustion. Supervisor Support had a small, but significant main effect on Depersonalisation ($\beta = -.15$, $p < .05$) and Personal Accomplishment ($\beta = -.24$, $p < .01$). There was no evidence of main effects for Emotional and Instrumental Coworker Support. Furthermore, the present research found no significant evidence to support the buffering effect of work support on burnout. Theoretical and practical implications of these findings are discussed.
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LIST OF ABBREVIATIONS

SCARC  Senate Community Affairs References Committee
AIHW  Australian Institute of Health and Welfare
NSS  Nursing Stress Scale
HPSI  Health Professions Stress Inventory
MBI  Maslach Burnout Inventory
MBI-HSS  Maslach Burnout Inventory – Human Services Survey
ORQ  Occupational Roles Questionnaire
OSI  Occupational Stress Inventory
CNC  Central Nurse Coordinator
NPC  Nursing Practice Coordinator
CINAHL  Cumulative Index for Nursing and Allied Health Literature
STATEMENT OF ORIGINAL AUTHORSHIP

The work contained in this thesis has not been previously submitted for a degree or diploma at any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signed: .................................................................

Date: .................................................................
DEDICATION

To Nurses.
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CHAPTER 1

Introduction

Background

The current thesis investigates how work-related support influences the level of stress and burnout experienced by Australian nurses working in public hospitals. Using a sample of nursing staff from three public hospitals in Queensland’s Brisbane metropolitan district, the thesis provides a comprehensive examination of the nature and level of stress and burnout experienced by nurses and investigates the complex relationships between a range of chronic work stressors, social support and burnout.

During the time the current research was being undertaken, it was well publicised in the media that public hospitals were facing a nursing shortage crisis. Nurses acknowledged feeling stressed and burnt out and as a result, significant numbers of nurses were choosing to work part-time or were voluntarily leaving the profession. The following section serves to highlight the pertinent pressures currently faced by Australian nurses working in the public hospital system and provides support for further research into stress and burnout in this profession.

The Changing Nature of Nursing in Australia

It is well recognised that the nature of nursing in Australia is rapidly changing. In a recent review of nursing in Australia, Johnson and Preston (2001) reported that health care has become far more complicated and difficult for nurses. As one senior nurse stated in their study:

The people now in general wards were in intensive care wards fifteen years ago and many people cared for in hospital fifteen years ago are now cared for in the community. The people who are now in intensive care would have died fifteen years ago (p.6).
It would seem that substantial budget cuts and economically driven health agendas have taken their toll on Australia’s health system and, certainly, on nurses (Richards, 2000). As the nursing workforce constitutes the largest group in the health care system – over 55% of the entire health workforce – it has often been the most affected by fiscal constraint (Senate Community Affairs References Committee [SCARC], 2002).

Despite reduced funding, hospital admissions are increasing at a significant rate. The increase in admissions is mainly attributable to Australia’s population growth and its ageing population with its concomitant increase in chronic illnesses and disabilities. According to the Australian Institute of Health and Welfare [AIHW] (2002), between 1993-94 and 2000-01, hospital admissions increased by 33.2%. An upward trend in admissions has been accompanied by significant declines in the number of available beds and the length of hospital stays. Between 1993-94 and 2000-01, there was a 14.2% reduction in available beds in public hospitals, resulting in a decrease from 3.4 to 2.7 beds per 1000 population (AIHW, 2002). Also during this time, the average length of hospital stays decreased by 19.6% from 4.6 days to 3.7 days (AIHW, 2002). Shortened hospital stays have been credited to new technology and scientific developments that have enabled the rapid assessment, treatment and discharge of patients from hospitals (SCARC, 2002). For nurses, however, technological improvements have led to a growing need for a highly specialised workforce capable of using and understanding this technology (SCARC, 2002). Indeed, some specialties would not be able to function efficiently without an appropriate specialist nurse workforce. In addition, shorter stays in hospital have resulted in a greater turnover of patients with more complex care needs. The effect on
nurses is an augmented workload and the provision of more diverse care which requires greater alertness and vigilance (Iliffe, 2000).

Changes to the health care system, the way in which services are delivered, and changes to the skills required of those working within the system, are significantly affecting the nursing workforce at a time when there is a severe shortage of experienced nurses and related problems in retaining those still in the nursing workforce (SCARC, 2002). The AIHW (1999) reported that nursing registrations and enrolments fell from 270,720 in 1993 to 257,662 in 1999, a decrease of 4.8%. In Queensland, however, there were 36,817 registered nurses in 2001, an increase of 5.4% since 1996 (SCARC, 2002).

Significant numbers of nurses are leaving the profession or are choosing part-time or casual work. The nursing workforce has a large number of part-time employees and this is readily increasing. The proportion of nurses in part-time work (that is less than 35 hours per week) increased from 41.2% to 44.1% between 1990 to 1999, and in 1999 enrolled nurses were much more likely to work part-time (60%) than registered nurses (52.5%) (AIHW, 1999). This has put an even greater strain on full-time nursing staff as they are regularly required to orientate casual staff to the ward and take on additional work for new staff who are unable to perform higher-level functions (Iliffe, 2000). Iliffe suggested that reduced staffing levels are compromising the nurses’ quality of care and have increased the propensity for mistakes to be made.

An ageing nursing workforce is also exacerbating the nursing shortage crisis. The average age of nurses increased from 39.1 years to 40.4 years between 1994 and 1997. The Australian Nursing Council Incorporated (2002) noted that the ageing nursing population reflected the expansion of the nursing workforce which occurred
during the 1970s and 1980s. Those nurses are now in their 40s and 50s. It is predicted that over the next 10 to 15 years, 30% of the workforce will be contemplating retirement. There is also concern that there are insufficient graduates to replace older nurses as they reach retirement. Commencements of domestic students in all nursing courses (undergraduate, postgraduate, and research students) decreased from 11,653 in 1994 to 8,423 in 2000 (SCARC, 2002). Iliffe suggested that poor working conditions are having a devastating effect on attracting people to the profession.

In 1999, over 2000 nursing members from the Victorian Branch of the Australian Nursing Federation participated in a study designed to examine the impact of understaffing on nurses. The study’s findings revealed that 56% of the sample considered low nurse/patient ratios were responsible for extensive workloads (Considine & Buchanan, 1999). Furthermore, 65% of nurses surveyed reported working unpaid overtime such as working through meal breaks or extending shift times to complete work. Considine and Buchanan estimated that nurses’ unpaid labour was contributing the equivalent of 300-450 full-time nursing positions per week.

In summary, the shift to a ‘cost-control’ approach to managing public hospitals has resulted in significant changes in the nature of work undertaken by nurses. Changes in the objective conditions at work have had major implications for nurses’ subjective experiences of work, with increasing numbers of nurses feeling stressed and as a consequence, are opting to work part-time or leave the profession. The present research is therefore both timely and vitally important as very few empirical studies have explored the implications of these stressful work conditions on Australian nurses’ health and well-being. Furthermore, there have been no studies to
date that have examined burnout among Australian nurses. The section below briefly examines the burnout syndrome and provides evidence as to why nurses are susceptible.

**Burnout Among the Human Service Professions**

Burnout describes a characteristic bundle of strain symptoms found primarily in helping professions (Büssing & Glaser, 1999). Burnout is not a symptom of work stress; it is the end result of unmanaged work stress (Altun, 2002). It is characterised by feelings of emotional exhaustion, depersonalisation and reduced personal accomplishment (Cordes & Dougherty, 1993; Vandenbergh & Huberman, 1999).

*Emotional exhaustion* involves feelings of being emotionally overextended and exhausted by one’s work (Maslach, Jackson, & Leiter, 1996). *Depersonalisation* refers to the development of impersonal and unfeeling attitudes towards recipients of one’s service, care, treatment, or instruction (Maslach et al., 1996). Feelings of reduced *personal accomplishment* occur when an individual experiences a decline in his or her feelings of competence and successful achievement in working with people (Maslach, 1998).

Burnout has been found to occur among individuals who work with people in emotionally charged situations. It is prominent in the human service professions (such as nursing, paramedics, teaching, social work and counselling) where extensive and direct face-to-face contact with other individuals is involved (Cordes & Dougherty, 1993). It is considered to be a response to the chronic stress of dealing with other people, particularly when they are troubled or are having problems (Maslach & Schaufeli, 1993). Burnout is likely to occur in people who feel overworked and unappreciated (Altun, 2002). Freudenberger (1974) added that “the dedicated and the
committed” were the ones most prone to suffering burnout, because they “work too much, too long, and too intensely” (p. 161).

It would seem that nurses are especially vulnerable to burnout. A nurse’s principal mission is orientated towards nurturing and caring for people in the human health experience (Duquette, Kérouac, Sandhu, Ducharme, & Saulnier, 1994). They confront patients with loneliness, pain, agony, incapacity, disease, and death and they provide presence, comfort, support and help to patients around the clock (Duquette et al., 1994). A major appeal of working in the health care profession is the challenge of dealing with difficult and sometimes life-threatening situations, such as helping people who are experiencing major health problems. Such work can be rewarding, for instance when patients recover because of the professional’s efforts (Bakker, Killmer, Siegrist, & Schaufeli, 2000). However, it is this constant exposure to stressful situations that forms an excellent breeding ground for burnout in nurses (De Rijk, LeBlanc, Schaufeli, & De Jonge, 1998).

Earlier empirical studies investigating burnout in nurses have shown that burnout is positively correlated with the amount of time nurses spend with their patients (Cronin-Stubbs & Brophy, 1985), with the intensity of the emotional demands posed by their patients (Lewinson, Conley, & Blessing-Moore, 1981), and with exposure to patients with a poor prognosis (Hare, Pratt, & Andrews, 1988). More recent studies, however, have demonstrated that burnout among nurses is associated with important work-related factors, such as high workload (Duquette et al., 1994; Greenglass, Burke, & Fiksenbaum, 2001; Landsbergis, 1988), poor support (Corrigan et al., 1994; Duquette et al., 1994), interpersonal conflict (Payne, 2001), death and dying (Payne, 2001) and inadequate preparation (Payne, 2001).
In recent years there has been a surge of interest in the level of burnout experienced by hospital nursing staff (Bakker et al., 2000; Duquette, Kérouac, Sandhu, Ducharme, & Saulnier, 1995; Greenglass et al., 2001; Payne, 2001; Peeters & Le Blanc, 2001). According to two European epidemiological studies, burnout affects approximately 25% of all nurses (Landau, 1992; Saint-Arnaud, Gingras, Boulard, Vezina, & Lee-Gosselin, 1992). Left unchecked, burnout can have grave implications not only for the nurse, but also for their patients. It has been postulated that burnout is correlated with a range of self-reported psychological and physical strain indicators such as tension and irritability (Duquette et al., 1995), fatigue (Costantini, Solano, DiNapoli & Bosco, 1997), headache and sleep disorders (Constantini et al., 1997). Burnout has been implicated in the reduction in quality of care and service delivery, absenteeism and job turnover (Cox, Kuk, & Leiter, 1993; Maslach & Jackson, 1981, 1982; Perlman & Hartman, 1982; Pines and Maslach, 1978; Van Yperen, Buunk, & Schaufeli, 1992). Ultimately, this compromised standard of care impacts on the effectiveness and success of a hospital (Akroyd, Caison, & Adams, 2002).

In summary, burnout is a specific kind of occupational stress reaction prevalent among human service professionals. It occurs as a result of the demanding and emotionally charged relationships between caregivers and their recipients (Maslach & Schaufeli, 1993). Nursing is an inherently stressful occupation (Schaefer & Moos, 1993) and researchers have found that the nursing population is at a high risk of burnout (Cordes & Dougherty, 1993; Duquette et al., 1994; Peeters & Le Blanc, 2001).

In the present study, the researcher examined Australian nurses’ perceptions of work stress in an attempt to identify stressful work conditions that significantly predict burnout. Furthermore, the researcher investigated an important coping
resource available to nurses in their work environment – social support. The role social support plays in reducing or preventing burnout will now be briefly discussed.

The Influence of Social Support on Burnout

The occupational stress literature identifies social support as a useful coping resource in managing stressful situations within the workplace and reducing the harmful consequences of stress on well-being (Fenlason & Beehr, 1994; Kong, Wertheimer, & Myers, 1994; Scheck, Kinicki, & Davy, 1997). Nursing researchers have focused mainly on the coping process among patients, spouses and significant others during chronic illness (Armstrong, 1987; Burckhardt, 1987; Gulick, 1995; Kammer, 1994; Lambert & Lambert, 1987; Lauver & Tak, 1995). Less research however, has been conducted on the process of how nurses cope in the workplace (Albrecht & Halsey, 1991; Hendel, Fish, & Aboudi, 2000; Simoni & Paterson, 1997). Social support describes those individuals and groups one turns to either on a regular basis or in a time of need (Scheck et al., 1997). Leavy (1983, p.5) broadly defined social support as “the availability of helping relationships and the quality of those relationships.”

Researchers have identified a range of supportive behaviours provided to individuals in need. These supportive behaviours have been further categorised into two key types of support – emotional and instrumental support. Emotional support is information obtained from others that one is respected and accepted (Scheck et al., 1997). This type of support suggests to individuals they are valued by another. In contrast, instrumental support includes a wide range of activities concerning the practical help one is given from others (House, 1981; Scheck et al., 1997; Thoits, 1982). Such activities include help with work responsibilities, advice in solving problems and sharing of knowledge. In addition, there are two main sources of
support - work based support (supervisors/coworkers) and non-work based support (e.g., partner, family, friends).

A review of the literature demonstrates that there are two main processes in which social support influences the stress-burnout relationship. Some studies have indicated a ‘main’ or ‘direct’ effect for social support, suggesting that support reduces burnout regardless of the intensity of the work stressors experienced (e.g., Beehr, 1985; Cohen & Wills, 1985; Sullivan & Bhagat, 1992). Others have found a ‘buffering’ or ‘moderating’ effect in which social support interacts with work stressors to affect burnout. Specifically, the relationship between stress and burnout is thought to be stronger for those individuals with low levels of support and weaker for those individuals with high levels of support (Ganster, Fusilier, & Mayes, 1986; LaRocco, House, & French, 1980).

Although empirical studies have consistently found support for the main effect model, there has been mixed support for the buffering effect. A problem inherent in earlier studies is their failure to consider different stressful events pose different coping requirements. The stressor-support matching model proposes that stress buffering occurs only when there is a match between the needs elicited by the stressful event and the functions of support that are perceived to be available (Cohen & McKay, 1984; Cohen & Wills, 1985). The present thesis builds upon previous stressor-support matching models (Cohen & Wills, 1985; Cutrona, 1990; Cutrona & Russell, 1990) by examining not only the types of support (i.e., emotional support and instrumental support) provided to nurses, but also the sources of support (i.e., coworker support and supervisor support) available to nurses within a hospital environment. The thesis proposes that if the right kind of support from the right
source of support is matched to a specific type of work stress, then burnout may be prevented.

In addition, the researcher heeded the advice of Cutrona (1990; Cutrona & Russell, 1990) who proposed that in order to discover optimal matches between different types of stressful events and types of support, the controllability of the stressful event should be considered. According to Cutrona’s conceptual model, when an event is uncontrollable, that is, nothing can be done to prevent the event or lessen its consequences, the most beneficial support will serve to minimise the intensity of the individual’s negative emotional reactions to the event (i.e., emotional support). By contrast, when an event is controllable, that is the individual can prevent its occurrence or consequences, the most beneficial support will foster effective instrumental action (i.e., instrumental support). In the present thesis, stressful work-related factors are classified as controllable or uncontrollable events by nursing experts before examining the effect of different types of support from various sources of support on burnout. In the following section, a broad overview of the research program is given.

Research Program Outline

The research program consisted of three successive studies. The thesis comprised both qualitative and quantitative research methods. The qualitative research component preceded the quantitative research component. The studies are briefly outlined below.

Study 1

The first study commenced mid 2000. Study 1 involved the qualitative component of the research program in which focus groups were conducted with 68 nurses (12 males, 56 females) from two public hospitals in Queensland, Australia.
Focus groups are defined as “in-depth, open-ended group discussions that explore a specific set of issues on a predefined and limited topic” (Robinson, 1999, p.905).

Study 1 was designed to address two principal research questions and two associated sub-problems. The principal research questions were:

(1) What are the chronic sources of work stress commonly experienced among Australian nurses?

(2) To what extent is the way in which nurses’ perceive work support consistent with how social support is conceptualised and operationalised in recent empirical literature?

The sub-problems examined in Study 1 related to principal research question 1. The associated sub-problems included:

(1a) To what extent are the sources of stress experienced by Australian nurses consistent with the seven stress factors measured by Gray-Toft and Anderson’s (1981a) NSS?

(1b) Do Australian nurses from various wards share similar perceptions of work stress?

An examination of recent nursing literature revealed that there is very little published research investigating the common sources of work stress among Australian nurses working in a public hospital system. Since similar findings regarding the nature of nurses’ work stress have been found across nursing studies, researchers have tended to presume that all nurses are exposed to the same work stressors. Wheeler (1998) proposed, however, that consistent findings across studies may be the result of an over-reliance on Gray-Toft and Anderson’s (1981a) Nursing Stress Scale (NSS). Study 1 sought to determine the common stressors that Australian nurses regularly confront at work by depicting the work stressors that were prevalent in most nursing
wards. In addition, Study 1 sought to determine whether the work stressors identified by a sample of Australian nurses were consistent with the stressful events measured by the NSS.

Content analysis of the qualitative data in Study 1 provided insight into the wide variety of work stressors experienced by nurses. Major sources of stress included job-specific work stressors and generic role stressors. The job-specific sources of stress identified by nurses most closely aligned to the four work stress factors assessed using Wolfgang’s (1988a) Health Professions Stress Inventory (HPSI): Professional Recognition, Patient Care Responsibilities, Job Conflicts and Professional Uncertainty. The major sources of role stress were consistent with those measured by Osipow and Spokane’s (1987) Occupational Roles Questionnaire: Role Overload, Role Conflict, and Role Ambiguity. An investigation of chronic sources of stress for Australian nurses was a necessary preliminary step before collecting quantitative data in Study 2 as it enabled the researcher to determine the most appropriate measure for assessing work stressors for a sample of Australian nurses.

A second gap in the social support literature is that most researchers have failed to clearly operationalise the social support construct before designing measures of social support. Several measures of social support exist in the stress-coping literature. These measures have been primarily designed to assess the structure of an individual’s social network or the functions of social support. Before constructing a suitable measure of work support for nurses in Study 2, the researcher took the opportunity to examine nurses’ perceptions of support at work in Study 1.

The results suggested that nurses’ perceptions of work support are consistent with contemporary views that social support is a multidimensional construct. For instance, content analysis of the qualitative data revealed that the main supportive
behaviours identified by nurses could be broadly categorised as either emotional or instrumental support. Furthermore, the nurses’ primary sources of support were their nursing colleagues and their nursing supervisor (e.g., Central Nurse Coordinator/Nursing Practice Coordinator).

Study 2

The second study of the research program was conducted late 2000 and early 2001. Using a cross-sectional methodology, 273 nurses from three public hospitals in Brisbane’s metropolitan district completed a self-report questionnaire. The questionnaire comprised of four measures that were designed to assess: job-specific stress (i.e., professional recognition, patient care responsibilities, job conflicts and professional uncertainty), role stress (i.e., role conflict, role overload and role ambiguity), work support (i.e., coworker and supervisor support), and burnout (i.e., emotional exhaustion, depersonalisation, and reduced personal accomplishment).

Prior to examining the relationships between work stress, social support and burnout in Study 3, it was deemed appropriate to assess the psychometric soundness of Wolfgang’s (1988a) HPSI and the work support scales. Although the HPSI was designed specifically to measure work stress among health care professionals, the HPSI has not been commonly used in the nursing stress literature. Three studies (Akhtar & Lee, 2002; Eells, Lacefield, & Maxey, 1994; Gupchup & Wolfgang, 1994) to date have examined the factor structure of HPSI and two of these studies (Akhtar & Lee, 2002; Eells et al., 1994) have used a sample comprising of nurses. Similarly, the work support scales were constructed specifically for the purpose of this research and therefore their psychometric properties were not known. It was important to establish that these measures demonstrated adequate levels of reliability and validity in order to
be confident that research findings were accurate and not the result of measurement error.

Factor analysis of the HPSI was conducted using principal axis factoring. The results indicated that the factor structure was different from the factor structure identified in previous studies (Akhtar & Lee, 2002; Eells et al., 1994; Gupchup & Wolfgang, 1994). The researcher renamed the four stress factors: Lack of Professional Recognition and Support, Patient Care Uncertainty, Job Conditions, and Interpersonal Conflict. The four-factor solution explained 45.2% of the total variance. The HPSI yielded adequate internal reliability coefficient alphas which ranged between .62 and .83. Intercorrelations between the four factors ranged between .21 and .56. These low to moderate correlations suggested that none of the work stress factors were redundant. Evidence of the HPSI’s construct validity was also apparent.

Examination of the nursing literature revealed that there were no established measures that assessed social support which were consistent with the findings obtained in Study 1. A measure of work support was therefore developed for the purpose of the present research. The work support scales were designed to assess nurses’ perceptions of the types of support they receive at work from their supervisor and their coworkers. To construct this measure, the researcher took specific items from existing social support scales that demonstrated adequate psychometric characteristics. The chosen items closely resembled the key supportive behaviours identified by the sample of nurses who participated in the focus group discussions in Study 1. The survey items were slightly modified to ensure that they were contextually relevant to nurses.

The factorial validity of the Coworker Support Scale and the Supervisor Support Scale were assessed by factor analysis using principal axis factoring. Some
interesting findings were revealed. First, factor analysis of the Coworker Support Scale identified two factors labelled emotional support and instrumental support. The two-factor solution explained 68.56% of the total variance. Internal consistency was high with a Cronbach’s coefficient alpha of .92 for Emotional Coworker Support and .88 for Instrumental Coworker Support. These factors correlated highly and shared 52% of same variance. Despite high inter-scale correlations, the emotional and instrumental coworker subscales were differentially related to the work stressors and burnout dimensions. It was therefore concluded that the emotional and instrumental support subscales were not redundant.

In contrast to the two-factor Coworker Support Scale, factor analysis of the Supervisor Support Scale revealed a one-factor solution which accounted for 71.34% of the total variability. The Supervisor Support Scale demonstrated very high internal reliability with a Cronbach coefficient alpha of .96. It was therefore not feasible to examine the different types of supervisor support when exploring the effects of supervisor support on the stressor-strain relationship.

Overall, however, Wolfgang’s (1988a) HPSI and the work support scales demonstrated adequate levels of reliability and validity. The data obtained from these measures was therefore used for further analyses in Study 3.

Study 3

Following confirmation of the reliability and validity of the job-specific stress measure and the work support scales, the data was subjected to further statistical analysis. Study 3 establishes the nursing sample’s overall levels of work stress, social support and burnout. In addition, main sources of work stress for Australian nurses are identified. The sample’s level of burnout is compared to appropriate normative data provided in the Maslach Burnout Inventory Manual (Maslach et al., 1996), as
well as burnout studies on nurses and other human service professionals. Study 3 also identifies the main correlates of burnout. Furthermore, the amount of variance attributed to sociodemographic factors, work stressors, and work support in explaining nurses’ burnout is explored. Finally, the effects of different types and sources of support on the stress-burnout relationship are examined.

Contribution to the Research Area

The current research program aims to make substantive contributions to the existing knowledge in the areas of occupational stress, social support and burnout in the nursing and human services literature. In addition, the research program endeavours to make theoretical contributions to the study of burnout and social support and methodological contributions in the areas of nursing stress and social support.

Substantive Contributions

First, the research program extends the nursing literature by examining a sample of Australian nurses’ perceptions of work stress. Few recent empirical studies (Bryant, Fairbrother, & Fenton, 2000; Healy & McKay, 2000; Lumby, 1996) have explored Australian nurses’ perceptions of work stress. The research will provide insight into the varied work stressors commonly confronted by a sample of Australian public hospital nurses. Furthermore, the research will determine the major sources of stress and the average level of stress experienced by a sample of public hospital nurses in Australia.

Second, there is no research into burnout among Australian nurses to date. The present thesis endeavours to determine the prevalence of burnout in a sample of Australian nurses. The research findings will also provide a benchmark for assessing burnout among Australian nurses in future studies.
The research program also addresses the lack of research into the effects of social support on nurses’ health and well-being. Specifically, the study further contributes to our understanding of how nurses view the support received from within their work environment. Furthermore, the level of support nurses receive at work will be established.

With respect to the human services literature, the research provides an indication of how Australian nurses’ burnout levels compare to nurses overseas and other human service professionals. In addition, this research expands current knowledge of specific individual and organisational factors that serve to both enhance and reduce susceptibility to burnout. The research findings will contribute to the development of appropriate stress-reduction strategies that may be used in public hospitals and other health care facilities.

Theoretical Contributions

Previous nursing literature has examined work stressors and burnout as relatively separate constructs. The present thesis reconciles conceptually distinct, but related, phenomena by using Lazarus and Folkman’s (1984) stress-strain-coping framework as the basis for this research. In particular, the study examines individual factors (i.e., sociodemographic factors), organisational factors (i.e., work stressors), and coping resources (i.e., work support) in relation to burnout, enabling the researcher to offer a model of burnout for nurses that is theoretically grounded.

With respect to social support, the research contributes to the existing social support literature by further exploring the way in which social support is conceptualised and operationalised. In addition, the research extends the stressor-support matching hypothesis by exploring not only types, but also sources of support. Furthermore, when examining the stressor-support matching hypothesis, the
controllability of nurses’ work stressors is taken into consideration before examining the match between specific stressful situations and support requirements.

Methodological Contributions

Previous nursing researchers have commonly relied on Gray-Toft and Anderson’s (1981a) NSS without establishing whether it is the most appropriate tool measuring job-specific stress in their particular nursing sample. In the present study, Australian nurses’ perceptions of work stress are considered before choosing an adequate measure of job-specific stress for nurses. Similarly, the majority of social support researchers have relied on Caplan, Cobb, French, Van Harrison and Pinneau’s (1975) Social Support Instrument to measure work support despite its inability to sufficiently measure different types of support. Based on a sample of nurses’ perceptions of support at work, a measure of work support was constructed for the purpose of this research. The psychometric soundness of the job-specific stress measure and the work support scales are explored.

Summary

Chapter 1 has presented a brief overview of the research program. The researcher outlined information relevant to nursing in Australia today thus providing the contextual background in which this research may be understood. The three studies that comprise this research program were briefly discussed. The substantive, theoretical and methodological contributions that this research makes in the areas of nurses’ work stress, social support, and burnout have been delineated.

In Chapters 2 to 4, a detailed review of the literature pertinent to this thesis is provided. Chapter 2 examines the occupational stress literature. Chapter 3 explores the literature in relation to burnout and Chapter 4 details the social support literature. Chapter 5 discusses the major methodological considerations pertinent to this research.
before summarising the main research questions and associated research hypotheses. Chapters 6 to 8 will each present one of the three studies that comprise this research program. Chapter 9 provides an overall discussion of the research program including implications and concludes with recommendations for future research.
CHAPTER 2

A Review of the Occupational Stress Literature within the Nursing Profession

Chapter 2 provides a comprehensive review of the current occupational stress literature within the nursing profession. First, a definition of work stress is provided that stems from a transactional theoretical framework. Next, a brief review of the prevalence of work stress in the nursing industry is given. This is followed by a discussion on the major sources of stress associated with nursing in a hospital setting. Methodological issues concerned with measuring nurses’ stress are also examined. Finally, this chapter explores studies examining nurses’ perceptions of work stress based on nursing wards and gender.

Definition of Occupational Stress

The growing awareness of the implications of work stress on nurses is evident by the sheer number of studies investigating occupational stress in nursing. In recent years, nursing studies have primarily examined the causes and consequences of work stress without providing a clear definition of the stress concept. Furthermore, little or no attention has been given to the theoretical framework underpinning the stress process.

In the scientific literature, stress has been defined as a response to something in the environment or as the stimulus that caused the response (Helps, 1996). Closer examination of the nursing literature would suggest that studies primarily research stress from a stimulus-based perspective (Wheeler, 1997a). A stimulus-based model asserts that stress is an aspect of the environment (a stimulus) that causes a strain reaction in the individual exposed to the stressful stimulus (Bartlett, 1998). Stress is a characteristic, event, or situation in the environment. Most nurse stress studies suggest that nurses’ work stress is caused by external stimuli (e.g., noise, abusive patients)
which cause varying levels of strain (i.e., pressure) with which the nurse is unable to cope (Wheeler, 1997a).

The value of defining nursing stress from a stimulus-based perspective is its recognition of a wide variety of work-related events or situations. Contemporary researchers criticise this model, however, for its inability to explain and account for the complexities of the stress process (Bartlett, 1998). By simply focusing attention on one component (i.e., the stimulus), other components that make up the stress process become artificially separated (Dewe, 1989). One result of this arbitrary separation is that different situations are being labelled stressful and, irrespective of whether they are stressful or not, they are presumed to have some intrinsically stressful properties (Dewe, 1989). The fact that a nurse is bombarded by stimuli does not necessarily mean that he/she is distressed by them (Wheeler, 1997a). It is argued that situational characteristics alone may be inadequate to predict an individual’s response. Stress must be first perceived to exist before it can result in strain in individuals.

A more preferable approach to defining stress is one that takes into consideration that stress is relational in nature, involving some sort of transaction between the individual and the environment. Lazarus and Folkman’s (1984) transactional model defines the stress process as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (Lazarus & Folkman, 1984, p.19). Dewe (1989) proposed that a transactional definition of stress differs from a stimulus or response-based definition of stress in three main ways: (1) stress does not reside solely in a situation or in a response; (2) stress is a process; a transaction between the individual and the environment; and (3) coping and adaptation are explicit parts of that transaction that help shape the stressful experience.
A transactional approach focuses on the individual’s perception of the demands of the environment (i.e., stressors) and his/her resources to cope (e.g., social support), as the important factors determining well-being (i.e., absence of strain) (Payne, 2001). It asserts that individuals constantly appraise their environment and that on an individual level, the perception of a mismatch between perceived demands and the ability to cope with them constitutes stress.

As illustrated in Figure 2.1, a transactional model of stress involves two important interacting processes: appraisal and coping.

This figure is not available online. Please consult the hardcopy thesis available from the QUT Library.

Figure 2.1. Lazarus and Folkman’s (1984) transactional model of stress.


The appraisal process begins when a person evaluates a particular event, situation, or demand (Ross & Altmaier, 1994). The process of cognitive appraisal describes how a person construes an event and it is divided into two types: primary appraisal and secondary appraisal (see Figure 2.1). Primary appraisal determines the meaning an event has for the individual because it constitutes an assessment of the relevance, significance, and implications of that event for that particular individual. Primary appraisal is therefore about determining whether or not the individual has anything at stake in the encounter.
It is predicted that stress occurs when the environment is evaluated as harmful, threatening, or challenging. An appraisal of harm means that damage has already occurred, while an appraisal of threat refers to harm that will likely happen in the future. Challenge refers to a condition of high demand in which the emphasis is on mastering the demands, overcoming obstacles and growing and expanding as an individual. In threat, the focus is on protecting against harm. In challenge, the emphasis is on the positive outcome possibilities.

Secondary appraisal follows primary appraisal. Secondary appraisal involves an assessment of the individual’s ability to cope with the harm, threat, or challenge. It involves judging what resources the individual has access to and what options are available in dealing with the event (Bartlett, 1998). The coping response process refers to cognitive or behavioural efforts to deal with, tolerate or reduce the excess demand. For instance, coping with work stressors may be eased by having resources available in the work environment (Ross & Altmaier, 1994). Based on Lazarus and Folkman’s (1984) model, it could be inferred that if a nurse’s colleagues can assist him/her in deciding that the situation is not threatening but challenging, for example, then less stress will result. Similarly, if a nurse believes that support is available at work, then perceived coping resources are increased and therefore the threat associated with the stressors will not be as harmful. The influence of work support is described further in Chapter 4.

The transactional model is sometimes referred to as the cognitive/transactional/phenomenological model of stress. The cognitive element assumes that thinking, conscious awareness, memory, meaning and significance of events are “the central mediators and the immediate causal agents in determining stress and coping” (Bailey & Clarke, 1989, p. 21) to the perceiving individual.
Applying this theory to the nurses, one may say that if he/she does not feel a ‘sense’ of threat in the stimulus situation, then there is no stress (Wheeler, 1997a). The transactional component emphasises the continuous interaction of a person’s cognitive perception or appraisal of the surrounding and constantly changing environment which the individual shares with others. The phenomenological element is suggestive of the personal, individualistic and idiosyncratic dimensions that are involved in perceiving a situation. A person’s reaction to stress is thought to be highly individualistic, that is, two nurses can react in completely different ways to the same stressor (Wheeler, 1997a).

According to Ross and Altmaier (1994), the difficulty and the attractiveness of this model is its flexibility. The model allows us to understand stress as the combination of personal issues and concerns, which change over time, as well as the resources and responses that a person can call upon in times of stress, which also change over time. These responses, in turn, affect the initial situation or stressor, and may cause us to appraise it, or think about it differently. Thus the stress response is a transactional one, where the balance of demands and resources defines stress: if the demands are greater than the resources, stress occurs. The reverse is also indicated: if resources are available to meet the demand, then the appraisal might be one of challenge rather than harm or threat, and thus would be less stressful to the individual.

A limitation of Lazarus and Folkman’s model of stress is that although it can predict individual differences in the experience and reaction to stress, it cannot predict which aspects of the work environment will be stressful. According to Lazarus (1995), it is not that useful to identify conditions of work which adversely affect most workers because stress is ultimately an individual phenomenon. Lazarus (1995, p.9) states that “to describe and understand stress in the workplace requires that
…individual patterns be studied to generate knowledge about the kinds of persons who are more or less vulnerable to divergent sources of stress.” The current thesis however, takes the position of Brief and George (1995) who acknowledge that stress essentially occurs at an individual level, but believe it is useful to try to discover working conditions which are likely to adversely affect most workers exposed to them. By searching for those conditions of work likely to adversely affect most workers exposed to them, a taxonomy of stressful job conditions may be constructed and interventions to mitigate them can be devised.

In summary, a transactional model proposes that the individual, work stressors, coping resources, and strains need to be considered jointly in explaining the stress-strain-coping process because they are interdependent. Work stressors may be defined as the “antecedent conditions within one’s job or the organisation which require adaptive responses on the part of the employees” (Jex & Beehr, 1991, p.312). The negative reaction to stressors is ‘strain’. The response to stressors is also affected by individual differences between employees such as sociodemographic factors and coping resources such as social support. The transactional model underpins the present research program’s investigation by taking into consideration the influence of social support on the stress-burnout relationship among nurses. In the section below, the work stressors associated with nursing, as well as the methodological limitations of recent nursing studies, are discussed.

Work Stress in Nursing

The nursing profession and the stress commonly associated with it has been the subject of considerable research for decades. Researchers have been primarily concerned with understanding the levels and sources of stress among various nursing
departments or wards. In the section that follows, the prevalence and the major work stressors associated with nursing will be discussed.

*Prevalence of Work Stress*

There is a widely held belief that nursing is one of the most inherently stressful occupations (Rees & Cooper, 1992). However, empirical evidence providing justification for this assertion is largely based on anecdotal evidence. According to Wheeler (1997b), the assumption that stress is more common and more severe among nurses than other professions may be the result of a high number of earlier studies (Cassam & Hackett, 1972; Foxall, Zimmerman, Standle, & Bene, 1990; Hague, 1987; Hipwell, Tyler, & Wilson, 1989; Oskins, 1979; Topf, 1989; Yu, Mansfield, Packard, Vicary, & McCool, 1989) that concentrated on nurses’ stress in intensive care units and other highly specialised areas (e.g., coronary care), rather than on more general nursing wards. This was particularly the case during the 1970s and 1980s. A factor common to these studies is that they focused on specialised critical care units which accommodate patients who are very ill, highly dependent on acute care and who may not be seen as suitable for general medical/surgical wards on the basis of their poor state of health (Wheeler, 1997b). These studies may have led to the common, but perhaps unfounded, view that nurses have higher levels of stress than other human service occupations (Wheeler, 1997b).

Furthermore, it is difficult to comment on the prevalence of stress in nursing due to methodological weaknesses in several of the studies on nurse stress, such as the use of small-scale survey designs, the use of non-randomised samples, the absence of objective measures and a preponderance of subjective evidence of stress (Wheeler, 1997b). In an attempt to identify the sources, frequency and degree of stress experienced by British nurses, Wheeler (1994) and Wheeler and Riding (1994)
conducted a study using 125 first-level general nurses and midwives. To determine the prevalence of nurses’ work stress, a specific single item measure was used. Respondents were asked: “In general, how stressful do you find the job you are in?” Ratings were made on a five-point scale: not at all stressful, mildly stressful, moderately stressful, very stressful, and extremely stressful. Responses were scored from 0 to 4. They found that most nurses rated their degree of stress as either mild (41.6%) or moderate (36%) with a much smaller percentage rating it as extreme (16.9%). This finding suggests that although nurses are exposed to a wide variety of potentially stressful events, not all nurses experience a high degree of stress. This finding provides some support for Lazarus’ (1995) assertion that assuming adequate coping resources are available, not all work stressors are perceived to be stressful.

Nevertheless, there can be little doubt, however, that nursing is, by its very nature, an occupation subject to a high degree of stress (McGrath, Reid, & Boore, 1989). Furthermore, nursing is characterised by a number of stressors not commonly experienced by most other professions. These include not only dealing with situations involving death and dying, but also more mundane stressors such as working long hours, working shifts and on weekends. It is the complex and demanding nature of this profession that has encouraged much recent research on nurses’ sources and severity of workplace stress. In the section below, studies examining the major sources of work stress for nurses will be briefly discussed.

Sources of Work Stress for Nurses

Job-specific stressors. Studies of occupational stress in nurses have uncovered a number of stressors specific to this profession. In the course of their careers, nurses experience confrontation with severe or emergency illnesses (Grout, Steffan, & Bailey, 1981), patient death, conflict with physicians (Gray-Toft & Anderson, 1981b;
Jacobson, 1978; Kennedy & Grey, 1997; Walters & Hams, 1989), patients with
behaviour problems (Hartrick & Hills, 1993; Kennedy & Grey, 1997; Pagel &
Wittmann, 1986) work overload (Gray-Toft & Anderson, 1981b; Hingley & Cooper,
1986; Janssen, De Jonge, & Bakker, 1999; Kennedy & Grey, 1997; Schaufeli, 1990;
Schaefer & Moos, 1993; Wheeler & Riding, 1994) and inadequate preparation to meet
the emotional needs of patients and their family (Descamp & Thomas, 1993).

Much of the research conducted on Australian nurses’ work stressors has been
instigated by a national union for nurses, that is, the Australian Nursing Federation
(ANF). With 120,000 members, the ANF is the largest professional nursing
organisation in Australia. Members are employed in a wide range of enterprises in
urban, rural and remote locations in both the public and private sectors, including
hospitals, health, and community services, schools, universities, the armed forces,
statutory authorities, local government, offshore territories, and industry. The union
represents Australian nursing internationally through links with other national and
international nursing organisations, professional associations and the International
Labour Organisations. The ANF is responsible for initiating activities nationally to
raise political awareness, and political action, if necessary, among members and the
general public in the pursuit of improved public policy on health and related issues.

In the late 1990s, the Victorian Branch of the ANF commissioned Considine
and Buchanan from the Australian Centre for Industrial Relations Research and
Training to investigate the issues associated with the working conditions of Victorian
nurses. A stratified random sample of 2161 union members participated in the study.
Considine and Buchanan (1999) reported that nurses’ major sources of stress were
related to hours and rostering, particularly the regular working of unpaid over time;
inadequate staffing, absence of trained and experienced staff; excessive workloads
and increasing levels of responsibility. The majority of nurses indicated that they worked overtime and only 19% indicated that they were always paid for it.

It is argued that these research findings concerning nurses’ working conditions should be viewed with some caution. First, there is no published evidence outlining the survey items, how the survey items were developed, and whether the survey met principles of scientific rigor (e.g., reliability and validity). Second, the sample population is not representative of the total nursing population as the surveys investigating nurses’ working conditions were sent only to union members in public and private acute and aged care facilities, public psychiatric facilities, high dependency units and hospitals involved in Home Care Programs. It is for this reason that the findings cannot be generalised to the wider nursing population in Australia.

Closer examination of the nursing literature indicates that there are few empirical studies examining the main sources of stress for Australian nurses and what impact this has had on nurses’ well-being. A literature search using the Cumulative Index for Nursing and Allied Health Literature (CINAHL) database over the last decade revealed a limited number of empirical studies investigating Australian nurses’ work stress (Bryant et al., 2000; Healy & McKay, 2000; Lumby, 1996).

Bryant et al. (2000) investigated workplace stress levels and personal/workplace demographics using a sample of 170 urological nurses. A questionnaire was designed by the authors based on a review of stress in nursing literature. Content analysis of open-ended questions which sought details regarding reasons for, and responses to, workplace stress yielded key response categories. Excessive workload was the most prominently identified cause of work stress among the sample of urological nurses. Excessive workload was reported four times more frequently than any other stressor, and was reported by nearly 90% of the sample.
When taken together, the empirical and qualitative findings suggested that a heavy workload and poor staffing levels are the highest predictors of workplace stress. This study also provides support for Brief and George’s (1995) assertion that although the perception of stress is an individual phenomenon, employees exposed to the same work environment perceive stressors in a similar manner.

Healy and McKay (2000) examined the relationships between nursing work-related stressors and coping strategies in a volunteer sample of 129 registered nurses from Melbourne metropolitan and Victorian regional institutions. Work stressors were assessed using Gray-Toft and Anderson’s (1981a) NSS. Their results were consistent with Bryant et al.’s (2000) findings. Healy and McKay revealed that workload was the highest perceived stressor in the nurses’ working environment. The workload subscale of the NSS taps into issues arising from the physical environment, such as actual workload, inadequate staffing levels and insufficient time to complete work tasks. Conflict with other nurses and lack of staff support were the least reported stressors.

Lumby (1996) however, used a pedagogical approach to investigate nurses’ perceptions of work stress using 40 nursing students from intensive care, emergency care, coronary care, operating theatre and high dependency units across several teaching hospitals. Students were divided into four groups and each group was asked to produce a map that identified themselves within micro and macro structures of their world of work. The students were given no specific guidelines on how their final map should be arranged. The group maps provided a medium for illustrating the nurse as being the centre of a centrifuge of demands, inadequacies, frustrations and power games leaving them feeling inadequate and with very little control despite an immense responsibility. The groups included conditions of work such as shift work,
poor skill mix, inadequate rostering, increased agency staff, the physical and emotional demands of their work, the devaluing of their role in relation to the roles of other health professionals (whose work they coordinate), increased use of technology and noise, and safety aspects including the effect of their work on their physical and emotional state. Major stressors related to lack of support by administrators at all levels. Doctors were also identified as not providing support and indeed many groups claimed that there was an increase in verbal abuse by some doctors. Other stressors related to financial changes that affected adequate resourcing, including: out of date and malfunctioning equipment, changes in types of patients and their length of stay. The nurses reported that there was an increase in elderly patients being admitted, as well as sicker patients, and the length of stay for patients was becoming shorter. This means that the patients at any one time require a higher acuity. The lack of involvement of experienced nurse clinicians in decision-making at all levels (apart from that involving direct patient care) was depicted as a source of extreme frustration within the group.

Over the last two decades, it would appear that whilst some of the main sources of stress for nurses have changed, others such as work overload and lack of recognition from doctors have persisted. For instance, in an earlier study conducted by Linder-Pelz, Pierce, and Minslow (1987) using a sample of 983 Australian nurses working across 14 hospital wards, non-responsiveness of management was ranked by the nurses as the most severe work stressor for nurses. This was followed by parking problems, work overload, nurses’ ambiguous and unsatisfactory status in the medical care team, followed by a feeling of low professional esteem. The least stressful events included environmental interferences with the real work of nursing, problems with training requirements, and job prospects.
Empirical studies investigating work stress among Australian nurses have had diverse objectives and have used different methodologies, thus making comparisons across studies problematic. As a result, making generalisations about the chronic sources of work stress among Australian nurses is difficult. Most empirical studies, (Cronin-Stubbs & Brophy, 1985; Dewe, 1989; Foxall et al., 1990; Gray-Toft & Anderson, 1981b; Power & Sharp, 1988; Wheeler, 1994a, 1994b, 1998) however, have consistently found that patient death and dying, workload, interpersonal conflict, and role preparation are the key situational contexts in which stress occurs (Farrington, 1995). For example, Hipwell et al. (1989) found that death and dying; work overload; uncertainty over treatment; and stress from conflict with others (e.g., doctors) were the main sources of nurses’ stress.

Similar work stressors have been found in both Australian and international studies, for example: Cohen-Mansfield (1989) (United States of America); Dewe (1989) (New Zealand); Foxall et al. (1990) (United States of America); Gray-Toft and Anderson (1981b, 1985) (United States of America); Healy and McKay (2000) (Australia); Hipwell et al. (1989) (United Kingdom); Wheeler and Riding (1994, 1998) (United Kingdom). These consistent findings across studies seem to suggest exposure to certain nursing stressors is universal and that nurses perceive work stressors in similar ways. This finding also provides some support for Brief and George’s (1995) assertion that there are some work stressors that adversely effect most workers when exposed to them.

Wheeler (1998), however, offered an alternative explanation. Wheeler pointed out that the reason for the presence of similar stressors across these studies may be due to the consistent use of the NSS developed by Gray-Toft and Anderson (1981a). A number of international studies have used this research instrument (or some
variation of it) over the last decade to measure nurses’ levels of stress in a variety of wards (Refer Table 2.1). Wheeler proposes that it is therefore likely that these studies have identified roughly the same stressors.

**Table 2.1**

*Studies Between 1993-2003 that have used Gray-Toft and Anderson’s (1981) Nursing Stress Scale*

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>N</th>
<th>Type(s) of Nursing</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee</td>
<td>2003</td>
<td>362</td>
<td>Primary Care</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>Happell, Pinikahana, &amp; Martin</td>
<td>2003</td>
<td>51</td>
<td>Forensic</td>
<td>Australia</td>
</tr>
<tr>
<td>Escot, Artero, Gandubert, Boulenger, &amp; Ritchie</td>
<td>2001</td>
<td>37</td>
<td>Oncology</td>
<td>France</td>
</tr>
<tr>
<td>Stordeur, Dhoore, &amp; Vandenberghe</td>
<td>2001</td>
<td>625</td>
<td>General</td>
<td>Belgian</td>
</tr>
<tr>
<td>Cole, Slocumb, &amp; Mastey</td>
<td>2001</td>
<td>119</td>
<td>Critical Care</td>
<td>United States</td>
</tr>
<tr>
<td>Kilfedder, Power, &amp; Wells</td>
<td>2001</td>
<td>510</td>
<td>Psychiatric</td>
<td>Scotland</td>
</tr>
<tr>
<td>Payne</td>
<td>2001</td>
<td>89</td>
<td>Hospice</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>French, Lenton, Walters, &amp; Eyles</td>
<td>2000</td>
<td>2280</td>
<td>General</td>
<td>Ontario</td>
</tr>
<tr>
<td>Agüir, Pons, Echegaray, Ramos, &amp; Sánchez</td>
<td>2000</td>
<td>201</td>
<td>General</td>
<td>Spain</td>
</tr>
<tr>
<td>Healy &amp; McKay</td>
<td>2000</td>
<td>129</td>
<td>General</td>
<td>Australia</td>
</tr>
<tr>
<td>DePew, Gordon, Yoder, &amp; Goodwin</td>
<td>1999</td>
<td>106</td>
<td>Burns and Special Care</td>
<td>United States</td>
</tr>
<tr>
<td>Kennedy</td>
<td>1999</td>
<td>125</td>
<td>Geriatric</td>
<td>United States</td>
</tr>
<tr>
<td>Hillhouse &amp; Adler</td>
<td>1997</td>
<td>260</td>
<td>General</td>
<td>United States</td>
</tr>
<tr>
<td>Hillhouse &amp; Adler</td>
<td>1996</td>
<td>297</td>
<td>General</td>
<td>United States</td>
</tr>
<tr>
<td>Collins</td>
<td>1996</td>
<td>113</td>
<td>General</td>
<td>United States</td>
</tr>
<tr>
<td>Duquette, Kérouac, Sandhu, Ducharme &amp; Saulnier</td>
<td>1995</td>
<td>1545</td>
<td>Geriatric</td>
<td>France</td>
</tr>
<tr>
<td>Tyler &amp; Cushway</td>
<td>1995</td>
<td>245</td>
<td>General</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Tyler &amp; Ellison</td>
<td>1994</td>
<td>60</td>
<td>Theatre, Liver/Renal/Haematology/Oncology, Elective Surgery</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Descamp &amp; Thomas</td>
<td>1993</td>
<td>72</td>
<td>General</td>
<td>United States</td>
</tr>
<tr>
<td>Wright, Blache, Ralph, &amp; Luterman</td>
<td>1993</td>
<td>31</td>
<td>Medical/Cardiac Intensive Care, Burns, Neurotrauma</td>
<td>United States</td>
</tr>
</tbody>
</table>

The NSS consists of 34 items that describe situations that have been identified from the literature and from interviews with nurses, physicians, and chaplains as causing stress for nurses in the performance of their duties. The scale was validated
using a relatively small sample of 122 American nurses from five departments (medicine, surgery, cardiovascular surgery, oncology, and hospice) at a large private, general hospital. These departments were chosen because their patients represented a range of medical conditions requiring different types of nursing care and exposure to various sources of stress. The NSS provides a total stress score as well as scores for each of the seven subscales that measure the frequency of stress experienced by nurses in a hospital environment. Seven major sources of stress were identified by Gray-Toft and Anderson. These included: death and dying, conflict with physicians, inadequate preparation, lack of support, conflict with other nurses, work load, and uncertainty concerning treatment. Gray-Toft and Anderson reported internal consistency coefficients ranging from .79 to .89 for each subscale.

A significant limitation of recent empirical studies that use the NSS to examine work stress among Australian nurses is that it is not known whether the work conditions and the associated demands placed upon Australian nurses working in public hospitals are similar to American nurses working in private hospitals. Bruhn (1991) argued that it is not productive to use a measure merely because it is used or quoted widely. It is important to know what one wants to learn, before deciding how to measure it (Bruhn, 1973, 1991). This crucial factor appears to suggest the need for further clarification of the sources of stress among Australian nurses working in the public hospital context. One of the main purposes of Study 1 is to address this gap in the nursing stress literature. In Study 1, qualitative data will be collected by conducting focus groups with nurses to further our understanding of the key work stressors Australian nurses are exposed to working in a public hospital.

*Role stressors.* Although nursing studies predominantly investigate job-specific stress, such as those measured by Gray-Toft and Anderson’s (1981a) NSS,
other empirical studies have taken a more generic approach by measuring role stress. Role stress is considered to be characteristic of most occupations, especially white collar occupations such as nursing. It may be viewed as the consequence of disparity between an individual’s perception of the characteristics of a specific role and what is actually being achieved by the individual currently performing the specific role (Lambert & Lambert, 2001). The concept of role stress, originally advanced by Gross, Mason and McEachern (1958), refers to a condition where role obligations (i.e., expected, and actual behaviours associated with a job position) are vague, irritating, difficult, conflicting, or impossible to meet (Hardy & Hardy, 1988). Role stress is now recognised to comprise of three distinct types: role conflict, role ambiguity, and role overload (Iwata & Suzuki, 1997; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964).

Role conflict occurs for an individual when a person in the work environment communicates an expectation about how he or she should behave and this expectation makes it difficult or impossible to fulfil another behavioural expectation or set of expectations. More simply, stress is caused by the inability to meet or difficulty in meeting the various expectations of behaviour (Van Sell, Brief, & Schuler, 1981). Role ambiguity results when there is inadequate, unclear, or confusing information about expected role behaviours (Van Sell et al., 1981). Role overload is a final form of role conflict, analogous to work overload. Most studies fail to differentiate between work overload and role overload. Quick, Quick, Nelson, and Hurrell (1997) however, suggest that role overload can be distinguished from work overload in that workload is based on actual tasks, whereas role overload is based on the behaviours that are expected of the individual. Role overload occurs when too many behaviours are
expected of an individual or the behaviour expected is too complicated or difficult for the individual to execute (Quick et al., 1997).

Research has indicated that role stress is inherent in the nursing role (Baba, Galperin, & Lituchy, 1999; Beehr, King, & King, 1990; Chang & Hancock, 2003; Gil-Monte, Valcarcel, & Zornoza, 1995; Gray-Toft & Anderson, 1985; Lambert & Lambert, 2001). It is reasoned that changes in the health care structure and the nature of patient treatment such as managed care, reductions in length of hospital stays, increased patient acuity, new technologies and a focus on cost effective quality of care approach to nursing may have contributed to higher levels of role stress for nurses (Garrett & McDaniel, 2001). A literature review conducted by Lambert and Lambert (2001) found that most studies investigating role stress in nursing have found work environment factors to be involved. For example, the experience of role stress is related to having little control in one’s job, high job demands and lack of support from peers (Chapman, 1993; Cheng, Kawachi, Coakley, Schwartz, & Colditz, 2000; Fong, 1993; Glass, McKnight, & Validmarsdottir, 1993; Webster & Hackett, 1999). Other studies have found that being required to work on different wards, lack of essential resources including nursing staff, and work overload to be major factors (Foxall et al., 1990; Frisch, Dembeck, & Shannon, 1991; Hatcher & Laschinger, 1996; Murray, 1998; Snape & Cavanagh, 1993).

Empirical studies have consistently found that nurses who are stressed have higher absenteeism rates, lower work satisfaction and are more likely to leave the organisation (Callaghan & Field, 1991; Larson, 1987). They have more conflicts with coworkers (MacNeil & Weisz, 1987) which only escalates the problem as aggression from colleagues has been found to be a major source of stress for nurses (Farrell, 1999). They also suffer psychologically, in terms of feelings of inadequacy, self-
doubt, lowered self-esteem, irritability, depression, somatic disturbance, sleep disorders and burnout (Foxall et al., 1990). In the following chapter, the relationships between work stressors (i.e., job-specific stressors and role stressors) and burnout (i.e., emotional exhaustion, depersonalisation, and reduced personal accomplishment) among nurses will be examined in detail.

In summary, there is a lack of published research regarding the main sources of stress among Australian nurses working in public hospitals. In Study 1, focus groups with nurses from a variety of hospital wards will be conducted to further our understanding of the work events that Australian nurses perceive as stressful. The focus group discussions are designed to address the following research question and its associated sub-problem:

What are the chronic sources of work stress commonly experienced among Australian nurses?

To what extent are the sources of stress experienced by Australian nurses consistent with the seven stress factors measured by Gray-Toft and Anderson’s (1981a) NSS?

A benefit of conducting focus groups with nurses is that the researcher is able to collect rich qualitative data without the constraints associated with using an already established nurse stress measure that assesses a predefined and limited number of stressful events. The data obtained from the focus groups will assist the researcher in choosing the most appropriate tool(s) to measure Australian nurses’ occupational stress in Study 2. The findings will also extend current nursing literature by confirming whether the sources of perceived stress by Australian nurses are consistent with those that are experienced by overseas nurses.
Levels of Work Stress Across Nursing Wards

A further issue which has been of appeal to researchers examining stress in nursing has been to assess the topic in relation to specific areas of clinical practice, for example critical care nursing or psychiatric nursing (Kirkcaldy & Martin, 2000). A prominent theme often underlying this research is that certain hospital environments, particularly intensive care units (ICUs) and emergency departments, are potentially more stressful to nurses than others. For instance, Foxall et al. (1990) found that ICU and hospice nurses differed in terms of frequency and sources of job stress from medical and surgical nurses. Their findings indicated that death and dying situations were the most stressful to the former groups, with work overload and staffing situations proving the most stressful to medical and surgical nurses (Kirkcaldy & Martin, 2000).

While some earlier studies suggest that critical care nurses experience more stress than general medical or surgical nurses, this view is not commonly supported by more recent studies. Although studies have consistently found that levels of stress do not differ between wards, some sources of stress appear to be specific to departments. For instance, Tyler and Ellison (1994) examined occupational stress using the NSS in four areas of high dependency nursing: theatre, liver/renal, haematology/oncology and elective surgery. They found that the level of stress experienced by nurses was similar across all four departments, but their sources of stress varied. In particular, theatre nurses experienced less stress through patients’ death and dying. Managing workload was most stressful for nurses in theatre and haematology. Inadequate preparation was a greater stressor for liver and elective surgery wards than for theatres and haematology.
Recent studies investigating Australian nurses’ stress have not examined whether nurses from different wards perceive and experience work stressors in a similar way. In an earlier study, however, Linder-Pelz et al. (1987) found that intensive care was not the most stressful type of nursing work. Intensive care nurses followed spinal, maternity, and medical wards in the proportion of its nurses who were excessively stressed. However, the mean stress scores in these four areas did not differ significantly. Further, while lack of management responsiveness, unsatisfactory team status and poor job prospects were relatively severe stressors in the intensive care unit, they were not unique to these units. These findings provide further evidence that nurses have similar perceptions of stress. Although not the focus of Study 1, the researcher will take the opportunity to examine the following sub-problem:

Do Australian nurses from various hospital wards share similar perceptions of work stress?

Kirkcaldy and Martin (2000) revealed that overall, the results of research have failed to find consistent or conclusive evidence that department type is itself a direct cause of stress in nursing. Current evidence suggests that similarities among nurses working in different environments are more striking than differences between them, with the pervasiveness of certain stressors such as workload or death and dying outweighing the influence of department type or specialism. However, it is important to note that many of the studies (e.g., DePew et al., 1999; Linder-Pelz et al., 1987; Wright et al., 1993) from which this inconsistent conclusion has been drawn have often featured a small number of nursing groups, frequently two or three, and have featured small samples often below 100 participants.
Whilst the emphasis of nursing studies has been the investigation of the main sources of nurses’ work stress, some studies have also examined perceptions of work stress according to gender. Overall, empirical research suggests that nurses’ levels and sources of work stress are not significantly influenced by gender (Baba et al., 1999; Kirkcaldy & Martin, 2000; Tyler & Ellison, 1994). It has been suggested that any variation attributed to gender may not be found in nursing studies since the sample size of males is typically small. For instance, in Australia, only 10% of the nursing workforce are males. However, wider empirical literature has also been unable to account for very much variance in occupational stress based on gender. Martocchio and O’Leary (1989) undertook a meta-analysis of 15 studies that examined gender differences in occupational stress and found no differences in experienced and perceived stress. Emslie, Hunt, and Macintyre (1999) propose that when men and women in the same professions are compared, gender accounts for little of the variance in stress in comparison to working conditions. Furthermore, Matuszek, Nelson, and Quick (1995) reported that men and women operating at roughly the same level within organisations generally experience the same stressors. Greenglass (1991) suggested that gender differences in work stress are confounded by occupational role and hierarchical position and that when these variables are controlled for, no significant gender differences are apparent. In light of these findings, it could be inferred that men and women differ very little in the way they appraise potentially stressful events. It is hypothesised in the present research study therefore that:

Hypothesis 1: Nurses’ levels of work stress will not be significantly different based on gender.
Summary

In summary, the present thesis utilises a transactional approach to explore the stress process. Although the study recognises that stress occurs at an individual level, the researcher supports the view that it is important to consider nurses’ perceptions of stress at a group level in order for appropriate work stress interventions to be developed to address this issue. A multitude of work stressors have been identified in the nursing literature. Whilst some stressors are considered pertinent to the nursing profession (e.g., death and dying, interpersonal conflict, lack of support), other stressors are applicable to most occupational roles (e.g., role overload, role conflict, and role ambiguity). The present research program will consider nurses’ work stressors in relation to burnout. Furthermore, nurses’ perceptions of work stress based on nursing wards and nurses’ levels of work stress based on gender will also be explored. In the following chapter, existing knowledge of the main work stress determinants of burnout are reviewed.
CHAPTER 3
A Review of the Literature on Burnout

The purpose of Chapter 3 is to take stock of the existing empirical knowledge regarding burnout. More specifically, the chapter briefly examines how the burnout construct has evolved to become the readily recognised three-component psychological syndrome, as it is known today. In addition, the chapter clearly distinguishes burnout from occupational stress and explores current developmental models of burnout. Next, the prevalence of burnout among nurses is considered before discussing the primary antecedents of burnout. Hypotheses regarding the interrelationships among the burnout components and the specific determinants of burnout are proposed.

Background

Burnout first emerged as a social problem, not as a scholarly construct. Thus the initial conception of burnout was shaped by pragmatic rather than academic concerns (Maslach & Schaufeli, 1993). In its pioneering phase of conceptual development, the focus was on clinical descriptions of burnout. Later there was a second empirical phase in which the emphasis shifted to systematic research on burnout and in particular the assessment of the phenomenon.

The first few articles about burnout appeared in the mid-1970s in the United States (Freudenberger, 1974, 1975; Maslach, 1976). The significance of these first articles was that they provided the initial description of the burnout phenomenon, gave it its name, and showed that this psychological syndrome was relatively common among human service professionals. Freudenberger, a psychiatrist who was employed in an alternative health care agency, was the first to note that many of the volunteers with whom he was working experienced a gradual emotional depletion and loss of
motivation and commitment. At about the same time, Maslach, a social psychology researcher, was studying the ways in which people cope with emotional arousal on the job. She was particularly interested in such cognitive strategies such as ‘detached concern’ and ‘dehumanisation in self-defence.’ From interviews with human service professionals emerged the realisation that the emotional stress inherent in these occupations could be harmful and debilitating. When by chance she described the results of her research to an attorney, she was told that poverty lawyers called this particular phenomenon ‘burnout’. Maslach and her colleagues (Maslach, 1982; Maslach & Jackson, 1981; Pines & Maslach, 1980) subsequently adopted this term, and they discovered that it was immediately recognised by their interviewees; thus a new colloquial expression was born.

Much of the work during this time consisted of personal experiences (e.g., Freudenberger, 1974, 1977a, 1977b) or narratives based on specific programs or case studies (e.g., Maslach & Pines, 1977; Pines & Maslach, 1978, 1980). Perlman and Hartman (1982) compiled a listing of the multiple conceptualisations used during this period. Definitions of burnout included: (a) to fail, to wear out, become exhausted; (b) a loss of creativity; (c) a loss of commitment for work; (d) an estrangement from clients, coworkers, job and agency; (e) a syndrome of inappropriate attitudes toward clients and toward self, often associated with uncomfortable physical and emotional symptoms. Although these notions of burnout were similar, they lacked a common and precise measure of burnout.

During the next phase of the 1980s, the work on burnout entered a more focused, constructive, and empirical period. Many books and articles were written about burnout, in which the authors outlined their working models of the phenomenon, proposed various ideas and interventions, and presented various forms
of corroborative evidence (questionnaire data, interview responses and clinical case studies). Standardised measures of burnout were developed, thus providing researchers with more precise definitions and methodological tools for studying the concept. In particular, the development and widespread acceptance of the Maslach Burnout Inventory (MBI; Maslach et al., 1996) fostered systematic research on burnout, resulting in an increased number of articles published in scholarly journals.

In summary, burnout is not a new phenomenon – it has its roots in the past (Schaufeli & Enzmann, 1998). The development of burnout as a psychological notion took place along two lines. Initially, in the pioneer phase, a clinical approach prevailed that was characterised by merely describing the symptoms of the burnout syndrome. In the second empirical phase, social and organisational psychologists studied burnout more systematically, using standardised measures. In the section below, the definition and measurement of burnout are further elaborated.

**Definition and Measurement of Burnout**

Today, the most commonly accepted definition of burnout is the three-component conceptualisation proposed by Maslach and her colleagues (Maslach, 1982; Maslach & Jackson, 1981; Pines & Maslach, 1980). Maslach et al. (1996, p.4) define burnout as “a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who work with people in some capacity.” According to Maslach (1993), emotional exhaustion reflects the stress component of burnout, whereas depersonalisation captures a dimension of interpersonal relations, and reduced personal accomplishment incorporates a dimension of self-evaluation (Schaufeli & Enzmann, 1998).

The first dimension, *emotional exhaustion*, has been the most extensively studied factor in the burnout literature. It is characterised by a lack of energy and a
feeling that one’s emotional resources are used up (Cordes & Dougherty, 1993). This ‘compassion fatigue’ may coexist with feelings of frustration and tension as workers realise they cannot continue to give of themselves or be as responsible for clients as they had in the past (Cordes & Dougherty, 1993). A common symptom is dread at the prospect of returning to work the next day.

The second component, **depersonalisation**, adds an interpersonal dimension. Depersonalisation refers to the development of negative, callous, and cynical attitudes towards the recipients of one’s services (Schaufeli & Enzmann, 1998). Workers may display a detached and an emotional callousness, and they may be cynical to coworkers, clients, and the organisation (Cordes & Dougherty, 1993). Although a certain degree of psychological distance may be necessary and even beneficial when dealing with stressful and highly arousing situations, too much detachment may result in the individual developing negative attitudes towards his or her clients/patients (Parker & Kulik, 1995). Visible symptoms include the use of derogatory or abstract language (e.g., the ‘kidney’ in room 212), strict compartmentalisation of professional lives, intellectualisation of the situation, withdrawal through longer breaks or extended conversations with coworkers, and an extensive use of jargon (Maslach & Pines, 1977). While the human service professional may still feel concern, they can no longer give of themselves as they had formerly (Maslach & Jackson, 1986).

The final component of burnout involves feelings of reduced *personal accomplishment*. It is characterised by a tendency to evaluate oneself negatively. In other words, the individual experiences a decline in his or her feelings of job competence and successful achievement in their work or interactions with people (Cordes & Dougherty, 1993). Frequently there is the perception of a lack of progress or even lost ground. Feelings of diminished personal accomplishment may result from
factors suggesting one is unappreciated or that one’s efforts are ineffective (Jackson, Turner, & Brief, 1987), or from factors that suggest one’s competence or performance is low (Burke, Shearer, & Deszca, 1984).

The popularity of this definition and its almost universal acceptance at this time has corresponded with the growth and acceptance of the MBI (Maslach et al., 1996). Its popularity relates to its ability to assess the three dimensions of burnout as proposed by Maslach (1982) and also evidence supporting its reliability and validity in assessing these dimensions. Today, the MBI is in its third revision. The instrument and consequently the definition it supports, has been strengthened by demonstrations of factorial validity and stability across professions and cultures (Gil-Monte & Peiro, 1999; Schaufeli & Van Dierendonck, 1993). Due to its psychometric soundness, the current research also uses the MBI to measure burnout among nurses. Its psychometric properties are discussed further in Chapter 5.

Despite the growing consensus surrounding the concept of burnout, the distinction between burnout and stress has not been clearly delineated in the literature. Examination of the literature suggests that the concepts of stress and burnout are closely related. Despite similarities in theoretical assumptions and models, burnout may be distinguished from occupational stress. In the section below, the concept of burnout will be distinguished from job stress.

*Burnout – An Outcome of Job Stress*

Stress and burnout are generally conceptualised as the product of a complex transaction between individual needs and resources and the various demands within an individual’s immediate environment (Handy, 1990). Furthermore, both are generally conceptualised as highly subjective phenomena in which perceived stressors are more important than actual environmental conditions (e.g., Caplan, 1983; Cox,
It would appear that models of occupational stress and burnout are concerned with the stressed individual within the workplace, however models of occupational stress predominantly analyse *causes* of stress whereas models of burnout predominantly investigate the individual’s *response* to occupational stress. As Ganster and Schaubroeck (1991) argued, burnout is, in fact, a type of stress – specifically a chronic affective response pattern to stressful work conditions that feature high levels on interpersonal contact.

In addition, burnout can be distinguished from occupational stress with respect to time. Burnout can be considered a response to prolonged job stress, that is, when the demands at the workplace tax or exceed an individual’s resources (Maslach & Schaufeli, 1993). This longer time perspective is also implied in its terminology: burning out (depleting ones resources) is a long-term process (Schaufeli, Maslach, & Marek, 1993). A remarkable parallel exists with the work of Seyle (1967). Seyle suggested that after prolonged exposure to stress, the physiological resources are depleted, and irreversible damage is caused to the organism (Maslach & Schaufeli, 1993). Referring to Seyle’s adaptation syndrome, Etzion (1987) argued that burnout is a latent process of psychological erosion resulting from prolonged exposure to stress. Typically, exhaustion is reached before the individual consciously has noticed both the preliminary stages: alarm and resistance. Brill (1984) has also conceptualised burnout as the result of long-term exposure to job stress. According to Brill, stress refers to an adaptation process that is temporary and is accompanied by mental and physical symptoms, whereas burnout refers to a breakdown in adaptation accompanied by chronic malfunctioning. It would appear that burnout is response-
based and concentrates on the mental health and work outcomes of extended job stress.

Specifically, stress is a generic term that refers to the temporary adaptation process that is accompanied by mental and physical symptoms (Schaufeli, 1999). In contrast, burnout can be considered as a final stage in a breakdown of adaptation that results from the long-term imbalance of demands and resources. Moreover, burnout includes the development of dysfunctional attitudes and behaviour towards recipients (depersonalisation), the job, and the organisation, whereas job stress is not necessarily accompanied by such attitudes and behaviours. This assertion is empirically supported by Schaufeli and Van Dierendonck (1993) who showed in a sample of nurses that burnout can be distinguished from job-related distress, despite emotional exhaustion sharing about 30% of its variance with distress. The fact that depersonalisation and reduced personal accomplishment, however, are less substantively related to distress implies that burnout is a unique, multidimensional, chronic stress reaction that goes beyond the experience of mere exhaustion. Finally, it has been argued that everybody can experience stress, while burnout can only be experienced by those who entered their careers enthusiastically with high goals and expectations. Pines (1993) proposed that individuals who expect to derive a sense of significance from their work are susceptible to burnout, whereas those without such expectations would experience job stress instead of burnout.

In summary, stress and burnout may not be distinguished on the basis of symptoms, but only on the basis of process (Schaufeli et al., 1993). While job stress and burnout are clearly linked, they are not identical constructs. Overall, researchers agree that burnout is a pattern of responses that develops as a result of prolonged exposure to stressors at work. The sequencing of the three components of burnout or
the process of burnout has been conceptualised differently among researchers of burnout. There are at least three competing models of burnout. In the section below, the development of the three burnout components are considered.

*Burnout as a Process*

The original burnout sequencing was proposed by Maslach (1982). Maslach assumes that burnout is a sequential process that starts with emotional exhaustion resulting from the emotional demands of dealing with clients. Perhaps as a defensive coping strategy, they then limit their involvement with others and distance themselves psychologically from clients (Cordes & Dougherty, 1993). Depersonalisation is thought to provide an emotional buffer between the individual and the imposing coping demands. Finally, the individual recognises the discrepancy between their current attitude and their original optimistic expectations about the potential contributions to society and to the organisation. As a result, individuals experience a sense of inadequacy in terms of their ability to relate to people and to perform their jobs and gradually a sense of diminished personal accomplishment develops (Schaufeli & Enzmann, 1998). This model is consistent with the view that strain leads to avoidance behaviours and, in turn, reduced effectiveness (Gaines & Jermier, 1983). Maslach’s (1982) model of burnout is depicted in Figure 3.1.
An alternative model of the burnout process is a sequence that was advanced by Golembiewski and Munzenrider (1981, 1984, 1988) and Golembiewski (1989). Although Golembiewski and Munzenrider agree with the three-dimensional nature of burnout as proposed by Maslach, they provide a rather more strongly modified process of burnout (Schaufeli & Enzmann, 1998). Golembiewski and Munzenrider suggest that in human service settings, depersonalisation comes first, which leads to reduced personal accomplishment and subsequent emotional exhaustion. They maintain that depersonalisation is first experienced because a certain degree of professional detachment is often functional in dealing with others in a more ‘objective’ manner and is often reinforced by one’s peers and superiors (Lee & Ashforth, 1993). Beyond a certain degree, however, detachment becomes depersonalisation; thus impairing the ability to form necessary relationships with others and undermining performance (Lee & Ashforth, 1993). As depersonalisation deepens and one’s sense of accomplishment diminishes, work stress may surpass
one’s ability to cope, leading to emotional exhaustion. Golembiewski and Munzenrider’s model of burnout is depicted in Figure 3.2.

Figure 3.2. Golembiewski and Munzenrider’s (1988) model of burnout.

Golembiewski and Munzenrider’s model, however, has been criticised by researchers (e.g., Ashforth & Lee, 1997) for not articulating a detailed or compelling theoretical rationale for their sequence model. According to Maslach’s model, depersonalisation is argued to be a means (albeit futile) of stanching the flow of emotional energy, of coping with growing exhaustion. Golembiewski and Munzenrider do not make it clear how and why depersonalisation develops. Indeed human service professionals are often socialised to assume a stance of detached concern toward their clients, and bureaucratic structures and cultures may reinforce detached concern. However, it is not apparent why this detachment would slide into outright depersonalisation for service providers in the absence of at least some strain (Ashforth & Lee, 1997). Second, Maslach (1982) argues that emotional exhaustion often stems from unrealistic desires to solve the frequently intractable problems of clients. Indeed, the more idealistic the service provider, the greater the risk of burnout. In Golembiewski and Munzenrider’s model, the provider is already retreating from a
commitment to his or her clients through depersonalisation and low personal accomplishment. It is not clear why emotional exhaustion would develop at this point rather than earlier. Furthermore, on the empirical front, research consistently indicates that emotional exhaustion and depersonalisation are far more strongly correlated than is personal accomplishment with emotional exhaustion or depersonalisation. For instance, Lee and Ashforth (1996) conducted a meta-analysis of 61 studies and found that emotional exhaustion was strongly positively related to depersonalisation ($r = .64$), whereas both dimensions were moderately negatively related to personal accomplishment ($r = -.33$ for emotional exhaustion and $r = -.36$ for depersonalisation). Cordes, Dougherty, and Blum (1997) reported similar findings. Emotional exhaustion was more strongly correlated with depersonalisation ($r = .58$), than was personal accomplishment with either emotional exhaustion ($r = -.26$) or depersonalisation ($r = -.19$). These associations cast doubt on Golembiewski and Munzenrider’s argument that (low) personal accomplishment in effect mediates the association between depersonalisation and emotional exhaustion. Recent evidence suggests that the three-factor sequential model as conceived by Maslach is slightly superior to Golembiewski and Munzenrider’s model of burnout (Cordes et al., 1997; Lee & Ashforth, 1993).

These relatively weak associations between emotional exhaustion and depersonalisation with personal accomplishment prompted Leiter (1993) to speculate that personal accomplishment follows an independent but parallel process to emotional exhaustion and depersonalisation. Leiter (1990, 1991, 1993) conducted a series of studies in which he distinguished between quantitative job demands (e.g., workload), qualitative job demands (e.g., interpersonal conflict) and lack of resources (e.g., lack of social support, lack of opportunities for skill enhancement, poor client
cooperation, lack of autonomy and participative decision making). Demands were expected to be related to emotional exhaustion, whereas resources were expected to be related to depersonalisation and lack of personal accomplishment. Leiter (1990, 1991, 1993) proposed that demanding aspects of the work environment aggravate exhaustion, which in turn contributes to increased depersonalisation, while the presence of resources influences personal accomplishment. The results largely confirmed this hypothesised model, although the model was based on cross-sectional data. Contrary to Maslach’s model, however, personal accomplishment seemed to develop rather independently from emotional exhaustion and depersonalisation (see Figure 3.3).

![Figure 3.3. Leiter’s (1993) model of burnout.](image)


Leiter (1993) described reduced personal accomplishment as developing in parallel with the other two burnout dimensions, provided that resources were lacking.
Lee and Ashforth’s (1996) concluded from their meta-analysis that their results were largely consistent with Leiter’s (1993) mixed sequential and parallel development model of burnout. They found that emotional exhaustion is particularly related to job demands (e.g., role problems, workload, work pressure, stressful events, unmet expectations), whereas poor personal accomplishment is related to lack of resources (e.g., poor social support). Depersonalisation appears to be related to both job demands as well as lack of resources.

In contrast to the original Maslach model, which proposed an entirely internal model in which emotional exhaustion triggered the whole burnout syndrome in response to environmental stressors, Leiter (1993) suggests the relationship between emotional exhaustion and personal accomplishment exists external to individuals. It exists within their social context, in the provision of organisational resources, in the personal conflict among colleagues and service recipients, and in the pressure of emotional demands. From this perspective, the mild but persistent correlation between emotional exhaustion and personal accomplishment (Maslach & Jackson, 1986) arises because of consistent relationships among aspects of work environments: work settings characterised by excessive work loads and personal conflict are often experienced by their participants as lacking in organisational supports necessary for effective professional functioning (Cherniss, 1980; Hackman, 1986). According to Leiter (1993) work settings that persistently deplete the emotional energy of its personnel are likely to provide inadequate resources in terms of social support or opportunities for professional development.

At this point in time, it cannot be confirmed or disconfirmed whether Leiter’s revised sequencing model is a more accurate model of burnout. Further studies need to be replicated with similar samples to ensure that the obtained effects are in fact
significant and that they are not due to chance. While the revised model appears to better explain the data than the original Maslach model, other possible models could fit the data equally well. Any inference about the casual relations at this stage among the burnout variables would be premature. It may be that there is no strict order in which the three burnout dimensions affect each other (Janssen, Schaufeli, & Houkes, 1999). What is known, however, is that burnout is a process and the three components of burnout influence one another over time. Furthermore, the three burnout components have distinct relationships with environmental conditions (Leiter, 1991). In the present thesis, the three burnout components will be explored independently in relation to a range of work stressors. Taking into consideration the previous discussion, the following hypothesis was formulated.

Hypothesis 2: Burnout consists of three related, but empirically distinct components – emotional exhaustion, depersonalisation, and personal accomplishment.

Prevalence of Burnout Among Nurses

Several researchers (e.g., Adali & Priami, 2001; Cordes & Dougherty, 1993; Duquette et al., 1994; Greenglass et al., 2001; Kilfedder et al., 2001; Kirkcaldy & Martin, 2000) have concluded that nurses have a high risk of burning out. It could therefore be assumed that the prevalence of burnout in the nursing profession is high. For instance, two European epidemiological studies reported that burnout affects approximately 25% of all nurses (Landau, 1992; Saint-Arnaud et al., 1992). However, other empirical studies have suggested that the prevalence of burnout among nurses is much smaller. For instance, Bourbonnais, Comeau, Vézina, and Dion (1998) using a sample of 1,891 Canadian nurses, reported that the prevalence of burnout (i.e., high levels of emotional exhaustion and depersonalisation and low levels of personal accomplishment) was 8.4%. Kilfedder et al. (2001) using a randomly selected sample
of 510 Scottish nurses, found that only 2% of their study sample could be categorised as having high burnout.

In reality it is difficult to determine the prevalence of burnout among nurses working within a hospital environment. Although the majority of studies investigating burnout levels have utilised Maslach et al.'s (1996) MBI, some authors have preferred to use an alternative such as Pines and Aronson's (1981) Tedium Scale (e.g., McCranie, Lambert, & Lambert, 1987), Jones' (1980) Staff Burnout Scale for Health Professionals (e.g., Duquette et al., 1995) and Ebbinghaus' (1996) Oldenburg Burnout Inventory (e.g., Demerouti, Bakker, Nachreiner, & Schaufeli, 2000). In addition, the purpose and aims of the studies have varied widely, and therefore heterogeneous samples have been used. Most studies do not report the overall level of burnout among nurses. Studies more commonly report the percentage of the sample population scoring low, moderate and high levels of emotional exhaustion, depersonalisation, and personal accomplishment (McGrath et al., 1989). Another limitation of more recent studies on burnout in nursing is that researchers have predominantly directed their attention to psychiatric or mental health nurses, at the exclusion of general nurses (e.g., Edwards, Burnard, Coyle, Fothergill, & Hannigan, 2000a, 2000b; Fagin, Brown, Bartlett, Leary & Carson, 1996; Kilfedder et al., 2001; Leiter & Harvie, 1996). To gauge the degree of burnout in the nursing industry, descriptive studies that investigated general nurses working in a hospital environment, that used the MBI, and reported the mean scores for the three burnout dimensions are examined. The level of burnout was established using the norms provided in the MBI manual (Maslach et al., 1996).

Earlier studies (Ceslowitz, 1989; Maslach & Jackson, 1981; Topf, 1989) investigating general nurses working in a hospital setting found that nurses
consistently reported mean scores for emotional exhaustion, depersonalisation and personal accomplishment that fell in the moderate range (i.e., the middle third of the MBI normative distribution). In a study of 62 medical nurses and 66 surgical nurses however, Ogus (1992) found that medical and surgical nurses reported high levels of emotional exhaustion and depersonalisation but still reported high levels of personal accomplishment.

In a more recent study, Schmitz, Neumann, and Oppermann (2000) studied a convenience sample of 366 nursing staff from five German hospitals across nine wards and found that the mean scores for emotional exhaustion and personal accomplishment were moderate, however depersonalisation was high. Iacovides, Fountoukalis, Moysidou, and Ierodiakonou (1997) using 368 nurses from a general hospital in Greece, found that nurses reported moderate levels of emotional exhaustion, depersonalisation, and personal accomplishment. Butterworth, Carson, Jeacock, White, and Clements (2000), in a study of British and Scottish nurses (n = 586), found that ward nurses reported moderate levels of emotional exhaustion, depersonalisation, and high levels of personal accomplishment. Finally, Turnipseed and Turnipseed (1997) compared the burnout level of 129 American nurses to 71 nurses from the Philippines. Their results indicated that overall, American nurses reported moderate levels of emotional exhaustion, depersonalisation and personal accomplishment. In contrast, nurses from the Philippines reported borderline low/moderate emotional exhaustion, moderate depersonalisation, and personal accomplishment at the margin of moderate to high.

A thorough examination has revealed that there are no recent Australian studies that have investigated the degree of burnout among general nursing staff working in public hospitals. In the present study, the mean MBI scores will be
generated for each component of burnout. It is assumed that the level of burnout among Australian nurses will be similar to that found in American, British, and European studies. It is therefore expected that:

Hypothesis 3: Australian nurses will report moderate levels of emotional exhaustion, depersonalisation, and personal accomplishment.

A further limitation of most nursing research is that studies have failed to consider how nurses’ burnout levels compare to other human service professions. This makes it difficult to comment on whether nurses are in fact at a greater risk of experiencing burnout in comparison to other human service professions. Schaufeli and Enzmann (1998) however, analysed a MBI data set based on 73 US studies including over 17,000 respondents that were published between 1979 and 1998. They summarized the mean MBI burnout levels for six occupational fields and various professions. Table 3.1 presents the mean burnout levels for a range of human service professions (i.e., teachers, social workers, nurses, physicians, psychologists and counsellors).
Table 3.1

*Burnout Levels Among the Human Service Professions Based on Studies Published Between 1979 and 1998.*

<table>
<thead>
<tr>
<th>Field/Profession</th>
<th>Emotional Exhaustion</th>
<th>Depersonalisation</th>
<th>Personal Accomplishment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Teaching</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Worker</td>
<td>6</td>
<td>628</td>
<td>20.82</td>
</tr>
<tr>
<td>Medicine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>11</td>
<td>1542</td>
<td>23.80</td>
</tr>
<tr>
<td>Physician</td>
<td>3</td>
<td>479</td>
<td>24.03</td>
</tr>
<tr>
<td>Mental Health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychologist</td>
<td>6</td>
<td>1382</td>
<td>19.75</td>
</tr>
<tr>
<td>Counsellor</td>
<td>4</td>
<td>422</td>
<td>20.52</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>36</td>
<td>37</td>
</tr>
</tbody>
</table>


Table 3.1 indicates nurses generally report moderate levels of emotional exhaustion and depersonalisation but moderately low levels of personal accomplishment (Schaufeli, 1999). In comparison with physicians, nurses experience slightly less emotional exhaustion, much less depersonalisation, but much lower levels of personal accomplishment. In comparison with teachers, nurses report significantly lower levels of emotional exhaustion, lower levels of depersonalization but lower levels of personal accomplishment. When compared with psychologists and counsellors, nurses report higher levels of emotional exhaustion and depersonalisation and much lower levels of personal accomplishment. Overall, it could be concluded that nurses report comparable levels of emotional exhaustion and depersonalisation to other human service professionals, but lower levels of personal accomplishment.

The present research contributes to our knowledge of whether nurses are indeed at a higher risk of experiencing burnout than other human service professions by generating mean MBI scores for a sample of Australian nurses and comparing
them to mean MBI scores for a range of human service professions as detailed in the MBI administration manual.

Antecedents of Burnout

Burnout in nurses has been primarily examined from the point of view of its potential antecedents (e.g., Cordes & Dougherty, 1993; Eastburg, Williamson, Gorsuch, & Ridley, 1994; Firth, McKeown, McIntee, & Britton, 1987; Kandolin, 1993; Leiter & Maslach, 1988; Maslach, 1982; Pick & Leiter, 1991; Robinson et al., 1991). Burnout is believed to originate from nursing work itself as well as from characteristics of the worker and the work environment (Koivula, Paunonen, & Laippala, 2000). Among the factors which are considered to be the main antecedents of burnout, those referring to the work environment are particularly significant (Schaufeli & Janczur, 1994).

However, findings regarding the precise work-related determinants of burnout in nursing have been somewhat inconsistent. This may be because empirical studies have conceptualised burnout in different ways. Whilst some studies have investigated burnout as a unidimensional concept and have analysed burnout using aggregate burnout scores (e.g., Duquette et al., 1995), some studies have only examined what is deemed to be the core component of burnout, that is emotional exhaustion (e.g., Janssen, De Jonge, et al., 1999). Other studies have examined burnout as a two component syndrome - emotional exhaustion, and depersonalisation (e.g., Demerouti et al., 2000), and have excluded personal accomplishment altogether. Furthermore, studies have been conducted on different nursing groups working in a variety of environmental contexts. Understandably, researchers are still unclear how various work-related factors exert their influence across the three burnout dimensions. One of the purposes of the present research is to enhance our understanding of the
antecedents of nursing burnout by examining the predictive relationships between work stressors and the three burnout components. Extensive studies have been conducted in the nursing literature to examine work related stressors and burnout. In particular, stressors specific to the nursing industry and generic stressors associated with the role of nursing have been examined. There is some evidence to suggest that stressors that are more job-specific have the greatest impact on individual strains because they are most salient to employees in a particular job (Beehr, Jex, Stacy, & Murray, 2000; Kilfedder et al., 2001). However, very few nursing studies (e.g., Gray-Toft & Anderson, 1981b) have investigated both job-specific stressors and role stressors in the same study. Thus, in the section below, job-specific nursing stressors and role stressors will be reviewed separately.

The Relationship Between Job-Specific Stressors and Burnout

The nursing literature consistently reveals that certain job-specific stressors – such as exposure to death and dying and client problems that do not have solutions, coupled with work overload, have an adverse psychological impact on nurses. It is difficult, however, to summarise the results of these burnout studies because they use different measures of burnout and examine a wide array of job-specific stressors.

A multitude of job-specific stressors have been found to be associated with burnout among nurses. For example, nurses’ burnout has been found to be related to death and dying (Payne, 2001), conflict with staff (Payne, 2001), high workload (Demerouti et al., 2000; Duquette et al., 1994; Janssen, Schaufeli, et al., 1999; Tummers, Janssen, Landerweed, & Houkes, 2001), poor social support (Bourbonnais et al., 1998; Corrigan et al., 1994; Duquette et al., 1994; Turnipseed & Turnipseed, 1997), lack of control (Ellis & Miller, 1994), lack of participation in decision-making
(Ellis & Miller, 1994), and a perceived imbalance between investments and outcomes in relationships with patients (Schaufeli & Janczur, 1994; Van Yperen et al., 1992).

Duquette et al. (1995) examined the psychosocial determinants of burnout among 1,545 geriatric nurses. Work stressors were measured by the NSS (Gray-Toft & Anderson, 1981a) and burnout was assessed by the Staff Burnout Scale for Health Professionals (Jones, 1980). The results of a hierarchical multiple regression analysis revealed that work stressors explained an important part of the variance (21%) in burnout. The most significant predictors of burnout included conflict with physicians and a heavy workload.

Demerouti et al. (2000) investigated the influence of ten job demands and eleven job resources (e.g., social support) on burnout using a sample of 109 hospital nurses. Burnout was measured using the Oldenburg Burnout Inventory (Ebbinghaus, 1996). The results of a series of structural equation modeling analyses suggested that demanding patients, high workload, time pressures, unfavourable environmental conditions and problems with shift work schedule was significantly related to emotional exhaustion. In contrast, an attitude of disengagement was primarily associated with a work environment lacking resources (performance feedback, job control, task variety, supervisor support, rewards and participation in decision making). These findings are consistent with Leiter (1993) and Lee and Ashforth’s (1996) findings in which emotional exhaustion was most strongly correlated to work demands and depersonalisation and personal accomplishment were most strongly related to resources.

Kilfedder et al. (2001) examined the relationship between job-specific nursing stressors (as measured by Gray-Toft and Anderson’s NSS) and generic role stressors (i.e., role conflict and role ambiguity) using a sample of 510 psychiatric nurses.
Hierarchical regression analysis revealed that higher levels of emotional exhaustion were associated with job-specific nursing stressors. Neither job-specific nor generic work stressors predicted depersonalisation and personal accomplishment. Lack of social support (assessed using House and Wells’ (1978) Social Support Measure), was found to be a significant predictor of emotional exhaustion and depersonalisation. Lower levels of personal accomplishment were associated with less control over job-related events and less use of coping strategies.

Payne (2001) examined nursing stressors as determinants of burnout in 89 female hospice nurses. Work stressors were measured by the NSS and burnout was assessed by the MBI. Multiple regression analyses found that death and dying and conflict with staff contributed to emotional exhaustion. Conflict with staff and inadequate preparation contributed to depersonalisation. Inadequate preparation also contributed to lower levels of personal accomplishment.

Some of the more consistent findings, however, suggest that workload and lack of support are the strongest predictors of burnout. Van Servallen and Leake (1993) found that burnout is not associated with particular patient groups and their treatment, but especially with haste at work. Miller, Reesor, McCarrey, and Leiken (1995) also found that long work hours related to burnout. In a study of 156 Dutch nurses employed at a general hospital, Janssen, De Jonge, et al. (1999), reported that emotional exhaustion was primarily predicted by a lack of support from colleagues, and by demanding aspects of work, such as working under time pressure and strenuous work. Lee and Ashforth’s (1996) meta-analysis of the effects of various work characteristics on burnout also identified a high perceived workload as the single most important source of emotional exhaustion. Furthermore, Janssen, Schaufeli, et al. (1999), using a sample of 156 Dutch hospital nurses, examined the
relationships between a range of job demands and work resources in relation to the three burnout components. They found that emotional exhaustion is primarily and strongly correlated ($r = .45, p \leq .01$) with work overload. Depersonalisation was associated with lack of social support ($r = -.22, p \leq .05$). Personal accomplishment was not associated with work-related factors. Instead, personal accomplishment was primarily associated with the dispositional attribute - self-esteem ($r = -.26, p \leq .01$). Based on the above findings, it could be argued that different stressors are related to different aspects of burnout.

**The Relationship Between Role Stressors and Burnout**

According to Baba et al. (1999), as role pressures mount, nurses experience stress and tend to burn out. Role conflict and role ambiguity are frequently studied as sources of stress in the nursing literature (e.g., Gray-Toft & Anderson, 1985; Jones, 1987; Peiro & Zurriaga, 1985) however, few studies (e.g., Cash, 1991; Gil-Monte et al., 1995) have investigated the relationship between role stressors and burnout in the nursing profession. Despite this, numerous investigations have demonstrated a consistent link between role stress and burnout among other human service professionals. In particular, role conflict and role ambiguity have been repeatedly examined in relation to burnout. For example, Holloway and Wallinga (1990) in a study of child care specialists found that although role ambiguity and role conflict were both significantly correlated with burnout, role ambiguity was a stronger predictor of burnout. Similarly, Fimian (1984) found that while both role ambiguity and role conflict were correlated with burnout, role conflict was not a significant predictor of burnout among special education teachers. The major limitation of these empirical studies, however, is their use of a single score to represent burnout, rather
than examining the differential effects of role stressors on the three burnout subscales of emotional exhaustion, depersonalisation and reduced personal accomplishment.

There is evidence to suggest that role conflict and role ambiguity contribute independently to burnout dimensions. When burnout relationships are reported on the basis of the three subscales, however, the relationship between the three role stressors and burnout is still not clear. For instance, Boyd and Pasley (1989) designed a study to determine whether role ambiguity or role conflict best explained the variance in the level of burnout experienced by 85 full-time, childcare professionals. The results of the regression analyses revealed that role ambiguity was the strongest predictor of emotional exhaustion ($R^2 = 18\%$, $\beta = .43$, $p = .000$) and depersonalisation ($R^2 = 14\%$, $\beta = .37$, $p = .001$). However, role conflict was the strongest predictor of personal accomplishment ($R^2 = 9\%$, $\beta = -.30$, $p = .005$). Boyd and Pasley suggested that in their particular sample, the ability of role ambiguity to explain variance in emotional exhaustion and depersonalisation may be explained by factors such as unclear organisational structures and difficulty in defining success. Because the needs of individual children and groups of children differ from day to day, it may become difficult for a caregiver to measure the efficacy of their approach. These results suggest that working in an ambiguous environment may result in increased role ambiguity on the part of the childcare professionals. According to Boyd and Pasley, the ability of role conflict to explain variance in personal accomplishment may stem from holding overly high expectations which may not be met in the work setting, or having to choose between providing quality care and performing other responsibilities such as food preparation. However, since so little of the variance in personal accomplishment was accounted for by role conflict, it is likely that other more salient
factors are responsible for child care professionals’ sense of personal accomplishment.

Boyd and Pasley’s results can be contrasted with the findings of Crane and Iwanicki (1986). In a sample of 443 special education teachers, Crane and Iwanicki found that both role ambiguity and role conflict were significant predictors of emotional exhaustion and depersonalisation. Although role ambiguity was a significant predictor of emotional exhaustion and depersonalisation, it only accounted for 1% and 2% of the variance in the burnout components, respectively. In contrast, role conflict accounted for 14% and 19% of emotional exhaustion and depersonalisation, respectively. It is therefore suggested that the significance of role ambiguity may be attributed to the large sample size used in this study. Role ambiguity, however, was the only role stressor that accounted for variance in personal accomplishment \( R^2 = 6\% \). Similar findings were reported by Schwab and Iwanicki (1982) in a sample of elementary and high school teachers. Crane and Iwanicki concluded that working in a job that is loosely defined and in an environment that is open to role conflicts (such as trying to address the needs of a diverse group of special education students while complying with limited teaching resources provided by the education institution) is certainly stressful and likely to lead to burnout.

More recently, in a study of 102 nursing professionals, Gil-Monte et al. (1995) found that role conflict and role ambiguity contributed independently to different aspects of burnout. They found a significant positive relationship between role conflict and emotional exhaustion \( \beta = .46, p < .001 \) and depersonalisation \( \beta = .43, p < .001 \). In addition, role ambiguity was a significant negative predictor of personal accomplishment \( \beta = -.27, p < .01 \). The relationship between emotional exhaustion and role conflict has been found to be significant in other studies (Boyd & Pasley,
Gil-Monte et al. suggested that a possible explanation for the significant positive relationship between emotional exhaustion and role conflict is that nursing work requires warmth and sympathy, together with objectivity and assertiveness, which could result in intra-role conflict. The consequent effort for dealing with this conflict could be related to the depletion of one’s emotional resources (Gil-Monte et al.). Furthermore, the significant positive relationship between depersonalisation and role conflict has been replicated in other studies (Boyd & Pasley, 1989; Kottkamp & Mansfield, 1985; Linquist & Whitehead, 1986). Gil-Monte et al. proposed that depersonalisation is a defense mechanism developed by nurses to cope with conflicting demands; the result of which is to dehumanise care to patients. Finally, other researchers (Cash, 1991; Holgate & Clegg, 1991) have also found a significant negative relationship between personal accomplishment and role ambiguity. Cash (1991) suggested that although the focus of nursing is on care and not cure, many nurses have come to equate health care with cure. When patients are not cured nurses may see themselves as failures and experience lower levels of personal accomplishment. Role ambiguity seems a rather salient stressor within nursing (Buunk, Van Yperen, Taylor & Collins, 1991; Molleman, Pruyn, & Van Knippenberg, 1986). Although the role of a nurse may seem clear, there may be considerable uncertainty in how to carry out this role (McGrath et al., 1989). For example nurses may wonder if they are too involved with patients or not involved enough, may feel uncertain about how to deal with various problems of patients (including appeals for help and expressions of anxiety), and may experience insecurities about whether they are doing their job correctly (Buunk & Schaufeli, 1993).
It is evident from the literature reviewed that both role ambiguity and role conflict can function as intervening variables between environmental conditions in the workplace and a variety of behavioural and affective responses (Cash, 1991; Pearce, 1981) and hence act as predictors of job-related outcomes such as burnout in individuals. Boyd and Pasley (1989) proposed that the conflicting empirical findings between studies suggest that role stressors vary in importance and degree contingent upon the specific occupation held and the job-related outcome measured. However, as Jackson and Schuler (1985) noted, more attention is needed to explain the mechanisms by which role stressors are linked to negative consequences.

While the effect of role overload on burnout is not as well documented as role ambiguity and role conflict, it has been found to be a significant predictor of stress-related outcomes such as job dissatisfaction, depression, and burnout (Kahn & Byosiere, 1992). Originally, role overload was “treated as a variant of role conflict, in which conflict was experienced as a necessity to compromise either quantity, time schedule, or quality” (Kahn & Byosiere, 1992, p. 601). However, in recent years, role overload has been treated as a construct in its own right and earlier arguments of interdependency between role conflict and role overload have been opposed (Kahn & Byosiere, 1992). Although literature examining the relationship between role overload and burnout is limited, the following empirical studies have examined the dimension of role overload independently of other role stressors. These studies provide empirical evidence that role overload is a significant predictor of strains, independent of other role stressors, and therefore should be recognised as a separate construct from role conflict in the stress-burnout literature.

Support for the independence of the three role stressors is found in a study by Iwata and Suzuki (1997) involving 256 Japanese bank workers. The results of this
research demonstrated that role overload ($r = .42, p < .01$) rather than role conflict ($r = .25, p < .01$) or role ambiguity ($r = .16, p < .05$), had the largest association with overall mental health. Iwata and Suzuki (1997) proposed that when workers have to meet strict deadlines as well as completing other regular daily routines (e.g., administrative work), role overload may play a more significant part in predicting overall negative mental health than other role stressors such as role conflict and role ambiguity.

In a study of active trade union members, Nandram and Klandermans (1993) examined the extent to which role stressors (i.e., role conflict, role ambiguity, and role overload) correlated with the core component of burnout, emotional exhaustion. These researchers reported that emotional exhaustion was most strongly associated with role conflict ($r = .33, p < .01$) and role overload ($r = .20, p < .01$). Only role ambiguity failed to significantly correlate with emotional exhaustion ($r = .10, ns$). Similarly, Kottkamp and Travlos (1986) found in a study of high school principals that emotional exhaustion was most strongly associated with role conflict ($\beta = .22, p < .01$) and role overload ($\beta = .33, p < .01$). A significant limitation of these studies however, is that only one component of burnout, that of emotional exhaustion, was examined.

In contrast, Koniarek and Dudek (1996) using a sample of 1,023 hospital nurses, investigated the relationship between role stress and the three burnout components. They reported that role overload, role conflict and role ambiguity were significantly and positively correlated with emotional exhaustion, with correlation coefficients of .47, .41, and .35 ($p < .01$) respectively. In addition, role overload ($r = .25, p < .01$), role conflict ($r = .29, p < .01$), and role ambiguity ($r = .25, p < .01$) positively correlated with depersonalisation, although the correlation coefficients
were less strong. Finally, role conflict \( (r = -.13, p < .01) \) and role ambiguity \( (r = -.14, p < .01) \) were significantly but weakly associated with personal accomplishment. Baba et al. (1999) using a sample 119 hospital nurses, also reported that role conflict and role overload predicted burnout.

A study by Cordes et al. (1997) involving 354 human resource professionals (managers and professionals), found role overload to be significantly associated with emotional exhaustion \( (r = .52, p < .001) \) and depersonalisation \( (r = .25, p < .001) \). Although role overload was negatively associated with personal accomplishment, it was not significant \( (r = -.10, p > .05) \). Cordes et al. suggested that individuals with insufficient time and human resources to accomplish the job at work, may expend an excessive amount of emotional energy and use their time inefficiently to maintain performance standards, thus leading to emotional exhaustion and depersonalisation.

In summary, based on the literature reviewed, it could be argued that where working conditions are characterised by high role overload, employees are likely to experience higher levels of burnout. More specifically, conditions of high role overload are associated with high levels of emotional exhaustion and depersonalisation, and low levels of personal accomplishment. Excessive workloads are frequently used to describe employment conditions in the human service industries (Kahn & Byosiere, 1992) where high levels of burnout have been recorded (Maslach et al., 1996). These findings provide evidence that role stressors should be taken into consideration when examining the stress-burnout relationship among nurses. Recent literature confirms that role stressors are significantly associated to burnout. Based on the findings above, the following hypotheses were generated:

Hypothesis 4: Both job-specific stressors and role stressors will be related to burnout in nurses.
Hypothesis 5: Job-specific stressors will be significantly and positively related to emotional exhaustion and depersonalisation and negatively related to personal accomplishment.

Hypothesis 6: Role stressors will be significantly and positively related to emotional exhaustion and depersonalisation and significantly and negatively related to personal accomplishment.

The Relationship Between Sociodemographic Factors and Burnout

Research demonstrates that sociodemographic variables have little influence on burnout among nurses (Dallender, Nolan, Soares, Thomsen, & Arnetz, 1999). In most studies, no relationship has been found between burnout and marital status (Ackerley, Burnell, Holder, & Kurdek, 1988; Dallender et al., 1999; Kandolin, 1993; LeCroy & Rank, 1987; Raquepaw & Miller, 1989), ethnic background (LeCroy & Rank, 1987; Naisberg-Fennig, Keinan, & Elizur, 1991; Raquepaw & Miller, 1989) or level of education (Leiter & Harvie, 1996). Duquette et al.’s (1994) meta-analytic review of the nursing burnout literature suggested that only age and length of nursing experience appear to contribute to burnout among nurses.

Robinson et al. (1991) and Van Servallen and Leake (1993) found that younger, less experienced nurses reported more emotional exhaustion and depersonalisation, but that in older staff members, personal accomplishment was low. This finding suggests that although practical experience may guard against emotional exhaustion and depersonalisation, it does not enhance one’s sense of personal accomplishment. Bennett, Michie, and Kippax (1991) also reported that the age of nurses influenced levels of burnout, with older nurses experiencing less burnout than younger nurses. Kilfedder et al. (2001) found higher levels of depersonalisation were associated with younger, more recently qualified nurses. Burnout has been shown to be more common
among younger employees perhaps because of the initial shock of the job in reality, a lack of adaptation to or insecurity in working life, or a perception of more role ambiguity. Younger nurses seem to experience the discrepancy between their nursing education and the reality of working as difficult, which reduces their enthusiasm in the early stages of their career (Ketola & Kevätsalo, 1994). Those that remain in nursing are perhaps those that did not experience burnout early on in their careers. Koivula, Pauonen, and Laippala (2000) suggest that burnout in older nursing staff may be explained by the fact that the last stages of their career lack the possibility to learn new things and develop themselves, since possibilities for professional education have been exhausted. There is also some evidence to suggest that length of nursing experience correlates negatively with burnout. The length of nursing experience may lead to an increasing ability to cope with the job, over and above the increase in coping attributable to age (Cherniss, 1980). There is evidence to suggest that full-time nursing staff report greater levels of emotional exhaustion (Burke & Greenglass, 2001, Duquette et al., 1995). Furthermore, higher level staff (e.g., nurse managers, nurse practitioners, nurse educators) report higher levels of personal accomplishment from their jobs (Butterworth et al., 1999).

Gender differences in burnout are typically not reported or not found across nursing studies. This may be because the sample size of male nurses is generally small and therefore significant differences may not be detected from the data. However, in their meta-analytic review of stress and stress interventions of mental health nurses, Edwards and Burnard (2003) found males scored higher than females on all three burnout variables. Similarly, Kilfedder et al. (2001) reported that male nurses reported more depersonalisation than female nurses. In the wider burnout literature, males have been consistently found to report higher levels of
depersonalisation than females (Ogus, Greenglass, & Burke, 1990). Zani and Pietrantoni (2001) in a sample of 314 health professionals also found that men scored higher than women on depersonalisation and reduced personal accomplishment. Greenglass, Burke, and Ondrack (1990) propose that women may be better at dealing with problems emanating from interpersonal work situations because of norms associated with the feminine gender role. The role prescribed for women emphasises interdependence, the ability to relate meaningfully to others in interpersonal relationships (Greenglass, 1982) as well as caring and nurturing others. Thus, women should be less likely to respond to people and their problems in a detached manner (Maslach & Jackson, 1985).

Overall, sociodemographic factors typically explain a very small part of the explained variance in burnout. For instance, Duquette et al. (1995) found that sociodemographic factors explained only 2% of the explained variance in burnout. It is therefore plausible to conclude that sociodemographic factors are not the main determinants in producing burnout. In the present thesis, sociodemographic factors will be taken into consideration when examining the antecedents of burnout in Study 3.

Based on the previous discussion, the following hypothesis was formulated.

Hypothesis 7: Younger nurses will report higher levels of burnout than older nurses.

Hypothesis 8: Less experienced nurses will report higher levels of burnout than more experienced nurses.
Summary

In summary, nurses have been identified as a high risk occupation for developing burnout due to their close involvement with emotionally demanding patients. Empirical studies have found, however, that overall nurses experience moderate levels of burnout and the percentage of nurses reporting high burnout is relatively small. Furthermore, in relation to other human service professionals, nurses report comparable levels of burnout.

A review of the literature indicates that work stressors (both job-specific nursing stressors and role stressors) are stronger predictors of burnout in nurses than sociodemographic factors. Only age and length of nursing experience are strongly associated with burnout, with younger, less experienced nurses reporting higher levels of burnout than older more experienced staff. Many authors, however, have taken the simplistic view that excess pressure will result in burnout without accounting for the fact, that when exposed to the same conditions, some individuals burn out while others do not. This suggests that there are individual differences in coping that may reduce or prevent the potentially negative impact of nursing work (Payne, 2001). Among health care professionals, the coping resource, social support, has been frequently studied (De Jonge, Janssen, & Van Breukelen, 1996; De Jonge & Schaufeli, 1998; Janssen, De Jonge, et al., 1999; Janssen, Schaufeli, et al., 1999). This is not surprising because particularly in performing ‘people work’, which often implies intensive emotional experiences, social support from others may help an employee to cope effectively with these experiences (Peeters & LeBlanc, 2001). In the following chapter, pertinent social support literature is reviewed.
CHAPTER 4

Review of the Social Support Literature

Background

At the workplace, the provision and receipt of social support has been highly recommended as a means of protecting employees from the deleterious effects of exposure to unavoidable or unmodifiable worksite stressors (House, 1981). Social support has been conceptualised as a resource that people call upon when coping with stress (Holahan, Moos, & Bonin, 1997). Social support, like other coping resources, can modify the impact of chronically stressful conditions on health status (Sarason, Sarason, & Pierce, 1992). Although there is a rapidly growing body of research evidence regarding the relationships between social support, stress and health, there are still many conceptual issues that remain unclear.

Nurse researchers have contributed to the conceptualisation, measurement and empirical study of social support (Stewart, 1993), enhancing the social support literature primarily through research with clinical populations encountered in nursing practice (Norbeck, 1988). However, only a small number of studies (e.g., Duquette et al., 1995; Eastburg et al., 1994; Ellis & Miller, 1994; Kilfedder et al., 2001) have examined the influence of occupational support on hospital nurses’ burnout. Therefore, in reviewing the social support construct and its influence on the stress-burnout relationship, the wider social support literature has been consulted. Chapter 4 reviews the literature on social support and examines the way in which the social support construct has been defined and measured. In addition, the role social support plays in the stressor-strain relationship is investigated.
**Definition of Social Support**

Social support has been broadly defined as “social transactions that are perceived by the recipient or intended by the provider to facilitate coping in everyday life, especially in response to stressful situations” (Pierce, Sarason, & Sarason, 1990, p.173). More simply, social support is “the assistance one receives through his or her interpersonal relationships” (Quick et al., 1997, p.196). Despite research advances in this field, there is little consensus on how social support should be defined. Social support, like stress, represents a meta-concept (Beehr & McGrath, 1992; Vaux, Phillips, Holly, Thompson, Williams, & Steward, 1986). It has been suggested that the definitions of social support are so vague or broad that the concept is in danger of losing its distinctiveness (Barrera, 1986; Cohen & McKay, 1984). This has resulted in the term encompassing an increasing amount of psychosocial phenomena. Gottlieb (1983) noted the proliferation of social support concepts by observing that “with each new study a new definition of social support surfaces” (p.50). Turner (1992) described this notional explosion as a kind of ‘conceptual imperialism’ with social support coming to refer to “an ever widening domain of content” (p.217). It is acknowledged by most contemporary researchers that social support is a multidimensional construct. Veiel and Baumann (1992) argue that in order to prevent permanent fragmentation of the field, a widely shared notion of what is meant by ‘social support’ is necessary. Upon closer examination, it becomes apparent that social support is defined and measured from two broad perspectives - structural support and functional support.

**Structural Support**

Structural definitions of social support focus on an individual’s social embeddedness. From this perspective, social support refers to “the connections that
individuals have to significant others in their social environment” (Barrera, 1986, p.415). More specifically, it refers to the organisation of people’s ties to one another – in particular, to the number of relationships or social roles a person has, and to the frequency of his or her contact with various network members (Thoits, 1995).

From this perspective, the composition and organisation of an individual’s social network is of significant interest and it does not involve any evaluation on the part of the individual (McNally & Newman, 1999) and is therefore not influenced by subjective biases. It has its roots in social network analysis and may involve a number of related concepts. Tolsdorf (1976) identified the main concepts to include the size of the network, operationalised in terms of the number of people listed by the respondent as being network members (i.e., according to the criteria of knowing each other by name and having some contact at least once a year). Another concept is that of adjacency density, that is, an approximation of the extent to which the respondent’s network is interconnected based on the number of dyadic relationships that exist within it.

Gottlieb (1983) noted that community psychologists and epidemiologists have traditionally focused on structural features of social networks that could be changed to enhance the health and social functioning of entire populations (Wethington & Kessler, 1986). More specifically, these researchers have been interested in studying the health promoting effects of (1) interactions among friends, neighbours, and relatives, (2) participation in church and social groups, and (3) employment outside the home. Although structural measures of social support have been found to be predictive of mortality in large scale epidemiological studies such as those of Berkman and Syme (1979) and House, Robbins, and Metzner (1982), the use of such measures pose problems in smaller studies. Sarason, Sarason, and Pierce (1990)
warned that these scales are not very reliable due to their small number of items and lack of internal consistency. Furthermore, the mere existence of relationships does not mean they are supportive. Antonucci (1990) suggested that “support structures and social networks describe those people who are available to (but do not necessarily) provide support” (p.208). Wellman (1981) correctly pointed out that when social network analysis identifies important social relationships, it is erroneous to assume that all such linkages involve the provision of social support. Even when social interactions and potentially supportive behaviours occur, social support is not simply an objective property of these social behaviours. It is not possible to determine whether a specific social interaction constitutes social support without reference to the cognitive appraisals of that interaction (Sarason et al., 1992). In more recent years, researchers have relied less on objective structural approaches and more on subjective functional approaches when conceptualising social support. Functional approaches are not just concerned with the existence of relationships, but also to what purpose these relationships serve an individual.

*Functional Support*

Functional support refers to definitions of social support requiring an indication that the socially supportive person or people serve a function for the focal person. For instance, Cobb (1976) defined social support as the individual perception that one is cared for and loved, is esteemed and valued, and belongs to a network of communication and mutual obligation. Gottlieb (1983) defined social support as “verbal and/or non-verbal information or advice, tangible aid, or action that is proffered by social intimates or inferred by their presence and has emotional and behavioural effects on the recipient” (pp.28-29). From this perspective, social support is increasingly seen as a multidimensional construct, encompassing diverse and
distinct components. Examples of such functions include the provision of esteem, information or companionship, or of being instrumental to the focal person’s accomplishment of tasks (Cohen & Wills, 1985). Virtually all known studies of social support in relation to work-related stress have used functional measures of social support. In contrast to structural measures that reflect the individual’s embeddedness in an interpersonal network, regardless of whether these relationships are likely to prove helpful in times of need, functional measures assess either the perceived availability of particular support functions if needed, or the actual support functions received within a recent time period.

Perceived social support views support as a cognitive appraisal of one’s connections to others. From this perspective, it is recognised that not all linkages between individuals and the environment result in social support. Even if the potential exists for a particular relationship to generate expressions of social support, it is not likely to do so unless it is perceived to be available and adequate to meet the need. In some cases, efforts to provide support are inappropriate, poorly timed, or against the wishes of the person being helped (Rook, 1984; Rook & Dooley, 1985). Measures of perceived support focus on the individual’s cognitive appraisal of his or her environment and the level of confidence he or she has that when support is needed it will be available, sufficient to meet the need, and offered in a way that is perceived to be beneficial (Tracy, 1990).

Received social support reflects the amount of support individuals receive or report to receive during a specified period. Received support, otherwise known as enacted support, refers to the specific behaviours or actions performed by others as they exhibit expressions of support and assistance. Support behaviours can include activities such as listening, expressing concern, lending money, helping with a task,
offering suggestions, giving advice, and showing affection. Measures of enacted support emphasise what people actually do when they provide support. In a sense, received support is a behavioural assessment of social support (Tardy, 1985). Most measures of received support are self-report measures that depend on recall of past experiences rather than actual observations of supportive behaviours. It could be argued that self-report scales of enacted support are actually assessing perceived-received support because these measures rely on retrospective evaluations (Barrera, 1986). A number of studies (e.g., Carveth & Gottlieb, 1979; Lefcourt, Martin, & Saleh, 1984; Sandler & Barerra, 1984) have focused on received support to assess the responsiveness of one’s environment to requests for assistance and the behavioural response that request receives.

Types of Support

Several different classification schemes have been developed for distinguishing between different functions or types of support. It is proposed that there are different types of supportive functions provided through social relationships, and it is posited that these functions may be differentially useful for various types of problems or stressors (Cohen & McKay, 1984; Cohen, Underwood, & Gottlieb, 2000; Cutrona & Russell, 1990; Sandler, Miller, Short, & Wolchick, 1989). Several dimensions of functional support have been delineated (Argyle, 1992; Cobb, 1979; House, 1981; Kahn, 1979; Schaefer, Coyne, & Lazarus, 1981; Cohen, Mermelstein, Karmarck, & Hoberman, 1985; Weiss, 1974). These include *emotional* or *esteem* support, the availability of one or more persons who can listen sympathetically when an individual is having problems and can provide indications of caring and acceptance (Cohen et al., 2000). *Instrumental* support involves practical help when necessary, such as assisting with chores and providing tangible aid such as money and other
physical objects (tools and equipment). *Informational* support is defined as providing knowledge that is useful for solving problems such as providing information, advice and guidance. *Companionship* support involves the availability of persons with whom one can participate in social and leisure activities such as trips, parties, or recreational activities. A dimension variously termed *appraisal, feedback, validation, or social comparison* support is based on the concept that social relationships can provide information about the appropriateness or normativeness of behaviour.

Within the occupational stress literature, the two functions most often examined are emotional and instrumental support (House, Kahn, McLeod & Williams, 1985). This may be because theoretically, these dimensions are most easily distinguished. Of the two, emotional support is the one that most people think of when the term social support is mentioned. Many early thoughts about the subject were that emotional support would be the one that would help alleviate the effects of occupational stress better, but this has not been confirmed by more recent empirical research (Himle, Jayaratne, & Thyness, 1991). While emotional support has been found to be an effective coping resource in handling the emotions associated with stressful problems, instrumental support appears to be more effective in handling the source of the stress (Nätterlund & Ahlström, 1999). This may be because instrumental support is able to directly help an employee by reducing their workload, or by solving a work-related problem.

A number of measures have been created to assess the dimensions of social support. The theoretical conceptualisation of social support proposed by Weiss (1974) has inspired the greatest number of measurement efforts (Brandt & Weinert, 1981; Cutrona & Russell, 1987; Henderson, Duncan-Jones, Byrne, & Scott, 1980; Russell & Cutrona, 1984; Turner, Frankel, & Levin, 1983). Other scales have been based on the
dimensions of support described by Caplan (1974) and Cobb (1976) (Caplan et al., 1975; Turner et al., 1983) and Kahn (1979) (Kahn & Antonucci, 1980; Kahn, Wethington, & Ingersoll-Dayton, 1987; Norbeck, Lindsey, & Carrieri, 1981, 1983). While several types of support have been defined theoretically, in empirical studies (Brandt & Weinert, 1981; Cohen et al., 1985; Norbeck et al., 1981; Schaefer et al., 1981; Tetzloff & Barrera, 1987; Turner et al., 1983) it is common to find significant correlations among subscales. This may occur because persons who seek support need and obtain several functions and because persons who provide support are able to do so in several ways. The magnitude of the correlations can be influenced to some extent by the research - for example, one might anticipate higher intercorrelations among functions when studying support from primary relationships than when studying support in medical settings - however, it may also a property of the measurement instruments (Cohen et al., 2000). The high intercorrelations between support components pose significant problems for researchers. Although less common in current research, some researchers combine the types of support, whilst keeping the sources of support separate (e.g., Caplan et al., 1975; Kaufmann & Beehr, 1986, 1989; Mattimore, 1990). Other researchers (e.g., Brookings & Bolton, 1988; Cohen & Wills, 1985; Cutrona & Russell, 1987; 1990; Vaux, Riedel, & Stewart, 1987) argue, however, that the effects of social support on strains will only be discovered if multidimensional measures of social support are used.

An issue that has received little explicit attention in the social support literature is that of sources of support. In the section below, the main sources of social support measured in the stress-strain literature are discussed.
Sources of Support

Empirical studies in the occupational stress literature recognise that work support (e.g., supervisors and coworkers) and non-work support (e.g., family and friends) may be differentially effective in reducing work-related stressors and strains. Most occupational stress studies consider the supervisor and/or colleagues to be the two major sources of support for employees. It is proposed that in dealing with stressors at the workplace, organisational sources will provide more support than family and friends outside of the workplace (Ellis & Miller, 1994). As Ray (1987) noted, “the overt and subtle stresses in the workplace are known to members and are unclear to non-members. As a result, supervisors and coworkers are probably in a better position to provide support than non-organisational members” (p.174). The argument that work support is more effective than non-work support in protecting employees from strains has been supported in the literature (Beehr, 1985; House, 1981; LaRocco, House, & French, 1980).

Although it is recognised that family and friends (i.e., non-work support) may be an important source of support in assisting individuals to cope with stress, the present research confines its study to examining the influence of work support on the stressor-strain relationship. Most work support measures assess the degree and/or satisfaction of support provided to employees by their supervisor and their colleagues. To date, however, there has been no research investigating nurses’ main sources of support. Hospital nurses work closely with a variety of health professionals (e.g., nurse administrators, physicians, physiotherapists, social workers, counsellors) and non-professionals (e.g., wards persons) yet it is not known whether the staff fulfilling these occupational roles are perceived to be a major source of support to nurses.
In an attempt to refine the definition of social support in the nursing literature, the concept of social support will be examined in more detail in Study 1. One of the principal research questions addressed in Study 1 is:

To what extent is the way in which nurses’ perceive work support consistent with how social support is conceptualised and operationalised in recent empirical literature?

Prior to measuring social support among nurses in Study 2, the researcher will collect qualitative data in Study 1 to examine nurses’ perceptions of the types and sources of support they receive at work. This will enable the researcher to determine whether nurses’ perceptions of social support are consistent with the contemporary view that support from different sources serve various functions and therefore multidimensional measures of social support should be used in empirical studies. The major advantage of using a functional measure of support is that the differential effects of socially supportive behaviours on the stress-strain relationship can be evaluated.

Support from Supervisors and Coworkers

There is some research to suggest that supervisor support is the most potent in reducing job-related stressors and strains (Beehr et al., 1990; Ganster et al., 1986; Jackson et al., 1986; Miller, Ellis, Zook, & Lyles, 1990). For instance, O’Driscoll and Beehr (1994) found that supervisors influence the degree of role stress and uncertainty that their subordinates experience, which in turn may affect levels of satisfaction, strain and turnover intentions. More specifically, when supervisors were perceived to initiate structure, set goals, assist with problem solving, provide social and material support, and give feedback on job performance, their subordinates experienced lower ambiguity and uncertainty, and hence greater satisfaction with their job. Munn,
Barber, and Fritz (1996) also found that only supervisor support was related to turnover intentions among child care specialists. Their results indicated that both emotional and instrumental support from supervisors positively affected an employee’s professional well-being.

In contrast, other studies have found that coworkers are the most effective person in terms of relieving employees’ strains with social support. For instance, Greenglass, Burke, and Konarski (1997) examined the influence of supervisor and coworker support on teachers’ burnout. Whilst supervisor support did not contribute to the prediction of burnout, it was found that greater coworker support contributed to the prediction of burnout, particularly decreased depersonalisation and increased feelings of personal accomplishment. The support provided by the teachers’ coworkers comprised informational, practical, and emotional aspects. Greenglass et al. (1997) proposed that it may be the possession of knowledge gained from informational coworker support and significant help to complete work related tasks gained from practical coworker support that may result in teachers more positive feelings about their accomplishments on the job. Furthermore, the perception of emotional support from coworkers may serve as a reminder to teachers of the importance of relating to students as individuals.

In the present research, it is expected that nursing colleagues will be a significant source of support to nurses. It is reasoned that because a nurse’s colleagues are exposed to the same stressful working conditions, they will be in a better position to empathise and understand the nature of the stressful event. Furthermore, since nurses work in close proximity to their colleagues, it is likely that they will seek assistance from their nursing colleagues before confronting other sources of support. It is therefore hypothesised that:
Hypothesis 9: Nurses will report higher levels of coworker support than supervisor support.

Some studies (Winnubust, Marcelissen, & Kleber, 1982) seem to show that various sources of support have different effects on different variables. For instance, Gil-Monte et al. (1995) used a sample of 102 nurses to examine the relationship between social support and role stress. Only supervisor support explained significant variance in role ambiguity ($\beta = -0.37, p < .001$). However, only coworker support explained significant variance in role conflict ($\beta = -0.31, p < .01$). In other words, for nurses, supervisor support is negatively related to role ambiguity and coworker support is negatively related to role conflict. More recently, in a study of 816 Dutch oncology nurses, Peeters and LeBlanc (2001) found that coworker support moderated the relationships between job demands and depersonalisation.

Finally, other studies have found that supervisor and coworker support act in a similar manner. For instance, in a study of 1,498 social workers, El-Bassel, Guterman, Bargal, and Su (1998) reported a high level of emotional support from coworkers and supervisors was associated with less stress, depression, anxiety, irritability and few somatic complaints among social workers. It is evident that there is a lack of consistency regarding the effects of supervisor and coworker support on strain-related outcomes. It would seem, however, that supervisor support and coworker support are differentially effective in reducing stressors and strains.

In summary, researchers have conceptualised the term social support from two distinct aspects. The functional nature of social support is commonly examined in the occupational stress literature, where as the structure of a person’s social relationships is most often examined in the life stress literature. Each approach focuses attention on different, yet important, aspects of the social support phenomenon. In the following
section, three models of social support are briefly explained before examining the methodological issues that may have attributed to the ambiguous and inconclusive findings regarding the effects of social support in the job stress research.

Models of Social Support

One of the principal aims of Study 3 is to investigate the differential effects of social support on burnout. Although different frameworks have been used to explain the effects of social support on a wide variety of outcomes, three models have emerged in the social support literature. A number of authors (e.g., Beehr, 1985; House, 1981; Kong et al., 1994) have proposed that social support reduces burnout in one of three ways: (a) by acting directly on strains (i.e., main/direct effect), (b) by acting directly on stressors (i.e., an indirect effect), and (c) by interacting with stressors so that “the relation between stressors and strains is stronger for persons with low levels of support than for those with high levels of support” (i.e., an interaction or buffering effect as noted by Ganster et al., 1986, p.102). Of these, the buffering effect model has received the most attention and caused the most debate in the stress-coping research. A synthesis of these three models of social support is represented in Figure 4.1 in the context of a triangle relationship.
The three models of social support are briefly discussed below.

Main effect model. The ‘main’ or ‘direct’ effect model assumes that social support and work stressors act independently of one another on strains (Viswesvaran, Sanchez, & Fisher, 1999). The main effect model of social support postulates that social support reduces the level of strain regardless of the intensity of work stressors experienced (Beehr, 1985; Cohen & Wills, 1985; Sullivan & Bhagat, 1992).

The main effect model of social support is most commonly investigated in terms of the correlation between social support and strains. In operational terms, a negative correlation between a measure of support and a measure of strain can be construed as supporting evidence for this process mechanism. A different form of the main effect model would be reflected by a positive correlation between social support and strain (Viswesvaran et al., 1999), for example, in the case where support is mobilised when strains are encountered (or conversely, the support providers extend support primarily when the individual is afflicted with strain). Alternatively, hierarchical regressions may be conducted to simultaneously test for both main and
buffering effects on strain. In hierarchical regression analyses, the scores of the predictor variables (e.g. stressors, social support) are entered separately into the regression equation in Step 1, while the interaction terms (cross-product of stressors and social support) are entered in Step 2. A significant standardised partial regression coefficient reflects evidence of a main effect.

The idea that social support can directly reduce strains is consistent with most empirical literature on job stress (El-Bassel et al., 1998; Ellis & Miller, 1994). Kahn and Byosiere’s (1992) meta-analysis of the social support literature found that the majority of empirical studies (20 out of 22) provide evidence of main effects of social support (from supervisors, coworkers, and non-work supports) on levels of well-being. Viswesvaren et al.’s (1999) meta-analysis of 68 social support studies also found supporting evidence for a main effect of support on strain. The sample size-weighted average corrected correlation across measures of support and measures of strain was -.21. The upper 90% credibility interval was also negative (-.08 to -.34), suggesting that social support and strain are negatively correlated across most situations.

Nursing literature that examines the influence of social support on burnout also provides reliable evidence for main effects. For instance, Eastburg et al. (1994) found in a sample of 76 nurses a strong negative correlation ($r = -.58$, $p < .001$) between work-related support and emotional exhaustion. Ellis and Miller (1994) found that emotional coworker support was negatively related to all three aspects of burnout, whereas instrumental coworker support was negatively related to emotional exhaustion and depersonalisation among nurses. Duquette et al. (1995) found in their study of 1,545 geriatric nurses that supervisor support ($\beta = -.10$) and peer support ($\beta = -.08$) had a significant negative effect on burnout ($p < .001$). More recently, Kilfedder
et al. (2001) examined the influence of social support on burnout among 510 psychiatric nurses and reported that lower levels of emotional exhaustion \((r = -.30, p < .001)\) and depersonalisation \((r = .20, p < .001)\) are associated with greater availability of social support.

The results of these studies imply that nurses with lower levels of social support have a higher risk of experiencing burnout. Cohen and Wills (1985) propose that irrespective of the level of stress, social support is likely to have a beneficial effect on well-being as it provides a person with a sense of social integration. Despite relatively strong empirical support for the main effect model, some researchers (Cohen & Wills, 1985; Himle et al., 1991; Kahn & Byosiere, 1992; Terry, Nielsen, & Perchard, 1993) argue that this model only explains a proportion of the variance in the complex relationship between social support and strains, and thus other models of social support (indirect effect, buffering effect) have been incorporated into empirical investigations (LaRocco et al., 1980). Based on the sound supporting evidence for the main effect model, the following hypothesis was generated:

Hypothesis 10: Work support will be significantly negatively correlated to emotional exhaustion and depersonalisation and significantly positively associated with personal accomplishment.

*Indirect effect model.* The indirect effect model postulates that social support exerts an indirect effect on strains by directly reducing the impact of work stressors. Cohen and Wills (1985) proposed that if social support affects the appraisal of the situation, the situation may be perceived as less threatening, and therefore perceived stressors will be fewer and weaker. This model has also been referred to as the *insulating hypothesis* (Antonucci & Depner, 1982) or the *stress-prevention* model of social support (Barrera, 1986).
In operational terms, social support is negatively correlated to stress. From this perspective, social support prevents the occurrence of stressful conditions or reduces the likelihood that events would be perceived as highly stressful. The important feature of this ‘stress-prevention’ model is that social support has no direct influence on strains.

The stress-prevention model was demonstrated in an earlier study by Dignam, Barrera, and West (1986). Correctional officers in county prisons were the participants in this cross-sectional study. Supportive transactions between coworkers and supervisors were hypothesised to prevent job stress by decreasing role ambiguity and thereby influencing burnout levels. Using path analysis, there was no support for the buffering effect or direct effect between social support and burnout. However, the data fit a model that linked support with reductions in role ambiguity, which led to reductions in burnout symptoms. In particular, the zero-order correlation between social support and perceived stress was negative and significant, but social support was not related to burnout. However, the cross-sectional design of the study and the use of only single indicators of each construct precluded a strong test of the causal relationships implied in the indirect model.

Dignam and West (1988) in their study of state correctional officers, however, found no evidence to support the indirect effect model using path analysis. Indeed, the direction of the structural coefficient between workplace support and job stress was positive, directly contrary to the prediction of the indirect effect model. Two differences between the two studies were attributed to the discrepant results. First, in Dignam et al.’s study, the indirect effect of social support on burnout operated through its direct effect on role ambiguity, whereas role ambiguity was removed from the analyses in Dignam and West’s (1988) study because of problems with its
convergent and discriminant validity. Second, Dignam et al. used a composite measure derived from measures of satisfaction with support from supervisors and coworkers as well as perceptions of support frequency, whereas Dignam and West (1988) used measures from coworkers and supervisors as indicators of social support. In a review of the social support literature, Barrera (1986) observed that studies that utilise measures of perceived availability and adequacy of social support or mixed social support scales (e.g., social embeddedness and perceived social support) were more likely to report results consistent with an indirect model.

In a study of 500 scientists working in U.S. pharmaceutical firms, Kong et al. (1994) found some mixed evidence for an indirect effect. They investigated the effect of social support (family and work support) on work stress and organisational commitment. Using bivariate correlations and multiple regression, family support was negatively correlated to role ambiguity and future ambiguity, and both role ambiguity and future ambiguity had a negative effect on organisational commitment. Family support was positively correlated to organisational commitment, but the effect became non-significant when role ambiguity and future ambiguity was added to the equation. Their findings suggested that family support had a significant indirect effect on organisational commitment via reduced role ambiguity and future ambiguity. There was no evidence, however, that workplace support had an indirect effect on organisational commitment via role stress. Workplace support, however, did have a significant direct effect on organisational commitment.

In a more recent study, Viswesvaran et al. (1999) meta-analytically cumulated the correlations between support and stressors to illuminate the validity of the indirect model. Viswesvaran et al. reported a sample size-weighted correlation between measures of stressors and measures of support of -.12 (with a 90% credibility interval
of -.00 to -.24). This estimated true score correlation (after taking into account sampling error and unreliability in the support and stress measures) suggests that, although evidence of an indirect effect is weak, social support does mitigate perceived stressors.

Since evidence for an indirect effect is weak, the present study will not specifically test the indirect effect model. Instead, the present study will focus primarily on the two models that have gained the most empirical attention in the social support literature: the main effect and buffering effect. However, based on the above findings, it is expected that work support will influence nurses’ perceptions of work stress. Thus, the following hypothesis was generated:

Hypothesis 11: Work support will be significantly negatively correlated to work stress.

Buffering effect model. The ‘buffering effect’ hypothesis postulates that an individual experiencing significant stress, but with strong social support, will be protected from developing stress-related outcomes as compared to an individual with weak support (Cohen & Wills, 1985). The buffering hypothesis states that the relationship between stress and strain is strongest at low levels of social support, and the effects of support only become apparent in high stress environments (Cohen, 1988; Cohen & Wills, 1985; House 1981). According to the buffering model, the relationship between work stress and burnout is contingent upon social support. In this sense, social support may have no effect on burnout when employees experience a low level of stress, or no stress, as support is not actualised or mobilised, even though potential support is available. However, when employees experience high stress, social support may be mobilised either by requests from people in need or by offers from others who recognise someone in need.
The stress-buffering model postulates that social support buffers or protects individuals against the deleterious consequences of work stress. Some confusion and imprecision has accompanied the use of the term ‘buffering.’ Most authors, however, have used the term in a way consistent with the explicit definition of LaRocco et al. (1980). Within this definition, social support is hypothesised to interact with stressors such that the correlation between stressors and strains is stronger for persons with low levels of social support than those with high levels of support. In other words, social support moderates the stress-strain relationship. It is important to distinguish between the terms *moderate* and *mediate* as both have been used in reference to the buffering effect of social support. A mediation effect occurs to the extent that a mediator variable such as social support, accounts for the relationship between a given predictor (e.g., work stress) and an outcome of interest (e.g., burnout), such that the mediator specifies how or why the relationship occurs (Parker & Kulik, 1995). In contrast, a moderating effect can be described as an interaction between a predictor variable (e.g., work stress) and a moderator variable (e.g., social support), such that the relationship between the predictor and an outcome variable differs depending on the level of the moderator. In other words, the effect of work stress on burnout is conditional upon social support. In the current study, the buffering role of social support refers to a moderating effect; thus the terms buffering and moderating will be used interchangeably.

To test for moderator effects, the most widely used data analytic strategy involves conducting hierarchical multiple regressions and examining the increase in $R^2$ when the interaction term (the cross-product of stressors and support) is added to the regression equation of strain on the main effects of stressors and support. An alternative to the regression approach employs analysis of variance (ANOVA). In
ANOVA, strain is conceptualised as a continuous dependent measure, but both stressors and support are treated as discrete independent factors. A significant $F$ value corresponding to the interaction of the two independent factors is taken as evidence of moderator effects. Because most stressors and social support measures are conceptually closer to continuous rather than categorical variables, the use of ANOVA is questionable. Not surprisingly, fewer studies have used ANOVAs to test for moderator effects.

Support for the buffering effect has been controversial over the past decade of job stress research and has been the subject of numerous investigations (Beehr & McGrath, 1992; Himle et al., 1991; Koeske & Koeske, 1993; Terry et al., 1993; Parasuraman, Greenhaus, & Granose, 1992; Manlove, 1994; Munn, Barber, & Fritz, 1996). Findings regarding the buffering effect have been mixed. Whilst several investigators have found at least some evidence that social support buffers burnout (Burke & Greenglass, 1995; Carr, Roseingrave, & Fitzgerald, 1996; Capner & Caltabiano, 1993; Corrigan et al., 1994; Greenglass, Fiksenbaum, & Burke, 1996; Koeske & Kelly, 1995; Peeters & LeBlanc, 2001; Schmieder & Smith, 1996), others have found weak, or no evidence for the buffering effect of social support (Bourbonnais et al., 1998; El-Bassel et al., 1998; Gil-Monte, et al., 1995; Koniarek & Dudek, 1996).

Furthermore, some studies (e.g., Fenlason & Beehr, 1994; Kaufman & Beehr, 1986; Patterson, 2003) have found that not all buffering effects occur in the expected direction, that is, to reduce strains. Occasionally a reverse buffering effect has been reported such that, as the level of social support increases, the relationship between stressors and strains becomes stronger. For example, in a study of 102 female nurses, Kaufmann and Beehr (1986) found that both supervisor and coworker support
interacted with work stressors (i.e., workload and future ambiguity) to predict strains. Contrary to predictions, however, these interactions were in the opposite direction. That is, the slope of the stressors-strain relationship was steeper at higher levels of support than at lower levels of support (Beehr, 1995). Two possible explanations were offered by the researcher. It was proposed that the supervisor may be the source of the stress and therefore interaction between the subordinate and the supervisor may be perceived as stressful by the employee (Blau, 1981). Alternatively, it could be that supportive communications between employees may convince the stressed worker that things are actually worse than the stressed individual thought (LaRocco et al., 1980). Similarly, Fenlason and Beehr (1994) also found evidence to suggest that the availability of social support may exacerbate, rather than buffer, the negative effects of occupational stressors on well-being. For instance, Fenlason and Beehr reported that instrumental coworker support interacted with role conflict to predict strains ($F = 5.89, p < .05$) such that relationship between role conflict and strains was more positive under conditions of high instrumental coworker support. While counterintuitive buffering effects are rare, these studies point to a need for further research into the quality and nature of the support employees receive at work. The current research proposes that:

Hypothesis 12: Work support will significantly buffer the relationship between work stress and burnout.

Methodological Issues

Examination of the literature reveals that the debate over the stress-buffering effect of social support is far from settled. Recent studies (e.g., El-Bassel et al., 1998; Peeters & LeBlanc, 2001) investigating social support examine the buffering model in addition to the main and indirect effect model. According to Cohen and Wills (1985),
each model seems to be correct in certain situations but each represents a different process through which social support affects well-being. Some researchers (Beehr, 1995; Fenlason & Beehr, 1994; Ganster et al., 1986; Terry et al., 1993) suggest that the conflicting findings regarding the moderating influence of social support may be a consequence of the ambiguity regarding the specific meaning of the construct and of the ways in which social support has been measured.

As discussed earlier, the definition and operationalisation of the social support construct has differed in objectivity, dimensionality, and meaning. Early researchers tended to treat social support as a unidimensional construct and often used aggregate support scores to examine the effect of social support on stress-related strains. Most contemporary authors agree, however, that social support is a multidimensional construct. Closer examination of the social support literature suggests that there is some degree of overlap among the various definitions and component analyses of support (Himle et al., 1991). However, due to the various definitions and component analyses of social support, it is sometimes difficult to identify which type of social support a researcher is measuring.

For the most part, it seems that researchers have not properly examined the effects of different types of social support on the stressor-strain relationship. In fact, it could be argued that the primary type of social support measured is actually emotional support (e.g., El-Bassel et al., 1998) whilst other methods of support have been neglected in much of the empirical literature on occupational stress. Occupational stress studies examining the stress-buffering hypothesis have primarily used Caplan et al.’s (1975) Caplan Social Support Instrument. This social support scale assesses the perceived availability of support from three different sources: a) supervisor, b) coworkers, and c) an extra-organisational source, such as friends or family. The scale
comprises four items. The items assess the availability of what could be classified as emotional support (e.g., “How much is each of the following people willing to listen to your personal problems?” “How easy is it to talk to each of the following types of people?”) and instrumental support (e.g., “How much can each of these people be relied on when things get tough at work?” “How much does each of these people go out of their way to make your life easier?”). Some researchers (e.g., El-Bassel et al., 1998) however, assume that Caplan et al.’s (1975) Social Support Instrument assesses only emotional support. The wording of the items is problematic. Since they are very general in nature, it is difficult to clearly distinguish between the support components. In addition, the belief that one can easily talk to one’s friends, for instance, does not necessarily mean that they will be a useful source of support for work-related problems (Greenglass et al., 1990; Terry et al., 1993). Furthermore, Caplan et al.’s (1975) Social Support Instrument is limited by a small number of items. Despite the obvious limitations associated with this measure, it continues to be the most commonly used social support scale in the occupational stress literature.

Another possible reason why empirical studies may have failed to find supporting evidence for the buffering effect of social support could be due to small sample sizes and homogenous samples (Ganster et al., 1986). To obtain sufficient statistical power to detect interactions, a relatively large sample is needed. Large samples have not been the norm in social support literature and therefore much of the apparent variability in reported findings may be a function of sampling error. The majority of studies (e.g., Eastburg et al., 1994; Munn et al., 1996; Patterson, 2003; Peeters & LeBlanc, 2001) employ a homogenous sample from a particular setting that was selected purposively by the researcher (Edwards & Burnard, 2003). A better sample would be one that represents a range of different work roles or groups, thereby
increasing the size of the sample and allowing the testing of higher order interactive effects.

It is evident from the literature that the buffering effect of social support is more likely to be found when components of social support are examined, rather than more global measures of social support. Several studies have been criticised for failing to match the requirements of the stressful situation with a specific type of support. Although stressful events may elicit needs for multiple resources, Cohen and Wills (1985) argue that it is reasonable to assume that specific events elicit particular salient coping requirements. This hypothesis predicts that buffering effects will be observed when the support functions measured are those most relevant to the stressors faced by the person. In other words, social support is more likely to buffer the negative effects of stress if available support is able to address the needs of the situation (Cohen & Wills, 1985). This line of thinking is referred to as the stressor-support matching or specificity hypothesis.

**Stressor-Support Matching Hypothesis**

Some empirical evidence has been found for the stressor-support matching hypothesis. For instance, Ellis and Miller (1994) in a study of 1,356 hospital nurses examined the stress-buffering effects of emotional and instrumental coworker support on burnout. The only equation in which the interaction term was significant was the prediction of reduced personal accomplishment. In this equation, informational coworker support buffered the effects of role ambiguity on reduced personal accomplishment ($\beta = -.11, F(2, 433) = 13.03, p < .000$). The interaction term however, only added 1% to the variance in reduced personal accomplishment, which suggests that the stressor-support matching hypothesis although significant is relatively weak.
In contrast, Greenglass et al. (1996) in a study of 833 school teachers found that informational support from coworkers ($\beta = -.29$, $p < .001$) and supervisors ($\beta = - .38$, $p < .001$) buffered the effects of stress on emotional exhaustion. Emotional ($\beta = - .52$, $p < .001$), informational ($\beta = -.51$, $p < .001$) and practical ($\beta = -.52$, $p < .001$) coworker support buffered the effects of stress on depersonalisation. Practical supervisor support ($\beta = -.37$, $p < .001$) also buffered the effects of stress on depersonalisation. No significant buffering effects were found when lack of personal accomplishment was the criterion. Although sources of stress explained most of the variance of burnout, the interaction between stress and support also contributed to the explanation in burnout variance. Greenglass et al. (1996) did not report, however, how much additional variance was explained by the interaction terms.

Terry et al. (1993) also examined the stress-buffering role of social support on psychological well-being in a sample of 153 employees from a large public sector organisation. They applied Cohen and Will’s (1985) stressor-support matching hypothesis to examine different sources of support rather than different types of support. Although Cohen and Will’s matching hypothesis does not allow for clear predictions concerning the utility of different sources of support, Terry et al. proposed that because of the proximity of work-based sources of support (supervisor and other people at work) to the source of stress, these supports would be more likely than non-work supports (partner, family and friends) to buffer the negative effects of work stress. A similar argument for the buffering effects of sources of support was made in earlier research by Beehr (1985) and House (1981). Their study found some evidence to support Cohen and Wills’ (1985) stressor-support matching hypothesis. Their results indicated that the perceived availability of supervisor support ($\beta = .17$, $p < .05$) buffered the negative effects of work overload on both psychological well-being and
job satisfaction, accounting for 3% additional variance in psychological well-being \((F(3,142) = 2.18, p < .05)\). There was also some evidence to suggest that high levels of supervisor support \((\beta = .23, p < .01)\) helped to buffer the negative effects of role conflict on psychological well-being. Inclusion of the interaction terms involving role conflict accounted for an additional 5% of variance in the psychological well-being scores \((F(3,142) = 2.86, p < .05)\). Contrary to expectations, however, no buffering effects were found for coworker support. This pattern of results may suggest that unlike supervisors, coworkers are not in a position of power to influence the sources of stress.

Similarly, Schmieder and Smith (1996) examined different sources of support (supervisor, coworker, spouse and friends/relatives) in shift working and non-shift working nurses \((N = 191)\). Since strongest buffering effects have been found in high stress environments, they hypothesised that shift working nurses would demonstrate stronger moderating effects of work support on the job stress-strain relationship than non-shift workers because of the stressful nature of shift work and the social integration difficulties associated with shift work. For shift workers, supervisor support buffered the effect of role ambiguity in predicting global job satisfaction and intent-to-quit. Coworker support also buffered the effects of role ambiguity in predicting global job satisfaction. However, none of these relationships held for non-shift workers. Schmieder and Smith suggested that it might be that shift work nurses, in their more solitary non-work lives, look to their supervisors as a source of support when they experience stress at work. Nurses who perceived their supervisors to be supportive were less likely to allow workplace stress to lead to negative attitudes about their job. The relationship between worker and supervisor may not be psychologically important and effective in moderating stressful job conditions for day
workers because they have access to more non-work sources of social support. Based on these findings, it could be inferred that job context (e.g., shift work/non-shift work) may influence the buffering effect of social support.

Peeters and LeBlanc (2001) in a study of hospital healthcare staff (i.e., nurses, physicians, oncology nurses, and radiotherapy assistants) also examined the potential moderating effect of three different sources of support (colleagues, supervisor and family) on the relationship between job demands and burnout (i.e., emotional exhaustion and depersonalisation) thereby predicting a specific match between the source of social support and the type of job demand on burnout. No significant buffering effects were found for emotional exhaustion. However, being confronted with death and dying of patients led to less depersonalisation among employees with high colleague support ($\beta = -.08, p < .001$) than among employees with low colleague support. Although the interaction terms contributed little additional variance in explaining burnout, the findings demonstrate that it is valuable to investigate the source of support as well as the type of support when examining the stressor-support matching hypothesis. Furthermore, this finding provides further evidence that the effects of receiving social support are strongly affected by the nature of the relationship between the support-giver (colleagues, supervisor or family) and the support-receiver (employee) (Sarason, Sarason, & Pierce, 1994).

Although literature reviews generally conclude that existing evidence is consistent with matching notions (Cohen & Wills, 1985; Cutrona & Russell, 1990), there are few studies designed to test specific hypothetical predictions. It requires the definition and measurement of distinct categories of stressors and of social support, relatively orthogonal measures of subtypes within each category, and a conceptual link between stress and support categorisations (Cohen & McKay, 1984; Tetzloff &

**Optimal Matching Theory**

Cutrona’s (1990) optimal matching theory of support suggests that the controllability of stressors is the primary dimension in terms of an appropriate match between stressors and supporting requirements. *Perception of controllability* or ‘*perceived situation control*’ refers to the extent to which a person has control over specific aspects of their work or work environment (Sullivan & Bhagat, 1992; Warr, 1996). It is important to note that perceived situation control is clearly distinguished from locus of control. *Locus of control* is an enduring individual characteristic which differentiates people who assume that what happens to them is mostly under their personal control from people who believe that life events are mostly determined by factors beyond their control (Kahn & Byosiere, 1992; O’Driscoll & Cooper, 1996).

According to Cutrona’s optimal matching support model, stressful events perceived to be controllable are presumed to elicit needs for problem-focused coping (instrumental support) to aid in preventing the event occurrence or consequences. Stressful events perceived to be uncontrollable are presumed to elicit needs for emotion-focused coping (emotional support) to help persons recover from the negative emotions elicited by the event. It is generally thought stressors that are perceived to be uncontrollable are more distressing than those that are more likely to be under an individual’s control (Aldwin, 1994; Reich & Zautra, 1981). It is therefore not surprising that emotional support is the most effective in managing uncontrollable stressful events.
Previous studies in the occupational stress literature have not attempted to categorise work stressors into controllable and uncontrollable stressful events. This gap in the occupational stress literature will be addressed in Study 3 in the present research program. Two independent raters are asked to classify nurses’ stressful work events based on situation controllability. This was a necessary step before analysing the buffering effect of social support on the stress-burnout relationship.

Like Cohen (Cohen & McKay, 1984; Cohen & Wills, 1985), Cutrona (1990) also emphasises matching supportive functions to the needs elicited by specific stressor domains. However, in the current thesis, Cutrona and Russell’s (1990) optimal matching model has been extended to the match between types of stressors and types and sources of support. The present study assumes that if you get what you want (type of support) from whom you want (source of support), social support will have the most beneficial effect. In most studies, no explicit hypotheses are formulated regarding the differential effects of sources of social support on stressors. Thus, in the present research, specific hypotheses were only formulated about the match between the type of stressors and type of support. The following hypotheses were generated:

Hypothesis 13: For stressful events deemed to be uncontrollable, emotional support will have a significant buffering effect on burnout.

Hypothesis 14: For stressful events deemed to be controllable, instrumental support will have a significant buffering effect on burnout.

Finally, it is important to note that success at indicating buffering effects is primarily linked to research (Hutchinson, 1999; Schmieder & Smith, 1996; Turner, 1992) that has employed measures of perceived available support as opposed to measures of received support. The literature on work stress has rarely examined the relationship between perceived support and received support. It would seem,
however, that the results of two studies (Cohen, McGowan, Fooskas, & Rose, 1984; Wethington & Kessler, 1986) have been primarily responsible for the view that perceptions of available support moderate the relationship between stress and psychological outcomes and assessments of received support do not.

Cohen, McGowan, Fooskas, and Rose (1984) conducted a prospective study with a sample of college students. They were interested in investigating the roles of available and received support in moderating the relationship between negative life events and psychological disorder (Dunkel-Schetter & Bennett, 1990). To assess available support they used the college student version of the Interpersonal Support Evaluation List (Cohen & Hoberman, 1983), and to determine received support they used the Inventory of Socially Supportive Behaviours (Barrera, Sandler, & Ramsay, 1981). Outcome measures included the Beck Depression Inventory (Beck, 1967) and the 22-item Langner Symptom Checklist (Langner, 1962). Stressful life events were assessed by means of the College Student Life Events Schedule (Sandler & Lakey, 1982). Data was gathered on life events and outcome measures at two points with a two-month duration between data collections. Data on social support was collected only at the second point. Using regression analyses (both with and without initial symptomatology controlled) they found both main and buffering effects for available support but neither for received support. Cohen et al. concluded that it is the perception that others will provide resources when they are needed that is key to stress-buffering.

A second study conducted by Wethington and Kessler (1986) found similar results. Wethington and Kessler analysed cross-sectional data from a large-scale national survey. This study was different from Cohen et al.’s (1984) study in at least two respects. First, the sample was a community sample and the respondents were
married adults (aged 21-65 years). Second, it did not use standardised measures. Stressful life events were assessed by asking respondents to describe "the last time something really bad happened to you" (Wethington & Kessler, 1986, p.80). Psychological distress was measured by a 20-item scale consisting of statements about bodily feelings associated with depression and anxiety. Available support was assessed by a single item -“These days I really don’t know who I can count on for help,” and was rated on a 4-point scale ranging from 0 (very true) to 3 (not at all true). Finally, for those individuals who reported a stressful event, the researchers determined the received support for that event by asking them to describe who helped and how they helped. Using these measures, Wethington and Kessler presented results that document the primacy of cognition (perception of available support) over received support in buffering the effects of stressful life events. They argue that personal coping competence may be bolstered by the perception that support is available if needed, whereas the actual mobilisation of support (i.e., received support) may be needed only if personal-coping efforts fail.

Although the studies differed on several dimensions, they both indicated that whether or not one actually receives support is less important for health and adjustment than one’s beliefs about its availability (Cohen et al., 2000). Yet many researchers contend that received support will have a greater influence on health following a stressful event than will available support. For example, Gottlieb (1985) stated that the behavioural manifestation of support (or its materialization in interpersonal transactions) has the greatest significance for the course and outcome of stressful experiences. Similarly, Gore (1985) observed that “the question of a stress-buffering effect of social support, strictly speaking, is contingent upon evidence that support is mobilized, not that it exists as a potential” (p.269). Thoits (1985) also
proposed that support “may consist of words and deeds intended to alter the self-perceptions of distressed individuals, and altered self-perceptions are the mechanisms through which support operates to buffer, or reduce symptoms” (p.61). These authors all imply that received support will be more powerful than perceived support in creating a buffering effect. To date, it is impossible to make any conclusions regarding the buffering effect of received support because received social support has been largely ignored in the stress-support literature and previous measures of received support have also lacked specificity. Dunkel-Schetter and Bennett (1990) argue that received support, in terms of specific stressful situations and the support activation process, should be considered in testing for buffering effects. Assessing the multiple aspects of received support may be especially important when the sample used experience different types of stressful events. It therefore follows that the levels and types of support that would be beneficial to nurses would vary depending on the stressful situation.

Summary

In summary, the present research proposes that it is important to document the beneficial effects of perceived support as well as received support. It is evident that the processes tapped by perceived and received support measures are not identical. Conceptions of perceived available support are dispositional and cognitive, whereas perceptions of received support are situational and behavioural, involving interactions between individuals. In addition, Dunkel-Schetter and Bennett (1990) in a review of empirical studies found that correlations between perceived and received support ranged from .01 to .46. None of the studies reported more than 21% shared variance between measures of the two aspects of support. It would therefore seem that both perceived and received support require further study in the social support literature.
In addition, the current literature review highlights the complexities researchers confront when wanting to examine the social support construct. Social support is an ambiguous concept and its role in reducing or preventing strains remains unclear. In the present thesis, the social support concept will be first examined from a qualitative perspective in Study 1. Focus group discussions will be conducted with hospital nurses to examine nurses’ perceptions of work support. More specifically, nurses’ views on their main sources of support and the types of support provided to them whilst at work will be investigated. In Study 2, a measure of support will be developed to assess the types of support nurses receive at work from their key support providers. In Study 3, quantitative data will be examined for both main and buffering effects of social support using hierarchical regressions. Study 3 will provide insight into whether the types of support Australian nurses’ receive from work reduces burnout. The thesis will provide further insight into the perceived functions of social support and the role received support plays in the stress-burnout relationship. In the following chapter, the major methodological considerations pertinent to this research program are detailed.
CHAPTER 5

Methodological Considerations

Chapter 5 presents important methodological issues pertinent to this research program. The researcher details the steps taken to ensure that the current research program adequately meets principles of scientific rigour. First, matters related to choosing a representative sample are outlined. Next, the strategies used to enhance the reliability and validity of the qualitative findings are discussed. Following this, the reliability and validity of scales used to measure the main variables of interest to this program are described. This chapter also discusses the rationale for employing a qualitative research methodology in Study 1 and a quantitative methodology for the final two studies of the research program. In addition, the principal research questions and hypotheses that comprise these studies are delineated. Finally, an overview of the data analysis techniques performed for each study are briefly summarised.

Sampling Issues

An important methodological objective for all empirical research is the ability to draw conclusions about a larger population. This largely depends on the representativeness of the sample. A representative sample is one in which the sample’s characteristics mirror the population from which it comes. Associated with the issue of representativeness is how the level of representativeness is demonstrated. Of particular importance to the achievement and demonstration of representativeness is the method by which respondents are selected to participate. Other issues pertinent to this matter include sample size and the representativeness of the sample’s work environment to that of the population from which it was drawn. Addressing this matter goes to the centre of being able to draw valid conclusions about a population from sample data. Issues pertaining to sample size are first discussed.
Sample Size

The current program employs both qualitative and quantitative research methods. Deciding on a sample size for qualitative inquiry can be difficult as there are no definite rules to follow. The focus of qualitative research is on depth and richness of information, rather than on sheer numbers of participants (Jones, 2002). According to Patton (1990), determining an appropriate sample size in qualitative research depends on "what you want to know, the purpose of the inquiry, what’s at stake, what will be useful, what will have credibility, and what can be done in the available time" (p.184).

In Study 1, a focus group methodology was used in an attempt to draw conclusions about (1) the types of stressors nurses’ experience at work, and (2) the main sources and types of support nurses receive at work. In order to obtain reasonable coverage of the possible responses to the research questions, the researcher purposefully recruited participants from a variety of hospital wards. The researcher focused on wards that are typically viewed as stressful in the nursing literature (e.g., Intensive Care Unit, Emergency Department), as well as more general wards (e.g., Maternity, Operating Theatre). The researcher used a sampling method recommended by Lincoln and Guba (1985) and Jones (2002) in which sampling continued to the point of redundancy, stopping at the point at which no new information was coming forth from participants. A total of 10 focus groups in 8 wards were conducted in order to gain adequate answers to the research questions. A total of 68 nurses participated in Study 1.

Studies 2 and 3 comprised the quantitative components of this research in which a survey methodology was used to collect data on the main variables of interest in this program. The statistical technique used in Study 2 was factor analysis. In
determining the sample size for factor analysis, Comrey and Lee (1992) offer the following guidelines: sample sizes of 50 are very poor, 100 are poor, 200 are fair, 300 is good and 500 is very good. As a general rule of thumb, a sample size of 300 is comforting when performing factor analysis, however solutions that have several high loading variables (> .80) do not require such large sample sizes and 150 cases are considered sufficient.

The statistical analysis performed in Study 3 involved correlations and regressions. In determining an appropriate sample size, Tabachnick and Fidell (1996) recommend the following: $N \geq 50 + 8m$ for testing multiple correlations or $N \geq 104 + m$ (m is the number of IVs) for testing individual predictors in a regression equation. These rules of thumb assume a medium sized relationship between the independent variables (IVs) and the dependent variable (DV), and that $\alpha = .05$ and $\beta = .20$. $N$ was calculated both ways to determine what procedure produced the highest number of cases.

Using the first formula, a sample size of 178 was generated (i.e. $N \geq 50 + (8)(16) = 178$). Using the later formula, a minimum sample size of 120 subjects (i.e., $104 + 16 = 120$) was required. Furthermore, when taking into account effect size, Green (1991) offers the following, more complex rule: $N \geq (8/f^2) + (m-1)$, where $f^2 = .05$ for a relatively small effect size. Using this formula, a sample size of 175 was computed (i.e., $N \geq (8/.05) + (16-1) = 175$). Based on the above calculations for Study 2 and Study 3, it was deemed that a sample size of 200 or greater would be appropriate. In the present study, a sample size of 273 was obtained. In the following section, the representativeness of the sample is discussed.
Sample Representativeness

The focus of this research program is Australian nurses working across public hospital settings. Ideally, a representative sample for the present study would require randomly attained nurses from each ward in public hospitals across Australia. This sampling approach however, was not practical and beyond the scope of the present study. Due to limited financial resources, timeline constraints, and the inability to adequately access hospital nursing staff in all areas of Australia, purposeful sampling was undertaken. The researcher recruited nursing staff from three public hospitals in Queensland. These hospitals were located in close proximity to one another and were easily accessible. Furthermore, permission was granted from the Executive Director of Nursing Services and ethics committee from each hospital. Although permission was sought from other public hospitals in Queensland, the lengthy ethical clearance process adopted by these hospitals ultimately excluded them from the research program. For instance, some hospital ethics committees met quarterly or in one case, only once per year. Hence, the present research was confined to public hospitals within the Brisbane metropolitan district. In the section below, the sample characteristics are detailed.

Sample Selection for Study 1

In Study 1, ward nurses from two public hospitals within the Brisbane metropolitan district were invited to participate in focus group discussions. The number of patients these hospitals attend to per year differ substantially. Hospital A is an 850-bed hospital that serves the southern suburbs of Brisbane, Queensland. It covers all major adult specialties, and has nationally recognised expertise in spinal injury management and solid organ transplants. The hospital provides the focus for the Major Trauma Service covering all of southern Brisbane; a road-based retrieval
service, and a statewide aero-medical service. A comprehensive cardio-thoracic facility has been a recent addition to the hospital’s service. The hospital treats approximately 60,000 inpatients per year and over 340,000 outpatients. The Emergency Department and Regional Trauma Service is one of the busiest in Queensland. The full-time equivalent staff is about 3,500. During the time in which the study was being conducted Hospital A was undergoing a major hospital redevelopment to establish a tertiary teaching, research, and clinical facility.

In contrast, Hospital B is a relatively new, small, general acute public hospital that opened in January 1999. There are 115 acute beds consisting of: 39 Medical beds; 19 Surgical beds; 20 Obstetric beds; 7 Paediatric beds; 6 Neonatal ‘cots’ and 24 Mental Health beds. The hospital has four operating theatres and an Emergency Department that is the seventh busiest in Queensland. The hospital’s focus is directed at the management of common conditions and it has close ties with Queensland’s two largest public hospitals. The hospital treats approximately 37,000 inpatients per year and 115,000 outpatients. The full-time equivalent staff is about 321.

Following consent from the hospital’s ethics committee to conduct the research, the researcher approached the Executive Director of Nursing Services from each hospital to discuss the research project and to seek their advice on the selection of potential hospital wards that were sufficiently diverse in patient illnesses and medical conditions, as well as nursing care. This is known as ‘judgement sampling.’ Judgement sampling refers to “a sample that is obtained according to the discretion of someone who is familiar with the relevant characteristics of the population” (Mugo, 2003, p.5).
Five wards at Hospital A participated in the study. These included the Orthopaedics ward (6 females, 4 males), Rehabilitation ward (8 females, 1 male), Renal Unit (5 females, 1 male), Emergency Department (5 females, 3 males) and Intensive Care Unit (10 females, 2 males). Three nursing wards from Hospital B also participated. These included the Operating Theatre (7 females), Maternity ward (9 females) and the Emergency Department (6 females, 1 male). Overall, 56 female nurses and 12 male nurses agreed to partake in the discussions.

It was necessary to facilitate two focus groups in the Intensive Care Unit (Hospital A) and the Emergency Department (Hospital B) to ensure that these wards were adequately staffed during the discussions. Therefore, two focus groups of six nurses were conducted at the Intensive Care Unit over two consecutive days. Similarly, one focus group of three and one focus group of four nurses were conducted at the Emergency Department over two consecutive days.

Altogether, ten focus group discussions involving 68 nurses, in groups ranging between three and ten individuals were conducted. Forty-five nurses ($n = 45$) were employed at Hospital A and twenty-three nurses ($n = 23$) were employed at Hospital B. Each discussion consisted of a homogenous group of nurses from a specific ward. The nurses’ supervisors (e.g., Central Nurse Coordinator, Nursing Practice Coordinator) were not invited to attend the focus group discussions in case their presence may have influenced the extent to which nurses were prepared to discuss issues openly and comfortably.
Sample Selection for Studies 2 and 3

In Study 2, nurses completed a self-report survey measuring job-specific stress, role stress, work support (i.e., supervisor and coworker support) and burnout (see Appendix A). The construction of the survey is discussed in detail later in this chapter. In addition, the sociodemographic profile of the participants was collated by asking a series of questions that defined their demographic characteristics and employment details. The data collected in Study 2 was also subject to further analyses in Study 3. Consequently, the sample characteristics for Study 3 are the same as those for Study 2.

The Executive Director of Nursing Services from each hospital gave the researcher permission to survey nurses from the same wards that participated in Study 1. However, to increase the potential sample size, the researcher gained permission from the Executive Director of Nursing Services at a third hospital to recruit participants for Study 2. Hospital C is a 790-bed general hospital with a number of specialties including medicine, surgery, orthopaedics, psychiatry, oncology and trauma services. In contrast to the Hospital A, which primarily services the southern suburbs of Brisbane, Hospital C predominantly services the northern suburbs of Brisbane. Hospital C is the largest referral hospital in Queensland and services patients throughout the state, northern New South Wales, the Northern Territory and from neighbouring countries in the South West Pacific. The hospital treats approximately 303,000 inpatients per year and 720,000 outpatients. The full-time equivalent staff is greater than 4000.

Consequently, participants were drawn from two large public hospitals and one smaller public hospital. A total of 273 nursing professionals (235 females, 38 males) completed the survey in Study 2. Five incomplete surveys were discarded.
Participants represented a variety of nursing wards including: Orthopaedics, Emergency, Renal, Adult, Operating Theatre, Children’s, Intensive Care, Rehabilitation, Maternity, Surgical, Burns, Oncology, and Outpatients. Following discussions with nursing practitioners, the different wards were categorised into seven divisions: Medical, Surgical, Oncology, Critical Care, Maternity, Administration and Other. The desired minimum sample size was obtained and the overall response rate for this questionnaire was 67.74 percent. The response rate for each hospital varied. For Hospital A, a total of 200 surveys were distributed to five wards and the response rate was 60.5%. For Hospital B, a total of 75 surveys were distributed to three wards and the response rate was 54.7%. For Hospital C, a total of 150 surveys were distributed to twelve wards and the response rate was 74%. A possible reason for nurses deciding not to participate in this research may be due to the growing number of surveys being targeted at nurses in a bid to improve efficiency as stipulated in recent Queensland health reforms. Some nurses indicated to the researcher that they were becoming increasingly disinclined to complete yet another questionnaire because they felt that imparting information about themselves or their workplace did not result in constructive and/or effective organisational change.

Descriptive statistics for the sample population for Studies 2 and 3 are presented in Table 5.1. Subject numbers and percentages are reported for hospital, age, gender, employment status, nursing qualifications, number of years nursing, and division of nursing.
Table 5.1

Summary Statistics for the Demographic Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>A</td>
<td>121</td>
<td>44.3</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>41</td>
<td>15.0</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>111</td>
<td>40.7</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>38</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>235</td>
<td>86.1</td>
</tr>
<tr>
<td>Age</td>
<td>&lt; 25 yrs</td>
<td>37</td>
<td>13.8</td>
</tr>
<tr>
<td></td>
<td>25-29yrs</td>
<td>71</td>
<td>26.4</td>
</tr>
<tr>
<td></td>
<td>30-39yrs</td>
<td>76</td>
<td>28.3</td>
</tr>
<tr>
<td></td>
<td>40-49yrs</td>
<td>57</td>
<td>21.2</td>
</tr>
<tr>
<td></td>
<td>&gt; 50 yrs</td>
<td>28</td>
<td>10.4</td>
</tr>
<tr>
<td>Employment Status</td>
<td>Full-time</td>
<td>173</td>
<td>64.6</td>
</tr>
<tr>
<td></td>
<td>Part-Time</td>
<td>87</td>
<td>32.5</td>
</tr>
<tr>
<td></td>
<td>Casual</td>
<td>8</td>
<td>2.9</td>
</tr>
<tr>
<td>Qualifications</td>
<td>Enrolled*</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Registered</td>
<td>266</td>
<td>97.5</td>
</tr>
<tr>
<td>Nursing Experience</td>
<td>&lt; 1 yr</td>
<td>12</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>1-2 yrs</td>
<td>17</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>2-5 yrs</td>
<td>36</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>5-10 yrs</td>
<td>68</td>
<td>25.1</td>
</tr>
<tr>
<td></td>
<td>&gt;10yrs</td>
<td>138</td>
<td>50.9</td>
</tr>
<tr>
<td>Division of Nursing</td>
<td>Medical</td>
<td>29</td>
<td>10.6</td>
</tr>
<tr>
<td></td>
<td>Surgical</td>
<td>121</td>
<td>44.3</td>
</tr>
<tr>
<td></td>
<td>Oncology</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Critical Care</td>
<td>87</td>
<td>31.9</td>
</tr>
<tr>
<td></td>
<td>Maternity</td>
<td>20</td>
<td>7.3</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>8</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>5</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Note. * Enrolled nurses work under the direction and supervision of a registered nurse to provide patients with basic nursing care. Registered nurses undertake all aspects of patient care, including complex care procedures.

Despite a lower response rate than desired, it can be seen from Table 5.1 that the sample population did resemble the sociodemographic composition of Australia’s nursing population during 2000-2001. Nursing remains a predominantly female profession and this was evident in the sample population in which 86% of nurses were female. Approximately 14% of the sample population were male. Queensland labour force statistics in 1999 indicated that male nurses represented approximately 10% of
the nursing workforce (Queensland Health, 2001). It would appear therefore that male nurses are slightly over-represented in the present study. However, since the proportion of males commencing basic nursing courses has been maintained at around 13-15% since the 1990s, there has been an increasing trend of males joining the nursing workforce. Hence, it is proposed that the percentage of males in the present study may be a better estimation of the number of male nurses that were working in public hospitals during 2001.

The majority of nurses were employed in the surgical division ($n = 121$, 44.3%), followed by critical care ($n = 87$, 31.9%), medical ($n = 29$, 10.6%), maternity ($n = 20$, 7.3%), administration ($n = 8$, 2.9%), other ($n = 5$, 1.8%) and oncology ($n = 3$, 1.1%). The majority of participants were registered nurses (97.5%) working full-time (64.6%) and aged between 30-39 years (28.3%). Over a third of the sample population were aged 40 years or more, supporting recent statistics by the AIHW (2002) suggesting that the nursing profession has an ageing population. Approximately a third of the sample population were working on a part-time basis. In Australia, increasing numbers of nurses are choosing to work on a part-time or casual basis. Finally, the majority (76%) of the sample population had five years or more nursing experience.

In summary, the researcher endeavoured to take appropriate steps to choose a representative nursing sample despite the study’s limitation of having a relatively small catchment area for recruiting nursing respondents. The researcher purposefully sampled nurses from a variety of nursing wards across three public hospitals to ensure that different types of nursing care were represented in this study. Although the response rate was lower than desired, it was demonstrated that the sample’s characteristics are similar to the Australian nursing population. Although empirically
it is not possible to make generalisations about the larger nursing population, there is good reason to believe that the results obtained from this research were typical of the Australian nursing population during the period of 2000-2001.

*Measurement Issues – Reliability and Validity*

The quality of conclusions that can be drawn from the study’s results also depends on two important requirements - the reliability and validity of the measurement instruments and data. *Reliability* means “dependability or consistency, that is, results are not erratic, inconsistent or unstable” (Neuman, 2000, p.164). *Validity* suggests that “results are truthful and that there is a match between ‘reality’ and the theories, concepts, ideas and descriptions the researcher has used to analyse the world” (Neuman, 2000, p.164). The reliability and validity of research findings is an important consideration in both qualitative and quantitative research. The steps taken to ensure the findings from this research are reliable and valid are discussed below.

*Qualitative Research – Study 1*

There were various steps taken to ensure the findings from the qualitative data were reliable and valid. In Study 1, the following actions were taken to make certain scientific rigour was maintained. As with other approaches to studying social phenomena, designing the focus group study required careful thought and reflection. The first stage of the research process involved writing a clear statement of the research problems to be addressed in Study 1. Next, the researcher delineated the principal research questions and sub-problems. A plan detailing how the information was to be obtained, from whom the information would be obtained, and the resources required to conduct the focus groups, was established. Specific focus group questions were then generated.
Next, a pilot focus group was conducted with nursing staff from an aged care facility. This enabled the researcher to determine whether the wording of the focus group questions was easily understood by participants and more importantly, to determine whether the focus group questions produced adequate data for answering Study 1’s principal research questions and associated sub-problems. The pilot focus group was audio-taped with the participants’ consent and later transcribed verbatim. The data was then analysed according to the principles of content analysis. Further details regarding the content analysis process is presented later in this chapter. Analysis of the data confirmed that the focus group questions were suitably worded and that they provided sufficient data to address the principal research questions and sub-problems examined in Study 1.

The researcher was aware that in order to obtain honest information from nurses, a relaxed and open environment in which nurses felt comfortable sharing information was desirable. To do this, the researcher conducted separate focus groups with small, homogenous groups. In addition, focus groups were conducted in a familiar environment (i.e., staff common rooms or staff meeting rooms). Furthermore, the nurses’ supervisors were not invited to attend the discussions. To help establish a rapport with the nurses, the researcher visited each ward prior to facilitating the focus group discussions. The researcher spent some time with nurses discussing the purpose of the research, how the data would be used, issues of confidentiality and anonymity, and addressed the nurses’ queries about the research.

When conducting the focus groups, the researcher was careful not to influence the direction of discussions. The researcher utilised the strategies recommended by Kreuger (1993) to minimise researcher bias such as listening without interjecting, using neutral verbal responses such as ‘uh huh,’ ‘mm,’ ‘okay,’ and ‘thank you,’ and
by not offering personal opinions. At the same time, the researcher tried to keep participants from deviating too far from the topic by asking appropriate follow-up questions and re-directing participants to the task at hand. The researcher was also aware that the more dominant members of the group might influence what other members were willing to say. The researcher was careful to maintain a balance in participation by encouraging quieter participants to respond and by diplomatically shifting the conversation away from the most active talkers.

The researcher also took careful notes during the focus groups and recorded observations about the nursing group (e.g., group dynamics, non-verbal communication between members) and additional information that was relevant to understanding the nurses’ views and perceptions (i.e., opinions that were commonly shared by the group, minority opinions, and when shifts in opinions occurred). As the focus groups came to an end, the researcher summarised the main points raised by the nurses in response to each question. Participants were asked if the summary was accurate and complete. This was an opportunity for nurses to provide further information if important points had been missed. It also enabled the researcher to check the reliability of her notes.

The focus group discussions with the hospital nurses were audio-taped to ensure the information was accurately recorded and to prevent any loss of data. The researcher listened to each tape a number of times and transcribed the interviews. To aid the researcher’s contextual understanding of the discussions, observational data recorded during the focus groups was added to the transcripts.

The data was then analysed using a systematic technique known as ‘content analysis.’ Krippendorf (1980) describes content analysis as “a research technique for making replicable and valid inferences from data to their context” (p.21). Content
analysis entails classifying data at multiple levels that must be theoretically justifiable (Berg, 1995; Dey, 1993). Classifying the data is an integral part of the analysis as it lays the conceptual foundations upon which interpretation and explanation are based (Dey, 1993).

The process of developing content categories was one of continuous refinement and the criteria for assigning responses to specific categories evolved over time. To understand the deep structural meaning conveyed by the text, the researcher recorded all the issues that were discussed in response to each question before creating broad overarching categories that depicted the main themes/issues identified by the nurses. The researcher consulted relevant literature and theories to ensure that broad content categories were conceptually and empirically grounded.

Finally, comprehensive instructions for assigning data to categories were gradually developed. This involved assigning units of data (key words, sentences and/or phrases) to categories. Categories were then further refined and subcategories were identified. To assist in the validation of the content categories, at least three independent examples were supplied for each subcategory. Heeding the advice of Dey (1993), the researcher also kept notes during the classification process on how decisions about categorising data were made, why some issues were considered important and why others were discarded. These steps ensured that the reliability and validity of the qualitative data was maintained.

Quantitative Research – Study 2 and 3

From a quantitative perspective, the reliability and validity of the findings predominantly depends on the instruments chosen to measure the variables under investigation. Self-report measures must demonstrate adequate levels of reliability
and validity in order to be confident that research findings are accurate and not the result of measurement error.

Self-Report Data

The use of self-report data has been very common in investigations of psychological variables. Some of the advantages associated with the use of self-report data to draw conclusions about the psychological function of humans are simply that it is often the most effective method for determining the experiences of subjects under investigation. This approach entails a standardised procedure for asking subjects how they feel, what they think, what they believe, or what attitudes they have toward a particular stimulus. Asking is often the best method of obtaining the information required. It also has the advantage of being quick and relatively inexpensive in comparison to alternative methods of obtaining information on a topic. Alternative data collections usually require the experimenter to impute meaning to more ‘objective’ observations and this requirement often leads to significantly longer and more invasive data collection processes to ensure valid interpretations are made.

Just as the objective measurement of a subject’s response to a stimulus is open to the influence of experimenter bias in recording and interpretation of such data, the self-report methodology is also open to inaccuracies. Failure to recall the information being asked about is one source of inaccuracy (Mayo, 1983). This problem, however, is unlikely to be significant in this program of research as the instruments chosen ask questions of nurses that are not historically focused. Instead, they focus on the present and/or immediate past behaviours, feelings and observations.

The most likely source of error that could influence this program of study would be common method bias which results from the fact that the predictor and criterion variables are obtained from the same person (Podsakoff, MacKenzie, &
Podsakoff, 2003). There is a substantial body of theory (Heider, 1958; Osgood & Tannenbaum, 1955) and research (McGuire, 1966) suggesting that people try to maintain consistency between their cognitions and attitudes. According to Podsakoff et al. (2003), people responding to questions posed by the researcher may have a desire to appear consistent and rational in their responses and may search for similarities in the questions asked of them - thereby producing relations that would not otherwise exist at the same level in real-life settings. This ‘consistency effect’ is likely to occur when respondents are required to provide retrospective accounts of their attitudes, perceptions and/or behaviours. To help reduce the effects of response pattern biases, measures were used that had different scale response formats (e.g., never/rarely to very often, strongly disagree to strongly agree) and reverse-coded items were included.

There is also the potential for responses to be prejudiced by social desirability, with participant’s overestimating or underestimating their level of work stress, social support or burnout, depending on how they wish to represent themselves. Answers on questionnaires may not only be a function of respondents’ true perceptions, but also of their own agenda regarding their participation in the research and how they wish to appear (McNally & Newman, 1999). It is difficult to determine whether research findings have been influenced by social desirability bias. Some measures incorporate a social desirability scale, but most do not. It is reasoned in the present research that if similar findings to other nursing studies investigating levels of work stress, social support and burnout are found, then it is unlikely that survey results have been significantly influenced by social desirability.
Choice of Instruments

The essential requirement for reliable and valid measurements has been addressed by selecting survey instruments which are reported to have adequate psychometric properties, and which could be expected to give reliable and valid results for use with nurses. In particular, the choice of a reliable and widely accepted instrument to measure the study’s criterion variable – burnout, was seen as vital for the present research, especially since one of the research objectives was to establish the degree of burnout among a sample of Australian nurses. It is hoped that the study’s results will provide a benchmark for future investigations into nursing burnout. The second requirement pertinent to the choice of instruments was a straightforward administration process, simply worded instructions, and easily understood survey items. This issue was addressed by choosing instruments that have been specifically designed to meet these requirements.

Description of Variables Investigated

In Study 2, the researcher used a multi-measure survey to assess nurses’ levels of job-specific stress, role stress, work support, and burnout. The findings from Study 1 (to be discussed in detail in Chapter 6) influenced the researcher’s decision to select Wolfgang’s (1988a) HPSI to measure nurses’ job-specific stress. Role stress was measured by a recognised measure in the occupational stress literature – the Occupational Roles Questionnaire (Osipow & Spokane, 1987). In addition, the findings from Study 1 also directed the development of a contextually relevant measure of work support for hospital nurses. Taking into consideration the sample’s perceptions of key supportive behaviours received at work, the researcher modified items from established social support scales in the literature (Shinn, Wong, Simko, and Ortiz-Torres’ (1989) Supervisor Support Scale, Ray and Miller’s (1994)
Supervisor/Coworker Support Scale, and King, Mattimore, King, and Adams’ (1995) Family Support Inventory for Workers). Hence, a measure of work support which assessed emotional and instrumental support from nurses’ supervisors and coworkers, was developed. Finally, the researcher used the most commonly used measure of burnout – the MBI (Maslach et al., 1996) to assess emotional exhaustion, depersonalisation and reduced personal accomplishment in the research program. The rationale for choosing the following measures and developing an appropriate measure of work support is detailed below.

**Work Stress**

The findings from Study 1 (described in detail in the next chapter) identified work stressors that are common to most Australian nurses. The results also indicated that nurses are exposed to work stressors that are unique to the health profession industry, as well as role stressors that are common to most occupations. Therefore, in the present research program, job-specific stressors as well as generic role stressors are assessed.

*Job-specific stress.* In Study 1, the work stressors commonly experienced by Australian nurses were classified under four broad job stress factors: poor job conditions, job uncertainty, interpersonal conflict and lack of professional recognition and support. The most highly reported job stressors included: work overload, lack of respect and recognition from doctors, dealing with difficult and demanding patients, dealing with difficult and demanding relatives, and lack of support.

When these major sources of stress were compared to the seven work stress factors measured by the NSS, both similarities and differences were found. Similar to Gray-Toft and Anderson (1981a), Study 1 found that work overload, conflict with physicians and lack of support were major sources of stress for Australian nurses.
However, Australian nurses did not indicate that dealing with dying patients, inadequate preparation, conflict with other nurses, and uncertainty concerning treatment, as major sources of stress. These findings led the researcher to conclude that Gray-Toft and Anderson’s NSS may not be the most appropriate measure of work stress for Australian nurses.

In an attempt to find a nursing stress scale that more closely aligned to nurses’ work stress, the researcher consulted recent nursing stress literature. Upon closer examination of the most commonly used nursing stress scales, such as Gray-Toft and Anderson’s (1981a) NSS, Numerof and Abrams’ (1984) Nursing Stress Inventory, and Wolfgang’s (1988a) HPSI, it became apparent that there is considerable overlap among the survey items across the instruments. For instance, all measures include items concerning workload, patient care responsibilities, interpersonal conflict, and professional uncertainty. The scale, however, that most closely fit Australian nurses’ perceptions of work stress was the HPSI. This measure was therefore chosen to measure nurses’ job-specific stress.

The HPSI comprises 30 items that reflect stressful situations frequently encountered by professionals working in the health care industry. The HPSI provides a measure of the amount and source of stress experienced by nurses. Respondents answer how often they find each situation to be stressful in their work setting. A five-point likert scale is used, ranging from 0 (never/rarely) to 4 (very often). Wolfgang (1988) suggests that the 30 items be totalled to establish a global measure of job stress. Total scores therefore range between 0 and 120. Higher scores indicate higher levels of job stress. The aim of the present research, however, was to examine how different types of job stress predict different components of burnout. Thus in the current research, a total score for each subscale was generated. It is believed that
using the HPSI subscales to assess the significant determinants of nurses’ burnout would provide more meaningful findings than using a global measure of job-specific stress.

The HPSI appears to possess adequate reliability and validity. It is important to note, however, that the HPSI has not been commonly used in the nursing stress literature and few empirical studies have comprehensively explored its psychometric properties to date. Using data collected from 356 nurses, Wolfgang (1988a) reported high internal consistency and concurrent validity for the scale. Specifically, Cronbach’s alpha coefficient for the HPSI was .89, with a split-half reliability of .70. Pearson’s product-moment correlations between scores on the HPSI and Lyons’ (1971) Tension Index was .78 ($p < .001$). Gupchup and Wolfgang (1994) also found that the HPSI was significantly positively correlated to job dissatisfaction ($r = .51, p < .0001$) and significantly negatively related to coworker social support ($r = -.43, p < .0001$). Factor analysis of the HPSI also found that the 30 items load onto four broad stress factors: Job Conflicts, Professional Uncertainty, Professional Recognition and Patient Care Responsibilities (Gupchup & Wolfgang, 1994). Using a sample of 2,267 nurses from across 43 public hospitals in Hong Kong, Akhtar and Lee (2002) performed confirmatory factor analysis to assess the factor structure of the HPSI. Their results confirmed the generalisability of Gupchup and Wolfgang’s four factor structure. The four factors demonstrated adequate coefficient alphas of .78 for Professional Recognition, .70 for Job Conflicts, .80 for Professional Uncertainty, and .61 for Patient Care Responsibilities. Professional Recognition, Job Conflicts and Professional Uncertainty had moderate positive correlations with Emotional Exhaustion and Depersonalisation, and weak but statistically significant correlations with Personal Accomplishment.
One of the limitations of the HPSI, however, is that it does not assess stress associated with working closely with patient’s relatives. The results from Study 1 indicated that dealing with relatives was perceived by nurses to be as stressful as dealing with the patients themselves. One additional item was therefore added to the inventory. It was assumed that item 31 – “dealing with difficult and demanding relatives” would load onto the stress factor – Patient Care Responsibilities, and therefore would not alter the factor structure of the survey.

Another limitation of the HPSI is that it does not tap into doctors’ lack of professional recognition and support for nurses. One reason for this is that the HPSI has been designed for all staff working in the health profession industry, including doctors. To accommodate this, item 4 – “Not receiving the respect or recognition that you deserve from the general public” was slightly modified and the words ‘the general public’ were replaced by the word ‘physicians’. It was expected that this item would still load onto the stress factor – Professional Recognition and therefore would not alter the factor structure of the HPSI.

To confirm the overall factor structure of the HPSI had not been altered by the addition of one item and the modification of another item, factor analysis was performed in Study 2. Factor analysis of the HPSI also provides further evidence of the scale’s construct validity and its generalisability to Australian nurses.

Role stress. In Study 1, nurses identified three role stressors (i.e., role overload, role conflict and role ambiguity) as important sources of stress. As such, for Study 2, role stressors were measured using Osipow and Spokane’s (1987) Occupational Stress Inventory (OSI). The OSI, or as it was titled in its first edition - Measures of Occupational Stress, Strain, and Coping (Osipow and Spokane, 1981), was designed for use in employed adults working across a diverse range of
occupations. The OSI consists of three separate questionnaires. The Personal Strain Questionnaire, the Occupational Roles Questionnaire and the Personal Resources Questionnaire. Only the Occupational Roles Questionnaire (ORQ) was used in the present study. The ORQ comprises six subscales, three of which were applicable to this study. The three subscales measure: 1) role overload, 2) role ambiguity, and 3) role boundary or role conflict as it is defined in the present study. Each subscale contains 10 items. Item 14 – “I feel I have a stake in the success of my employer” was slightly modified. To make the item more contextually relevant to nurses, the words ‘my employer’ was replaced with the words ‘this hospital.’ Responses were made on a 5-point likert scale ranging from never or rarely (1) to most of the time (5). Each subscale scores in a positive direction, with higher scores indicating higher levels of stress.

The ORQ demonstrates acceptable reliability. Osipow and Spokane (1981) using a sample of 31 employed adults reported a test-retest reliability coefficient of .90 over a two-week interval for the ORQ (sum of scores across all six scales). In addition, Osipow and Spokane (1983) in a study of 549 working adults of various occupations, reported a Cronbach’s alpha coefficient of .78 for role ambiguity; .83 for role overload; and .82 for role conflict. Using a sample of 155 physicians, Alexander (1983) reported comparable internal consistency coefficients of .81 for role ambiguity; .76 for role overload; and .77 for role conflict. More recently, Decker and Borgen (1993) reported alpha coefficients of .79 for role ambiguity, .80 for role overload, and .75 for role conflict using a sample of 249 adults representing 75 occupations, including hospital staff.

Several studies have provided evidence supporting the validity of the ORQ. For example, Decker and Borgen (1993) found evidence of the ORQ’s convergent
validity. They reported significant positive correlations between vocational strain and role overload ($r = .33$), role ambiguity ($r = .48$) and role conflict ($r = .48$). In contrast, Golec (1983) found evidence of the ORQ’s discriminant validity. Golec (1983) reported significant negative correlations between job satisfaction and role overload ($r = -.07$), role ambiguity ($r = -.12$), and role conflict ($r = -.10$). Confirmatory factor analysis using varimax rotation supported the independence of the three role stress factors (Osipow & Spokane, 1987), providing further evidence of its construct validity. Finally, the OSI administration manual – research version (Osipow & Spokane, 1987) provides normative data based on a sample of 909 adults employed in 130 different occupations. This normative data bank is unique among measures of role stress.

*Work Support*

In Study 1, some of the conceptual ambiguity surrounding the social support construct was overcome by exploring nurses’ perceptions of work support. In Study 1, work support is defined as the emotional and instrumental assistance one receives through his or her interpersonal relationships at work. Nurses indicated that the two most salient sources of support at work were their nursing colleagues and their supervisor. Nurses identified a number of supportive behaviours demonstrated by their supervisors and their colleagues that could be categorised under two conceptually distinct categories: emotional support and instrumental support.

In the present study, *emotional support* refers to the emotional comfort an individual receives during a stressful situation that leads the person to believe that they are cared for and valued by others. The most frequently reported emotionally supportive behaviours identified in Study 1 included: being listened to, being appreciated, identifying with the problem, and demonstrating respect. These are the
characteristics agreed upon by most authors as defining emotional support (Beehr, 1985; Caplan et al., 1975; Fenlason & Beehr, 1995).

Instrumental support refers to the instrumental assistance that a person receives as a result of being given the necessary resources (e.g., physical help with a task) to cope with the stressful situation, or guidance or advice to help solve a problem. In Study 1, the most commonly reported instrumentally supportive behaviours included: helping or offering assistance, sharing advice, and problem solving. These characteristics are also commonly agreed upon by most authors as defining instrumental support (Beehr, 1995; Caplan et al., 1975; Greenglass et al., 1990).

Upon close examination it became clear that no one scale presently exists in the nursing literature which adequately assesses emotional and instrumental support from work. Nurse researchers have predominantly designed measures of social support for general and clinical populations. Few of the social support measures have ever been tested for reliability and validity (Norbeck, 1988). According to Stewart (1989, 1993), authors of only one-third of the approximately 26 reported social support measures in the nursing literature describe any psychometric testing. There are three social support measures however, developed by nurses (Norbeck, 1984; Tilden, Nelson, & May, 1990; Weinert, 1987; Weinert & Tilden, 1990) that have undergone extensive psychometric evaluation. These include: the Norbeck Social Support Questionnaire (NSSQ; Norbeck, Lindsey, & Carrieri, 1981), the Personal Resources Questionnaire (PRQ; Brandt & Weinert, 1981; Weinert & Brandt, 1987), and the Tilden Interpersonal Relationship Inventory (IPRI; Tilden et al., 1990).

The NSSQ and the PRQ are designed to measure aspects of relational and structural network dimensions. The NSSQ is based on the concept of the social
network as a convoy of relationships that travel with an individual throughout the life span. The NSSQ asks respondents to list 20 social network members and then to answer nine questions about each. Six of the questions are concerned with functional properties of social support (e.g., affect, affirmation, and aid). There is one question about the duration of each relationship, one question on frequency of contact, and a final question on recent losses of social support. The PRQ consists of two parts. The first part presents 10 life situations in which a person might need assistance (e.g., during sickness) and asks who from a list of support sources (e.g., parent, spouse, neighbour) would be available to help. The second part is a global measure of received support based on Weiss’s (1974) conceptualisation of social support: intimacy, social integration, nurturance, worth, and assistance.

The IPRI differs from the NSSQ and PRQ. It measures not only network structure and perceived social support, but also reciprocity and interpersonal conflict. It is based conceptually on social exchange theory. This theory proposes that interpersonal relationships within social networks depend on reciprocal exchanges of emotional and tangible assistance. The IPRI consists of several social network items (size of network, size of household, proximity of relatives) and three separate subscales to measure types of support, reciprocity and conflict.

It is evident, however, that the measures above do not conceptualise social support as it has been defined in Study 1. It seems that the above measures are primarily designed to assess the structural dimensions of social relations (e.g., size, duration, loss of relationships, frequency of contact of network members), rather than the functional dimensions of support. The present study required a contextually relevant measure of social support. Due to the methodological insufficiencies of the scales frequently used to measure social support in the nursing literature, the
researcher developed a measure of work support specifically for nurses. Items that closely resembled the nurses’ perceptions of work support (as described in Chapter 6) were taken from established social support scales although slight modifications were needed to make them applicable to the nursing context.

In order to assess supervisor support, items were selected from Shinn, Wong, Simko, and Ortiz-Torres’ (1989) Supervisor Support Scale, Ray and Miller’s (1994) Supervisor/Coworker Support Scale, and King, Mattimore, King, and Adams’ (1995) Family Support Inventory for Workers as shown in Table 5.2. For King et al.’s support scale, the word ‘family’ was replaced by the word ‘supervisor’ and the word ‘home’ replaced by the word ‘work.’ Items 1 to 7 were designed to assess emotional supervisor support. Items 8 to 12 were designed to assess instrumental supervisor support.

Table 5.2

Supervisor Support Scale for Nurses

<table>
<thead>
<tr>
<th>Items</th>
<th>Authors</th>
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<tbody>
<tr>
<td>5. My supervisor seems to make time for me if I need to discuss my work.</td>
<td>King et al. (1995)</td>
</tr>
<tr>
<td>7. When I’m frustrated by some aspect of my work, my supervisor tries to understand.</td>
<td>King et al., (1995)</td>
</tr>
<tr>
<td>10. If my job duties become very demanding, my supervisor will take on extra work responsibilities.</td>
<td>King et al., (1995)</td>
</tr>
<tr>
<td>11. My supervisor can be relied on to help when things get tough at work.</td>
<td>Ray &amp; Miller (1994)</td>
</tr>
<tr>
<td>12. My supervisor shares ideas or advice with me.</td>
<td>Shinn et al., (1989)</td>
</tr>
</tbody>
</table>

Note. Items 1-7 = emotional supervisor support. Items 8-12 = instrumental supervisor support.

The Supervisor Support Scale is designed to measure the level of emotional and instrumental support nurses’ receive at work. Participants respond on a 5-point likert scale the degree to which they receive support from their supervisor (1 = strongly disagree to 5 = strongly agree). Items may be totalled to give a global
measure of supervisor support. The total scores range between 12 to 60 with higher scores representing higher levels of supervisor support. Alternatively, the items for the emotional and instrumental support subscales may be aggregated to give a separate measure of emotional supervisor support and instrumental supervisor support. As there are seven items comprising the emotional support subscale, total scores range between 7 and 35. As there are five items on the instrumental support subscale, total scores range between 5 and 25. Similarly, a higher score represents higher levels of support.

To assess coworker support, the same items from the supervisor support scale were used, however the word ‘supervisor’ was replaced by the word ‘coworkers’. Using the same items for supervisor and coworker support enabled comparisons to be made between the two support scales. The Coworker Support Scale is also scored in the same way as the Supervisor Support Scale. Since the psychometric properties of supervisor and coworker support scale were not known, further analysis to determine each scale’s reliability and validity was required. In Study 2, separate reliability tests will be conducted to examine the internal consistency of the supervisor and coworker support scale (see Chapter 7). The validity of the work support scales will be derived from two principal sources: (a) factor analysis and (b) correlations with related measures.

**Burnout**

Several self-report inventories for the measurement of burnout have been developed. Possibly the most notable include the MBI (Maslach et al., 1996), the Burnout Measure (Pines and Aronson, 1988) and the Staff Burnout Scale for Health Professionals (Jones, 1980). While all three measures are reported to possess acceptable psychometric properties (Schaufeli et al., 1993), it has been the MBI that
has emerged over the past decade and a half as the most widely used instrument for measuring burnout (Lee & Ashforth, 1996). Its factorial validity and reliability as a burnout measure has been demonstrated repeatedly across a range of occupations and cultures, including Australian teachers (Pierce & Molloy, 1989, Goddard & O’Brien, 2003) and case managers (Goddard, Patton, & Creed, 2000; Patton & Goddard, 2003). More recently, the MBI was described as “the standard research measure in the burnout field” (Maslach & Leiter, 1999, p.50).

The MBI differs from other burnout measures as it has three dimensions, and does not collapse to a unitary score. Although there has been debate about the validity of the three dimensions in non-human service samples (Garden, 1989; Shirom, 1989), there is strong empirical support for the validity of the three dimensions in samples of human service workers. Over the past two decades, three different versions of the MBI have been developed for different occupational groups. Probably the most well researched version of the MBI is the Human Services Survey (MBI-HSS) which has been designed specifically for use with personnel who provide direct services to human clients. In view of the support for the MBI-HSS in the literature, the current research program also uses the MBI-HSS to measure burnout. The MBI-HSS is a 22-item self-report instrument which yields three separate sub-scores reflecting Emotional Exhaustion (nine items), Depersonalisation (five items), and feelings of reduced Personal Accomplishment (eight items). Participants rate on a 6-point response format how often they feel a particular way about their job (Maslach & Jackson, 1981), with the range being 0 (never) to 6 (every day). The MBI manual defines high levels of burnout by high scores on Emotional Exhaustion and Depersonalisation and by low scores on the Personal Accomplishment subscale. Low levels of burnout are reflected by low scores on the Emotional Exhaustion and
Depersonalisation subscales and by high scores on the Personal Accomplishment subscale.

Maslach and Jackson (1986) demonstrated adequate internal consistency alpha coefficients of .90 for Emotional Exhaustion; .79 for Depersonalisation; and .71 for Personal Accomplishment, as well as test-retest reliabilities over a four-week interval of .82 for Emotional Exhaustion, .60 for Depersonalisation, and .80 for Personal Accomplishment. The MBI has also been shown to be valid and discriminate successfully from other psychological measures in the human services (e.g., Jackson, et al., 1987; Maslach & Jackson, 1981, 1986). Evidence of convergent validity included significant correlations between employees’ MBI scores and a) coworkers’ descriptions of employees’ reactions to clients, b) spouses’ descriptions of employees’ behaviours at home, c) case load sizes, and d) amount of time spent in direct contact with clients/patients. Discriminant validity evidence included low correlations between MBI scores and job satisfaction, and non-significant correlations with social desirability scores.

Despite sufficient empirical evidence supporting the psychometric soundness of the MBI, some authors have reported high correlations between Emotional Exhaustion and Depersonalisation (e.g. Koeske & Koeske, 1989; Lee & Ashforth, 1990). Results of confirmatory analyses, however, seem to generally support the existence of three distinct components of burnout (Golembiewski & Munzenrider, 1981; Green & Walkey, 1988; Iwanicki & Schwab, 1981; King & Beehr, 1983; Maslach & Jackson, 1981, 1986). The original MBI measured both the frequency and intensity of burnout. Subsequent research using the MBI has revealed that the intensity and frequency dimensions are highly correlated. Thus, the revised MBI version includes only the frequency dimension.
Most comparative studies investigating the construct validity of the MBI have demonstrated that the MBI scales consistently measure the same construct that is assessed by other burnout measures (Schaufeli et al., 1993; Schaufeli & Van Dierendonck, 1993). In particular, the emotional exhaustion dimension has been reported to have the strongest correlation with other self-report measures. The relationship of the MBI scores to ratings by peers and experts have been described as less strong (Schaufeli et al., 1993) however, they have been described as satisfactory in the technical manual (Maslach et al., 1996) and elsewhere (Byrne, 1993, 1994; Pruessner, Hellhammer, & Kirschbaum, 1999; Taris, Schreurs, & Schaufeli, 1999).

**Rationale for Research Method**

**Study 1**

Study 1 incorporated a focus group methodology to probe nurses’ opinions and views on work stress and work support. Focus groups are defined as “in-depth, open-ended group discussions that explore a specific set of issues on a predefined and limited topic” (Robinson, 1999, p.905). They are particularly useful for exploratory research where rather little is known about the phenomenon of interest (Stewart & Shamdasani, 1990). In Study 1, two principal research questions and two associated sub-problems are explored. The principal research questions include:

1. What are the chronic sources of work stress commonly experienced among Australian nurses?

2. To what extent is the way in which nurses’ perceive work support consistent with how social support is conceptualised and operationalised in recent empirical literature?

The sub-problems to be examined in this study are associated with principal research question 1.
(1a) To what extent are the sources of stress experienced by Australian nurses consistent with the seven stress factors measured by Gray-Toft and Anderson’s (1981a) NSS?

(1b) Do Australian nurses from various wards share similar perceptions of work stress?

Focus groups typically consist of between five to eight participants and are convened under the guidance of a facilitator. The duration of focus group discussions vary, however one to two hours is not uncommon. In the present study, the researcher facilitated one hour focus groups in sizes ranging from three to ten nurses. Although small groups with an unlimited amount of time to discuss issues would have been preferable, it was not feasible to take nurses off-duty for much longer than an hour.

Focus groups provide a direct method for obtaining rich information within a social context (Robinson, 1999). Participants are usually a homogenous group of people who are asked to reflect on a series of questions posed by the facilitator. Participants have the opportunity to hear other peoples’ responses and are able to make additional comments as they see fit (Robinson, 1999). It is not necessary for the group to reach any kind of consensus or to disagree. The primary objective of focus groups is to obtain accurate data on a limited range of specific issues and within a social context where people consider their own views in relation to others (Robinson, 1999).

In the present study, the researcher conducted a series of focus groups with homogenous nursing groups from a range of public hospital wards. Due to the restricted time available with nurses, the researcher was limited to asking only three questions. These included:
1) Which particular events within your daily working life cause you the most stress?

2) Which people within your work environment serve as a support to you when you are experiencing a stressful day at work?

3) What do these people do that makes you feel supported?

Group interaction is an integral part of this method. Participants are strongly encouraged to talk to one another, ask questions, exchange anecdotes and comment on others’ experiences and views (Kitzinger, 1994). This enables complex dimensions to be revealed that are not accessed by more traditional methods, such as surveys, where responses are limited. An advantage of focus groups is that they can be used to probe the underlying assumptions that give rise to particular views and opinions. Not only are people’s knowledge and experiences explored but also what people think, how they think, and why they think that way (Kitzinger, 1996). New information, or a question rephrased within a group, allows the researcher to observe when opinions shift and under what circumstances. For each focus group, the researcher documented in a notepad the opinions that were commonly shared by most nurses, and the opinions that were not shared by the majority of the group.

Another advantage of this method is the natural setting in which the discussions take place. Unlike quantitative research methods such as surveys, information is expressed in the nurse’s own words and context without being constrained by categories. It is also possible for the researcher to observe nonverbal responses (e.g., gestures, smiles, frowns) which may carry information that supplements the verbal responses (Stewart & Shamdasani, 1990). The success of this research approach depends on the quality rather than the quantity of the responses,
which means that the process can be used in various contexts and for a range of research topics.

Analysis of the focus group data enabled the researcher to identify the occupational stressors commonly experienced by Australian nurses. The findings from Study 1 assisted the researcher in choosing an appropriate measure of job-specific stress and role stress. Furthermore, exploring work support from a nurse’s perspective provided the researcher with the opportunity to offer a more clearly defined operationalisation of the social support concept. The findings were used to develop a contextually relevant measure of work support for nurses. This study is reported in Chapter 6.

*Studies 2 and 3*

The present research program is designed to address significant gaps in the Australian nursing literature in the areas of work stress, burnout, and social support. The research program’s three main objectives are: 1) to identify key sources and levels of occupational stress among Australian nurses; 2) to establish the average level of burnout for a sample of Australian nurses and to compare the current sample’s level of burnout to other nurses and health professionals and; 3) to identify the main antecedents of burnout and the effects of social support on the stress-burnout relationship. The collection of quantitative data was deemed the most appropriate method to address these objectives.

Study 2 involved the development of a multi-measure questionnaire to assess the main variables of interest to this research program – job-specific stress, role stress, work support and burnout. The findings from Study 1 assisted the researcher in choosing appropriate tools to measure work stress and work support. Since the validity of the modified HPSI and the work support scales had not been previously
explored, the psychometric properties of these measures were examined. In particular, the factor structure of the measures was assessed using factor analysis. The HPSI and work support scales were correlated with other relevant measures (e.g., burnout) using Pearson’s product-moment correlations to assess their convergent validity. The internal consistency of the measures was assessed using Cronbach’s coefficient alpha. Examining the psychometric properties of these scales was a necessary step to ensure that the findings generated in Study 3 were empirically reliable and valid. Study 2 is reported in Chapter 7.

The data collected in Study 2 was subjected to further statistical analysis in Study 3. Specifically, the key sources of stress associated with nursing and the overall level of work stress for the sample of nurses was established. The participants’ overall level of burnout across the three dimensions was generated and compared to other burnout studies in the nursing literature. In addition, the present sample’s level of burnout was examined in relation to other human service professionals. Furthermore, the researcher took the opportunity in Study 3 to examine gender differences in work stress, work support and burnout levels. Finally, the main antecedents of burnout were explored before examining the influence of social support on burnout.

In Study 3, the main research hypotheses for the program are examined. The research hypotheses are depicted below.

Hypothesis 1: Nurses’ levels of work stress will not be significantly different based on gender.

Hypothesis 2: Burnout consists of three related, but empirically distinct components – emotional exhaustion, depersonalisation, and personal accomplishment.

Hypothesis 3: Australian nurses will report moderate levels of emotional exhaustion, depersonalisation and reduced personal accomplishment.
Hypothesis 4: Both job-specific stressors and role stressors will be related to burnout in nurses.

Hypothesis 5: Job-specific stressors will be significantly and positively related to emotional exhaustion and depersonalisation and significantly negatively related to personal accomplishment.

Hypothesis 6: Role stressors will be significantly positively related to emotional exhaustion and depersonalisation and significantly negatively related to personal accomplishment.

Hypothesis 7: Younger nurses will report higher levels of burnout than older nurses.

Hypothesis 8: Less experienced nurses will report higher levels of burnout than more experienced nurses.

Hypothesis 9: Nurses will report higher levels of coworker support than supervisor support.

Hypothesis 10: Work support will be significantly negatively correlated to the emotional exhaustion and depersonalisation and significantly positively related to personal accomplishment.

Hypothesis 11: Work support will be significantly negatively correlated to work stressors.

Hypothesis 12: Work support will significantly buffer the relationship between work stress and burnout.

Hypothesis 13: For stressful events deemed to be uncontrollable, emotional support will have a significant buffering effect on burnout.

Hypothesis 14: For stressful events deemed to be controllable, instrumental support will have a significant buffering effect on burnout.
The techniques used to analyse the qualitative and quantitative data are present in the following section.

*Overview of Data Analyses*

*Study 1*

Qualitative data analysis involves “describing phenomena, classifying them and seeing how concepts are interrelated” (Dey, 1993, p.30). In Study 1, the qualitative data obtained from the focus groups discussions were analysed according to the principles of content analysis as detailed by Babbie (1995). The core assumption of content analysis is that words are a window into important features of a person’s ‘world view.’ Content analysis involves multi-levels of classification whereby many words or text were classified into fewer content categories (Weber, 1990). The steps taken to analyse the qualitative data will now be outlined.

The first step of the data analysis process involved listening to the taped discussions and generating an accurate transcript for each focus group. The researcher also supplemented the transcripts with observational data that was documented during the discussions. Next, the nurses’ responses to each focus group question were reduced to fewer content categories. To do this, the researcher read each transcript several times and recorded the issues that were raised in response to each question.

The researcher then examined the issues for broad overarching themes or content categories. Conceptual and empirical challenges exist when creating categories from qualitative data because they must be related to an appropriate analytic context and supported with empirical evidence (Dey, 1993). In the present study, the researcher consulted relevant literature and existing work stress and social support measures to help develop the broad content factors.
Preliminary definitions for the broad categories were then created. A set of criteria for assigning data to a specific category were gradually established by generating a list of the key words, sentences, and phrases that underpinned the broad categories. Within the broad work stress categories, subcategories also emerged. According to Tesch (1990), categories can be viewed as having fuzzy boundaries because of the potential overlap involved in classifying comments. Words are assumed to have multiple meanings and interpretations (Tierney, 1996). The different levels within these factor structures enable several classification layers to be used which, according to Dey (1993), may be required if questions are general in nature. Over time, the preliminary definitions for the broad content categories and the criteria for classifying the content of the discussion into broad content categories and subcategories were further refined. To assist in the validation of the research categories, at least three independent examples for each content category were produced, as recommended by Berg (1995).

The next step of the content analysis procedure involved what Janis (1965) referred to as ‘attribution analysis’ in which the frequency with which certain characteristics (key words, sentences, phrases) were mentioned was tabulated. This simple counting exercise enabled the researcher to identify the most common sources of work stress for nurses, as well as the primary sources and types of support nurses receive at work. To verify that the qualitative data was appropriately categorised by the researcher, a second researcher also independently coded the transcripts according to the criteria provided (see Appendix B). Sources of disagreement were identified and discussed between the researcher and the independent coder before finally assigning the unit of data to a category. An overall inter-rater reliability coefficient was established, as well as inter-rater reliability coefficients for the work stress and
work support categories. Calculation of the inter-rater reliability coefficients is discussed briefly below.

Inter-Rater Reliability

According to Tesch (1990, p.304), “qualitative research is to a large degree an art” and the critical reader could query whether the researcher has selected only those fragments of data that support his/her argument (Silverman, 1985). In the present study, the consistency of the categorisation of data was therefore checked by a second researcher. The second researcher independently coded the comments according to the guidelines provided by the researcher. The inter-rater reliability coefficient was calculated by dividing the number of coding agreements by the number of coding agreements plus the number of coding disagreements (Goodwin & Goodwin, 1985). The overall inter-rater reliability estimate for the coding of comments was .88. The inter-rater reliability coefficient for the work stress categories was .91. The inter-rater reliability coefficient for sources and types of support categories was .87 and .86 respectively. These results were adequate given the suggestion by Miles and Huberman (1984) that 70% inter-coder reliability is satisfactory.

Studies 2 and 3

Studies 2 and 3 comprise the quantitative aspect of the research program. All quantitative data was analysed using the Statistical Package for the Social Sciences (SPSS) computer program Version 11.0. In Study 2, the psychometric properties of Wolfgang’s (1988a) HPSI and the work support scales were explored. Specifically, factor analysis was performed to examine the factorial composition of each scale. Cronbach’s alpha reliability coefficient was generated to assess the internal consistency of the scales. In addition, inter-factor and inter-scale correlations were
examined using Pearson’s product-moment correlations to provide further evidence of the scales’ construct validity.

In Study 3, descriptive statistics for the independent variables and the dependent variable were generated. The main variables of interest in the current research program were examined independently, before examining the relationships between the variables.

To assess nurses’ levels of work stress, the mean scores for the total sample population, and for males and females, were generated. To identify the work stressors that cause nurses the most concern, the total mean scores for each item on the HPSI and ORQ were examined. To assess the level of burnout among Australian nurses, the total subscale means were generated for the current sample and were then compared to: 1) the total subscale means for the ‘medicine’ normative sample provided in the MBI administration manual (Maslach et al., 1996); 2) the total subscale means provided in international nursing studies; and 3) the total subscale means summarised for other human service professionals (Schaufeli & Enzmann, 1998). To examine the prevalence of burnout in the current sample, the percentage of respondents that fell within Maslach et al.’s definition of high, moderate, and low categories of burnout were established. Finally, to assess nurses’ levels of coworker and supervisor support, total mean scores for the sample, as well as for males and females, were generated.

In order to explore the stressor-support matching theory, the controllability of nurses’ sources of work stress was first established. Since participants who completed the survey had been informed that one of the main research objectives of Study 2 was to explore Cutrona and Russell’s optimal matching theory, it was deemed appropriate to use independent raters to assess the controllability of stressful events. This ensured that the ratings of controllability were not influenced by familiarity with the research
program’s objectives. Furthermore, independent raters were less likely to be influenced by the wording of the survey items as they were not privy to the entire questionnaire. Thus, two independent raters with several years nursing experience were asked to classify the stress factors as controllable or uncontrollable. The researcher provided the raters with a definition for each source of job-specific stress and each source of role stress (see Appendix C). The survey items that loaded onto the stress factor were also given. A stressor was categorised as uncontrollable if a nurse could not do anything to prevent the event or lessen its consequences. In contrast, a stressor was categorised as controllable if a nurse could prevent its occurrence or consequences.

The proposed buffering effect of social support on the stress-burnout relationship was examined using hierarchical multiple regressions (Cohen & Cohen, 1983). One regression equation was conducted for each dimension of burnout. Variables were entered into the hierarchical regression equation based on logical assumptions. First, it was important to enter the control variables that might have a prior or distorting effect on the substantive relationships. Sociodemographic factors were viewed as having temporal precedence, so they were entered first. By entering the sociodemographic variables as covariates in the first step of the hierarchical analyses, systematic variance attributable to these peripheral factors could be removed. To test for main effects, the workplace stress variables were entered next, followed by the work support variables. At the fourth step, the interaction terms (stressor x support) were entered. Buffering (i.e., moderating) effects were indicated by a significant incremental change in the $R^2$ term for the interaction term (Schmieder & Smith, 1996).
To reduce problems of multicollinearity, the independent variables and the dependent variables were centred on their means before creating the interaction terms (Aiken & West, 1991; Aldwin, 1994; Bryk & Raudenbush, 1992). Furthermore, to reduce the possibility of Type II error, only the sociodemographic factors that were significantly correlated to the specific burnout dimension were entered at the first step of the hierarchical regression equation. Similarly, to also reduce the possibility of Type II errors, only the work stress factors that were found to be significant predictors of the burnout components were entered at the second step of the hierarchical regression equation.

**Summary**

This chapter has presented important methodological issues considered in this research program. In particular, issues relating to sample selection and the strategies observed to enhance the reliability and validity of the qualitative and quantitative findings of the research program were described. This chapter presented the rationale for the research methods employed for the three studies, as well as the research questions and hypotheses that comprise the present research program. Finally, an overview of the data analyses performed for each study are briefly summarised. In the following chapter the first study that comprises this research program is detailed.
CHAPTER 6

Study 1

A Qualitative Study of Nurses’ Perceptions of Work Stress and Social Support

Overview

The purpose of collecting qualitative data in Study 1 is two-fold. First, the study seeks to address the lack of published research concerning the chronic sources of work stress among Australian nurses working in public hospitals. Chronic work stressors may be defined as “aspects of the work environment that are demanding on an ongoing and relatively unchanging basis” (Eckenrode, 1984, p.911). Before investigating the relationship between work stressors and burnout, it was necessary to clarify what nurses perceive to be the main determinants of stress at work. The thesis aims to identify work stressors that are commonly experienced by nurses by collating responses from nurses from a range of public hospital wards. Furthermore, recent empirical studies have generally used Gray-Toft and Anderson’s (1981a) NSS to measure nurses’ levels and sources of work stress. However, it is unclear whether the job stressors experienced by Australian nurses align to the seven occupational stress factors measured by this scale. In Study 1, a focus group methodology was used to establish the main sources of work stress for a sample of Australian nurses. Upon discovering these work stressors, appropriate measures of work stress for Study 2 will be identified.

Second, the study aims to clarify some of the confusion surrounding the conceptualisation and operationalisation of the social support construct. Focus groups will be used to explore nurses’ sources of work support and the types of support they receive at work. Nurses’ perceptions of work support will be examined in relation to
the way social support is currently conceptualised and measured in the stress-coping literature.

In the section below, the principal research questions and the sub-problems to be addressed in Study 1 are outlined. Next, the rationale for utilising focus groups will be established. The procedure for analysing the content of the data will also be explained before examining the results of Study 1 and discussing the implications of the findings.

**Principal Research Questions and Associated Sub-Problems**

Study 1 incorporates a focus group methodology in order to examine two principal research questions and two associated sub-problems. The principal research questions addressed in the present study are:

1. What are the chronic sources of work stress commonly experienced among Australian nurses?
2. To what extent is the way in which nurses perceive work support consistent with how social support is conceptualised and operationalised in recent empirical literature?

The sub-problems to be examined in this study are associated with principal research question 1. The researcher took the opportunity to determine:

1a. To what extent are the sources of stress experienced by Australian nurses consistent with the seven stress factors measured by Gray-Toft and Anderson’s (1981a) NSS?
1b. Do Australian nurses from various wards share similar perceptions of work stress?
Rationale for Conducting Qualitative Research

Notable gaps in the nursing and social support literature prompted the researcher’s decision to employ a focus group methodology to collect data on nurses’ perceptions of work-related stressors and support. Stewart and Shamdasani (1990) suggest that focus groups are particularly useful for exploratory research, particularly when there is relatively little known about a topic. As a result, focus groups are generally used very early in a research project and are often followed by other types of research that provide more quantifiable data from larger groups of respondents.

Rationale for Investigating Nurses’ Work Stressors

There is a lack of empirical studies investigating the chronic sources of stress among Australian nurses in the nursing literature. Lazarus’ (1993) cognitive-phenomenological theory of stress suggests that it is the chronic minor stressors (daily hassles) experienced day after day that are likely to affect health and well-being (Kanner, Coyne, Schaefer, & Lazarus, 1981; Lazarus & Cohen, 1977; Monat & Lazarus, 1977). According to the cognitive-phenomenological perspective, if an individual is exposed to a work stressor for a short period of time, then the stressor may not cause stress-related outcomes. However, when the individual is exposed to the same work stressor constantly, day after day, they may experience detrimental consequences, such as burnout (Carayon, 1995).

As discussed previously in Chapter 1, the Australian public hospital system has undergone significant changes over the last decade primarily as a result of fiscal tightening of the health budget (Lumby, 1996). Nurses are being confronted with increasing patient loads and more acute illnesses. Significant numbers of nursing staff are leaving the profession or are opting to work part-time as a result of the high level of stress associated with nursing. Full-time staff are therefore required to work even
harder to compensate for staff shortages. Recent changes to the health care sector may suggest that nurses have never felt so pressured, and despite this, few empirical studies have investigated how these changes have impacted on Australian nurses’ perceptions of work-related stress and how these stressors may lead to burnout.

The present study will serve to establish greater clarity with respect to the chronic sources of stress experienced by Australian nurses working in public hospitals. In particular, the findings from Study 1 will also provide insight into which job-specific stressors and which role stressors are considered major sources of stress for nurses. This was considered a necessary preliminary step before choosing appropriate scales to measure Australian nurses’ occupational stressors in Study 2. The findings will also extend current nursing literature by confirming whether Australian nurses are exposed to the same sources of work stress that have been identified among nursing studies conducted in other countries.

Rationale for Investigating Social Support

Despite the number of studies that promote the concept of social support as a buffer to occupational strains such as burnout (Burke & Greenglass, 1995; Capner & Caltabiano, 1993; Carr et al., 1996; Corrigan, Homes, & Luchins, 1995; Etsion & Westman, 1994; Greenglass et al., 1996; Koeske & Kelly, 1995; Plante & Bouchard, 1995), other researchers have not found any confirming evidence of the buffering effect (Burke & Greenglass, 1993; Chay, 1993; Cheuk & Wong, 1995; Dolan & Renaud, 1992; El-Bassel et al., 1998; Koniarek & Dudek, 1996; Maslanka, 1996). One explanation for the inconsistent findings regarding the buffering effect of social support is that authors are still not entirely sure how social support should be defined. Operationalising social support is difficult because it remains conceptually ambiguous and therefore multiple meanings have been attributed to it (Ogus, 1990). Researchers
suggest that the various ways used to conceptualise and operationalise social support have resulted in a range of different measures used to examine the link between social support and well-being (Beehr et al., 1990). The qualitative data from Study 1 will enable the researcher to clearly define the social support construct before measuring social support in Study 2. The findings will also provide important information concerning nurses’ primary sources of support from work, as well as insight into the specific types of support that should be considered when examining the influence of social support on the stress-burnout relationship among nurses.

**Method**

**Subjects**

A total of 68 nurses in homogenous groups ranging in size between three and ten individuals participated in the focus groups. Forty-five nurses (11 males and 34 females) were employed at Hospital A and twenty-three nurses (1 male, 22 females) were employed at Hospital B. Nurses were recruited from a variety of wards to ensure that adequate coverage across a range of nursing care roles and patient illness was obtained. These included: Orthopaedics, Rehabilitation, Renal, Emergency, Intensive Care, Operating Theatre, and Maternity. A total of 10 focus groups were conducted. Further details on the selection of the sample were presented in Chapter 5.

**Procedure**

Ethical approval to facilitate the focus groups was obtained from each participating hospital and the university. Next, the researcher approached the Executive Director of Nursing Services from each hospital to gain their consent to conduct the research and to recruit nurses from specific wards. The researcher then gained consent from the head nurse from each ward for his/her nursing staff to participate in the study.
The researcher liaised with the head nurse from each ward to arrange a time to discuss the research project with the nurses. The researcher personally attended each ward two weeks before conducting the focus groups in order to inform nurses about the study and to address their questions and/or concerns related to the study. The researcher gave information sheets to the head nurse from each ward to circulate to staff that were not present at the meeting (see Appendix B). The information sheet detailed the purpose and nature of the study, the time and venue of the discussions, the conditions of the focus groups, and how the information was going to be used and stored. The information sheet also clearly stated that participation in the study was voluntary and that they could remove themselves from the study if at any time they felt uncomfortable.

Focus groups were conducted in the nurses’ common rooms or staff meeting rooms immediately after ‘hand-over’ meetings. During hand-over, staff that work during the day brief night duty staff about each patient’s medical condition, medication instructions, and treatment plan. The focus groups consisted of both day and night shift staff. The nurses’ supervisors (e.g., the Central Nurse Coordinator/Nursing Practice Coordinator) were not invited to attend the focus group discussions in order to promote an atmosphere of open enquiry and to avoid inhibition between the group members. The researcher was permitted one hour to conduct the focus groups. Before commencing the focus groups, the researcher briefly reiterated the nature and aims of the study, issues concerning confidentiality, and how the focus group data was to be used and stored. The researcher informed participants that it was necessary to tape record the session to ensure accurate information was documented and to aid the data analysis process. It was also explained to participants that brief notes would be taken throughout the session to assist the researcher in providing
Each focus group was asked the following set of questions:

1) Which particular events within your daily working life cause you the most stress?

2) Which people within your work environment serve as a support to you when you are experiencing a stressful day at work?

3) What do these people do that makes you feel supported?

The researcher observed that most participants appeared comfortable and willing to discuss the questions posed by the researcher. Groups comprising six or more nurses provided the most fruitful discussions. In the larger groups, nurses tended to generate more ideas and have deeper discussions about the research questions raised by the researcher.

Results

The results are presented into two sections. First, participants’ comments regarding nurses’ common sources of work stress are classified. Next, the major sources and types of support nurses receive at work are classified.

Classification of Comments into Work Stress Categories

To establish the chronic sources of stress common to Australian nurses, content analysis of the qualitative data was undertaken. This multi-step process is briefly described. Step 1 identified the range of stressors experienced by nurses (see Table 6.1). Step 1 involved ‘decontextualising’ the data or more simply, taking comments out of their original context. It was considered important to examine the work stressors in their entirety to gain a thorough understanding of the different
demands nurses are exposed to when working in a public hospital. At Step 1, the researcher also examined the occupational stressors in relation to each ward with the intention of determining whether (a) nurses from different types of wards have exposure to similar types of stress, and (b) whether nurses have similar perceptions on major sources of work stress.

At Step 2, broad overarching themes or factors that most aptly described nurses’ sources of work stress were depicted. Step 2 involved ‘recontextualising’ the data by aligning specific work stressors to particular work stress categories. (see Table 6.2).

Step 3 involved identifying the major work stress subcategories that underpinned the broad work stress categories (see Table 6.3). Specific work stressors were assigned to particular work stress subcategories. During Step 3, the major stressors experienced by nurses at work were determined. This was achieved by tabulating the frequency with which work sub-categories were mentioned. In cases where the work stress subcategory was reported infrequently (i.e., less than five times), the work stress subcategory was removed. It was considered that stressors that were rarely mentioned were more likely to be a source of stress for a smaller number of participants or for a specific ward. In the present study, however, the researcher was interested in exploring work stressors that were commonly experienced by most nurses. Work stressors that were mentioned by the nurses more than five times were deemed by the researcher to be a reasonable source of work stress.

At Step 4, the main sources of stress for Australian nurses were compared to the seven stress factors assessed using Gray-Toft and Anderson’s (1981a) NSS (see Table 6.4). Both similarities and differences in the work stress factors were noted.
At Step 5, typical phrases or statements that best capture the major sources of work stress experienced by the sample of Australian nurses are provided. In the following section, each step will now be presented.

**Step 1: Range of Work Stressors Identified by Australian Nurses**

The work stressors identified by the sample of public hospital nurses are depicted in Table 6.1.

Table 6.1

*Sources of Stress for a Sample of Australian Nurses*

<table>
<thead>
<tr>
<th>Sources of Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>• An excessive workload</td>
</tr>
<tr>
<td>• Disrespectful doctors</td>
</tr>
<tr>
<td>• Demanding patients</td>
</tr>
<tr>
<td>• Abusive/violent patients</td>
</tr>
<tr>
<td>• Difficult/demanding relatives</td>
</tr>
<tr>
<td>• Demanding doctors</td>
</tr>
<tr>
<td>• Unfamiliar medical problems</td>
</tr>
<tr>
<td>• Constant interruptions</td>
</tr>
<tr>
<td>• Lack of experienced staff</td>
</tr>
<tr>
<td>• Inadequate staffing</td>
</tr>
<tr>
<td>• Shortage of beds</td>
</tr>
<tr>
<td>• Shortage of space</td>
</tr>
<tr>
<td>• Fear of litigation</td>
</tr>
<tr>
<td>• Heavy patient load</td>
</tr>
<tr>
<td>• Poor rostering schedule</td>
</tr>
<tr>
<td>• Patient crises</td>
</tr>
<tr>
<td>• Trying to meet the needs of different people (patients, relatives, doctors,</td>
</tr>
<tr>
<td>health professionals)</td>
</tr>
<tr>
<td>• Lack of support</td>
</tr>
<tr>
<td>• Ethical dilemmas (e.g., prolonging a patient’s life under all circumstances)</td>
</tr>
<tr>
<td>• Inability of doctors to make decisions</td>
</tr>
<tr>
<td>• Doctors not being available for consultation</td>
</tr>
<tr>
<td>• Too much administration/documentation</td>
</tr>
<tr>
<td>• Lack of communication between departments</td>
</tr>
<tr>
<td>• Dealing with multiple pressures at the one time</td>
</tr>
<tr>
<td>• Shortage of medical equipment</td>
</tr>
<tr>
<td>• Insufficient wages</td>
</tr>
<tr>
<td>• No meal/toilet breaks</td>
</tr>
<tr>
<td>• Noise (e.g., alarms)</td>
</tr>
<tr>
<td>• Being responsible for running the department as well as the patients’ well-being</td>
</tr>
<tr>
<td>• Computers breaking down</td>
</tr>
<tr>
<td>• Being expected to do things you haven’t done before</td>
</tr>
</tbody>
</table>

When the work stressors were examined in relation to each ward, it appeared that some job stressors were limited to specific wards. For instance, nurses from the Maternity Ward expressed concern about the general public’s increasing propensity to threaten legal action. Nurses from the Intensive Care Unit (ICU) indicated that they found the constant noise from alarms on machines stressful. ICU nurses also confronted a serious ethical dilemma when caring for critically ill patients – ‘quality of life’ versus ‘quantity of life.’ ICU nurses indicated that it was sometimes stressful
trying to prolong a patient’s life if the patient’s quality of life would be severely reduced. Nurses from the Renal Unit indicated that there were not enough dialysis machines to cater for the increasing number of patients and that it was stressful having to keep very sick patients waiting for treatment. The Emergency Department reported that the shortage of beds and the lack of space to move was a constant source of frustration.

Overall, however, there did appear to be a range of stressors that were common to most nurses across all wards. Most nurses reported that they were exposed to excessive workloads, constant interruptions, staff shortages, especially lack of experienced staff, lack of support from, and conflict with, doctors as well as dealing with difficult and demanding patients and their families. This suggests that there are some work stressors that are experienced by most nurses. Finally, the data also suggested that nurses from the Emergency Department recorded more sources of work stress than the other wards. The Emergency Department services the public 24 hours per day. Nurses have to contend with unexpected rises in patient loads and may be faced with medical problems they have not been exposed to previously. During peak periods, cubicles become full and nurses have to care for patients in corridors. Delays in admitting patients to other hospital wards increase the demands on nurses by generating activities outside their normal nursing duties. They also contend with abusive relatives who are frustrated by delays in admission.

In summary, the focus groups revealed that the demands placed upon nurses in public hospitals are numerous and varied. Nurses have to contend with a high workload with limited available resources. They are expected to perform their jobs whilst managing conflict with doctors, patients and their families. They are
responsible for the smooth running of the ward and yet they have little support or
guidance from other health professionals.

Overall, the findings indicate that nurses are exposed to similar work stressors.
The focus group discussions revealed that although the sample nurses worked across a
variety of wards, there were several work stressors that were common to all nurses.
This may suggest that there are more similarities among nurses working on different
wards than differences.

*Step 2: Broad Work Stress Categories and Associated Stressors*

Analysis of the data suggested that the majority of work stressors could be
classified under four overarching categories (see Table 6.2). The four broad work
stress categories identified were: 1) job conditions, 2) job uncertainty, 3) interpersonal
conflict, and 4) lack of professional recognition and support. *Job conditions* may be
described as the demands associated with being in a nursing role (e.g., work overload,
role conflict, role ambiguity) as well as the conditions associated with working as a
nurse in a public hospital setting (e.g., limited resources). *Job uncertainty* takes into
consideration unexpected stressful events that are often beyond a nurse’s control (e.g.,
patient load, doctors not being available to make decisions, medical crises,
malfunctioning medical equipment). *Interpersonal conflict* involves conflicts that
arise from working so closely with patients and their relatives, as well as doctors, all
in times of acute stress conditions. *Lack of professional recognition and support*
refers to the undervaluing of nurses’ skills, experience, and qualifications by other
health professionals, especially doctors, and the insufficient provision of support.
Table 6.2

Classification of Australian Nurses’ Sources of Work Stress

<table>
<thead>
<tr>
<th>Work Stress Category</th>
<th>Work Stressors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Conditions</strong></td>
<td></td>
</tr>
<tr>
<td>Demands associated with being in a</td>
<td>• Excessive workload</td>
</tr>
<tr>
<td>nursing role, as well as the</td>
<td>• Heavy patient load</td>
</tr>
<tr>
<td>conditions associated with working</td>
<td>• Too much documentation</td>
</tr>
<tr>
<td>as a nurse in a hospital environment.</td>
<td>• Constant interruptions</td>
</tr>
<tr>
<td></td>
<td>• No meal/toilet breaks</td>
</tr>
<tr>
<td></td>
<td>• Staff shortages (including shortage of experienced staff)</td>
</tr>
<tr>
<td></td>
<td>• Being responsible for running the department, as well as the patients’</td>
</tr>
<tr>
<td></td>
<td>well-being</td>
</tr>
<tr>
<td></td>
<td>• Dealing with multiple pressures at the one time</td>
</tr>
<tr>
<td></td>
<td>• Trying to meet the needs of different people.</td>
</tr>
<tr>
<td></td>
<td>• Being expected to do things you haven’t done before</td>
</tr>
<tr>
<td></td>
<td>• Shortage of beds, space and medical equipment</td>
</tr>
<tr>
<td></td>
<td>• Noise</td>
</tr>
<tr>
<td><strong>Job Uncertainty</strong></td>
<td></td>
</tr>
<tr>
<td>Unexpected stressful events that are</td>
<td>• Patient load</td>
</tr>
<tr>
<td>often beyond a nurse’s control.</td>
<td>• Patient crises</td>
</tr>
<tr>
<td></td>
<td>• Breakdown of equipment</td>
</tr>
<tr>
<td></td>
<td>• Rostering schedule</td>
</tr>
<tr>
<td></td>
<td>• Unfamiliar problems (e.g., medical conditions, operating new technology)</td>
</tr>
<tr>
<td></td>
<td>• Doctors not being available for consultation</td>
</tr>
<tr>
<td></td>
<td>• Inability of doctors to make decisions</td>
</tr>
<tr>
<td></td>
<td>• Lack of communication between departments</td>
</tr>
<tr>
<td></td>
<td>• Fear of litigation</td>
</tr>
<tr>
<td><strong>Interpersonal Conflict</strong></td>
<td></td>
</tr>
<tr>
<td>Conflicts that arise from working</td>
<td>• Demanding patients</td>
</tr>
<tr>
<td>so closely with patients and their</td>
<td>• Abusive/violent patients</td>
</tr>
<tr>
<td>relatives, as well as doctors, all</td>
<td>• Difficult and/or demanding relatives</td>
</tr>
<tr>
<td>in times of acute stress conditions.</td>
<td>• Demanding doctors</td>
</tr>
<tr>
<td>**Lack of Professional Recognition</td>
<td></td>
</tr>
<tr>
<td>and Support**</td>
<td>• Disrespectful doctors</td>
</tr>
<tr>
<td>The undervaluing of nurse’s skills,</td>
<td>• Lack of support</td>
</tr>
<tr>
<td>experience and qualifications by</td>
<td>• Insufficient wages</td>
</tr>
<tr>
<td>other health professionals, especially</td>
<td></td>
</tr>
<tr>
<td>doctors, and the insufficient provision of</td>
<td></td>
</tr>
<tr>
<td>support.</td>
<td></td>
</tr>
</tbody>
</table>
Step 3: Classification of Work Stress Subcategories

Following Step 2, the nurses work stressors were collapsed further into subcategories (see Table 6.3). In Step 3, the frequency of comments, the percentage of comments, and the inter-rater reliability coefficient were tabulated for each work stress subcategory. In cases where the work stress subcategory was reported infrequently (i.e., less than five times), the subcategory was removed.

For job conditions, resource shortages (e.g., beds, space, and medical equipment) as well as noise on the ward were removed. For job uncertainty, fear of litigation and patient crises were removed. For interpersonal conflict, difficult and demanding doctors were removed. For lack of respect and recognition, insufficient wages were removed. Only work stress subcategories that were mentioned by nurses more than 5 times were deemed by the researcher to be common sources of work stress for nurses.

In Table 6.3, the most commonly reported work stressors for Australian nurses have been highlighted. The key work stressors are: 1) work overload, 2) lack of respect and recognition from doctors, 3) difficult/demanding patients, 4) difficult/demanding relatives, and 5) lack of support.
Table 6.3

**Main Sources of Work Stress for a Sample of Australian Nurses**

<table>
<thead>
<tr>
<th>Job Conditions</th>
<th>f</th>
<th>%</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Overload (e.g., staff shortages, too much documentation, interruptions,</td>
<td>63</td>
<td>17.52</td>
<td>0.92</td>
</tr>
<tr>
<td>too many patients, too many responsibilities).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Conflict (e.g., dealing with multiple pressures at the one time)</td>
<td>8</td>
<td>3.42</td>
<td>0.80</td>
</tr>
<tr>
<td>Role Ambiguity (e.g., being expected to do things you haven’t done before)</td>
<td>6</td>
<td>2.56</td>
<td>0.75</td>
</tr>
<tr>
<td>Job Uncertainty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unpredictability (e.g., rostering, patient load, interruptions, treatment</td>
<td>18</td>
<td>7.69</td>
<td>1.00</td>
</tr>
<tr>
<td>mistakes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfamiliar Problems (e.g., medical conditions, operating new technology)</td>
<td>10</td>
<td>4.27</td>
<td>0.91</td>
</tr>
<tr>
<td>Doctor Availability</td>
<td>6</td>
<td>2.56</td>
<td>0.83</td>
</tr>
<tr>
<td>Interpersonal Conflict</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficult/Demanding Patients (e.g., abusive, violent, dependant)</td>
<td>27</td>
<td>11.54</td>
<td>1.00</td>
</tr>
<tr>
<td>Difficult/Demanding Relatives</td>
<td>27</td>
<td>11.54</td>
<td>0.86</td>
</tr>
<tr>
<td>Lack of Professional Recognition and Support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Respect and Recognition from Doctors</td>
<td>45</td>
<td>11.97</td>
<td>1.00</td>
</tr>
<tr>
<td>Lack of Support</td>
<td>24</td>
<td>10.26</td>
<td>1.00</td>
</tr>
<tr>
<td>Total</td>
<td>234</td>
<td>100</td>
<td>.91</td>
</tr>
</tbody>
</table>

*Note. f = frequency of comments; % = percentage of comments; IR = inter-rater reliability coefficient.*

**Step 4: Comparing Australian Nurses’ Sources of Stress to the NSS**

At Step 4, the main sources of stress for the current sample are compared to the seven factors measured by Gray-Toft and Anderson’s (1981a) NSS (see Table 6.4). Some similarities and notable differences are identified. Similar to Gray-Toft and Anderson, participants recognised that workload, conflict with physicians, and lack of support were major sources of stress for nurses. However, Australian nurses did not recognise death and dying, inadequate preparation, conflict with other nurses, and uncertainty concerning treatment as chronic sources of work stress.
Table 6.4

**Australian Nurses’ Major Sources of Stress Compared to the NSS**

<table>
<thead>
<tr>
<th>Seven Sources of Stress from the NSS</th>
<th>Five Sources of Stress for Australian Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Death and dying</td>
<td>1) Work overload</td>
</tr>
<tr>
<td>2) Conflict with physicians</td>
<td>2) Lack of respect and recognition from</td>
</tr>
<tr>
<td>3) Inadequate preparation</td>
<td>doctors</td>
</tr>
<tr>
<td>4) Lack of support</td>
<td>3) Difficult/demanding patients</td>
</tr>
<tr>
<td>5) Conflict with other nurses</td>
<td>4) Difficult/demanding relatives</td>
</tr>
<tr>
<td>6) Work load</td>
<td>5) Lack of support</td>
</tr>
<tr>
<td>7) Uncertainty concerning treatment</td>
<td></td>
</tr>
</tbody>
</table>

**Step 5: Description of Australian Nurses’ Main Sources of Work Stress**

In the section below, typical statements underpinning the major sources of stress for the current sample are detailed.

**Work overload.** Work overload may result from the employee being assigned too many tasks or insufficient time to accomplish the assigned tasks (Van Sell et al., 1981). Work overload was the highest predictor of work stress and accounted for approximately 17% of comments regarding prominent sources of work stress. Work overload was mentioned substantially more than any other stressor. Each ward that participated in the focus groups identified work overload as a significant source of stress. Participant’s reported that their workload was excessive as a result of high patient loads, other health professionals (e.g., doctors) readily off-loading work onto nurses, constant interruptions, and increased paper work and time pressures. A typical submission covered a number of points as depicted below:

- **There are too many patients to handle during a shift. We manage 10-20 patients per shift.**
- **Experienced staff are overworked because they are expected to carry the load of new staff as well as their own.**
• We don’t have enough staff to cope with the workload.
• Other staff (e.g., doctors) off-load work and extra responsibilities onto us. They often ask us to do extra things.
• We have to be able to handle a number of different things at once. There’s not enough time to do everything that is required of us. When attending to 10 to 20 patients, there’s not enough time to complete all the documentation and paper work during our shift. We often have to work longer than eight hours on a shift because we can’t get everything done that is expected of us. We are faced with constant interruptions - telephone calls, other staff asking us to do things for them, dealing with relatives’ enquiries. We can’t even get a meal break or go to the toilet during our shift. We just can’t stretch ourselves any further.

The excessive workload endured by nursing staff appears to be strongly linked to a shortage of staff to manage organisational demands. Specifically, participants indicated that there is a lack of experienced staff on each shift, especially night duty. Experienced nurses are expected to familiarise new staff to the ward and to ensure that they are performing their job correctly at the same time as performing their normal duties. Some of the key phrases were:

• Our patient loads may increase, but there is no change in staff levels.
• We are short-staffed, especially after-hours.
• You just can’t readily call in extra staff on night duty.
• We need more staff. There are not enough people to cover you if you need a break.
• There is not enough experienced staff on each shift. Sometimes half the staff are agency staff who don’t know the patients or the procedures on the ward. It just makes the day so much harder for regular staff when we have to take on extra work as well as orientate them to the ward.

Lack of respect and recognition from doctors. According to the nursing literature, doctors and nurses have a collaborative working relationship (Craven & Hirnle,
2000). This is because nurses are required to work closely with doctors and assist them by ensuring that the treatment plan directed by the doctor is implemented and followed correctly. Participants reported, however, that they felt that some doctors did not treat them with respect and did not recognise their skills, experience, or qualifications. Lack of respect and recognition from doctors accounted for approximately 12% of comments raised by nurses. Some participants indicated that there is a sense of inequality between nurses and doctors. Although they were expected to be respectful towards doctors they indicated that doctors were not expected to demonstrate respect towards nurses. Nurses indicated that doctors sometimes behave in a superior manner and abuse the power associated with their position. The way in which doctors demonstrated their disrespect and lack of recognition for nurses is depicted below.

- Doctors like to feel like they’re in charge. They barge in and say “I want this done now.” They expect you to do what they want immediately. They want you to drop everything no matter what you’re doing.
- They command respect. They think they’re God!
- Their tone of voice makes you feel incompetent – “Well, why don’t you know?” They don’t listen to you. They just bark orders at you. They ‘chew your pants off’ if you don’t document everything, yet if they do something wrong, they don’t want to hear about it from nurses. Instead they blame us for their mistakes!
- They don’t recognise our skills, our qualifications, or experience.
- They couldn’t care less about us. They couldn’t give a toss.

Difficult/demanding patients. A nurse’s role is to assist patients in meeting their health care needs. They help the patient to adapt to their situation, to cope, to work through feelings and concerns, and to solve problems. Nurses suggested, however, that some patients are too dependent on them and are not willing to take responsibility for their own improvement in health. Other patients are difficult to manage because
they are abusive or violent, especially those with personality or psychiatric disorders. Difficult and/or demanding patients are a major source of stress for nurses. They account for approximately 11% of the responses related to work stress. Typical statements regarding patients are outlined below.

- *We have to give attention to those who are acutely ill, as well as attend to the needs of all the other patients.*
- *Some patients engage in attention-seeking behaviour. They always want your attention.*
- *Patients with psychiatric problems are very difficult to care for and manage.*
- *Certain patients stress you out, especially intoxicated or abusive patients. They demand to be seen straight away and then they blame you when they’re not. They give us a mouthful and blame everything on us. They’re always ready to ‘have a go’ at the nurse.*
- *They expect nurses to have all the answers. They expect nurses to be doctors!* 

**Difficult/demanding relatives.** Nurses also work closely with patients’ relatives. They inform the relatives about the patient’s illness and discuss with them the patient’s treatment plan. It would appear that interacting with relatives is equally as difficult and demanding as working with patients. Approximately 11% of the participants’ responses related to the stress associated with dealing with relatives. Nurses reported that relatives can sometimes be demanding because they have very little understanding or knowledge of the nurse’s role and as a result they may have unrealistic expectations of nurses. In addition, nurses are regularly exposed to families in which there is conflict or where there are long standing feuds between family members. They suggested that managing these ‘dysfunctional’ families was stressful. Some families are difficult to manage because they refuse to follow the nurses’ advice, instructions, or hospital rules. Some of the stress associated with interacting with patients’ relatives is outlined below:
• Some relatives have unrealistic expectations about the patient’s extent of recovery or speed of recovery. If the patient isn’t improving as fast as they thought, they often blame us for being incompetent and not doing enough. We have to constantly explain the patient’s condition to them but they don’t seem to listen, or don’t want to listen. They don’t comprehend that we’re here to help.

• Some relatives have outlandish expectations of nurses. They treat you like a servant.

• Some families are very dysfunctional and can unsettle the patient. We constantly have to readjust our care to deal with family conflict.

• Relatives believe they are entitled to see the patient at any time they like and for as long as they like, regardless of visiting hours.

• Families can be manipulative. They try to challenge your boundaries. They often try to catch you out or they will play one nurse off another.

Lack of support. Nurses are required to be a source of support for patients and their families, however there is not enough support for nurses at work to help them cope with everyday demands. Nurses indicated that due to shortages in nursing staff, there was very limited support available to nurses during their shift, especially night duty. Inexperienced staff appeared to feel less supported than experienced staff. Less experienced nurses suggested that there is very little support for new staff because everyone is so busy. Typical statements reflecting nurses’ perceptions of an unsupportive work environment are reflected below:

• When you’re new, you don’t get that support. It’s difficult to try and get someone to help when everyone is so busy and you’re still learning the ropes.

• We have to operate new medical equipment, but there is little supervision or guidance to help us operate the machines and to deal with any technical mishaps. Whoever put the new machinery in isn’t there, and nobody knows how to use it.

• There is a lack of support from medical staff. They don’t give us any encouragement, help, or support. They don’t care.
• We don’t have the staff to be able to pull them from other areas to come and help us when we need it. We don’t have any support.

• Other nursing staff can be unsupportive. If you ask them a question, they’ll pull faces at you and humiliate you.

• On night duty there’s no-one to call. There’s no avenue to out.

• We don’t have a big support system. There’s no time to debrief and nobody cares.

In summary, it would appear that fiscal tightening in the health care sector, as discussed in Chapter 1, has had a substantial impact on the working conditions of Australian nurses. Nurses are confronting ever-increasing workloads without adequate resources (e.g., staff) and workplace support to contend with these demands. Furthermore, patients and relatives readily project their fears and frustrations on nurses by being aggressive and verbally abusive. Nurses are being asked to do more with less and it is little wonder that many nurses are opting to work part-time or leave the profession. Despite the enormous pressures associated with nursing, doctors do not seem to work as a team with nurses. Instead, doctors appear to off-load further responsibilities onto staff. The above findings provide sufficient evidence that nursing is a stressful occupation. In the following section, participants’ comments regarding social support are classified.

Classification of Comments into Social Support Categories

Sources of Support

The qualitative data obtained from the focus group discussions was used to determine whether nurses’ perceptions of workplace support were consistent with the way in which social support has been conceptualised in recent occupational stress literature. The process for identifying the major sources of support from work
involved a one-step process. The nurses’ key supportive persons were classified into broad categories and the frequency for each source of support was calculated. The major sources of support were deemed to be those that were mentioned by participants ten times or more.

**Identification of the Major Sources of Work Support**

Analysis of the data suggested that the supportive persons available to Australian nurses in their work environment could be classified under four overarching categories. The four categories were: 1) colleagues, 2) supervisor, 3) health professionals and 4) non-health professionals. The frequency of comments, the percentage of comments, and the inter-rater reliability coefficients were tabulated for each category. In Table 6.5, the major sources of support for Australian nurses have been highlighted. The key sources of support for public hospital nurses are their colleagues, and their supervisor.

Table 6.5

*Sources of Workplace Support for a Sample of Australian Nurses*

<table>
<thead>
<tr>
<th>Sources of Workplace Support</th>
<th>f</th>
<th>%</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colleagues</td>
<td>30</td>
<td>49.19</td>
<td>.98</td>
</tr>
<tr>
<td>Supervisor (e.g., CNC/NPC)</td>
<td>15</td>
<td>24.59</td>
<td>.90</td>
</tr>
<tr>
<td>Health Professionals (i.e., doctors, staff counsellors, staff</td>
<td>8</td>
<td>13.11</td>
<td>.81</td>
</tr>
<tr>
<td>educators, physiotherapists)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Health Professionals (i.e., ward persons, patients, relatives)</td>
<td>8</td>
<td>13.11</td>
<td>.79</td>
</tr>
<tr>
<td>Total</td>
<td>61</td>
<td>100</td>
<td>.87</td>
</tr>
</tbody>
</table>

Note. \( f \) = frequency of comments; \( % \) = percentage of comments; \( IR \) = inter-rater reliability coefficient.

CNC = Central Nurse Coordinator; NPC = Nursing Practice Coordinator

Table 6.5 suggests that Australian nurses have access to a number of sources support at work. For the most part, however, nurses indicated that their primary source of support at work was their nursing colleagues. Coworker support was
reported three times more frequently than supervisor support and accounted for 49% of the comments. Support from their supervisor, namely their CNC or NPC, accounted for approximately 25% of the comments. Although accounting for a smaller percentage of the comments, other health professionals that were considered sources of support were doctors, physiotherapists, staff development educators, and staff counsellors. Non-health professionals (ward persons, patients and their relatives) were also perceived to be supportive.

Nurses indicated that they often received support from their coworkers without requesting it. They said their coworkers related well to the pressures and problems they face at work because they are regularly exposed to the same stressful situations. Sometimes, however, they sought support from their supervisor or other hospital staff, someone a little more removed from the stressful situation because they could offer another perspective or solution to the stressful situation. The researcher observed that when the participants were discussing the support they receive from their supervisor, it was primarily in relation to instrumental support (e.g., seeking advice). In contrast, when the nurses were discussing the support they receive from their coworkers, it primarily related to emotional support (listening and empathising with the problem). This may indicate that different work sources fulfil different support needs for the stressed individual. It is therefore reasoned that different sources of support should be considered when examining the stressor-support matching model.

Types of Support

Similar to classifying the data for work stress, a multi-step process was used to categorise the types or functions of social support. Step 1 involved identifying the range of ways in which nurses felt supported in their work environment. Step 2 consisted of categorising the various support functions into broad categories. The
specific supportive behaviours were aligned to the key types of support. Step 3 involved identifying the main supportive behaviours by calculating the frequency in which the supportive behaviours were mentioned. In cases where the supportive behaviour was mentioned infrequently (i.e., less than ten times), the supportive behaviour was not recorded. Supportive behaviours that were mentioned ten times or more were deemed by the researcher to be the most common types of support nurses receive at work. At Step 4, typical phrases or statements are provided to help illustrate the nurses’ perceptions of how support is demonstrated at work.

Step 1: Identification of Supportive Behaviours

Analysis of the qualitative data revealed that nurses felt supported in a range of different ways. Specific acts of support are depicted in Table 6.6.

Table 6.6

A Range of Supportive Behaviours Identified by a Sample of Australian Nurses

| Listening to problems or concerns | Helping somebody lift or manoeuvre a physically challenging patient |
| Reassuring the person that they are doing their job well | Helping during busy periods |
| Showing appreciation when somebody does something for you. | Getting advice to help solve a problem |
| Identifying with or understanding the problem | Offering assistance |
| Recognising and appreciating an individual’s efforts | Sharing nursing experiences |
| Discussing problems or concerns | Sharing knowledge |
| Trusting another person’s judgement or decision | Having social get-togethers outside of work |
| | Helping somebody with their patient load |
| | Sharing a joke with each other |

The number of different types of work support perceived by participants seems to suggest that social support is a multidimensional construct. Given the range of supportive behaviours that are associated with social support, it is not surprising that the definitions of social support have been inconsistent, diverse, vague and sometimes contradictory. As Vaux (1988) noted, “people assist each other in an
astonishing variety of ways” (p.17), and most of these have been labelled social support at one time or another.

**Step 2: Classification of the Social Support Dimensions**

As shown in Table 6.7, the supportive behaviours were classified into two broad categories – emotional support and instrumental support. *Emotional support* refers to the emotional comfort an individual receives during a stressful situation that leads the person to believe that they are cared for and valued by others. *Instrumental support* refers to the instrumental assistance that a person receives as a result of being given the necessary resources (e.g., physical help with a task) to cope with a stressful situation, or the guidance or advice to help solve a problem. Therefore work support may be defined in the present study as the emotional and instrumental assistance an individual receives through his or her interpersonal relationships at work.

**Table 6.7 Classification of the Social Support Dimensions**

<table>
<thead>
<tr>
<th>Types of Social Support</th>
<th>Supportive Behaviours</th>
</tr>
</thead>
</table>
| **Emotional Support (ES)** | • Listening  
| | • Identifying/understanding the problem (empathy)  
| | • Respect  
| | • Appreciation  
| | • Reassurance  
| | • Laughing together |
| **Instrumental Support (IS)** | • Help or assistance  
| | • Getting advice  
| | • Sharing knowledge/experiences |
Step 3: Identification of the Main Types of Support for Nurses

The frequency of comments, the percentage of comments, and the inter-rater reliability coefficients were tabulated for each type of support category (see Table 6.8). Supportive behaviours that were mentioned less than five times were removed. Two of these emotionally supportive behaviours were removed - reassurance and laughing together. No instrumentally supportive behaviours were removed. In Table 6.8, the key supportive behaviours identified by Australian nurses have been highlighted. The two most frequently reported supportive behaviours are *listening* and *helping or offering assistance*.

Table 6.8

*Main Types of Work Support for a Sample of Australian Nurses*

<table>
<thead>
<tr>
<th>Type of Support</th>
<th>f</th>
<th>%</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotional Support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td>19</td>
<td>24.07</td>
<td>.91</td>
</tr>
<tr>
<td>Showing Appreciation</td>
<td>12</td>
<td>15.19</td>
<td>.83</td>
</tr>
<tr>
<td>Identify/Understanding the Problem</td>
<td>11</td>
<td>13.92</td>
<td>.81</td>
</tr>
<tr>
<td>Respect</td>
<td>6</td>
<td>7.59</td>
<td>.75</td>
</tr>
<tr>
<td><strong>Instrumental Support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helping or Offering Assistance</td>
<td>19</td>
<td>24.05</td>
<td>.90</td>
</tr>
<tr>
<td>Sharing Information</td>
<td>6</td>
<td>7.59</td>
<td>.84</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>6</td>
<td>7.59</td>
<td>.96</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>79</td>
<td>100</td>
<td>.86</td>
</tr>
</tbody>
</table>

*Note.* f = frequency of comments; % = percentage of comments; IR = inter-rater reliability coefficient.

Step 4: Description of the Main Types of Support for Nurses

In the next section, typical statements underpinning the major types of support are detailed.

*Emotional support.* In the present study, emotional support refers to the emotional comfort an individual receives during a stressful situation. Receiving
emotional support leads the person to believe that they are cared for and valued by others. Emotional support included specific behaviours such as being listened to, being appreciated, identifying with the problem, and demonstrating respect. Interestingly, 60% of the comments regarding the functions of support were related to emotional support. This may suggest that nurses are able to recognise emotionally supportive behaviours more readily than instrumentally supportive behaviours. Alternatively, nurses’ may view emotional support to be more important than instrumental support. Typical statements reflecting nurses’ perceptions of emotional support are outlined below.

- Knowing that you can vent your frustrations and they will completely understand where you are coming from. They identify with you. People outside of here can’t do that.
- They listen to you. Having someone to listen to you whinge, bitch and moan when you’ve had a bad day.
- You can say things that are considered socially unacceptable and they won’t bat an eyelid.
- We appreciate one another. We take care of each other and we try to look out for each other.
- We have a lot of respect for each other. We try to let our colleagues know that they are supported.

Instrumental support. Instrumental support refers to the instrumental assistance that a person receives as a result of being given the necessary resources to cope with a stressful situation, or the guidance or advice to help solve a problem. Instrumental support included behaviours such as helping or offering assistance, sharing knowledge, and helping a person to rectify the problem. Nurses’ perceptions of instrumental assistance are detailed below.
• If we can, we try and help each other out. They don’t even need to ask. We just step in and give each other a hand.
• When things get tough for someone, we chip in and help. We might just do a few things for them and assist them where we can.
• Sometimes, someone will take over for you and give you an exit. Sometimes you just need that when it all gets too much.
• When you don’t know what you’re doing and someone shows you what to do or talks you through it step by step, it’s really helpful.
• When someone helps you fix a problem, or gives you some advice so you can solve the problem yourself.

In summary, participants identified two major types of support nurses’ receive at work – emotional support and instrumental support. These types of support are consistent with current social support literature. In the following section, the overall findings will be considered in relation to Study 1’s principal research questions and sub-problems.

Discussion

The qualitative data from Study 1 was able to provide responses to the two principal research questions. First, the data obtained from the focus groups provided valuable insight into the stressful conditions Australian nurses regularly confront working in a public hospital setting. The findings revealed that nurses are exposed to both job-specific stressors and generic role stressors. It could therefore be reasoned that both job-specific and generic role stressors should be explored simultaneously when examining nurses’ work stress.

Second, the study confirmed that the way in which nurses perceive work support is consistent with current social support literature. More specifically, nurses reported that their coworkers, followed by their supervisor, were their main sources of
support at work. Furthermore, nurses discussed work support from a multidimensional perspective, recognising various support components that could be classified broadly as emotional and instrumental support. In the section below, the main sources of stress for Australian nurses are delineated.

**Chronic Sources of Stress Among Australian Nurses**

In line with its image as a stressful occupation, considerable attention has been paid to pinpointing specifically intrinsic sources of stress within the nursing profession (Kirkcaldy & Martin, 2000). Recent empirical literature (e.g., Janssen, De Jonge, et al., 1999; Janssen, Schaufeli, et al., 1999; Kennedy & Grey, 1997; Kirkcaldy & Martin, 2000; Wheeler & Riding, 1994) has established ‘dealing with death’ and ‘workload’ as particularly potent sources of stress for hospital nurses. An excessive workload has featured prominently among the leading occupational stressors for nurses, together with patient care, relationships with colleagues, and bureaucratic constraints.

Similarly, Study 1 also sought to identify the chronic sources of stress commonly experienced by Australian nurses. Previous empirical studies investigating work stress among nurses have generally relied upon Gray-Toft and Anderson’s (1981a) NSS. Since this tool was validated using American nurses at a private hospital, it was considered important to clarify whether the working conditions and the associated demands experienced by Australian nurses from public hospitals were similar to American nurses from private hospitals.

In the present study, nurses’ work stressors were classified according to four broad stress categories. These included: 1) job conditions; 2) job uncertainty; 3) interpersonal conflict; and 4) lack of professional recognition and support. Five key work stressors commonly experienced among Australian nurses were identified.
These included: 1) work overload; 2) lack of respect and recognition from doctors; 3) difficult/demanding patients; 4) difficult/demanding relatives; and 5) lack of support. Although examining job stressors according to specific areas of nursing clinical practice has been of appeal to researchers (e.g., Keane, Ducette, & Adler, 1985; Sullivan, 1993), the findings from Study 1 seem to suggest that the similarities among nurses working in different wards are more apparent than the differences between them. Thus, the current thesis confines its study to work stressors experienced by the majority of nurses.

Work overload was clearly the most reported source of stress for Australian nurses. This finding is consistent with other Australian empirical studies (Bryant et al., 2000; Healy & McKay, 2000) as well as international empirical studies (e.g., Edwards et al., 2000a, 2000b; Guppy & Gutteridge, 1991; Hillhouse & Adler, 1997; Landsbergis, 1988; Wheeler, 1998; Wheeler & Riding, 1994). The nursing sample indicated that work loads were increasing due to staff shortages. Regular staff indicated that they were being ‘stretched to their limits’ as they took on heavier workloads. Nurses reported that there was a shortage of experienced staff to cover shifts, especially night duty. According to Lumby (1996), shortages in experienced staff is due in part to an ageing nursing population in which older, more experienced staff, are leaving the profession or are choosing to work part-time.

Work overload resonated most acutely with experienced staff. Experienced nurses spoke in depth about the number of tasks they are expected to perform during a shift. It seems that the number of responsibilities given to experienced staff has grown disproportionately in recent years. Not only are they expected to perform their regular duties but they are also required to familiarise new staff (e.g., first year nurses and agency nursing staff) to the ward. It is their responsibility to teach less
experienced nurses new skills and procedures, oversee that they are performing their tasks competently, and take on extra duties to compensate for their inability to perform higher-level duties.

Despite heavier workloads and inadequate staffing, there seems to be limited support available to nurses to contend with these organisational demands. Inexperienced staff reported feeling unsupported at work because they are not always able to ask for assistance or talk through their concerns with more experienced nurses as they are already overloaded with work. Experienced staff felt unsupported as there is nobody to assist them when their workload is excessive and unmanageable. Furthermore, nurses indicated that there was insufficient technical support available to them. For example, when new technological equipment is installed on the wards there is often no-one to provide guidance and assistance to operate the machines properly. Interestingly, this finding is not consistent with Healy and McKay’s (2000) study in which lack of support was the least reported stressor among Australian nurses. One possible reason for this is that nurses in the present study were more open to disclosing that they required more support because the purpose of the study was to investigate work support. Alternatively, it could be that the nurses who participated in the study were not typical of the wider nursing population. Participants in Study 1 may have felt more stressed about the available support at work than their nursing counterparts.

Another source of stress for Australian nurses was the lack of respect and professional recognition demonstrated by some doctors. Nurses spoke of being undervalued and being made to feel inferior as doctors issued orders and appeared to question their abilities. Lumby (1996) also found in her study of Australian nurses that doctors did not provide support to nurses and that verbal abuse by some doctors
was increasing. Similarly, Stehle (1981) also found the working relationship between nurses and doctors to be a major source of stress for nurses.

As well as contending with disrespectful and unsupportive doctors, nurses also have to manage difficult and demanding patients and their relatives. Participants reported that some patients and their relatives have unrealistic expectations of nurses. They noted that patients seem reluctant to take responsibility for their own healing process and relatives blame nurses when a patient’s health does not improve as quickly as they would expect. In addition, nurses have to contend with abusive patients who become frustrated when they unable to be seen by a doctor immediately. According to Cherniss (1995), regularly confronting patients who do not follow advice, make impossible demands, resist change, and who sometimes lie, cheat and manipulate is an everyday reality for health professionals. In contrast, Bryant et al. (2000) reported that Australian nurses did not perceive patients and relatives as significant contributors to their stress at work. In their study, many expressed positive statements about their roles and the nurse-patient relationship. Wheeler (1994) and Riding and Wheeler (1995a, 1995b), however, have also found pressure from patients to be a major stress factor for nurses.

Overall, it seems that the role of the Australian nurse is changing. Some of these changes appear to be a direct result of cut-backs in the government’s funding of hospitals. The behaviours expected of nurses are being extended, whilst simultaneously the amount of support available to help nurses cope with these increasing demands is diminishing. In addition, it seems that patients and their relatives are not receiving the level of attention they desire and as a result, they are taking out their frustration on nurses by being abusive and aggressive. According to Laschinger, Finegan, Shamian, and Almost (2001), many nurses currently working in
hospitals are in conflict. They are often faced with the need to provide a much greater volume and intensity of care than they are able to deliver, yet they remain responsible and accountable as professionals for practicing within the standards of the profession. Many of the resources supporting nursing practice, such as nurse educators and unit administrators with nursing backgrounds, have been reduced or eliminated. Not surprisingly, many nurses believe that these changes have led to an erosion of patient care, decreased job satisfaction and burnout among nurses (Laschinger, Finegan, Shamian, & Wilk, 2001). The current study suggests that for Australian nurses, it is not the work itself, rather the working conditions that cause stress. Similarly, Adomat and Killingworth (1994) concluded that stressors in nursing were more related to “…the organisational pressures of the environment in which care was delivered, rather than the involvement of caring for critically ill patients” (p. 912).

*Australian Nurses’ Sources of Stress Compared to the NSS*

The major sources of stress identified by the current nursing sample were compared to the seven sources of stress measured by the NSS (Gray-Toft & Anderson, 1981a). Both similarities and notable differences were found. Similar to the present study’s findings, Gray-Toft and Anderson also recognised that workload was a significant source of stress for nurses. The NSS measures workload using five items. These stressful events include: the breakdown of a computer, unpredictable rostering, staff shortages, too many non-nursing tasks such as clerical work, and not enough time to provide emotional support to patients. Although they fit under the rubric of workload, these work stressors are somewhat different from Australian nurses’ perceptions of workload. Gray-Toft and Anderson primarily examined workload from a qualitative perspective which takes into consideration job complexity, time constraints, and resources. In the present study, workload is
discussed from both a qualitative and quantitative perspective, with a greater focus on quantitative workload.

In the current sample, nurses reported that their workload was excessive as a result of high patient loads, other health professionals (e.g., doctors) readily off-loading work onto nurses, constant interruptions, and increased paperwork. Participants indicated that the organisational demands placed upon them were growing and many nurses worked longer than the specified eight-hour shift to complete the work expected of them. It seems that the nursing tasks themselves are not indicative of stress. Instead, it is the magnitude of tasks combined with the lack of time to complete the tasks that is stressful. Australian nurses perceive workload not only in terms of the actual tasks they perform, but also in terms of the amount of the work they are expected to perform in a given time.

It is evident that public hospitals in Australia are expecting nurses to accommodate additional work responsibilities at a time in which resources are already stretched. As national employment of nurses continues to fall (AIHW, 1999), patient admissions continue to rise. In 1998-99, there was a 2.3% increase in patient admissions. With an ageing population, the number of elderly and acutely ill patients has increased and the length of hospital stays has decreased. Furthermore, hospital beds have been reduced which has led to overcrowding in the waiting rooms as patients wait to see a doctor. All these factors suggest that the role of a nurse is changing and it would appear unlikely that their workload is going to improve in the near future. Taking this into consideration, it could be argued that it is important to examine not only workload, but also role overload in Study 2.

Gray-Toft and Anderson also recognised poor relationships with doctors as a major determinant of stress among nurses. The NSS measures ‘conflict with doctors’
using four items. Items examine criticism by a physician, conflict with a physician, fear of making a mistake in treating a patient, and disagreement concerning the treatment of a patient when the physician is unavailable. In the current study, nurses also commented on the way in which some doctors undervalued their work and treated them with a lack of respect. Nurses reported that they spend more time with patients than doctors, yet doctors were not prepared to listen to their advice on treating patients if it conflicted with their own opinion. Nurses indicated that they felt more responsible for a patient’s welfare than a doctor because if a mistake is made, they can be blamed for a doctor’s error. Nurses stated that they double-check medication dosages because they fear mistakes could be made in treating a patient.

The NSS also recognises lack of support as a source of stress for nurses. There are three items that address nurses’ lack of opportunity to be able to talk openly to other unit personnel about problems, to share experiences and feelings, and to express negative feelings toward patients. A limitation of this subscale, however, is that the items primarily tap into emotional support. In the present study, nurses also found the inability to be able to talk openly to other nurses due to a lack of time to be stressful, but they also revealed that not being able to ask for extra help or assistance (i.e., instrumental support), was also stressful.

In the current study, the qualitative data revealed that staff shortages were a prominent source of stress for Australian nurses with participants stating that there is not enough staff to adequately cover a unit. Nurses suggested that despite their increasing workload, nursing staff levels have remained the same, or in some cases, decreased. Gray-Toft and Anderson also identified shortages in staff as a potential source of nurse stress. On the NSS, lack of staff support is measured using one item on the workload subscale.
A major limitation of Gray-Toft and Anderson’s NSS is that it does not measure the stress related to dealing with difficult and demanding patients and their relatives. The majority of items concerning patients on the NSS are associated with treating a dying patient, and other death related issues. Several studies have also found that nurses perceive treating a dying patient as a major source of stress (e.g., Adomat & Killingworth, 1994; Farrington, 1995; Hingley & Cooper, 1986; Hipwell et al., 1989; Numerof & Abrams, 1984). In the current study, however, nurses did not indicate that this was a prominent work stressor. When the researcher enquired more about this, participants reported that they knew that treating dying patients was an inevitable aspect of nursing and that they were adequately prepared to cope with this aspect of the job. According to Peeters and Le Blanc (2001), stressors that are considered typical to the job (e.g., treating critically ill patients) are appraised as the least significant. Apparently, employees expect that some stressors are indissolubly connected with their profession and, as a result, they do not perceive them to be very significant. In addition, there were two items addressing the patient’s family on the NSS. They include feeling inadequately prepared to help with the emotional needs of the patient’s family, and not knowing what a patient’s family should be told about the patient’s condition and treatment. The items on the NSS do not adequately capture the stress related to the problematic behaviours (e.g., difficult, demanding, abusive, aggressive) and unrealistic expectations of patients and their relatives.

Although there are similarities in the types of work stressors Australian nurses and American nurses experience, there are also some notable differences. Both recognise that workload, conflict with physicians, and lack of support are important sources of stress. For Australian nurses, staff shortages, and dealing with difficult and demanding patients and their relatives are also common sources of stress. Unlike
American nurses, nurses working in Australian public hospitals did not identify inadequate preparation, conflict with other nurses, and uncertainty concerning treatment as major sources of stress. These findings would seem to suggest that Gray-Toft and Anderson’s NSS may not be the most appropriate measure of Australian nurses’ work stress. This prompted the researcher to consider alternative measures of nurses’ work stress. In the section below, the measures chosen by the researcher to investigate nurses’ work stressors in Study 2 are briefly discussed.

*Measures of Nurses’ Work Stress*

The findings from Study 1 revealed that nurses are exposed to both job-specific stressors and role stressors. The four broad work stress categories (i.e., job conditions, job uncertainty, lack of professional recognition and interpersonal conflict) identified in the current study would appear to align more closely to the four factors measured by Wolfgang’s (1988a) HPSI: job conflicts, professional uncertainty, professional recognition and patient care responsibilities. As discussed earlier in Chapter 5, the HPSI is a 30 item survey designed to measure perceptions of potentially stressful job situations in health care professionals, including nurses. The HPSI’s depiction of stressful events commonly experienced among health care professionals is similar to the stressful events identified by the sample of nurses in the present study. For instance, examination of the HPSI reveals that items relating to the work stressor - *work overload* underpin the factor ‘job conflicts.’ The HPSI assesses quantitative and qualitative aspects of work overload. The stressful events measuring work overload include: shortages in staff, having too much work to do, interruptions by phone calls and people, and supervising the performance of coworkers.

The work stressors – *lack of respect and recognition from doctors* and *lack of support* appear to align to the HPSI factor ‘professional recognition.’ Stressful events
include: not receiving the respect and recognition you deserve, not being allowed to participate in decision making, not utilising your abilities to their full extent, not having the opportunities to share feelings and experiences with colleagues, not receiving adequate feedback on job performance, and insufficient pay.

_Dealing with difficult/demanding patients_ is adequately assessed by the HPSI factor ‘patient care responsibilities.’ Stressful events include: dealing with difficult patients, trying to meet society’s expectations for high quality medical care, caring for the emotional needs of patients, feeling ultimately responsible for patient outcomes, and caring for terminally ill patients. A limitation of the HPSI and most commonly used nurse stress scales, such as Gray-Toft and Anderson’s (1981a) NSS and Numerof and Abrams’ (1984) Nurse Stress Inventory, is that they do not examine the stress associated with dealing with difficult/demanding relatives. For the purpose of the present research, the item “Dealing with difficult/demanding relatives” was added to the HPSI as it was reasoned that the structure of the factor - ‘patient care responsibilities’ would not be significantly altered. Since the items on the HPSI appeared to closely resemble the current sample’s perceptions of work stress, the HPSI was administered to nurses in Study 2.

Finally, the findings also provided evidence that the nursing profession is characterised by role stress. Although mentioned less frequently than the job-specific stressors, nurses also identified chronic generic stressors that could be classified as role overload, role conflict and role ambiguity. The inclusion of Osipow and Spokane’s (1987) Occupational Roles Questionnaire (ORQ) to measure role stress in Study 2 was therefore deemed appropriate. The psychometric properties and administration details of the ORQ are discussed earlier in Chapter 5.
A primary objective of Study 1 was to reduce some of the confusion surrounding the support construct by examining the way in which nurses perceive the support they receive at work. The data obtained from the focus groups was used to reconcile some of the inconsistencies in the way support has been defined and operationalised in earlier literature.

In the present study, support was considered from two perspectives: sources of support and types of support. The findings were consistent with most studies investigating work support in that support from supervisors and colleagues were identified as the two most salient sources of support for nurses. Most studies suggest that supervisor support is the most important because the supervisor is the only person who has the position of power to alter or change the work situation at hand (Peeters & Le Blanc, 2001). However, in the current study, nurses identified their coworkers as the most salient source of support. According to Peeters and Le Blanc (2001), nurses are more likely to share their experiences with other colleagues whom they know also encounter similar situations on a regular basis. An alternative explanation could be that nurses turn to their coworkers because they work in close proximity to each other and therefore their colleagues are easily accessible.

The researcher observed that nurses spoke primarily about emotional support when discussing coworker support and instrumental support when discussing supervisor support. This observation provides some validation for the stress-support matching theory. The stressor-support matching theory proposes that specific events elicit particular salient coping requirements and that social support is more likely to buffer the negative effects of stress, if available support is able to address the needs of the situation (Cohen & Wills, 1985). Thus in the present thesis, both supervisor and
coworker support will be investigated separately when considering the effects of social support on the stress-burnout relationship.

The study’s findings also suggested that global conceptualisations of social support (e.g., Cohen & McKay, 1984; Heller, 1979; Heller & Swindle, 1983; Shumaker & Brownell, 1984) should be abandoned in favour of more precise models that depict specific support components. Nurses recognised that work support served a multitude of functions. In the present study, it was deemed useful to organise these various functions into two basic categories - emotional support and instrumental support. Other empirical studies support this view (Fenlason & Beehr, 1994; Beehr, 1995). The nurses identified behavioural components of emotional support including listening, showing appreciation, identifying with the problem and demonstrating respect. The specific acts associated with instrumental support included helping or offering assistance, sharing advice, and problem-solving. Whilst it is recognised that there may be other types of supportive behaviours, the functions of support identified in the current study are considered salient to nurses. Furthermore, the supportive behaviours generated in the current study were consistent with other researchers’ conceptualisations of emotional and instrumental support. For example, Beehr (1995) defined emotional support as the provision of sympathy, evidence of liking, caring and listening. House (1981) identified instrumental support as behaviours that directly assist another individual in need such as taking on part of a colleague’s workload.

The two most frequently reported supportive behaviours were listening and helping or offering assistance.
Pines, Aronson, and Kafrey (1980, p.125) also recognised the importance of listening for individuals working in stressful occupations. They state:

Everyone has occasions when they need one or more people who will actively listen to them without giving advice or making judgements. They need someone with whom they can share the joys of success as well as the pain and frustration of failure. They need someone they can share conflicts as well as everyday trivial incidents. People working in a stressful occupation occasionally need to let off steam. A good active listener listens with understanding and sympathy.

Beehr (1995) proposed that tangible aid, such as helping or offering assistance, is most effective for individuals where there is high workload. He argued that helping stressed people to get their job tasks done at a time when they are overloaded will help relieve the stressor (work overload). Nurses in the present study were also exposed to excessive workloads. It is therefore not surprising that these nurses perceived the receipt of help or assistance with tasks as an important type of support. It could be argued that instrumental support will be the most effective type of support in reducing nurses’ workloads.

In recent literature, several studies incorporate House’s (1981) conceptualisation of social support in which support is broken into four main components: emotional, instrumental, appraisal and informational support. Some studies (e.g., Cutrona & Russell, 1990; Wills & Shinar, 2000), however, have found sizeable correlations among these types of support, suggesting significant overlap among the dimensions. It was reasoned that since emotional support can be clearly distinguished from instrumental support, classifying social support into two categories may be more useful. Furthermore, distinguishing between four different types of support could further complicate analyses and could result in unreliable findings.
In summary, the findings suggest that while nurses are at work, it is their supervisors and their colleagues who are able to provide important support functions. The study also confirms that social support is a multidimensional construct. Taking this into consideration, a measure of work support that distinguishes between different sources and types of support will be used in Study 2 to examine the influence of support on work stress and burnout.

Limitations

Finally, while the focus groups provided some interesting results, this study is not without limitations. First, the findings from the focus groups may be open to some bias. Although the researcher attempted to gain information from each nurse who participated in the focus groups, there were times in which a few members of the group tended to dominate the discussion. The dominating members may have influenced the opinions of other nurses in the group. Those nurses who felt their opinions were in the minority may have been reluctant to express their views. Furthermore, some nurses may have felt uncomfortable sharing their views with other members in the group and some may have been concerned about confidentiality between participants. Finally, since only a small number of nurses from each hospital ward participated in this study, the results cannot be generalised to the wider nursing population without further replication. In the following chapter, the psychometric properties of the HPSI and the work support scales are examined in more detail.
CHAPTER 7

Study 2

An Assessment of the Psychometrics Properties of the HPSI and the Work Support Scales

Study 2 utilises a survey methodology to measure the main variables of interest in this research program. The main objective of Study 2 is to provide evidence of the psychometric soundness of the scale used to measure nurses’ job-specific stress (i.e., the HPSI) and the scales designed to assess nurses’ work support. Verifying that these scales are psychometrically sound is a necessary step before examining the variables further in Study 3. In this chapter, the rationale for investigating the psychometric properties of these scales is provided. Next, the development of the quantitative survey used in the present study to measure nurses’ levels of job-specific stress, role stress, support at work, and burnout is briefly described. Following this, the psychometric properties of the job-specific stress measure and the work support scale are examined.

Rationale for Study 2

In the present study, a multi-measure questionnaire was constructed to assess work stress, work support and burnout in a sample of Australian nurses working in a public hospital setting (see Appendix A). The qualitative findings in Study 1 were used as a basis for choosing the scales to measure nurses’ work stress. In particular, the HPSI (Wolfgang, 1988a) was chosen to measure sources of job-specific stress. This was because the four broad stress factors identified by the sample of Australian nurses appeared to align closely to the four factors measured by the HPSI. Use of the HPSI, however, was not without limitations. One item was added to the inventory to assess “dealing with difficult and demanding relatives.” Furthermore, one item was slightly adapted to tap into doctors’ lack of
professional recognition and support for nurses. The ORQ (Osipow & Spokane, 1987) was chosen to measure sources of role stress as the scale demonstrates adequate psychometric properties, it has been frequently used in the occupational stress literature, and it provides normative data for a large sample of adults across a broad range of occupations.

The qualitative data from Study 1 also provided insight into Australian nurses’ perceptions of support received from work. The nursing sample identified two primary sources of support at work, their nursing colleagues and their supervisor (e.g., CNC or NPC). The supportive behaviours provided by their coworkers and their supervisor were broadly classified as emotional and instrumental support. The findings enabled the researcher to clearly conceptualise the social support construct before compiling a concise, contextually relevant measure of work support for nurses.

Lastly, the MBI (Maslach et al., 1996) was chosen to measure nurses’ levels of emotional exhaustion, depersonalisation, and reduced personal accomplishment. The MBI is the most frequently used measure of burnout in the occupational strain literature, enabling comparisons between studies to be easily made. Furthermore, satisfactory levels of reliability and validity have been shown (e.g., Maslach et al., 1996). Normative data for a variety of human service occupations is also provided in the MBI administration manual.

While there is sufficient evidence in the empirical literature demonstrating that the ORQ and MBI possess adequate psychometric properties (see Maslach et al., 1996; Osipow & Spokane, 1987; Schaufeli & Enzmann, 1998), less is known about the HPSI and the work support scales developed for this research program. It was therefore considered appropriate to provide some evidence of their construct validity and reliability. This is demonstrated using a number of statistical procedures.
To assess the factor composition of these scales, the statistical technique known as factor analysis is conducted. Factor analysis is deemed a suitable technique for determining whether the HPSI’s structure has changed as a result of the modifications that were made to the inventory for the purpose of this research. Factor analysis is also a useful procedure for establishing whether the supervisor and coworker support scales adequately discriminate between emotional and instrumental support. Furthermore, inter-factor correlations as well as inter-scale correlations are generated for each scale. To estimate the internal consistency of each scale, Cronbach’s coefficient alpha is calculated. Clarifying the psychometric soundness of these measures ensures that any findings of statistical significance in Study 3 are not the result of errors in measurement.

**Method**

**Subjects**

Participants were drawn from three public hospitals. A total of 273 nursing professionals (235 females, 38 males) completed the survey. The response rate for the questionnaire was 67.74%. Further information regarding the sociodemographic characteristics of the sample can be found in Chapter 5.

**Materials**

In Study 2, a survey was developed to examine the key variables of interest in this research program, that is, work stress, social support, and burnout (see Appendix A). The survey incorporated measures of work stress that assessed stressful events that are considered to be characteristic of the nursing industry, as well as generic stressors that are often associated with white-collar occupations (i.e., role overload, role conflict, role ambiguity). Social support was measured from within the workplace, namely coworker and supervisor support. The coworker support and supervisor support scales contained both emotional and
instrumental support items. The burnout instrument tapped into three components - emotional exhaustion, depersonalisation, and reduced personal accomplishment.

**Work Stress**

One of the central purposes of Study 1 was to identify the major sources of stress that are common to most Australian nurses. The findings indicated that nurses are exposed to several work stressors that are unique to the health profession industry, as well as role stressors that are common to most occupations. In order to establish which work stressors are the most influential determinants of burnout, it was considered important to measure work stressors that are specific to nursing, as well as generic work stressors.

*Job-specific stress.* In the present study, nurses’ job-specific stress is measured using the HPSI (Wolfgang, 1988a). The HPSI comprises 30 items that reflect stressful situations frequently encountered by professionals working in the health care industry. The items on the HPSI have been found to load onto four broad stress factors: job conflict, professional uncertainty, professional recognition and patient care responsibilities (Akhtar & Lee, 2002; Gupchup & Wolfgang, 1994). The HPSI provides a measure of the amount and sources of stress experienced by health professionals. Respondents answer how often they find each situation to be stressful in their work setting. A five-point likert scale is used ranging from 0 (never/rarely) to 4 (very often). In the present study, a global measure of job stress is generated by summing the scores for each item. Item scores are also totalled for the four subscales. Higher scores represent higher levels of stress.

For the purpose of the current research, item 4 on the HPSI was slightly modified to examine doctor’s lack of respect and recognition for nurses. The item - “Not receiving the respect or recognition that you deserve from the general public” - was modified with the
words ‘the general public’ being replaced by the word ‘physicians.’ It was expected that this item would still load onto the stress factor – professional recognition and therefore would not alter the factor structure of the HPSI. Furthermore, one extra item was added to the HPSI to measure the stress associated with difficult and demanding relatives. It was assumed that the additional item – “dealing with difficult and demanding relatives” would load onto the stress factor - patient care responsibilities, and therefore would not alter the factor structure of the survey. Further details regarding the rationale for choosing the HPSI and its psychometric properties are provided in Chapter 5.

Role stress. Role stress is assessed using one measure from Osipow and Spokane’s (1981, 1987) OSI. The OSI consists of three separate questionnaires. The Personal Strain Questionnaire, the Personal Resources Questionnaire and the ORQ. Only the ORQ was used in the present study. The ORQ comprises six subscales, three of which were applicable to this study. The three subscales measured: 1) role overload, 2) role ambiguity, and 3) role boundary or role conflict as it is defined in the present study. Each subscale contains 10 items. Responses are made on a 5-point likert scale ranging from 1 (never or rarely) to 5 (most of the time). Each subscale scores in a positive direction, with higher sores indicating higher levels of stress. Further details regarding the psychometric properties of the ORQ are presented in Chapter 5.

Work Support

In the nursing literature, no one scale exists that adequately measures work support as it is operationalised in the present study. This prompted the researcher to construct a measure of supervisor support and coworker support that is relevant to nurses by adapting previous existing measures. The work support scales were designed to measure nurses’ perceptions of
the emotional and instrumental assistance they receive from their supervisor and their coworkers. The Supervisor Support Scale consists of seven emotional support items and five instrumental support items. The items taken from established social support scales aligned to the key supportive behaviours identified by the nurses in Study 1. Items were selected from Shinn et al.’s (1989) Supervisor Support Scale, Ray and Miller’s (1994) Supervisor/Coworker Support Scale, and King et al.’s (1995) Family Support Inventory for Workers. The items selected from the Family Support Inventory for Workers required some modifications. Specifically, the word ‘family’ was replaced by the word ‘supervisor’ and the word ‘home’ replaced by the word ‘work.’ The Coworker Support Scale contained the same items as the supervisor support scale however, the word ‘supervisor’ was replaced by the word ‘coworkers.’ Responses are made on a 5-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items are totalled to give a global measure of supervisor support and a global measure of coworker support. As there are 12 items, the total scores range between 12 and 60 with higher scores representing higher levels of support. The items comprising the emotional and instrumental support subscales are also aggregated to give a more specific measure of emotional and instrumental support. As there are seven items comprising the emotional support subscale, total scores range between 7 and 35. As there are five items on the instrumental support subscale, total scores range between 5 and 25. For further details regarding the work support items and their corresponding authors, see Table 5.2 in Chapter 5.
Burnout

Burnout is measured by the MBI-HSS (Maslach et al., 1996), The MBI-HSS is a 22-item self-report instrument which yields three separate sub-scores reflecting emotional exhaustion (nine items), depersonalisation (five items), and feelings of reduced personal accomplishment (eight items). Participants rate on a 6-point response format how often they feel a particular way about their job, with the range being never (0) to every day (6). The MBI manual defines high levels of burnout by high scores on emotional exhaustion and depersonalisation and by low scores on the personal accomplishment subscale. Low levels of burnout are reflected by low scores on the emotional exhaustion and depersonalisation subscales and by high scores on the personal accomplishment subscale. Further details regarding the psychometric properties of the MBI are presented in Chapter 5.

Procedure

Permission was granted from the hospitals’ ethics committee to administer the survey to ward nurses. The Executive Director of Nursing Services from each hospital provided a list of the wards in which potential participants could be recruited. The researcher contacted the head nurse from each ward to gain their consent for nurses to be involved in the study. Following this, the researcher arranged with the head nurse to meet with staff to disseminate information about the study. At the introductory meeting, an overview of the research program was given and the study’s main objectives were explained. Nurses were informed about survey confidentiality and anonymity. They were also made aware that participation was voluntary and that they could withdraw from the study at any time. They were advised that the questionnaire would take approximately 30 minutes to complete. In addition, an
information sheet clearly detailing the nature of the study and the proposed time and venue for administering the survey in their ward was distributed (see Appendix A).

Questionnaires were administered to nurses directly after staff hand-over meetings. The nursing supervisor from each ward was not invited to attend the meeting because items on the survey related to supervisor support. To improve chances of obtaining an adequate response rate and to address participants’ questions throughout the survey, the researcher stayed with respondents while they completed the surveys. The researcher attached a chocolate to each survey as a token of her appreciation for staff taking the time to complete the survey. Once respondents had completed the questionnaire, they were instructed to place their survey in the envelope provided and to return it in person to the researcher. Additional questionnaires were also left in common rooms for nurses who were unable to attend the meeting but had expressed interest in participating in the study. A self-addressed, reply-paid envelope accompanied the questionnaire. In some cases, the researcher arranged with nurses to return a week later to collect the completed questionnaires.

Data Analysis

In the present study, data was analysed by the Statistical Package for the Social Sciences (SPSS) Version 11.0. The psychometric properties of the HPSI and the work support scales are examined using the following statistical techniques. Specifically, factor analysis is performed to examine the factorial composition of each scale. Cronbach’s alpha reliability coefficient is generated to assess the internal consistency of the scales. In addition, inter-factor and inter-scale correlations are examined using Pearson’s product-moment correlations to provide further evidence of the scales’ construct validity.
Factor structure of the HPSI

Factor analysis of the HPSI was conducted using principal axis factoring. Based on previous studies (Akhtar & Lee, 2002; Eells et al., 1994; Gupchup & Wolfgang, 1994), it was expected that a four-factor solution would be identified. It was therefore specified that four factors were to be extracted with a loading cut of .30. The factors were rotated to a simple structure by employing both orthogonal (VARIMAX) and oblique (OBLIMIN) rotations. While the orthogonal and oblique solutions were very similar, with only one item loading differently, the oblique solution was judged to be most appropriate. This was because the loadings in the oblique solution showed a clearer pattern than the orthogonal solution, which showed more cross-loadings. Table 7.1 delineates the four factor structure of the HPSI which was obtained using principal axis factor analysis followed by oblique (oblimin) rotations.
Table 7.1

*Pattern Matrix for Oblique Factors of the HPSI*

<table>
<thead>
<tr>
<th>Factors and Items</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
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</thead>
<tbody>
<tr>
<td><strong>I. Lack of Professional Recognition and Support</strong></td>
<td></td>
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<tr>
<td>25. Not being allowed to participate in making decisions about your job.</td>
<td>.69</td>
<td></td>
<td></td>
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<tr>
<td>29. Not being able to use your abilities to the fullest extent on the job.</td>
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<tr>
<td>20. Not receiving adequate feedback on your job performance.</td>
<td>.60</td>
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<tr>
<td>26. Not being challenged by your work.</td>
<td>.59</td>
<td></td>
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<tr>
<td>13. Feeling that opportunities for advancement on the job are poor.</td>
<td>.58</td>
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<tr>
<td>17. Not being recognised or accepted as a true health professional by other health professionals.</td>
<td>.54</td>
<td></td>
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<tr>
<td>27. Feeling that you are inadequately paid as a health professional.</td>
<td>.47</td>
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<tr>
<td>4. Not receiving the respect or recognition that you deserve from physicians.</td>
<td>.43</td>
<td></td>
<td></td>
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<tr>
<td>8. Not having opportunities to share feelings and experiences with colleagues.</td>
<td>.42</td>
<td></td>
<td></td>
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<tr>
<td>22. Having non-health professionals determine the way you must practice your profession.</td>
<td>.36</td>
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<tr>
<td>23. Not knowing what type of job performance is expected.</td>
<td>.09</td>
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<tr>
<td><strong>II. Patient Care Uncertainty</strong></td>
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<tr>
<td>5. Being uncertain about what to tell a patient or their family about the patient’s condition and/or treatment.</td>
<td>-.72</td>
<td></td>
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<tr>
<td>31. Dealing with difficult/demanding relatives.</td>
<td>-.65</td>
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<tr>
<td>16. Dealing with difficult patients.</td>
<td>-.56</td>
<td></td>
<td></td>
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<tr>
<td>28. Caring for terminally ill patients.</td>
<td>-.53</td>
<td></td>
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<tr>
<td>11. Allowing personal feelings or emotions to interfere with the care of patients.</td>
<td>-.50</td>
<td></td>
<td></td>
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<tr>
<td>18. Being inadequately prepared to meet the needs of patients.</td>
<td>-.49</td>
<td></td>
<td>.41</td>
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<tr>
<td>19. Possessing inadequate information regarding a patient’s medical condition.</td>
<td>-.46</td>
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<tr>
<td>30. Fearing that a mistake will be made in the treatment of a patient.</td>
<td>-.44</td>
<td></td>
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<tr>
<td>7. Disagreeing with other health professionals concerning the treatment of a patient.</td>
<td>-.43</td>
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<tr>
<td><strong>III. Job Conditions</strong></td>
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<td>24. Being interrupted by phone calls or people while performing job duties.</td>
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<tr>
<td>14. Trying to meet society’s expectations for high quality medical care.</td>
<td>.56</td>
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<tr>
<td>3. Feeling ultimately responsible for patient outcomes.</td>
<td>.55</td>
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<tr>
<td>15. Supervising the performance of less experienced workers.</td>
<td>.51</td>
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<tr>
<td>6. Caring for the emotional needs of patients.</td>
<td>.50</td>
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<tr>
<td>1. Having so much work to do so that everything cannot be done well.</td>
<td>.49</td>
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<td>.38</td>
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<tr>
<td>21. Not having enough staff to adequately provide necessary services.</td>
<td>.49</td>
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<tr>
<td>12. Keeping up with new developments in order to maintain professional competence.</td>
<td>.37</td>
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</tbody>
</table>
In the present study, the four-factor solution explained 45.2% of the total variance. Items loading onto Factor 1, accounting for 26.52% of the total variability, pertain to the absence of opportunities for nurses to use their abilities fully and to contribute to important decisions concerning their job, and the lack of recognition and support provided to nurses by other health professionals. It was therefore labelled Lack of Professional Recognition and Support. Previous studies have similarly labelled this factor Professional Recognition (Akhtar & Lee, 2002; Gupchup & Wolfgang, 1994) or Lack of Perceived Enrichment Potential (Eells et al., 1994) and have also found that this factor explained most of the inventory’s variance. Factor analysis of the HPSI, confirmed that item 4 which was slightly modified by replacing the word ‘general public’ by the word ‘physicians’ performed as expected and loaded moderately onto this factor with a loading of .43.

Items loading onto Factor 2, accounting for 8% of the total variability, primarily relate to the unpredictability and uncertainty associated with caring for patients and the patient’s family. This factor has been labelled Patient Care Uncertainty. Previous studies (Akhtar & Lee; Gupchup & Wolfgang), however, found that these items loaded onto two separate factors labelled Patient Care Responsibilities and Professional Uncertainty. It can be seen that item 31 – “Dealing with difficult and demanding relatives,” an item that was added
to the HPSI for the purpose of the current study, performed well and obtained a factor loading of -.65 on Patient Care Uncertainty.

Most items loading onto Factor 3, which account for 5.88% of the inventory’s variability, relate to the tasks and responsibilities that nurses’ undertake in addition to caring for the physical needs of patients. It was therefore labelled Job Conditions. Akhtar and Lee (2002) and Gupchup and Wolfgang (1994) referred to this factor as Job Conflicts.

Factor 4, which accounted for 4.8% of the variability, consists of two items and refers to the conflict that may arise as a result of working closely with other nurses. Factor 4 was therefore labelled Interpersonal Conflict. Eells et al. (1994) also found that these items best loaded onto the factor labelled Interpersonal Conflict.

In the present study, item 10 – “Not knowing what type of job performance is expected” and item 23 – “Having job duties which conflict with family responsibilities” did not load onto any of the factors and therefore will not be included in further statistical analyses. Item 1 – “Having so much work to do that everything cannot be done well,” and item 18 – “Being inadequately prepared to meet the needs of patients,” have moderate cross-loadings. These items however have been retained because their placements in the respective factors (i.e., Job Conditions and Patient Care Uncertainty) are conceptually consistent with the wider nursing literature. In addition, the internal consistency of the factors was not substantially altered by their removal. For instance, Cronbach’s coefficient alpha for Job Conditions is .79 with the inclusion of item 1. If item 1 is removed, Cronbach’s coefficient alpha is .78. Similarly, Cronbach’s coefficient alpha is .83 for Patient Care Uncertainty when item 18 is included. However, if item 18 is removed, Cronbach’s coefficient alpha is .81. Furthermore, these items appear to accurately reflect Australian nurses’ sources of stress. For
example, the focus group discussions in Study 1 revealed that nurses were indeed concerned that their high workload and lack of available resources may be compromising the quality of patient care.

In terms of factor composition, the present study identified factors that are similar, but not identical to those previously identified by Akhtar and Lee, Eells et al., and Gupchup and Wolfgang. Eells et al. surveyed a sample of 92 nurses specialising in geriatrics. Principal factor analysis followed by orthogonal (varimax) rotation yielded four factors accounting for 52% of the variability. These factors were labelled Lack of Perceived Enrichment Potential, Patient Care, Interpersonal Conflict, and Work-Family Conflict, accounting for 30, 9, 8, and 5% of the total variance, respectively.

Gupchup and Wolfgang surveyed a random sample of 573 practicing pharmacists from across the United States. Using principal axis factor analysis followed by oblique (oblimin) rotations a four-factor solution was yielded, accounting for 38.5% of the variability. The factors were labelled Professional Recognition, Patient Care Responsibilities, Job Conflicts, and Professional Uncertainty and accounted for 24.1, 7.1, 4.6 and 2.8% of the total variance, respectively. However, Gupchup and Wolfgang noted that Patient Care Responsibilities had weak but significant correlations with measures of coworkers’ social support, career commitment, and organisational commitment.

Akhtar and Lee surveyed a random sample of 2,267 nurses across 43 public hospitals in Hong Kong to assess whether the structure of the HPSI was generalisable to nurses. Confirmatory factor analysis provided support for Gupchup and Wolfgang’s four-factor structure of the stress inventory. The model obtained a Goodness of Fit Index of .93, a Comparative Fit Index of .89, an Adjusted Goodness of Fit Index of .90, and a Root Mean
Square Residual of .05, indicating statistically acceptable goodness of fit indices. Professional Recognition, Job Conflicts, and Professional Uncertainty had moderate to high coefficient alphas ranging from .70 to .80. These factors had moderately positive correlations with Emotional Exhaustion and Depersonalisation, and weak negative, but statistically significant correlations with Personal Accomplishment.

Similar to Gupchup and Wolfgang, they also found that the factor Patient Care Responsibilities obtained a low coefficient alpha ($\alpha = .61, p \leq .01$) and weak estimates of concurrent validity. In addition, it appeared to be a mixed factor with three of the items contributing little to its measurement. Contrary to their expectation, it had a positive and significant correlation with Personal Accomplishment, however the correlation was weak and accounted for little common variance. They recommended further factor analysis be conducted to determine whether the items regroup into a different structure.

In the current study, a different pattern structure did indeed emerge. The items identified as loading onto Patient Care Responsibilities in previous studies, loaded onto two factors in the present study – Patient Care Uncertainty and Job Conditions. For instance, item 16 – “Dealing with difficult patients,” item 28 – “Dealing with terminally ill patients,” and item 7 – “Disagreeing with other health professionals concerning the treatment of a patient,” loaded onto Patient Care Uncertainty. Item 14 – “Trying to meeting society’s expectations for high quality medical care,” item 3 – “Feeling ultimately responsible for patient outcomes,” item 6 – “Caring for the emotional needs of patients,” and item 12 – “Keeping up with new developments to maintain professional competence,” loaded onto Job Conditions.

Furthermore, there were two items in the current study that loaded differently from previous studies. In contrast to Gupchup and Wolfgang, item 17 – “Not being recognised or
accepted as a true health professional by other health professionals,” and item 22 – “Having non-professionals determine the way you must practice your profession” loaded onto Lack of Professional Recognition and Support. Gupchup and Wolfgang however, found that these items loaded onto Professional Uncertainty and Job Conflict, respectively.

The present study yielded a Cronbach coefficient alpha of .83 for Lack of Professional Recognition and Support, .83 for Patient Care Uncertainty, and .78 for Job Conditions, indicating good to very good internal consistency across these three factors. Interpersonal Conflict, however, demonstrated lower internal consistency with a Cronbach coefficient alpha of .62. Inter-factor total score correlations, as well as correlations of total scores on the three burnout dimensions are exhibited below in Table 7.2.

Table 7.2

*Pearson Product-Moment Correlations Between the HPSI Subscales, ORQ, and the MBI (N = 273)*

<table>
<thead>
<tr>
<th></th>
<th>Recog</th>
<th>Uncert</th>
<th>JCon</th>
<th>Intconf</th>
<th>Ro</th>
<th>Re</th>
<th>Ra</th>
<th>Ee</th>
<th>Dp</th>
<th>Pa</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JCon</td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intconf</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ro</td>
<td>.49**</td>
<td>.29**</td>
<td></td>
<td>.27**</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Re</td>
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<td>.48**</td>
<td></td>
<td>.36**</td>
<td>.33**</td>
<td>.35**</td>
<td>.36**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ra</td>
<td>.55**</td>
<td>.49**</td>
<td></td>
<td>.32**</td>
<td>.27**</td>
<td>.27**</td>
<td>.32**</td>
<td>.30**</td>
<td>.30**</td>
<td>.30**</td>
</tr>
<tr>
<td>Ee</td>
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<td>.15**</td>
<td></td>
<td>.24**</td>
<td>.33**</td>
<td>.33**</td>
<td>.33**</td>
<td>.33**</td>
<td>.33**</td>
<td>.33**</td>
</tr>
<tr>
<td>Dp</td>
<td>.37**</td>
<td>.47**</td>
<td></td>
<td>.11**</td>
<td>.24**</td>
<td>.24**</td>
<td>.24**</td>
<td>.24**</td>
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<td>.24**</td>
</tr>
<tr>
<td>Pa</td>
<td>-.09</td>
<td>-.02</td>
<td></td>
<td>-.06</td>
<td>-.06</td>
<td>-.06</td>
<td>-.06</td>
<td>-.06</td>
<td>-.06</td>
<td>.06</td>
</tr>
</tbody>
</table>

Note. Recog = Lack of Professional Recognition and Support; Uncert = Patient Care Uncertainty; JCon = Job Conditions; Intconf = Interpersonal Conflict; Ro = Role Overload; Re = Role Conflict; Ra = Role Ambiguity; Ee = Emotional Exhaustion; Dp = Depersonalisation; Pa = Personal Accomplishment.

**Correlation is significant at the 0.01 level.

As expected, the four factors comprising the HPSI were significantly positively correlated. Correlations were low to moderate, indicating that none of the four factors were
statistically redundant. Providing evidence of convergent validity, scores on the four HPSI factors correlated moderately positively and significantly with the three role stressors – Role Overload, Role Conflict, and Role Ambiguity. The four HPSI factors also correlated positively and significantly with scores on the central component of burnout - Emotional Exhaustion. Lack of Professional Recognition and Support, Patient Care Uncertainty, and Job Conditions correlated positively and significantly with Depersonalisation. Although Interpersonal Conflict correlated positively with Depersonalisation, it was not significant. All four factors on the HPSI correlated negatively with Personal Accomplishment, but not significantly. It would seem that job-specific stressors are not theoretically related to Personal Accomplishment.

In summary, similar to previous research, Lack of Professional Recognition and Support, Patient Care Uncertainty, and Job Conditions demonstrate adequate levels of reliability and construct validity. Interpersonal Conflict obtained a moderately low coefficient alpha. Although this may cast some doubt on the reliability of this factor, Interpersonal Conflict did demonstrate adequate construct validity. For instance, Interpersonal Conflict was significantly and moderately correlated to Role Overload, Role Conflict, and Role Ambiguity with reliability coefficients of .28, .36, and .32, respectively. Interpersonal Conflict was also significantly positively correlated with Emotional Exhaustion ($r = .17, p < .01$).

Taking into consideration the factor structure generated in the present study, it was deemed appropriate to remove items 10 and 23 from the inventory as they did not align to any of the four factors on the HPSI. Item 31, which was added to the HPSI for the purpose of the current study, performed well in the factor analysis and was therefore retained. Although
item 1, which loaded onto Job Conditions and item 18 which loaded onto Patient Care Uncertainty demonstrated moderate cross-loadings, they were kept because they were conceptually consistent with each factor’s definition. Thus in the present study, the HPSI consists of 29 items that measure four main sources of stress specific to the nursing profession: Lack of Professional Recognition and Support, Patient Care Uncertainty, Job Conditions, and Interpersonal Conflict.

Finally, although the factor structure differs slightly from the studies discussed above, it is assumed that the factors obtained in the present study are more closely aligned to Australian nurses’ perceptions of job stress. It is suggested that the generalisability of the inventory to nurses has been enhanced by the inclusion of an additional item (item 31) and by the removal of two items (items 10 and 23). These revisions strengthen the HPSI’s factor loadings and serve to provide a more stable factor structure.

Factor Structure of the Work Support Scales

Coworker support. Factor analysis of the Coworker Support Scale was conducted using principal axis factoring. No specification was given as to the number of factors to be extracted however, theoretically, it was expected that the Coworker Support Scale would yield a two-factor solution comprising of both emotional and instrumental support components. Two factors with eigenvalues above 1.00 were extracted. The factors were rotated to a simple structure by employing both orthogonal (VARIMAX) and oblique (OBLIMIN) rotations. While the orthogonal and oblique solutions were very similar, the loadings in the oblique solution showed a more defined pattern than the orthogonal solution, which showed more cross-loadings. Table 7.3 delineates the two-factor structure of the
Coworker Support Scale which was obtained using principal axis factor analysis followed by oblique (oblimin) rotations.

Table 7.3

Pattern Matrix for Oblique Factors of the Coworker Support Scale

<table>
<thead>
<tr>
<th>I. Emotional Coworker Support</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My coworkers always seem to make time for me if I need to discuss work.</td>
<td>.86</td>
</tr>
<tr>
<td>2. My coworkers respect me.</td>
<td>.83</td>
</tr>
<tr>
<td>3. My coworkers listen to my problems.</td>
<td>.82</td>
</tr>
<tr>
<td>4. My coworkers appreciate the work I do.</td>
<td>.80</td>
</tr>
<tr>
<td>5. When I am frustrated by some aspect of my work, my coworkers try to understand.</td>
<td>.78</td>
</tr>
<tr>
<td>6. My coworkers are understanding and sympathetic.</td>
<td>.70</td>
</tr>
<tr>
<td>7. I feel comfortable asking my coworkers for help if I have a problem.</td>
<td>.57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Instrumental Coworker Support</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. My coworkers can be relied on to help when things get tough at work.</td>
<td>.87</td>
</tr>
<tr>
<td>9. If my job duties become very demanding, my coworkers will take on extra work responsibilities.</td>
<td>.87</td>
</tr>
<tr>
<td>10. My coworkers share useful ideas or advice with me.</td>
<td>.73</td>
</tr>
<tr>
<td>11. My coworkers cooperate with me to get things done at work.</td>
<td>.64</td>
</tr>
<tr>
<td>12. My coworkers will help me figure out a work problem.</td>
<td>.41</td>
</tr>
</tbody>
</table>

Note. Emotional Coworker Support: eigenvalue = 7.08, total variance explained = 58.97%. Instrumental Coworker Support: eigenvalue = 1.51, total variance explained = 9.6%.

The two-factor solution explained 68.56% of the total variance. Items loading onto Factor 1, accounting for 58.97% of the total variability, clearly reflect emotional coworker support. Items loading onto Factor 2, accounting for 9.6% of the variability, reflect instrumental coworker support.

Supervisor support. Factor analysis of the Supervisor Support Scale was conducted using principal axis factoring. No specification was given as to the number of factors to be extracted but again it was expected that the Supervisor Support Scale would yield a two-factor solution comprising of emotional and instrumental support components. Contrary to expectations, a one-factor solution was generated.
Table 7.4

Factor Matrix of the Supervisor Support Scale

<table>
<thead>
<tr>
<th>Factors and Items</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When I am frustrated by some aspect of my work, my supervisor tries to understand.</td>
<td>.87</td>
</tr>
<tr>
<td>2. My supervisor cooperates with me to get things done at work.</td>
<td>.87</td>
</tr>
<tr>
<td>3. My supervisor is understanding and sympathetic.</td>
<td>.87</td>
</tr>
<tr>
<td>4. My supervisor listens to my problems.</td>
<td>.86</td>
</tr>
<tr>
<td>5. My supervisor will help me figure out a work problem.</td>
<td>.86</td>
</tr>
<tr>
<td>6. My supervisor respects me.</td>
<td>.85</td>
</tr>
<tr>
<td>7. My supervisor appreciates the work I do.</td>
<td>.83</td>
</tr>
<tr>
<td>8. I feel comfortable asking my supervisor for help if I have a problem.</td>
<td>.83</td>
</tr>
<tr>
<td>9. My supervisor always seems to make time for me if I need to discuss work.</td>
<td>.81</td>
</tr>
<tr>
<td>10. My supervisor can be relied on to help when things get tough at work.</td>
<td>.80</td>
</tr>
<tr>
<td>11. My supervisor shares useful ideas or advice with me.</td>
<td>.78</td>
</tr>
<tr>
<td>12. If my job duties become very demanding, my supervisor will take on extra work responsibilities.</td>
<td>.70</td>
</tr>
</tbody>
</table>

*Note. Factor 1: eigenvalue = 8.56, total variance explained = 71.34%.

A one-factor solution accounted for 71.34% of the total variability. Based on this finding it would appear that nurses find it difficult to distinguish between emotional and instrumental support when it is provided by their supervisor. Coyne and Lazarus (1980) assert that social support can simultaneously function as a problem-focused and an emotion-focused coping strategy. For instance, talking to the head nurse about a stressful work event can function as a problem-focused coping strategy if the nurse receives tangible information that aids to resolve the event. However, talking to the head nurse may also function as an emotion-focused coping strategy when the responses obtained also regulate emotional responses arising from the event. This is one possible reason why nurses may find it difficult to differentiate between emotional and instrumental support from their supervisors.

Emotional Coworker Support and Instrumental Coworker Support yielded Cronbach coefficient alphas of .92, and .88 respectively, indicating very good internal consistency. Cronbach’s coefficient alpha for Supervisor Support is .96, also indicating very good internal consistency. Inter-factor total score correlations, as well as correlations between the support
scales and the total scores on the work stress factors and burnout subscales are exhibited in Table 7.5 and Table 7.6, respectively.

Table 7.5

*Pearson Product-Moment Correlations Between the Work Support Scales and the HPSI and ORQ Subscales (N = 273)*

<table>
<thead>
<tr>
<th></th>
<th>Ecs</th>
<th>Ics</th>
<th>Sups</th>
<th>Recog</th>
<th>Uncertainty</th>
<th>JCon</th>
<th>Intconf</th>
<th>Ro</th>
<th>Re</th>
<th>Ra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecs</td>
<td>1.00</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ics</td>
<td>.72**</td>
<td>1.00</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Sups</td>
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<td>.36**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Uncertainty</td>
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<td>-.04</td>
<td>-.08</td>
<td>.49**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JCon</td>
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<td>-.17**</td>
<td>-.13**</td>
<td>.51**</td>
<td>.56**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intconf</td>
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<td>-.36**</td>
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<td>.25**</td>
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<td></td>
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</tr>
<tr>
<td>Ro</td>
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<td>-.25**</td>
<td>-.20**</td>
<td>.37**</td>
<td>.29**</td>
<td>.48**</td>
<td>.28**</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Re</td>
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<td>-.36**</td>
<td>-.47**</td>
<td>.55**</td>
<td>.27**</td>
<td>.24**</td>
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<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Ra</td>
<td>-.37**</td>
<td>-.40**</td>
<td>-.56**</td>
<td>.41**</td>
<td>.12*</td>
<td>.15*</td>
<td>.32**</td>
<td>.27**</td>
<td>.61**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Notes. Ecs = Emotional Coworker Support; Ics = Instrumental Coworker Support; SupS = Supervisor Support; Recog = Lack of Professional Recognition and Support; Uncertainty = Patient Care Uncertainty; JCon = Job Conditions; Intconf = Interpersonal Conflict; Ro = Role Overload; Re = Role Conflict; Ra = Role Ambiguity.

Untransformed variables were used in the correlation table.

** Correlation is significant at the .01 level.  * Correlation is significant at the .05 level.

Table 7.6

*Pearson Product-Moment Correlations Between the Work Support Scales and the MBI (N = 273)*

<table>
<thead>
<tr>
<th></th>
<th>Ecs</th>
<th>Ics</th>
<th>Sups</th>
<th>Ee</th>
<th>Dp</th>
<th>Pa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecs</td>
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</tr>
<tr>
<td>Ics</td>
<td>.72**</td>
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<tr>
<td>Sups</td>
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<td>.36**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ee</td>
<td>-.15*</td>
<td>-.25**</td>
<td>-.12*</td>
<td>1.00</td>
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<td></td>
</tr>
<tr>
<td>Dp</td>
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<td>-.05</td>
<td>-.04</td>
<td>.51**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Pa</td>
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<td>.18**</td>
<td>.06</td>
<td>-.22**</td>
<td>-.27**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Notes. Ecs = Emotional Coworker Support; Ics = Instrumental Coworker Support; SupS = Supervisor Support; Ee = Emotional Exhaustion; Dp = Depersonalisation; Pa = Personal accomplishment.

Untransformed variables were used in the correlation table.

** Correlation is significant at the .01 level.  * Correlation is significant at the .05 level.
In terms of inter-factor correlations, it can be seen that Emotional Coworker Support was strongly positively correlated with Instrumental Coworker Support \( (r = .72) \). Squaring 0.72 indicates that the Coworker Support subscales share approximately 52% variance. These high correlations were not unexpected. In theory, instrumental support is clearly distinguished from emotional support. However, when individuals help other people to do their work (i.e., instrumental support), it shows the recipient of that support that they are cared for (i.e., emotional support). Thus a purely instrumental act can also have psychological influences. Therefore, a person being helped with their work may interpret this act as a sign of caring (Kong & Wertheimer, 1994). Since 48% of the variance remains unique, however, it was still considered appropriate to investigate the influence of emotional and instrumental support on the stress-burnout relationship among nurses.

Table 7.5 provides some evidence for the construct validity of the work support scales. For instance, Emotional Coworker Support was significantly negatively correlated with Lack of Professional Recognition and Support \( (r = -.37, p = .01) \), Interpersonal Conflict \( (r = -.30, p = .01) \), Role Conflict \( (r = -.35, p = .01) \) and Role Ambiguity \( (r = -.37, p = .01) \). This suggests the higher the level of emotional support provided by coworkers, the lower the levels of work stress. Instrumental Coworker Support was significantly negatively related to Lack of Professional Recognition and Support \( (r = -.41, p = .01) \), Job Conditions \( (r = -.17, p = .01) \), Interpersonal Conflict \( (r = -.24, p = .01) \), Role Overload \( (r = -.25, p = .01) \), Role Conflict \( (r = -.36, p = .01) \) and Role Ambiguity \( (r = -.40, p = .01) \). This also suggests the higher the level of instrumental support provided by coworkers, the lower the levels of work stress. Furthermore, instrumental coworker support would seem to be more strongly negatively associated with work stressors than emotional coworker support.
Supervisor Support was significantly negatively related to Lack of Professional Recognition and Support ($r = -.42, p = .01$), Job Conditions ($r = -.13, p = .01$) Interpersonal Conflict ($r = -.36, p = .01$), Role Overload ($r = -.20, p = .01$), Role Conflict ($r = -.47, p = .01$) and Role Ambiguity ($r = -.56, p = .01$). Similarly, higher levels of Supervisor Support are associated with lower levels of stress. Emotional Coworker Support, Instrumental Coworker Support, and Supervisor Support were correlated very weakly and negatively to Patient Care Uncertainty. The correlations were not significant. This result implies that the unpredictability and uncertainty associated with caring for patients is not conceptually related to work support. The relationship between the work support scales and the work stressors (i.e., job-specific stressors and generic role stressors) were all in the expected direction.

Further evidence of construct validity is portrayed in Table 7.6. Emotional Coworker Support is significantly negatively related to Emotional Exhaustion ($r = -.15, p = .05$). Instrumental Coworker Support is also significantly negatively related to Emotional Exhaustion ($r = -.25, p = .01$). This indicates that the higher the level of coworker support, the lower the level of Emotional Exhaustion. Although Emotional and Instrumental Coworker Support and Supervisor Support correlated negatively with Depersonalisation, it was not significant. Instrumental Coworker Support is also significantly positively related to Personal Accomplishment ($r = .18, p = .01$). This suggests that the higher the level of instrumental support provided by coworkers, the higher the level of Personal Accomplishment. Supervisor Support is significantly negatively related to Emotional Exhaustion ($r = -.12, p = .01$). Emotional Coworker Support and Supervisor Support were positively correlated with Personal Accomplishment, however the relationship was not significant.
In summary, factor analysis of the 12-item Coworker Support Scale revealed that the items clearly loaded onto two factors, accounting for 68.56% of the total variance. These factors are labelled emotional and instrumental support. Factor analysis of the 12-item supervisor support scale revealed a one-factor solution, accounting for 71.34%. The results demonstrated that nurses are unable to clearly distinguish between emotional and instrumental supervisor support. It could be inferred that nurses perceive emotional and instrumental assistance are closely related if their supervisor provides it.

**Discussion**

In Study 2, a self-report survey was developed to measure the main variables of interest in this research program: job-specific stress, role stress, work support and burnout. The qualitative findings generated in Study 1 were used as a basis for choosing appropriate measures of work stress and in designing a work support scale for nurses. Study 1 provided some insight into the main sources of stress for a sample of Australian nurses working in public hospitals. Both job-specific stressors and role stressors were identified. In the present study, job-specific stress was measured using Wolfgang’s (1988a) HPSI. Three role stressors (role overload, role conflict, and role ambiguity) were measured using Osipow & Spokane’s (1987) ORQ. In addition, Study 1’s findings suggested that both sources and types of support are important aspects to consider when examining the adequacy of social support at work. Nurses’ main sources of support were their supervisor and their coworkers. The supportive behaviours provided by their supervisor and their colleagues were classified as emotional and instrumental support. In the current study, the Supervisor Support Scale and the Coworker Support Scale were designed to measure the level of emotional and instrumental support nurses receive at work.
The main objective of Study 2 was to provide some evidence of the psychometric soundness of the HPSI (Wolfgang, 1988a) and the work support scales designed specifically for nurses. The HPSI has not been commonly used to measure sources and levels of stress among nurses. The HPSI assesses 30 stressful events commonly associated with the health care profession. The items have been found in previous studies to load onto four factors: professional recognition, patient care responsibilities, professional uncertainty, and job conflict, (Akhtar & Lee, 2002; Gupchup & Wolfgang, 1994).

In Study 2, the HPSI’s factor structure was assessed using factor analysis. Similar to previous research, a four-factor structure emerged. The four broad work stress factors were more fittingly labelled: Lack of Professional Recognition and Support, Patient Care Uncertainty, Job Conditions, and Interpersonal Conflict. The four-factor solution accounted for 45.2% of the variance, with Lack of Professional Recognition and Support explaining most of the variance (26.5%). The four factors demonstrated adequate internal consistency with Cronbach coefficient alphas of .83 for Lack of Professional Recognition and Support, .83 for Patient Care Uncertainty, .79 for Job Conditions and .62 for Interpersonal Conflict.

Examination of the inter-factor correlations revealed that none of the four factors were statistically redundant. Inter-scale correlations provide some evidence of the scale’s convergent validity. Scores on the four HPSI factors correlated moderately positively and significantly with the three role stressors. The four HPSI factors also correlated positively and significantly with scores on the central component of burnout - Emotional Exhaustion. Lack of Professional Recognition and Support, Patient Care Uncertainty, and Job Conditions correlated positively and significantly with Depersonalisation. The four factors on the HPSI
correlated weakly and negatively with Personal Accomplishment although the correlations were not significant.

As expected, the modification of item 4, which taps into a doctors’ lack of respect and professional recognition for nurses loaded onto Lack of Professional Recognition and Support. Furthermore, the inclusion of the item 31, which measures the stress associated with managing difficult and demanding relatives loaded onto the factor Patient Care Uncertainty.

The results indicated however, that the item composition of the HPSI differed somewhat from previous studies. In particular, two items (items 10 and 23) did not load onto any of the four factors, and these items were removed from subsequent analyses in Study 3. The items identified as loading onto Patient Care Responsibilities in previous studies, loaded onto two factors in the present study – Patient Care Uncertainty and Job Conditions. In the present study, items 17 and 22 loaded onto the factor Lack of Professional Recognition and Support. Gupchup and Wolfgang (1994) found that these items loaded onto two separate factors. Although the factor structure of the HPSI differs from previous studies, it is assumed that the factors obtained in the present study are more fittingly aligned to Australian nurses’ perceptions of job stress. It was therefore deemed appropriate to retain the four factors and their corresponding job stress items that emerged in the current study for further statistical analyses in Study 3.

Factor analysis of the 12-item Coworker Support scale revealed that the items clearly loaded onto two factors, accounting for 68.56% of the total variance. The factors clearly represented emotional and instrumental support. The emotional and instrumental coworker subscales demonstrated very high internal consistency with Cronbach’s coefficient alphas of .92 and .88 respectively. The major limitation of the Coworker Support Scale is that the
emotional and instrumental support subscales are strongly correlated, sharing 52% variance. Social support scales in the occupational stress literature such as the Caplan Social Support Instrument (Caplan et al., 1975) and the Worksite Support Scale (LaRocco et al., 1980), have also found modest to strong correlations between emotional and instrumental support subscales. Despite this, differential relationships were observed when emotional coworker support and instrumental coworker support were correlated with the job-specific stressors and role stressors. For instance, although Emotional and Instrumental Coworker Support were both significantly negatively correlated with Lack of Professional Recognition and Support and Interpersonal Conflict, only Instrumental Coworker Support was significantly negatively correlated with Job Conditions. Furthermore, while Emotional and Instrumental Coworker Support were both significantly negatively correlated with Role Conflict and Role Ambiguity, only Instrumental Coworker Support was significantly negatively correlated with Role Overload. These results indicate that emotional and instrumental support from coworkers may influence nurses’ perceptions of work stress in different ways. In particular, it would seem that only instrumental support from coworkers alters nurses’ perceptions of their workload.

Similarly, when emotional coworker support and instrumental coworker support were correlated with the burnout dimensions, differential relationships were observed. For example, while Emotional and Instrumental Coworker Support were both significantly negatively correlated to Emotional Exhaustion, only Instrumental Coworker Support was significantly positively related to Personal Accomplishment. The results provide further evidence to support the uniqueness of the emotional and instrumental support subscales.
Based on these findings, it was considered feasible to examine emotional and instrumental coworker support separately in Study 3.

In contrast, factor analysis of the 12-item Supervisor Support Scale revealed a one factor-solution, accounting for 71.34%. The results demonstrated that nurses are unable to clearly distinguish between emotional and instrumental support when it is provided by their supervisor. For instance, if a nurse complained to his/her supervisor about his/her rostering schedule, the supervisor may first listen to the nursing subordinate’s concerns (i.e., emotional support) before offering to change their roster (instrumental support). In this instance, the source of the support may be more important than the type of support given. Supervisor support demonstrated some evidence of convergent validity. For example, Supervisor Support was significantly negatively correlated with Lack of Professional Recognition and Support, Job Conditions and Interpersonal Conflict. In addition Supervisor Support was significantly negatively correlated with the three role stressors. Furthermore, Supervisor Support was significantly negatively correlated with Emotional Exhaustion. The Supervisor Support Scale demonstrated high internal consistency with a Cronbach coefficient alpha of .96. Taking into consideration these findings, it was not appropriate to examine emotional and instrumental supervisor support in Study 3. Instead, the scores for the 12 items that comprise the Supervisor Support Scale will be totalled to give a global measure of supervisor support.

Summary

In conclusion, the findings from Study 2 provide supporting evidence to suggest that the job-specific stress measure (i.e., the HPSI) and the new work support measures (i.e., coworker support and supervisor support) possess adequate levels of internal consistency and
construct validity. More specifically, factor analysis of the HPSI revealed a four-factor structure: Lack of Professional Recognition and Support (10 items), Patient Care Uncertainty (9 items), Job Conditions (8 items) and Interpersonal Conflict (2 items). A two-factor structure emerged for the Coworker Support Scale. These factors were labelled: Emotional Coworker Support (7 items) and Instrumental Coworker Support (5 items). Factor analysis of the Supervisor Support Scale revealed a one-factor solution comprising 12 items. The four subscales that comprise the HPSI and the two subscales that encompass the Coworker Support Scale will be explored independently in Study 3. Due to the high inter-item correlations, different types of supervisor support will not be examined further in Study 3. Instead, the 12 items will be aggregated to give a global measure of supervisor support.

Limitations

A significant limitation of the present study’s research design was the inability to pilot the scales before administering the full survey to nurses. In addition, the survey was not re-administered to nurses over a period of time. Although the researcher desired to evaluate the scales by conducting a pilot study with a smaller sample of nurses and to utilise a longitudinal research methodology, permission was not granted by the hospitals’ ethics committees due to a recent trend of over-surveying of nurses. The researcher was therefore limited to a cross-sectional survey methodology. Furthermore, the HPSI and work support scales were validated using only one sample and therefore it is not known whether the same factor structure would result using other nursing samples. Despite these limitations, the evaluation of the psychometric properties of the HPSI and the work support scales provided sufficient evidence of their reliability and validity. In the following chapter, the relationships between the main variables of interest to this research program will be explored further.
CHAPTER 8

Study 3

The Influence of Social Support on the Stress-Burnout Relationship

Overview

Study 3 builds upon previous nursing literature by examining the effect of social support on the stress-burnout relationship. In particular, two models of social support are tested – the main effect and the buffering effect model. The main effect model proposes that regardless of the level of work stress, when social support is high, burnout is lower than when social support is low (Kessler & McLeod, 1985). The buffering effect proposes that social support buffers the impact of stressors on manifestations of strain such that the relations between stress and strain is stronger for persons with low levels of social support than those with high levels of support. From this perspective, social support does not necessarily lower the level of experienced stress but instead aids the employee to cope with the stressful situation. Hence, the impact of social support is expected to be greater for those experiencing high levels of stress. For those who are not experiencing stressful events the benefits of social support may be minimal (Hall & Wellman, 1985).

According to the stressor-support matching theory (Cohen & Wills, 1985), social support is more likely to buffer the negative effects of stress if the support received is able to address the needs of the situation. The present study explores how certain types of supports (i.e., emotional/instrumental support) and specific sources of support (i.e., coworker/supervisor support) interact with particular stressors to produce stress-buffering effects on burnout. The thesis also extends previous stressor-support matching studies by taking into consideration a nurse’s control over a stressful situation. Cutrona and Russell
(1990) assert that controllable and uncontrollable stressful events require different types of support to be optimally effective in buffering strains. Their optimal matching model proposes that when a stressful situation is primarily controllable, the most beneficial support is instrumental. However, when a stressful situation is essentially uncontrollable, the most effective type of support is emotional. Thus in the present study, nurses’ main sources of stress are classified as controllable or uncontrollable events by two independent raters prior to examining the main and moderating effect of social support.

In this chapter, the main variables of interest in this research program will first be explored independently. Specifically, the average level of work stress experienced by public hospital nurses and the key stressors causing nurses the most concern are identified. The prevalence of burnout for the sample population is estimated and compared to appropriate normative groups in an attempt to verify whether Australian nurses experience similar levels of burnout to other nurses and other human service professionals. The average level of support nurses receive at work is established. Next, the inter-relationships between these variables are explored. The study ascertains which aspects of nursing work are related to burnout. Finally, the relative contribution to burnout made by the independent variables (i.e., sociodemographic factors, work stressors and work support) is established.

**Rationale for Study 3**

The final study brings this research program to its logical conclusion. Study 3 builds upon the results reported in the first two studies. First, a range of stressful work events were identified by public hospital nurses in Study 1. In Study 2, these job-specific stressors and generic role stressors were measured using the HPSI and three subscales on the ORQ, respectively. Factor analysis of the HPSI revealed that the items loaded onto four broad work
stress factors: Lack of Professional Recognition and Support, Patient Care Uncertainty, Job Conditions and Interpersonal Conflict. In Study 3, the effects of the four job-specific stress variables and the three role stress variables on burnout are examined. Furthermore, the average level of work stress and the key determinants of stress for Australian nurses are established.

Second, the results in Study 1 enabled the researcher to clearly operationalise the social support construct. In the second study, a Supervisor Support Scale and a Coworker Support Scale was constructed using items from pre-existing social support scales to tap into nurses’ perceptions of the support they receive at work. Factor analysis of the Coworker Support Scale revealed that items loaded onto two broad factors labelled emotional and instrumental support. Factor analysis of the Supervisor Support Scale however, revealed a one-factor solution, suggesting that nurses are unable to clearly distinguish between emotional support and instrumental support when it is provided by their supervisor. Thus in Study 3, an examination of Cutrona and Russell’s (1990) proposition that uncontrollable and controllable stressful events require different types of support, will be confined to investigating only emotional and instrumental support provided by coworkers. The main and moderating effects of sources of support (coworker/supervisor) on burnout will also be explored.

In addition, Study 3 addresses major gaps in the nursing literature regarding burnout. Most nursing studies investigating burnout have limited their study to emotional exhaustion or to the first two components of burnout – emotional exhaustion and depersonalisation. Furthermore, studies have employed different measures of burnout making comparisons between studies difficult. The present study, however, views burnout as a three-component
syndrome and therefore assesses burnout using the widely recognised MBI (Maslach et al., 1996). Furthermore, despite research suggesting that nurses are at high risk of experiencing burnout throughout their nursing career, empirical studies have generally reported moderate levels of emotional exhaustion, depersonalisation and reduced personal accomplishment (e.g., Iacovides et al., 1997; Turnipseed & Turnipseed, 1997). An extensive search has revealed that there are no recent studies that have investigated the degree of burnout among Australian nursing staff working in public hospitals. In the present study, the mean MBI scores will be generated for each component of burnout. Study 3 will determine whether Australian nurses experience similar levels of burnout to other nursing professionals, as well as other human service professionals. Finally, the current study will enhance our understanding of the major antecedents of burnout among Australian nurses. Similar to previous nursing studies, both sociodemographic factors and specific work stressors are explored in relation to the three burnout dimensions. Most studies investigating nurses’ levels of burnout, however, have not examined the effect of work support on burnout. The present study extends our knowledge of burnout by exploring the influence of work support on burnout for nurses. In the section below, the research hypotheses to be addressed in Study 3 are outlined.

Research Hypotheses

In Study 3, the following hypotheses are examined.

Hypothesis 1: Nurses’ levels of work stress will not be significantly different based on gender.

Hypothesis 2: Burnout consists of three related, but empirically distinct components – emotional exhaustion, depersonalisation, and personal accomplishment.
Hypothesis 3: Australian nurses will report moderate levels of emotional exhaustion, depersonalisation and reduced personal accomplishment.

Hypothesis 4: Both job-specific stressors and role stressors will be related to burnout in nurses.

Hypothesis 5: Job-specific stressors will be significantly and positively related to emotional exhaustion and depersonalisation and significantly negatively related to personal accomplishment.

Hypothesis 6: Role stressors will be significantly positively related to emotional exhaustion and depersonalisation and significantly negatively related to personal accomplishment.

Hypothesis 7: Younger nurses will report higher levels of burnout than older nurses.

Hypothesis 8: Less experienced nurses will report higher levels of burnout than more experienced nurses.

Hypothesis 9: Nurses will report higher levels of coworker support than supervisor support.

Hypothesis 10: Work support will be significantly negatively correlated to the emotional exhaustion and depersonalisation and significantly positively related to personal accomplishment.

Hypothesis 11: Work support will be significantly negatively correlated to work stressors.

Hypothesis 12: Work support will significantly buffer the relationship between work stress and burnout.
Hypothesis 13: For stressful events deemed to be uncontrollable, emotional support will have a significant buffering effect on burnout.

Hypothesis 14: For stressful events deemed to be controllable, instrumental support will have a significant buffering effect on burnout.

Method

Subjects

The participant profile of Study 3 is the same as the participant profile in Study 2. This is because the data collected in Study 2 has been subjected to further statistical analyses in Study 3. Briefly, the sample comprises 273 nursing professionals (235 females, 38 males) from a range of nursing wards from three public hospitals in the Queensland. A complete description of the sociodemographic characteristics of the sample is presented in Chapter 5.

Materials

In Study 2, the researcher developed a questionnaire to examine the main variables of interest in this research program: job-specific stress, role stress, coworker support, supervisor support, and burnout. In particular, the HPSI (Wolfgang, 1988a) was chosen to measure nurses’ sources of job-specific stress. The ORQ (Osipow & Spokane, 1987) was chosen to measure role stress (role overload, role conflict, and role ambiguity). The Coworker Support Scale and the Supervisor Support Scale was developed by the researcher. Items were taken from established measures including: Shinn et al.’s (1989) Supervisor Support Scale, Ray and Miller’s (1994) Supervisor/Coworker Support Scale, and King et al.’s (1995) Family Support Inventory for Workers and slighted adapted to make them contextually relevant to nurses. The MBI (Maslach et al., 1996) was chosen to measure nurses’ levels of emotional exhaustion, depersonalisation, and reduced personal accomplishment. These measures are described in detail in Chapter 5.
It was the researcher’s intention to use the data collected in Study 2 for further analyses in Study 3. Factor analysis of the job-specific stress measure and the work support scales in Study 2 revealed however, that some modifications to these scales was necessary prior to statistical analysis in Study 3. These alterations are outlined in Chapter 7. Previous empirical studies demonstrate adequate factorial validity for the ORQ and the MBI and thus further investigation into these scales item composition was not required. Study 3 also examines nurses’ perceptions of work stress controllability. Two independent raters were used to classify nurses work stressors as controllable and uncontrollable stressful events. The rating exercise used to categorise the work stress variables according to situation controllability is described in the following section.

_work stress controllability_

As previously discussed, Cutrona and Russell’s (1990) optimal matching model proposes that an individual’s perception of controllability over a stressful situation is an important factor in determining which type of support will be effective in reducing or preventing strain outcomes. They suggested that emotional support is most effective in uncontrollable situations. In contrast, instrumental support is most effective in controllable situations. It was therefore necessary to clarify nurses’ sources of stress as controllable or uncontrollable events before examining the buffering effects of support on burnout.

Following factor analysis of the HPSI in Study 2, two independent raters were asked to categorise nurses’ major sources of stress as controllable and uncontrollable events (see Appendix C). Two female nurses aged 53 years and 55 years, with approximately 25 years nursing experience participated in the rating exercise. The independent raters were employed at Hospital A and Hospital C. Raters were provided with a definition for each job-specific
stress factor and each role stress factor. The items that aligned to each broad stress category were also supplied. Raters were asked to decide whether each job-specific stress factor and each role stress factor was primarily controllable or primarily uncontrollable. Controllable sources of nurses’ stress were defined as “situations in which the occurrence or consequence of the stressful event is preventable” (Cutrona, 1990, p. 8). Uncontrollable sources of nurse stress were defined as “situations in which the occurrence or consequence of the stressful event is not preventable” (Cutrona, 1990, p. 8). To aid their decision making, the raters were first asked to identify whether the stressful events that aligned to each broad stress category were controllable or uncontrollable. If the total number of controllable events exceeded the uncontrollable events, it was inferred that the stress factor was primarily controllable. If the number of uncontrollable events exceeded the controllable events, it was inferred that the stress factor was primarily uncontrollable. Where raters did not agree on the classification of a particular source of stress, a third rater arbitrated. The third rater was a female nurse (58 years) with 30 years experience. The consistency of the rating exercise was checked by calculating an inter-rater reliability coefficient. An inter-rater reliability coefficient was calculated by dividing the number of coding agreements by the number of coding agreements plus the number of coding disagreements (Goodwin & Goodwin, 1985). The overall inter-rater reliability estimate for the coding of comments was .79. Categorisation of the four job-specific stress factors and the three generic role stress factors based on controllability are presented in Table 8.1.
Table 8.1

*Nurses’ Perceptions of Work Stress Controllability*

<table>
<thead>
<tr>
<th>Source of Stress</th>
<th>Perception of Controllability</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Professional Recognition and Support</td>
<td>Controllable</td>
<td>.88</td>
</tr>
<tr>
<td>Patient Care Uncertainty</td>
<td>Controllable</td>
<td>.77</td>
</tr>
<tr>
<td>Job Conditions</td>
<td>Uncontrollable</td>
<td>.77</td>
</tr>
<tr>
<td>Interpersonal Conflict</td>
<td>Controllable</td>
<td>.71</td>
</tr>
<tr>
<td>Role Overload</td>
<td>Controllable</td>
<td>.66</td>
</tr>
<tr>
<td>Role Conflict</td>
<td>Controllable</td>
<td>.73</td>
</tr>
<tr>
<td>Role Ambiguity</td>
<td>Controllable</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*Note.* IR = Inter-rater reliability coefficient.

Table 8.1 would seem to indicate that nurses perceive that they have a high degree of control over stressful situations at work. More specifically, nurses believe they can reduce or prevent the occurrence and/or the outcome of most stressful situations at work. Nurses do not consider, however, that they can control the conditions associated with their job. Nurses are expected to contend with heavy workloads without adequate staffing support. Not only are they responsible for patient outcomes, they are also responsible for supervising less experienced nursing colleagues. They constantly strive to meet societal expectations for high quality medical care and to meet the emotional needs of their patients. They are required to update their skills and qualifications in order to keep up with new developments and to maintain professional competence. Nurses’ job conditions appear to be primarily controlled by external sources (e.g., the government, the hospital, and society). It is therefore not surprising that Job Conditions are perceived to be demands that are beyond a nurse’s control.

Applying the above findings to Cutrona and Russell’s (1990) optimal matching theory, it could be inferred that:
• Emotional Coworker Support will interact with Job Conditions to prevent burnout.

• Instrumental Coworker Support will interact with the remaining sources of job-specific stress (i.e., Lack of Professional Recognition and Support, Patient Care Uncertainty and Interpersonal Conflict) to prevent burnout.

• Instrumental Coworker Support will interact with the three sources of role stress (i.e., Role Overload, Role Conflict, and Role Ambiguity) to prevent burnout among nurses.

In Study 3, Cutrona and Russell’s optimal matching theory is examined within a nursing context.

Procedure

The procedure used to collect the quantitative data is described earlier in Chapter 7, Study 2.

Data Analysis

A description of the statistical analysis techniques used to examine the present study’s research hypotheses is outlined earlier in Chapter 5.
Results

Descriptive Statistics for the Independent and Dependent Variables

Descriptive statistics, including internal reliability coefficients using Cronbach’s alpha for each independent and dependent variable are presented in Table 8.2.

Table 8.2

Descriptive Data for the Independent and Dependent Variables (N=273)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E.</th>
<th>Skew</th>
<th>Kurtosis</th>
<th>Alpha Level</th>
<th>No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECOG</td>
<td>15.51</td>
<td>7.80</td>
<td>0.47</td>
<td>2.74</td>
<td>-1.08</td>
<td>.83</td>
<td>10</td>
</tr>
<tr>
<td>UNCERTY</td>
<td>11.24</td>
<td>6.12</td>
<td>0.37</td>
<td>5.14</td>
<td>2.00</td>
<td>.82</td>
<td>9</td>
</tr>
<tr>
<td>JOB CON</td>
<td>15.71</td>
<td>6.27</td>
<td>0.38</td>
<td>1.48</td>
<td>-2.59</td>
<td>.79</td>
<td>8</td>
</tr>
<tr>
<td>INTCONF</td>
<td>1.88</td>
<td>1.63</td>
<td>0.10</td>
<td>10.61</td>
<td>10.38</td>
<td>.62</td>
<td>2</td>
</tr>
<tr>
<td>RO</td>
<td>26.02</td>
<td>6.82</td>
<td>0.41</td>
<td>3.08</td>
<td>-1.19</td>
<td>.81</td>
<td>10</td>
</tr>
<tr>
<td>RC</td>
<td>22.94</td>
<td>6.58</td>
<td>0.40</td>
<td>2.48</td>
<td>-0.79</td>
<td>.73</td>
<td>10</td>
</tr>
<tr>
<td>RA</td>
<td>19.77</td>
<td>5.57</td>
<td>0.38</td>
<td>3.77</td>
<td>0.15</td>
<td>.71</td>
<td>10</td>
</tr>
<tr>
<td>EE</td>
<td>23.01</td>
<td>11.17</td>
<td>0.68</td>
<td>1.76</td>
<td>-2.12</td>
<td>.90</td>
<td>9</td>
</tr>
<tr>
<td>DP</td>
<td>7.75</td>
<td>5.89</td>
<td>0.36</td>
<td>5.86</td>
<td>0.54</td>
<td>.71</td>
<td>5</td>
</tr>
<tr>
<td>PA</td>
<td>34.62</td>
<td>7.83</td>
<td>0.47</td>
<td>-3.63</td>
<td>-0.36</td>
<td>.75</td>
<td>8</td>
</tr>
<tr>
<td>ECS</td>
<td>28.03</td>
<td>5.14</td>
<td>0.31</td>
<td>-5.53</td>
<td>3.40</td>
<td>.92</td>
<td>7</td>
</tr>
<tr>
<td>ICS</td>
<td>19.75</td>
<td>3.62</td>
<td>0.22</td>
<td>-5.07</td>
<td>4.34</td>
<td>.88</td>
<td>5</td>
</tr>
<tr>
<td>SUPS</td>
<td>44.11</td>
<td>11.21</td>
<td>0.68</td>
<td>-4.31</td>
<td>0.54</td>
<td>.96</td>
<td>12</td>
</tr>
</tbody>
</table>

Note. RECOG = Lack of Professional Recognition and Support; UNCERTY = Patient Care Uncertainty; JOB CON = Job Conditions; INTCONF = Interpersonal Conflict; RO = Role Overload; RC = Role Conflict; RA = Role Ambiguity; EE = Emotional Exhaustion; DP = Depersonalisation; PA = Personal Accomplishment; ECS = Emotional Coworker Support; ICS = Instrumental Coworker Support; SUPS = Supervisor Support.

* Scores for skew and kurtosis for each variable are recorded as z-scores.
Based on Cronbach’s alpha, it can be seen that high internal reliability coefficients were found for Lack of Professional Recognition and Support (\(\alpha = .83\)), Patient Care Uncertainty (\(\alpha = .82\)), and Job Conditions (\(\alpha = .79\)). A lower internal reliability coefficient was generated for Interpersonal Conflict (\(\alpha = .62\)).

Although Osipow and Spokane (1987) reported slightly higher reliability coefficients of .83 for Role Overload, .82 for Role Conflict and .78 for Role Ambiguity, the internal reliability coefficients for the role stressors in the present study are adequate with coefficients ranging from .71 to .81.

The reliability coefficients reported for the burnout subscales in the current study were similar to those reported by Maslach et al. (1996) of .90 for Emotional Exhaustion, .79 for Depersonalisation, and .71 for Personal Accomplishment.

As discussed earlier in Chapter 7, high internal reliability coefficients were found for Emotional Coworker Support (\(\alpha = .92\)), Instrumental Coworker Support (\(\alpha = .88\)), and Supervisor Support (\(\alpha = .96\)).

The data were screened for normality, linearity, and homescedasticity prior to statistical analyses. The data were also screened for multicollinearity and singularity, as well as outliers. Z-scores were calculated to test for skewness and kurtosis in the sample population. The distributions for Patient Care Uncertainty, Interpersonal Conflict, Role Ambiguity, and Depersonalisation were positively skewed. Square root transformations were performed to improve the distribution of these variables. Following the transformation, high levels of Patient Care Uncertainty, Interpersonal Conflict, Role Ambiguity, and Depersonalisation are reflected by high scores on these scales. Conversely, low levels of
Patient Care Uncertainty, Interpersonal Conflict, Role Ambiguity, and Depersonalisation are reflected by low scores on these scales.

The distributions for the burnout dimension - Personal Accomplishment, and the work support scales (i.e., Emotional Coworker Support, Instrumental Coworker Support, and Supervisor Support) were negatively skewed. Appropriate transformations for negative skew (i.e., reflect and square root) were therefore conducted (Tabachnick & Fidell, 1989). Following the transformation of Personal Accomplishment, a high total score relates to low levels Personal Accomplishment (or high levels of burnout) and a low total score relates to high levels of Personal Accomplishment (or low levels of burnout). Following the transformation of the work support variables (Emotional Coworker Support, Instrumental Coworker Support, and Supervisor Support), high total scores reflect low levels of support and low total scores reflect high levels of support.

In the section below, the nature of nurses’ work stress is explored. It is important to note that the variable Role Ambiguity is not transformed in the descriptive analysis below. By using the untransformed variable, comparisons between the present study’s results and the normative data provided in the ORQ administration manual could be made.
**Level of Work Stress Among Australian Nurses**

Table 8.3 depicts the average level of job-specific stress and role stress reported by the total sample population. In addition, total mean scores for the work stress scales are reported separately for male and female nurses. For the untransformed variable – Role Ambiguity, a high total score reflects a high level of Role Ambiguity.

**Table 8.3**

<table>
<thead>
<tr>
<th>Work Stress</th>
<th>Total Sample (n = 273)</th>
<th>Males (n = 38)</th>
<th>Females (n = 235)</th>
<th>Test of Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>HPSI (score ranges:0-116)</td>
<td>44.35</td>
<td>17.31</td>
<td>48.01</td>
<td>21.05</td>
</tr>
<tr>
<td>Role Overload (score ranges:10-50)</td>
<td>26.02</td>
<td>6.82</td>
<td>25.82</td>
<td>6.50</td>
</tr>
<tr>
<td>Role Conflict (score ranges:10-50)</td>
<td>22.95</td>
<td>6.58</td>
<td>24.27</td>
<td>7.10</td>
</tr>
<tr>
<td>Role Ambiguity * (score ranges:10-50)</td>
<td>19.77</td>
<td>5.57</td>
<td>19.86</td>
<td>5.30</td>
</tr>
</tbody>
</table>

*Note. HPSI = Health Professions Stress Inventory. * Role Ambiguity has not been transformed.

As shown in Table 8.3, the mean score on the HPSI for the total sample population indicates that nurses report moderately low levels of job-specific stress ($M = 44.35$). Males ($M = 48.01$) reported higher levels of job-specific stress than females ($M = 43.76$). However, an Independent Samples t-test found that there were no significant differences between male and female nurses on perceptions of job-specific stress ($t(271) = 1.41, p = .16$, two-tailed).

The sample population also reported moderately high levels of Role Overload, and moderate levels of Role Conflict and moderately low levels of Role Ambiguity. The mean total scores for males and females across the role stressors were compared to normative data provided in Osipow and Spokane’s (1987) OSI administration manual. The normative data is
based on 909 professionals employed in the human services industry as well as the technical and manufacturing industry. For males, Role Overload total scores ranging between 22 and 35 are indicative of normal levels of stress. For females, total scores ranging between 18 and 33 are indicative of normal levels of stress. It could therefore be inferred that both male ($M = 25.82$) and female ($M = 26.06$) nurses report normal levels of stress associated with Role Overload. An Independent Samples t-test revealed that there were no significant differences between male and female nurses’ perceptions of Role Overload ($t (271) = -.20, p = .84$, two-tailed).

For males, Role Conflict total scores ranging between 15 and 26 indicate normal levels of stress. For females, total scores ranging between 14 and 29 indicate normal levels of stress. It could therefore be inferred that both male ($M = 24.27$) and female ($M = 22.73$) nurses report normal levels of stress associated with Role Conflict. An Independent Samples t-test revealed that there were no significant differences between male and female nurses’ perceptions of Role Conflict ($t (270) = 1.34, p = .18$, two-tailed).

For males, Role Ambiguity total scores ranging between 15 and 26 indicate normal levels of stress. For females, total scores ranging between 14 and 25 indicate normal levels of stress. It could therefore be inferred that both male ($M = 19.86$) and female ($M = 19.75$) nurses report normal levels of stress associated with Role Ambiguity. An Independent Samples t-test revealed that there were no significant differences between male and female nurses’ perceptions of Role Ambiguity ($t (270) = .12, p = .91$, two-tailed).

In summary, the level of role stress reported by male and female nurses is within the normal range. While female nurses report slightly higher levels of Role Overload and slightly lower levels of Role Conflict and Role Ambiguity than males, there are no significant
differences in levels of role stress based on gender. These results provide support for Hypothesis 1 that nurses’ levels of work stress are not significantly different based on gender.

**Sources of Stress for Australian Nurses**

*Major job-specific stressors.* The total mean scores for the 29-item HPSI are presented in Figure 8.1. The items highlighted in red, are those items perceived as *often* stressful by nurses. Those highlighted in yellow, depict the items that are considered *occasionally* stressful by nurses. Those highlighted in green, depict the items that are rated as *never* or *rarely* stressful to nurses.

![Figure 8.1. Total mean item scores for the Health Professions Stress Inventory.](image)

*Note.* Item numbers are from the original questionnaire. Items 10 and 23 were removed.
Figure 8.1 suggests that there are very few work events that often cause nurses stress. The majority of work conditions are perceived to be ‘occasionally’ stressful. Since these stressors do not contribute to our knowledge of Australian nurses’ a) major sources of job-specific stress, or b) least stressful job-specific conditions, these events will not be discussed. The most stressful job-specific conditions, the total item mean scores and the corresponding HPSI subscale for each item, are presented in Table 8.4.

Table 8.4

The Highest Rated Job-Specific Stressors for Australian Nurses

<table>
<thead>
<tr>
<th>Item Number and Description</th>
<th>Item Mean</th>
<th>HPSI Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. Being interrupted by phone calls or people while performing job duties.</td>
<td>2.67</td>
<td>Job Conditions</td>
</tr>
<tr>
<td>27. Feeling that you are inadequately paid as a health professional.</td>
<td>2.57</td>
<td>Lack of Professional Recognition and Support</td>
</tr>
<tr>
<td>21. Not having enough staff to adequately provide necessary services.</td>
<td>2.34</td>
<td>Job Conditions</td>
</tr>
<tr>
<td>3. Feeling ultimately responsible for patient outcomes.</td>
<td>2.03</td>
<td>Job Conditions</td>
</tr>
<tr>
<td>16. Dealing with difficult patients.</td>
<td>2.02</td>
<td>Patient Care Uncertainty</td>
</tr>
</tbody>
</table>

The job-specific events rated as ‘often’ stressful included: being interrupted by phone calls or people while performing job duties ($M = 2.67$); feeling that you are inadequately paid as a health professional ($M = 2.57$); not having enough staff to adequately provide necessary services ($M = 2.34$); feeling ultimately responsible for patient outcomes ($M = 2.03$); and dealing with difficult patients ($M = 2.02$). Wolfgang (1988b) reported similar results for a sample of 379 registered nurses using the HPSI. The results indicate that Job Conditions are a significant source of stress for Australian nurses.

In contrast, the job-specific events that are considered to be ‘never’ or ‘rarely’ stressful included: allowing personal feelings or emotions to interfere with the care of
patients \( (M = 0.60) \); experiencing conflicts with supervisors and/or administrators \( (M = 0.84) \); being inadequately prepared to meet the needs of patients \( (M = 0.95) \) and not being challenged by your work \( (M = 0.99) \).

**Major role stressors.** The total mean scores for the 30 items comprising the three role stress subscales are presented in Figure 8.2. The items highlighted in red, depict items rated as *often* stressful by nurses. Those highlighted in yellow, depict the items that are rated *occasionally* stressful by nurses. Those highlighted in green, depict the items that are rated as *never* or *rarely* stressful to nurses.

*Figure 8.2. Total mean item scores for the Occupational Roles Questionnaire.*

Note. ro = Role Overload; re = Role Conflict; ra = Role Ambiguity
Figure 8.2 indicates that the majority of role stressors are ‘never’ or ‘rarely’ stressful, with a much smaller number of events associated with ‘often’ causing role stress. Since role stressors rated ‘occasionally’ stressful do not contribute to our knowledge of Australian nurses’ a) major sources of role stress, or b) least stressful role conditions, these events will not be discussed. The most stressful role stressors, the total item mean scores and the corresponding subscale for each item, are presented in Table 8.5.

Table 8.5

The Highest Rated Role Stressors for Australian nurses

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Mean</th>
<th>ORQ Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel I have a stake in the success of this hospital. *</td>
<td>3.61</td>
<td>Role Conflict</td>
</tr>
<tr>
<td>I work under tight deadlines.</td>
<td>3.51</td>
<td>Role Overload</td>
</tr>
<tr>
<td>My supervisor provides me with useful feedback about my performance. *</td>
<td>3.50</td>
<td>Role Ambiguity</td>
</tr>
<tr>
<td>I feel that my job responsibilities are increasing.</td>
<td>3.43</td>
<td>Role Overload</td>
</tr>
<tr>
<td>My job requires me to work in several equally important areas at once.</td>
<td>3.17</td>
<td>Role Overload</td>
</tr>
<tr>
<td>At work I am expected to do too many different things in too little time.</td>
<td>3.06</td>
<td>Role Overload</td>
</tr>
</tbody>
</table>

Note. * = reverse scored item

The role stress events rated as ‘often’ causing nurses’ stress included: not having a stake in the success of the hospital ($M = 3.61$); working under tight deadlines ($M = 3.51$); not receiving useful feedback about job performance by their supervisor ($M = 3.50$); increasing job responsibilities ($M = 3.43$); working in several equally important areas at once ($M = 3.17$) and being expected to do too many different tasks in too little time ($M = 3.06$). The results demonstrate that role overload is a major source of stress for Australian nurses.

In contrast, the role stress events that are considered to be ‘never’ or ‘rarely’ stressful included: determining acceptable behaviour on the job (e.g., dress, interpersonal relations) ($M = 1.17$); knowing which task should be done first when presented with several tasks ($M = 1.17$).
1.46); feeling competent in doing their job \((M = 1.48)\) and knowing what constitutes as a high priority \((M = 1.48)\). It could be inferred that Australian nurses are relatively clear about what is expected of them as a nurse and are confident in their ability to fulfill job requirements.

*The Nature of Burnout Among Australian Nurses*

*Intercorrelations between the burnout dimensions.* Table 8.6 reports the intercorrelations between the three burnout subscales. Transformed variables included Depersonalisation and Personal Accomplishment. It should be noted that a high total score on Depersonalisation relates to a high level of Depersonalisation and a low total score reflects a low level of Depersonalisation. A high total score on Personal Accomplishment relates to a low level of Personal Accomplishment (or high levels of burnout) and a low total score relates to a high level of Personal Accomplishment (or low levels of burnout). Therefore, all burnout subscales are expected to have positive correlations.

Table 8.6

**Pearson Product-Moment Correlations between the MBI Subscales \((N = 273)\)**

<table>
<thead>
<tr>
<th></th>
<th>Emotional Exhaustion</th>
<th>Depersonalisation</th>
<th>Personal Accomplishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaustion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depersonalisation</td>
<td>.48**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Personal</td>
<td>.24**</td>
<td>.29**</td>
<td>1.00</td>
</tr>
<tr>
<td>Accomplishment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* ** Correlation is significant at the 0.01 level.

Pearson’s product-moment correlation coefficients were used to examine the interrelationships between the burnout components. Table 8.6 demonstrates that Emotional
Exhaustion is positively correlated with Depersonalisation ($r = .48$, $p = .01$), suggesting that high levels of Emotional Exhaustion are associated with high levels of Depersonalisation. Emotional Exhaustion is significantly positively associated with Personal Accomplishment ($r = .24$, $p = .01$), indicating that high levels of Emotional Exhaustion are associated with low levels of Personal Accomplishment. Similarly, Depersonalisation was also significantly positively correlated with Personal Accomplishment ($r = .29$, $p = .01$), suggesting that high levels of Depersonalisation are associated with low levels of Personal Accomplishment. These results confirm Hypothesis 2 that burnout consists of three related, but empirically distinct components.

**Average level of burnout.** Table 8.7 presents the MBI subscale means and standard deviations for the current sample. The total mean MBI scores are compared to an appropriate normative sample reported in the MBI administration manual (Maslach et al., 1996). The normative sample consists of 1104 medicine professionals, including physicians and nurses. In establishing the overall level of burnout, the scores were examined in relation to the ranges of burnout defined by Maslach et al. (1996). The score ranges reflect low, moderate, and high levels of burnout. Burnout scores are considered high if they fall within the upper third of the normative distribution, moderate if they fall within the middle third, and low if the fall within the lower third of the distribution (Maslach et al., 1996). It should be noted that the variables Depersonalisation and Personal Accomplishment are not transformed in the descriptive analysis below. By using the untransformed variables, comparisons can be made between the present study’s results and the normative data provided in the MBI administration manual. Hence, the higher the mean score on Depersonalisation, the higher the level of
Depersonalisation. In contrast, the lower the mean score on Personal Accomplishment, the lower the level of Personal Accomplishment.

Table 8.7

*Means, Standard Deviations, and Reliability Coefficients for a Sample of Australian Nurses and a MBI Normative Sample*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample n = 273</th>
<th>MBI Norms n = 11067</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Emotional Exhaustion (0-78)</td>
<td>23.01</td>
<td>11.17</td>
</tr>
<tr>
<td>Depersonalisation* (0-96)</td>
<td>7.75</td>
<td>5.89</td>
</tr>
<tr>
<td>Personal Accomplishment* (0-84)</td>
<td>34.62</td>
<td>7.83</td>
</tr>
</tbody>
</table>

*Note. MBI = Maslach Burnout Inventory. Depersonalisation and Personal Accomplishment have not been transformed.*

Range of Experienced Burnout:
- EE – High: 27 or >
- DP – High: 8 or >
- PA – High: 0-33

The data presented in Table 8.7 indicates that overall, nurses’ report moderate levels of Emotional Exhaustion, Depersonalisation, and Personal Accomplishment, thus confirming Hypothesis 3. More specifically, the sample of Australian nurses reported moderate levels of Emotional Exhaustion, moderately high levels of Depersonalisation, and moderately low levels of Personal Accomplishment. The mean burnout scores are similar to those reported in Maslach et al.’s (1996) MBI manual for the medicine norm group. They reported a mean score of 22.19 (SD = 9.53) for Emotional Exhaustion, 7.12 (SD = 5.22) for Depersonalisation, and 36.53 (SD = 7.34) for Personal Accomplishment. This finding suggests that Australian nurses experience similar levels of burnout to other medical staff.
Although comparing nurses’ levels of burnout with the medicine profession used to construct the norms for the MBI is useful, much of Maslach et al.’s work was conducted more than a decade ago. It therefore seems appropriate to compare the current sample’s burnout levels with more recent nursing studies as shown in Table 8.8.

Table 8.8

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Type of Nursing</th>
<th>Location</th>
<th>N</th>
<th>EE</th>
<th>DP</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present study</td>
<td>General</td>
<td>Australia</td>
<td>273</td>
<td>23.01</td>
<td>7.75</td>
<td>34.62</td>
</tr>
<tr>
<td>Iacovides et al. (1997)</td>
<td>General</td>
<td>Greece</td>
<td>368</td>
<td>22.40</td>
<td>7.59</td>
<td>36.18</td>
</tr>
<tr>
<td>Schmitz et al. (2000)</td>
<td>General</td>
<td>Germany</td>
<td>361</td>
<td>19.60</td>
<td>10.60</td>
<td>31.00</td>
</tr>
<tr>
<td>Bakker et al. (2000)</td>
<td>General</td>
<td>Germany</td>
<td>207</td>
<td>22.21</td>
<td>8.01</td>
<td>33.25</td>
</tr>
<tr>
<td>Schaufeli &amp; Janczur (1994)</td>
<td>General</td>
<td>Poland</td>
<td>200</td>
<td>20.00</td>
<td>8.70</td>
<td>27.30</td>
</tr>
<tr>
<td>Schaufeli &amp; Janczur (1994)</td>
<td>General</td>
<td>Holland</td>
<td>183</td>
<td>16.20</td>
<td>5.40</td>
<td>32.70</td>
</tr>
<tr>
<td>Turnipseed &amp; Turnipseed (1997)</td>
<td>General</td>
<td>United States</td>
<td>129</td>
<td>24.50</td>
<td>7.75</td>
<td>37.70</td>
</tr>
<tr>
<td>Turnipseed &amp; Turnipseed (1997)</td>
<td>General</td>
<td>Philippines</td>
<td>71</td>
<td>17.50</td>
<td>6.76</td>
<td>33.80</td>
</tr>
<tr>
<td>Turnipseed &amp; Turnipseed (1997)</td>
<td>Hospice</td>
<td>United Kingdom</td>
<td>89</td>
<td>17.19</td>
<td>3.91</td>
<td>35.70</td>
</tr>
<tr>
<td>Turnipseed &amp; Turnipseed (1997)</td>
<td>Mental Health</td>
<td>United Kingdom</td>
<td>301</td>
<td>21.20</td>
<td>5.20</td>
<td>34.80</td>
</tr>
<tr>
<td>Mallet et al. (1991)</td>
<td>Critical Care</td>
<td>United States</td>
<td>167</td>
<td>22.20</td>
<td>10.60</td>
<td>56.40</td>
</tr>
<tr>
<td>Ogus (1992)</td>
<td>Medical</td>
<td>Canada</td>
<td>62</td>
<td>45.90</td>
<td>18.00</td>
<td>25.44</td>
</tr>
<tr>
<td>Ogus (1992)</td>
<td>Surgical</td>
<td>Canada</td>
<td>66</td>
<td>29.74</td>
<td>10.18</td>
<td>20.32</td>
</tr>
</tbody>
</table>

Note. EE = Emotional Exhaustion; DP = Depersonalisation; PA = Personal Accomplishment.

Table 8.8 demonstrates that the mean MBI subscale scores for the present study are relatively consistent to the mean MBI subscale scores reported by nurses in foreign studies. Several studies (e.g., Bakker et al., 2000; Edwards et al., 2000b; Iacovides et al., 1997; Mallet et al., 1991; Turnipseed & Turnipseed, 1997) have also found that overall, nurses report moderate levels of Emotional Exhaustion. There seems to be much greater variation in the levels of Depersonalisation across nursing studies. Some nurses reported low levels of
Depersonalisation (Payne et al., 2001) whilst others reported high levels of Depersonalisation (Bakker et al., 2000; Mallet et al., 1991; Ogus, 1992; Schmitz et al., 2000). Other research studies (Edwards et al., 2000b; Iacovides et al., 1997; Turnipseed & Turnipseed, 1997) have found similar findings to the present study in that nurses reported moderate levels of Depersonalisation. Finally, the majority of studies have found that nurses report moderate levels of Personal Accomplishment (Edwards et al., 2000b; Iacovides et al., 1997; Schmitz et al., 2000; Turnipseed & Turnipseed, 1997).

Comparison with Other Human Service Professions

Table 8.9 compares the present study’s mean MBI subscale scores to other human service professions.

Table 8.9

<table>
<thead>
<tr>
<th>Human Service Profession</th>
<th>EE</th>
<th>SD</th>
<th>DP</th>
<th>SD</th>
<th>PA</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present Study</td>
<td>273</td>
<td>23.01</td>
<td>11.17</td>
<td>273</td>
<td>7.75</td>
<td>5.89</td>
</tr>
<tr>
<td>Teaching</td>
<td>5481</td>
<td>28.15</td>
<td>11.99</td>
<td>5481</td>
<td>8.68</td>
<td>6.46</td>
</tr>
<tr>
<td>Social Workers</td>
<td>628</td>
<td>20.82</td>
<td>10.17</td>
<td>628</td>
<td>6.94</td>
<td>5.60</td>
</tr>
<tr>
<td>Physicians</td>
<td>479</td>
<td>24.03</td>
<td>10.77</td>
<td>479</td>
<td>6.46</td>
<td>4.75</td>
</tr>
<tr>
<td>Psychologists</td>
<td>1382</td>
<td>19.75</td>
<td>9.77</td>
<td>1382</td>
<td>6.14</td>
<td>4.45</td>
</tr>
<tr>
<td>Counsellors</td>
<td>422</td>
<td>20.52</td>
<td>8.97</td>
<td>422</td>
<td>6.64</td>
<td>4.26</td>
</tr>
</tbody>
</table>


Range of Experienced Burnout

- EE – High: 27 or > Moderate: 19-26 Low: 0-18
- DP – High: 8 or > Moderate: 5-7 Low: 0-4
- PA – High: 0-33 Moderate: 34-39 Low: 40 or >

Table 8.9 indicates that when the sample’s mean level of burnout is compared to other human service professions, nurses report moderate levels of Emotional Exhaustion,
Depersonalisation and Personal Accomplishment. In comparison to physicians, the current sample reported slightly less Emotional Exhaustion, much less Depersonalisation, and substantially lower levels of Personal Accomplishment. In comparison to teachers, nurses report much lower levels of Emotional Exhaustion, similar levels of Depersonalisation and slightly lower levels of Personal Accomplishment. When compared to psychologists and counsellors, nurses report higher levels of Emotional Exhaustion and Depersonalisation and substantially lower levels of Personal Accomplishment.

Prevalence of Burnout

Table 8.10 presents the proportion of sample respondents that fall within the high, moderate and low categories of burnout.

Table 8.10

*Categorisation of the MBI Scores

<table>
<thead>
<tr>
<th>MBI Subscale</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion (EE)</td>
<td>101</td>
<td>37.1</td>
<td>64</td>
</tr>
<tr>
<td>Depersonalisation (DP)*</td>
<td>120</td>
<td>44.6</td>
<td>60</td>
</tr>
<tr>
<td>Personal Accomplishment (PA)*</td>
<td>85</td>
<td>31.3</td>
<td>73</td>
</tr>
</tbody>
</table>

*Note.* *Untransformed variables.

The frequency data presented in Table 8.10 indicate that a high proportion of nurses are experiencing some aspect of burnout. For instance, approximately 40% of nurses are reporting high levels of Emotional Exhaustion, the core dimension of burnout. In addition, approximately 33% of nurses reported high levels of Depersonalisation. Furthermore, approximately 42% of nurses reported low levels of Personal Accomplishment. The MBI
defines high levels of burnout by high scores on Emotional Exhaustion and Depersonalisation and low scores on Personal Accomplishment. Overall, 5.9% of the sample population reported high levels of burnout.

**Correlates of Burnout**

Pearson’s product-moment correlations for the work stress variables and the burnout variables in Study 3 are presented in Table 8.11. When interpreting the relationships between the variables, it is important to keep in mind the transformed variables. The transformed job-specific stress variables included Patient Care Uncertainty and Interpersonal Conflict. For these variables, high scores represent high levels of job-specific stress. Role Ambiguity is the only transformed role stress variable. A high total score on Role Ambiguity represents a high level of Role Ambiguity. The burnout dimensions – Depersonalisation and Personal Accomplishment are also transformed. A high total score on Depersonalisation relates to a high level of Depersonalisation and a low total score reflects a low level of Depersonalisation. A high total score on Personal Accomplishment relates to a low level of Personal Accomplishment and a low total score relates to a high level of Personal Accomplishment. Therefore, the work stress and burnout subscales are expected to have positive correlations.
Table 8.11

Correlations Between the Work Stress Subscales and the MBI Subscales

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</table>

Note. Recogn = Lack of Professional Recognition and Support; Uncert = Patient Care Uncertainty; Conf = Interpersonal Conflict; JCon = Job Conditions; Ro = Role Overload; Re = Role Conflict; Ra = Role Ambiguity; Ee = Emotional Exhaustion; Dp = Depersonalisation; Pa = Personal Accomplishment.

** Correlation is significant at the 0.01 level. * Correlation is significant at the 0.05 level.

Table 8.11 provides partial support for Hypothesis 4 that both job-specific stressors and role stressors are related to burnout in nurses. All four job-specific stressors and all three role stressors are significantly positively correlated to Emotional Exhaustion. Three job-specific stressors and the three role stressors were significantly positively related to Depersonalisation. Only Interpersonal Conflict was not related to Depersonalisation. Job-specific stressors were not significantly related to Personal Accomplishment. Role Conflict and Role Ambiguity were the only role stress variables significantly positively related to Personal Accomplishment. In the section below, the relationships between the job-specific variables and the three burnout components are explored in further detail.
The Relationship Between Job-Specific Stressors and Burnout

All four job-specific stressors correlated positively and significantly with Emotional Exhaustion. Specifically, Job Conditions was most strongly correlated with Emotional Exhaustion with a correlation coefficient of \( r = .49 \) \((p = .01)\), followed by Lack of Professional Recognition and Support \((r = .41, p = .01)\), Patient Care Uncertainty \((r = .36, p = .01)\) and Interpersonal Conflict \((r = .15, p = .05)\). Patient Care Uncertainty was most strongly correlated with Depersonalisation with a correlation coefficient of \( r = .41 \) \((p = .01)\), followed by Lack of Professional Recognition and Support \((r = .30, p = .01)\) and Job Conditions \((r = .23, p = .01)\). All four job-specific stressors were related very weakly and positively to Personal Accomplishment, however, the correlation coefficients were non-significant. Taken together, these findings provided partial support for Hypothesis 5. As expected the job-specific stressors were significantly and positively related to Emotional Exhaustion. Except for Interpersonal Conflict, all job-specific sources were related to Depersonalisation. None of the job-specific stressors however, were significantly positively related to Personal Accomplishment.

The Relationships Between Role Stressors and Burnout

In accordance with Hypothesis 6, the three role stressors were positively and significantly correlated with Emotional Exhaustion and Depersonalisation, suggesting that high levels of role stress are associated with high levels of Emotional Exhaustion and Depersonalisation. Specifically, Role Overload was most strongly correlated with Emotional Exhaustion with a correlation coefficient of \( r = .53 \) \((p = .01)\), followed by Role Conflict \((r = .43, p = .01)\) and Role Ambiguity \((r = .26, p = .01)\). Role Conflict was most strongly correlated with Depersonalisation with a correlation coefficient of \( r = .43 \) \((p = .01)\), followed by Role
Ambiguity ($r = .26, p = .01$) and Role Overload ($r = .21, p = .01$). Role Conflict and Role Ambiguity were positively and significantly correlated to Personal Accomplishment with correlation coefficients of .39 and .37 ($p = .01$) respectively. Role Overload correlated weakly and positively with Personal Accomplishment, however the correlation coefficient was non-significant. Overall, Hypothesis 6 is partially supported.

The Relationship Between Sociodemographic Variables and Burnout

Table 8.12 depicts the Pearson’s product-moment correlations for the sociodemographic variables (employment status, age, gender, professional qualifications, nursing experience and division of nursing) and the three burnout components – Emotional Exhaustion, Depersonalisation, and Personal Accomplishment. Transformed variables for Depersonalisation and Personal Accomplishment were used. A high total score on Depersonalisation relates to a high level of Depersonalisation and a low total score reflects a low level of Depersonalisation. A high total score on Personal Accomplishment relates to a low level of Personal Accomplishment and a low total score relates to a high level of Personal Accomplishment.
Table 8.12

*Pearson’s Product-Moment Correlations Between Burnout and the Sociodemographic Variables*

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<th>PA</th>
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Empty Status: EE = Emotional Exhaustion; DP = Depersonalisation; PA = Personal Accomplishment; Employment Status = employment status; Pqual = Professional Qualifications; Nursing Exp = Nursing Experience in Years.

** Correlation is significant at 0.01 level.  * Correlation is significant at the 0.05 level.

Table 8.12 demonstrates that overall, sociodemographic factors are not highly correlated with burnout among nurses. For instance, only Age ($r = -.14, p = .05$) and Employment Status ($r = -.14, p = .05$) are negatively but weakly correlated with Emotional Exhaustion. More specifically, younger nurses report higher levels of Emotional Exhaustion than older nursing staff. Nurses working full-time report higher levels of Emotional Exhaustion, than part-time/casual nurses. Age ($r = -.32, p = .01$) and Nursing Experience ($r = -.23, p = .01$) are moderately correlated to Depersonalisation. Younger, less experienced nurses report higher levels of Depersonalisation than older, more experienced nurses. Sociodemographic factors are not significantly related to Personal Accomplishment. The
findings provide support for Hypothesis 7 that younger nurses report higher levels of burnout than older nurses, and Hypothesis 8 that less experienced nurses report higher levels of burnout than more experienced nurses.

**Level of Social Support for Nurses Working at Public Hospitals**

Total mean scores were generated for the main sources of work support. Table 8.13 depicts the average level of Coworker and Supervisor Support reported by the total sample population. In addition, total mean scores for the work support scales are reported separately for male and female nurses. The Coworker Support Scale and the Supervisor Support Scale have not been transformed to ensure that comparisons between the sources of support can be made.

Table 8.13

**Mean Levels of Coworker and Supervisor Support**

<table>
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<tr>
<th>Source of Support</th>
<th>Total Sample (N = 273)</th>
<th>Males (n = 38)</th>
<th>Females (n = 235)</th>
<th>Test of Differences</th>
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<td>SD</td>
<td>Mean</td>
<td>SD</td>
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<td>Supervisor Support (score ranges:12-60)</td>
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</table>

*Note.* Untransformed variables have been used.

Table 8.13 suggests that overall, the sample population report moderate levels of Supervisor and Coworker Support. Nurses’ reported receiving higher levels of Coworker Support than Supervisor Support, thus confirming Hypothesis 9. An Independent Samples t-test revealed that there were no significant differences in nurses’ levels of Coworker Support based on gender \((t (269) = -.52, p = .60,\) two-tailed). Similarly, there were no significant
differences in nurses’ levels of Supervisor Support based on gender ($t(267) = 1.48, p = .14$, two-tailed).

*The Relationship Between Social Support and Burnout*

Table 8.14 depicts the Pearson’s product-moment correlations for the work support variables (i.e., Emotional Coworker Support, Instrumental Coworker Support and Supervisor Support) and the three burnout variables - Emotional Exhaustion, Depersonalisation, and Personal Accomplishment. The burnout variables - Depersonalisation and Personal Accomplishment are transformed. A high total score on Depersonalisation relates to a high level of Depersonalisation and a low total score reflects a low level of Depersonalisation. Similarly, a high total score on Personal Accomplishment relates to a low level of Personal Accomplishment and a low total score relates to a high level of Personal Accomplishment. The work support variables are also transformed. For the work support scales, a high total score relates to low levels of support and a low total score relates to high levels of work support.
Table 8.14

*Pearson’s Product-Moment Correlations Between the Work Support Scales and the MBI Subscales*

<table>
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</table>

Note. Ecs = Emotional Coworker Support; Ics = Instrumental Coworker Support; Sups = Supervisor Support; Ee = Emotional Exhaustion; Dp = Depersonalisation; Pa = Personal Accomplishment.

** Correlation is significant at the 0.01 level. * Correlation is significant at the 0.05 level.

Table 8.14 demonstrates that only Instrumental Coworker Support is significantly related to nurses’ levels of burnout. Specifically, Instrumental Coworker Support was significantly positively related to Emotional Exhaustion ($r = .24, p = .01$) and positively related to Personal Accomplishment ($r = .16, p = .01$). This indicates that low levels of instrumental assistance from coworkers is associated with higher levels of Emotional Exhaustion. Furthermore, low levels of instrumental coworker support is associated with lower levels of Personal Accomplishment. The remaining support variables were not related to burnout. These findings provide partial support for Hypothesis 10 that work support will be significantly negatively correlated to Emotional Exhaustion and Depersonalisation and significantly positively related to Personal accomplishment.
The Relationship Between Work Stressors and Social Support

Table 8.15 depicts the Pearson’s product-moment correlations for the work stress variables and the work support variables. The job-specific stress variables Patient Care Uncertainty and Interpersonal Conflict are transformed. For these variables, high scores represent high levels of job-specific stress. The role stress variable Role Ambiguity is also transformed. A high total score on Role Ambiguity represents a high level of Role Ambiguity. The work support variables Emotional Coworker Support, Instrumental Coworker Support, and Supervisor Support are all transformed. For the work support scales, a high total score relates to low levels of support and a low total score relates to high levels of work support.

Table 8.15

Pearson’s Product-Moment Correlations Between the Work Stress and Work Support Variables

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<th>Conf</th>
<th>JCon</th>
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Note. Recgn = Lack of Professional Recognition and Support; Uncert = Patient Care Uncertainty; Conf = Interpersonal Conflict; JCon = Job Conditions; Ro = Role Overload; Re = Role Conflict; Ra = Role Ambiguity; Ecs = Emotional Coworker Support; Ics = Instrumental Coworker Support; SupS = Supervisor Support.

** Correlation is significant at the 0.01 level. * Correlation is significant at the 0.05 level.
Table 8.15 demonstrates that Emotional Coworker Support is significantly positively correlated with Lack of Profession Recognition and Support \((r = .37, p = .01)\) and Interpersonal Conflict \((r = .28, p = .01)\). This suggests that lower levels of Emotional Coworker Support are associated with higher levels of job-specific stress. Emotional Coworker Support was not significantly related to Patient Care Uncertainty \((r = .08, p > .05)\) or Job Conditions \((r = .08, p > .05)\). Emotional Coworker Support is also significantly positively correlated with Role Ambiguity \((r = .36, p = .01)\) and Role Conflict \((r = .34, p = .01)\) indicating that lower levels of Emotional Coworker Support are associated with higher levels of role stress. Emotional Coworker Support was not significantly related with Role Overload \((r = .06, p > .05)\).

Similarly, Instrumental Coworker Support is significantly positively correlated with Lack of Profession Recognition and Support \((r = .41, p = .01)\), Interpersonal Conflict \((r = .24, p = .01)\), and Job Conditions \((r = .18, p = .01)\). This suggests that low levels of Instrumental Coworker Support are associated with higher levels of job-specific stress. Instrumental Coworker Support was not significantly correlated with Patient Care Uncertainty \((r = .04, p > .05)\).

Instrumental Coworker Support is also significantly positively correlated with Role Ambiguity \((r = .40, p = .01)\), Role Conflict \((r = .36, p = .01)\) and Role Overload \((r = .23, p = .01)\) indicating that lower levels of Instrumental Coworker Support are associated with higher levels of role stress. Instrumental Coworker Support is not significantly correlated with Patient Care Uncertainty \((r = .04, p > .05)\).

Supervisor Support influences stress in a similar manner to Coworker Support. Supervisor Support is positively correlated with Lack of Professional Recognition and
Support ($r = .41, p = .01$), Interpersonal Conflict ($r = .28, p = .01$), and Job Conditions ($r = .12, p = .05$). This suggests that lower levels of Supervisor Support are associated with higher levels of job-specific stress. Supervisor Support was not significantly correlated with Patient Care Uncertainty ($r = .06, p > .05$). Supervisor Support is also significantly positively correlated to Role Ambiguity ($r = .55, p = .01$), Role Conflict ($r = .46, p = .01$), and Role Overload ($r = .12, p = .05$), indicating that lower levels of Supervisor Support are associated with higher levels of role stress.

These findings provide partial support for Hypothesis 11 as not all work support variables were significantly negatively correlated with work stressors. The results provide supporting evidence that work support directly affects nurses’ perceptions of stress. Supervisor Support is most strongly related to Role Ambiguity, indicating that the supervisor plays an important role in reducing the ambiguity associated with the nursing role. Coworker Support is most strongly related to Lack of Professional Recognition and Support. Finally, Supervisor Support is more strongly correlated with work stressors than Coworker Support, indicating that supervisors have a stronger influence in lowering nurses’ levels of perceived work stress than their nursing colleagues. Interestingly, although the work support variables (i.e., Emotional Coworker Support, Instrumental Coworker Support, and Supervisor Support) are weakly and positively related to Patient Care Uncertainty, they are not significant. It could therefore be concluded that work support has very little influence over how nurses perceive the unpredictability and uncertainty associated with treating patients.
Work Stress Determinants of Burnout

Standard multiple regression analyses were performed to identify the major
determinants of burnout. One equation was computed for each component of burnout. Only
the work stress variables that were significantly correlated to each burnout component were
entered into the equation.

Antecedents of Emotional Exhaustion

Using Emotional Exhaustion as the dependent variable, the four job-specific stressors
and the three role stressors were entered as the independent variables into the equation. One
outlier was removed. Transformed variables included Patient Care Uncertainty, Interpersonal
Conflict, and Role Ambiguity. When interpreting these variables, it is important to keep in
mind that high scores represent high levels of job-specific stress and low scores represent low
levels of job-specific stress.

Table 8.16

Standard Multiple Regression of Work Stress on Emotional Exhaustion

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<th>JCon</th>
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<td>.26**</td>
<td>-.650</td>
<td>-.04</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-.835</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mean: 23.01 15.51 3.21 15.72 1.20 26.02 22.94 4.40
SD: 11.18 7.80 0.98 6.28 0.67 6.82 6.58 0.62

R² = .45
Adj R² = .43
R = .67

Note. Ee = Emotional Exhaustion; Recgn = Lack of Professional Recognition and Support; Uncer = Patient
Care Uncertainty; JCon = Job Conditions; Conf = Interpersonal Conflict; Ro = Role Overload; Rc = Role
Conflict; Ra = Role Ambiguity.

** p < .001. * p < .05.
The regression coefficients for the work stressors were significantly different from zero \[F(7, 262) = 30.20, \ p < .001\]. Altogether, 43.2% of the variability in Emotional Exhaustion was accounted for by the work stressors. Table 8.16 demonstrates that Role Overload (\(\beta = .34, \ p < .001\)), Role Conflict (\(\beta = .27, \ p < .001\)) and Job Conditions (\(\beta = .23, \ p < .001\)) are significant positive predictors of Emotional Exhaustion, with Role Overload explaining most of the variance.

*Antecedents of Depersonalisation*

Using Depersonalisation as the dependent variable, all the job-specific variables except Interpersonal Conflict, and the three role stressors were entered into the equation. Interpersonal Conflict is not significantly related to Depersonalisation (see Table 8.17). Two outliers were removed. Transformed variables included: Depersonalisation, Patient Care Uncertainty, and Role Ambiguity. A high total score on Depersonalisation relates to a high level of Depersonalisation and a low total score relates to a low level of Depersonalisation. For Patient Care Uncertainty and Role Ambiguity, a high total score relates to a high level of stress and a low total score represents a low level of stress.
Table 8.17

**Standard Multiple Regression of Work Stress on Depersonalisation**

<table>
<thead>
<tr>
<th>Variables</th>
<th>DP (DV)</th>
<th>Recgn</th>
<th>Uncer</th>
<th>JCon</th>
<th>Ro</th>
<th>Re</th>
<th>Ra</th>
<th>B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recgn</td>
<td>.30**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.018</td>
</tr>
<tr>
<td>Uncer</td>
<td>.41**</td>
<td>.47**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.462**</td>
</tr>
<tr>
<td>JCon</td>
<td>.23**</td>
<td>.51**</td>
<td>.54**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.007</td>
</tr>
<tr>
<td>Ro</td>
<td>.21**</td>
<td>.37**</td>
<td>.23**</td>
<td>.48**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.013</td>
</tr>
<tr>
<td>Re</td>
<td>.43**</td>
<td>.55**</td>
<td>.24**</td>
<td>.24**</td>
<td>.33**</td>
<td></td>
<td></td>
<td></td>
<td>.063**</td>
</tr>
<tr>
<td>Ra</td>
<td>.26**</td>
<td>.41**</td>
<td>.10</td>
<td>.15*</td>
<td>.26**</td>
<td>.61**</td>
<td></td>
<td></td>
<td>.124</td>
</tr>
</tbody>
</table>

Intercept = -.856

Mean 2.54 15.51 3.21 15.72 26.02 22.94 4.40

SD 1.15 7.80 0.98 6.28 6.82 6.58 0.62

$R^2 = .33$

Adj $R^2 = .31$

$R = .57$

**Note.** DP = Depersonalisation; Recgn = Lack of Professional Recognition and Support; Uncer = Patient Care Uncertainty; JCon = Job Conditions; Ro = Role Overload; Re = Role Conflict; Ra = Role Ambiguity.

* $p < .05$. ** $p < .001$.

The regression coefficients for the work stressors were significantly different from zero [$F(6,259) = 21.26$, $p < .001$]. Altogether, 31% of the variability in Depersonalisation was accounted for by the work stressors. Table 8.17 demonstrates that Patient Care Uncertainty ($β = .40$, $p < .001$) and Role Conflict ($β = .37$, $p < .001$) are significant positive predictors of Depersonalisation.

**Antecedents of Personal Accomplishment**

Using Personal Accomplishment as the dependent variable, Role Conflict and Role Ambiguity were entered as the independent variables into the regression equation as these were the only work stressors to correlate significantly with Personal Accomplishment (Refer Table 8.18). There were no outliers. Transformed variables included Personal Accomplishment, and Role Ambiguity. When interpreting the variable Personal Accomplishment, it is important to note that a high total score relates to a low level of
Personal Accomplishment and a low total score relates to a high level of Personal Accomplishment. A high total score on Role Ambiguity represents a high level of Role Ambiguity and a low total score represents a low level of Role Ambiguity.

Table 8.18

*Standard Multiple Regression of Work Stress on Personal Accomplishment*

<table>
<thead>
<tr>
<th>Variables</th>
<th>PA (DV)</th>
<th>RC</th>
<th>RA</th>
<th>B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC</td>
<td>.39**</td>
<td>.042**</td>
<td>.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RA</td>
<td>.37**</td>
<td>.61**</td>
<td>.370**</td>
<td>.21</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.04</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.63</td>
<td>22.94</td>
<td>4.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>1.08</td>
<td>6.58</td>
<td>0.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj $R^2$</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R$</td>
<td>.42</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* PA = Personal Accomplishment; RC = Role Conflict; RA = Role Ambiguity.

**p < .001.

The regression coefficients for the role stressors were significantly different from zero [$F(2, 268) = 28.74, p < .001$]. Altogether, 17% of the variability in Personal Accomplishment was accounted for by the work stressors. Table 8.18 demonstrates that Role Conflict ($\beta = .26, p < .001$), and Role Ambiguity ($\beta = .21, p < .001$) are significant positive predictors of Personal Accomplishment, with Role Conflict explaining most of the variance. More specifically, higher levels of Role Conflict and Role Ambiguity are related to lower levels of Personal Accomplishment.

*The Influence of Social Support on the Stress-Burnout Relationship*

Hierarchical multiple regression analysis was conducted to examine the main and interaction effects of social support on the stress-burnout relationship. A regression was performed for each component of burnout. Using each burnout component as the dependent variable, control variables and independent variables are entered into the regression equation. Sociodemographic factors that were found to be significantly correlated to burnout were
entered as the first step of the analyses. This enabled the researcher to control for the potential confounding effects of sociodemographic factors. At Step 2, only the work stress variables that were significant predictors of burnout were entered into the hierarchical multiple regressions. In Step 3, the work support factors (Emotional Coworker Support, Instrumental Coworker Support, and Supervisor Support) were entered into the equation. Finally, Step 4 added the interaction terms. These were created by multiplying the work stress factors by the work support factors. In line with recommendations for dealing with problems of collinearity that arise from the use of cross-product terms (Aiken & West, 1991; Jaccard, Turrisi, & Wan, 1990), variables were centred before calculating their cross-product terms and conducting the analysis. Each regression equation was found to satisfy the assumptions of multiple regression which includes normality, linearity, equality of variance and the absence of collinearity.

The Influence of Work Support on Emotional Exhaustion

Using Emotional Exhaustion as the dependent variable, the control variables of Age (29 years or less and 30 years or more) and Employment Status (full-time and part-time/casual) were entered in the first step of the equation. Role Overload, Role Conflict and Job Conditions were entered at the second step. In the third step, Emotional Coworker Support, Instrumental Coworker Support and Supervisor Support were added. In the fourth step, the interaction terms were entered. This four-step process is illustrated in Figure 8.3. Transformed variables were used for each work support variable. A high total score on a work support scale relates to a low level of support and a low total score relates to a high level of work support.
**Figure 8.3.** Four-step hierarchical regression process for Emotional Exhaustion.

*Note.* RO = Role Overload; RC = Role Conflict; JC = Job Conditions; ECS = Emotional Coworker Support; ICS = Instrumental Coworker Support, SUP = Supervisor Support.
Table 8.19

Hierarchical Regression Analysis for Emotional Exhaustion (Standardised Regression Coefficients $\beta$)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.129*</td>
<td>-.067</td>
<td>-.068</td>
<td>-.068</td>
</tr>
<tr>
<td>Employment Status</td>
<td>-.128*</td>
<td>-.040</td>
<td>-.032</td>
<td>-.025</td>
</tr>
<tr>
<td>Role Overload</td>
<td>.327**</td>
<td>.319**</td>
<td>.323**</td>
<td></td>
</tr>
<tr>
<td>Role Conflict</td>
<td>.227**</td>
<td>.268**</td>
<td>.257**</td>
<td></td>
</tr>
<tr>
<td>Job Conditions</td>
<td>.278**</td>
<td>.274**</td>
<td>.278**</td>
<td></td>
</tr>
<tr>
<td>Emotional Coworker Support</td>
<td></td>
<td></td>
<td>-.028</td>
<td>-.030</td>
</tr>
<tr>
<td>Instrumental Coworker Support</td>
<td></td>
<td>.090</td>
<td>.067</td>
<td></td>
</tr>
<tr>
<td>Supervisor Support</td>
<td>-.131*</td>
<td>-.118*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Overload x ECS</td>
<td></td>
<td>.105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Overload x ICS</td>
<td></td>
<td></td>
<td>-.210*</td>
<td></td>
</tr>
<tr>
<td>Role Overload x Sup S</td>
<td></td>
<td></td>
<td>-.019</td>
<td></td>
</tr>
<tr>
<td>Role Conflict x ECS</td>
<td></td>
<td></td>
<td>-.028</td>
<td></td>
</tr>
<tr>
<td>Role Conflict x ICS</td>
<td></td>
<td></td>
<td>.127</td>
<td></td>
</tr>
<tr>
<td>Role Conflict x Sup S</td>
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<td></td>
<td>-.051</td>
<td></td>
</tr>
<tr>
<td>Job Conditions x ECS</td>
<td></td>
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<td>-.004</td>
<td></td>
</tr>
<tr>
<td>Job Conditions x ICS</td>
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<td></td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>Job Conditions x Sup S</td>
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<td></td>
<td>.069</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-.092</td>
<td>-.092</td>
<td>-.089</td>
<td>-.297</td>
</tr>
<tr>
<td>$F$ Change</td>
<td>4.59*</td>
<td>58.54**</td>
<td>2.25</td>
<td>.95</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.034</td>
<td>.426</td>
<td>.441</td>
<td>.460</td>
</tr>
<tr>
<td>Adj $R^2$</td>
<td>.027</td>
<td>.415</td>
<td>.423</td>
<td>.422</td>
</tr>
<tr>
<td>$R^2$ Change</td>
<td>.034</td>
<td>.392</td>
<td>.015</td>
<td>.019</td>
</tr>
<tr>
<td>Sig $F$ Change</td>
<td>.011</td>
<td>.000</td>
<td>.083</td>
<td>.484</td>
</tr>
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</table>

Note. ECS = Emotional Coworker Support; ICS = Instrumental Coworker Support.

Sup S = Supervisor Support.

** $p < .001$. * $p < .05$.

Table 8.19 demonstrated that at Step 1, the sociodemographic variables were significant negative predictors of Emotional Exhaustion. This indicates that younger nurses ($\beta = -.13$, $p < .05$) report higher levels of Emotional Exhaustion than older nursing staff. Furthermore, full-time nurses ($\beta = -.13$, $p < .05$) report higher levels of Emotional Exhaustion than part-time/casual nurses. Step 1 accounted for a small, but significant 3.4% of the variance in Emotional Exhaustion.
At Step 2, the work-related stressors were significant positive predictors of Emotional Exhaustion. It can be inferred that nurses reporting higher levels of Role Overload ($\beta = .33, p < .05$), Job Conditions ($\beta = .28, p < .05$), and Role Conflict ($\beta = .23, p < .05$) have higher levels of Emotional Exhaustion. Age and Employment Status were not significant predictors of Emotional Exhaustion when the work stressors were added to the equation at Step 2. The $F$ change value indicated that $R^2$ change was significant [$F(3, 257) = 58.54, p < .001$]. The $R^2$ change coefficient indicated that the addition of the work stress variables significantly improved the prediction of Emotional Exhaustion as the change associated with the step was large. Adding the work stressors to the regression equation in Step 2 resulted in an $R^2$ change from $R^2 = .03$ to $R^2 = .43$ and contributed a significant 39.2% increment in the explained variance.

At Step 3, examination of the standardised beta coefficients suggested that only Supervisor Support was a significant predictor of Emotional Exhaustion ($\beta = -.13, p < .05$). This indicates that nurses who are reporting higher levels of Supervisor Support are also reporting lower levels of Emotional Exhaustion, and nurses who are reporting lower levels of Supervisor Support are also reporting higher levels of Emotional Exhaustion. The work stressors (i.e., Role Overload, Job Conditions and Role Conflict) remained significant at Step 3. The $F$ change value, however, was not significant [$F(3, 254) = 2.25, p > .05$]. This indicates that the addition of work support did not significantly improve the prediction of Emotional Exhaustion as the change associated with this step was small. The inclusion of work support variables in Step 3 resulted in a $R^2$ change from $R^2 = .43$ to $R^2 = .44$ and contributed to a slight, but non-significant, 1.5% increment in the explained variance.
At Step 4, examination of the standardised beta coefficients revealed that the interaction between Role Overload and Instrumental Coworker Support ($\beta = -.21, p = .05$) was significantly related to Emotional Exhaustion. This suggests that for nurses with low Instrumental Coworker Support, Emotional Exhaustion is higher when Role Overload is high. For those nurses with high Instrumental Coworker Support, Emotional Exhaustion is lower when Role Overload is high. This finding appears to be congruent with Cutrona and Russell’s (1990) optimal matching theory as Role Overload is classified as a controllable stressful event and therefore it was expected that Instrumental Coworker Support would be the optimal type of support in preventing Emotional Exhaustion. The work stressors and Supervisor Support also remained significant at Step 4. The $F$ change value, however, was not significant [$F(9, 245) = .95, p > .05$]. This indicates that the addition of interaction terms did not significantly improve the prediction of Emotional Exhaustion as the change associated with the step was small. Adding the interaction terms in Step 4 resulted in a $R^2$ change from $R^2 = .44$ to $R^2 = .46$ and contributed a slight, but non-significant 2% increment in the explained variance. The final model accounted for 42.2% of the explained variance in Emotional Exhaustion.

*The Influence of Work Support on Depersonalisation*

Using Depersonalisation as the dependent variable, the control variables – Age (29 years or less and 30 years or more) and Nursing Experience (2 years or less and greater than 2 years), were entered at the first step. Patient Care Uncertainty and Role Conflict were entered at the second step. In the third step, Emotional Coworker Support, Instrumental Coworker Support, and Supervisor Support were added. In the fourth step, the interaction terms were entered. This four-step process is depicted in Figure 8.4. Transformed variables
included Depersonalisation, Patient Care Uncertainty, and the three work support variables.

A high total score on Depersonalisation relates to a high level of Depersonalisation and a low total score reflects a low level of Depersonalisation. For Patient Care Uncertainty, high scores represent high levels of Patient Care Uncertainty and low scores represent low levels of Patient Care Uncertainty. In contrast, high total scores on the work support scales relate to low levels of support and low total scores relate to high levels of support.

**Step 1:** Sociodemographic Factors
- Age
- Nursing

**Step 2:** Work Stress Factors
- Patient Care Uncertainty
- Role Conflict

**Step 3:** Work Support Factors
- Emotional Coworker Support
- Instrumental Coworker Support
- Supervisor Support

**Step 4:** Interaction Terms
- Pt Care x ECS
- RC x ECS
- Pt Care x ICS
- RC x ICS
- Pt Care x SUP
- RC x SUP

*Figure 8.4. Four-step hierarchical regression process for Depersonalisation.*

*Note. ECS = Emotional Coworker Support; ICS = Instrumental Coworker Support; SUP = Supervisor Support; Pt Care = Patient Care Uncertainty; RC = Role Conflict.*
Table 8.20

*Hierarchical Regression Analysis for Depersonalisation (Standardised Regression Coefficients β)*

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.314**</td>
<td>-.171*</td>
<td>-.152*</td>
<td>-.150*</td>
</tr>
<tr>
<td>Nursing Experience</td>
<td>-.037</td>
<td>-.037</td>
<td>-.031</td>
<td>-.037</td>
</tr>
<tr>
<td>Patient Care Uncertainty</td>
<td>.289**</td>
<td>.289**</td>
<td>.278**</td>
<td></td>
</tr>
<tr>
<td>Role Conflict</td>
<td>.333**</td>
<td>.423**</td>
<td>.432**</td>
<td></td>
</tr>
<tr>
<td>ECS</td>
<td></td>
<td>-.093</td>
<td>-.095</td>
<td></td>
</tr>
<tr>
<td>ICS</td>
<td>.034</td>
<td>.043</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sup S</td>
<td>-.148*</td>
<td>-.142*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pt Care Uncert x ECS</td>
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<td>Pt Care Uncert x ICS</td>
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<td>Pt Care Uncert x Sup S</td>
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<tr>
<td>Role Conflict x ECS</td>
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<td>.105</td>
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<td></td>
</tr>
<tr>
<td>Role Conflict x ICS</td>
<td></td>
<td>-.007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Conflict x Sup S</td>
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<td>-.036</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
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<td>.124</td>
<td>.105</td>
<td>.146</td>
</tr>
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<td>43.08**</td>
<td>3.62**</td>
<td>.77</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.115</td>
<td>.336</td>
<td>.363</td>
<td>.375</td>
</tr>
<tr>
<td>Adj $R^2$</td>
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<td>.326</td>
<td>.346</td>
<td>.342</td>
</tr>
<tr>
<td>$R^2$ Change</td>
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<td>.221</td>
<td>.027</td>
<td>.012</td>
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<tr>
<td>Sig F Change</td>
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<td>.000</td>
<td>.014</td>
<td>.593</td>
</tr>
</tbody>
</table>

*Note. ECS = Emotional Coworker Support; ICS = Instrumental Coworker Support, Sup S = Supervisor Support; Pt Care Uncert = Patient Care Uncertainty.

**p < .001. *p < .05.

Table 8.20 demonstrated that at Step 1, only Age was a significant negative predictor of Depersonalisation. This indicates that younger nurses ($β = -.31, p < .001$) report higher levels of Depersonalisation than older nursing staff. Step 1 accounted for a significant 11.5% of the explained variance in Depersonalisation.

At Step 2, the work-related stressors were significant positive predictors of Depersonalisation. It can be inferred that nurses reporting higher levels of Role Conflict ($β = .33, p < .01$) and Patient Care Uncertainty ($β = .29, p < .01$) have higher levels of Depersonalisation. Age remained a significant predictor of Depersonalisation when the work
stressors were added to the equation at Step 2. The $F$ change value indicated that $R^2$ change was significant [$F(2, 261) = 43.08, p < .001$]. The $R^2$ change coefficient indicated that the addition of the work stress variables significantly improved the prediction of Depersonalisation as the change associated with the step was large. Adding the work stressors to the regression equation in Step 2 resulted in an $R^2$ change from $R^2 = .12$ to $R^2 = .34$ and contributed a significant 22.1% increment in the explained variance.

At Step 3, only Supervisor Support was a significant predictor of Depersonalisation ($\beta = -.15, p < .05$). The main effect for Supervisor Support on Depersonalisation is depicted in Figure 8.5. Age, Role Conflict, and Patient Care Uncertainty remained significant at Step 3. The $F$ change value indicated that $R^2$ change was significant [$F(3, 256) = 3.62, p < .05$]. The $R^2$ change coefficient indicated that the addition of work support did significantly improve the prediction of Depersonalisation. The inclusion of work support variables in Step 3 resulted in an $R^2$ change from $R^2 = .34$ to $R^2 = .36$ and contributed to a slight, but significant, 2.7% increment in the explained variance.

At Step 4, the interaction terms were not significantly related to Depersonalisation. Age, Role Conflict, Patient Care Uncertainty, and Supervisor Support remained significant at Step 4. The $F$ change value indicated that $R^2$ change was not significant [$F(6, 250) = .77, p > .05$]. The $R^2$ change coefficient indicated that the addition of interaction terms did not significantly improve the prediction of Depersonalisation. The $R^2$ change from $R^2 = .36$ to $R^2 = .38$ in Step 4 suggested that the introduction of the interaction terms added a small, but non-significant, 2% in explained variance. The final model accounted for 34.2% of the explained variance in Depersonalisation.
Figure 8.5. Main effect of Supervisor Support on Depersonalisation.

Figure 8.5 suggests that lower levels of Supervisor Support are associated with higher levels of Depersonalisation and higher levels of Supervisor Support are associated with lower levels of Depersonalisation. This finding provides support for the main effect model of social support. The main effect model suggests that when social support is high, burnout is lower than when social support is low, regardless of the level of work stress (Kessler & McLeod, 1985).

The Influence of Work Support on Personal Accomplishment

Using Personal Accomplishment as the dependent variable, the variables were entered in three steps. Since there were no significant correlations between Personal Accomplishment and the sociodemographic factors, none were entered into the hierarchical regression equation. The role stressors Role Conflict and Role Ambiguity were entered at the first step. Emotional Coworker Support, Instrumental Coworker Support, and Supervisor
Support were added at the second step. Finally, the interaction terms were entered. This three-step process is presented in Figure 8.6. Transformed variables included: Personal Accomplishment, Role Ambiguity and the three work support variables. When interpreting the variable Personal Accomplishment, it is important to note that a high total score on Personal Accomplishment relates to a low level of Personal Accomplishment and a low total score relates to a high level of Personal Accomplishment. A high total score on Role Ambiguity represents a high level of Role Ambiguity and a low total score represents a low level of Role Ambiguity. High total scores on the work support scales relate to low levels of support and low total scores relate to high levels of support.

<table>
<thead>
<tr>
<th>Step 1: Work Stress Factors</th>
<th>Step 2: Work Support Factors</th>
<th>Step 3: Interaction Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Role Conflict</td>
<td>• Emotional Coworker Support</td>
<td>• RC x ECS</td>
</tr>
<tr>
<td>• Role Ambiguity</td>
<td>• Instrumental Coworker Support</td>
<td>• RA x ECS</td>
</tr>
<tr>
<td></td>
<td>• Supervisor Support</td>
<td>• RC x ICS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RA x ICS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RC x SUP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RA x SUP</td>
</tr>
</tbody>
</table>

*Figure 8.6. Three-step hierarchical regression process for Personal Accomplishment.*

*Note.* ECS = Emotional Coworker Support; ICS = Instrumental Coworker Support; SUP = Supervisor Support; RC = Role Conflict; RA = Role Ambiguity.
Table 8.21

Hierarchical Regression Analysis for Personal Accomplishment (Standardised Regression Coefficients $\beta$)

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Conflict</td>
<td>.256**</td>
<td>.300**</td>
<td>.322**</td>
</tr>
<tr>
<td>Role Ambiguity</td>
<td>.211**</td>
<td>.312**</td>
<td>.313**</td>
</tr>
<tr>
<td>ECS</td>
<td>-.057</td>
<td>-.081</td>
<td></td>
</tr>
<tr>
<td>ICS</td>
<td>.064</td>
<td>.082</td>
<td></td>
</tr>
<tr>
<td>Sup S</td>
<td>-.241**</td>
<td>-.245**</td>
<td></td>
</tr>
<tr>
<td>Role Conflict x ECS</td>
<td>-.025</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Conflict x ICS</td>
<td>.039</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Conflict x Sup S</td>
<td>.051</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Ambiguity x ECS</td>
<td>-.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Ambiguity x ICS</td>
<td>.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Ambiguity x Sup S</td>
<td>-.098</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>.00</td>
<td>.00</td>
<td>.07</td>
</tr>
<tr>
<td>$F$ Change</td>
<td>28.41**</td>
<td>4.70**</td>
<td>1.06</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.177</td>
<td>.219</td>
<td>.238</td>
</tr>
<tr>
<td>Adj $R^2$</td>
<td>.170</td>
<td>.204</td>
<td>.205</td>
</tr>
<tr>
<td>$R^2$ Change</td>
<td>.177</td>
<td>.042</td>
<td>.019</td>
</tr>
<tr>
<td>$F$ Sig Change</td>
<td>.000</td>
<td>.003</td>
<td>.390</td>
</tr>
</tbody>
</table>

Note. ECS = Emotional Coworker Support; ICS = Instrumental Coworker Support.

Table 8.21 demonstrated that at Step 1, the role stressors were significant positive predictors of Personal Accomplishment. This suggests that nurses reporting higher levels of Role Conflict ($\beta = .26, p < .01$) and Role Ambiguity ($\beta = .21, p < .01$) also have lower levels of Personal Accomplishment. Step 1 accounted for a significant 17.7% of the variance in Personal Accomplishment.

At Step 2, only Supervisor Support was a significant negative predictor of Personal Accomplishment ($\beta = -.24, p < .01$). The main effect for Supervisor Support on Personal Accomplishment is illustrated in Figure 8.7. The work stressors (i.e., Role Conflict and Role Ambiguity) remained significant at Step 2. The $F$ change value indicated that the $R^2$ change
was significant [$F(3, 262) = 4.70, p < .01$]. The $R^2$ change coefficient indicated that the addition of work support did significantly improve the prediction of Personal Accomplishment. The inclusion of the work support variables in Step 2 resulted in an $R^2$ change from $R^2 = .18$ to $R^2 = .22$ and contributed to a slight, but significant, 4% increment in the explained variance.

At Step 3, the interaction terms were not significantly related to Personal Accomplishment. Role Conflict, Role Ambiguity and Supervisor Support remained significant at Step 4. The $F$ change value indicated that $R^2$ change was not significant [$F(6, 256) = 1.05, p > .05$]. The $R^2$ change coefficient indicated that the addition of interaction terms did not significantly improve the prediction of Personal Accomplishment. The $R^2$ change from $R^2 = .22$ to $R^2 = .24$ in Step 4 suggested that the interaction terms added a small, but non-significant, 2% in explained variance. The final model accounted for 20.5% of the explained variance in Personal Accomplishment.
Figure 8.7. Main effect of Supervisor Support on Personal Accomplishment

Note. A high total score on Personal Accomplishment relates to a low level of Personal Accomplishment. A low total score on Personal Accomplishment relates to a high level of Personal Accomplishment.

Figure 8.7 suggests that higher levels of Supervisor Support are associated with lower levels of higher levels of Personal Accomplishment. Lower levels of Supervisor Support are associated with lower levels of Personal Accomplishment. This finding provides further support for the main effect model of social support.

Overall, work support did not have a significant buffering on burnout and therefore Hypothesis 12 is rejected. More specifically, no significant buffering effects were found for work support on any of the three burnout dimensions. The findings did reveal, however, that Supervisor Support has a significant main effect on Depersonalisation and Personal Accomplishment, irrespective of the level of work stress. Emotional Coworker Support and Instrumental Coworker Support had no direct effects on burnout. Although there was some
indication that Role Overload interacts with Instrumental Coworker Support to buffer Emotional Exhaustion, the incremental change in $R^2$ for the interaction term was not significant. Taken together, the findings do not provide any support for Hypothesis 13 that for uncontrollable stressful events, emotional support has a significant buffering effect on burnout. Similarly, the findings do not provide any support for Hypothesis 14 that for controllable stressful events, instrumental support has a significant buffering effect on burnout.

**Discussion**

The aim of this study was to examine the relationships among work stress, social support, and burnout in nurses. In the first instance, Study 3 was designed to examine the nature and level of work stress and burnout among Australian nurses working in the public hospital system. Specifically, the average level of work stress and the major sources of nurses’ stress were identified. The prevalence of burnout in the sample population was estimated and then compared to appropriate normative groups in an attempt to verify whether Australian nurses experience similar levels of burnout to other nurses and human service professionals. Second, the level of support nurses receive from their coworkers and their supervisor was established. Third, the research was designed to investigate the main, indirect and buffering effects of social support on nurses’ burnout levels. The principal purpose of Study 3 was to identify conditions where work support is optimally effective in reducing or preventing burnout in nurses. In accordance with Cohen and Wills (1985) stressor-support matching theory, different sources and types of work support were matched to different work stress factors in an attempt to discover optimal conditions in which work support buffers burnout.
In addition, the thesis extends the stressor-support matching theory by taking into consideration a nurse’s situational control during stressful events. Cutrona and Russell’s (1990) optimal matching theory asserts that when a stressful situation is primarily controllable, the most beneficial support is instrumental. However, when a stressful situation is essentially uncontrollable, the most effective type of support is emotional. In the present study, independent raters classified nurses’ main sources of stress as predominantly controllable. Only the variable Job Conditions was identified as an uncontrollable stressor. It was therefore inferred that overall, instrumental support would be more effective than emotional support in reducing or preventing burnout among nurses. However, for the work stressor – Job Conditions, emotional support would be more effective than instrumental support in reducing or preventing burnout. It should be noted, however, that the exploration of different types of support was confined to coworkers only. A limitation of the present study is that the sample population was unable to clearly distinguish between emotional and instrumental support provided by their supervisor. As a result, Supervisor Support was examined as a global construct in the current research. In the section below, Study 3’s main findings are discussed in detail.

**Work Stress Among Hospital Nurses**

Despite numerous recent studies (e.g., Bakker et al., 2000; Healy & McKay, 1999; Kirkaldy & Martin, 2000; Pikó, 1999) indicating that nursing is, by its very nature, an occupation subject to a high degree of stress, nurses in the current study reported overall, moderately low levels of job-specific stress and ‘normal’ levels of role stress. Unfortunately, it is not possible to make comparisons between nursing studies on the prevalence of stress given that different research methodologies, nursing samples, and sample sizes have been
used. Furthermore, the majority of nursing studies have focused their research on sources of stress rather than levels of stress. Despite this, other empirical studies have also found that overall nurses perceive their jobs to be moderately stressful (e.g., DePew et al., 1999; Lee, 2003; Wheeler & Riding, 1994). Perhaps nurses are relatively resilient to occupational stress. According to Peeters and Le Blanc (2001), nurses perceive most work stressors to be indissolubly connected to their profession, and as a result they do not perceive them to be particularly significant.

The present findings provide support for Peeters and Le Blanc’s (2001) assertion. It was demonstrated that although stressful conditions are prevalent in the workplace, only certain events serve as a significant source of stress to nurses on a regular basis. Australian nurses’ main sources of stress are linked to work overload pressures due to insufficient time and resources, role conflict pressures due to multiple task demands, pressure due to lack of involvement in planning and decision-making, pressure related to insufficient pay, pressure due to insufficient performance feedback, and to a lesser extent, pressures associated with difficult/demanding patients.

While some causes of stress are related to the caring element of nursing (e.g., dealing with difficult patients, being responsible for a patient’s recovery), the majority of nurses’ stress results from organisational factors, especially management’s unrealistic expectations of nurses. The current study revealed that the nursing role is characterised by heavy workloads, constant interruptions, multiple task demands and inadequate staff support. Runciman (1983) found that although interruptions are rarely unnecessary, this fragmented approach to work is a great source of frustration to nurses. Nurses contend with demands from many people (e.g., doctors, supervisors, patients, relatives) some of which are incompatible and have been found
to cause role conflict in nurses (McGrath et al., 1989). According to McGrath et al., there is sometimes uncertainty related to responsibilities, limits of authority, and supervisors’ expectations. Ambiguity about expectations and success in meeting such expectations can result from inadequate performance feedback from nursing supervisors. In addition, nurses have little control over their work conditions as they are not in a position to provide input into important matters and make decisions concerning the functioning of the hospital. It is little wonder that nurses feel that they are inadequately paid for their efforts. The majority of nurses today are university trained and often undergo further education in order to specialise in a specific nursing area. They also regularly engage in extra training to keep up with recent developments in treating diseases and operating new medical equipment. Drawing from an effort-reward imbalance theoretical perspective (Siegrist, 1996), it could be inferred that there is a lack of reciprocity between the costs and gains associated with the nursing role. For instance, nurses gain poor financial rewards for high levels of effort. In 1997, over two-thirds (69.8%) of employed Australian nurses fell into the salary range of $28,730 to $41,992, and the next largest proportion (16.4%) is in the range $41,993 to $50,471 (AIHW, 2002).

Recent findings in the literature support the current study’s findings regarding nurses’ main work stressors. In particular, the majority of studies have also identified excessive workload as the most salient cause of workplace stress among nurses (Bryant et al., 2000; Hillhouse & Adler, 1997; Healy & McKay, 2000; Riding & Wheeler, 1995a; Taylor, White, & Muncer, 1999; Tyler & Cushway, 1995; Wheeler & Riding, 1994). It would seem that nurses are frequently required to do more work with fewer resources (e.g., staff support). Wheeler (1998) concluded that this often repeated finding suggests one of two possibilities, or a combination of these possibilities:
1. Interested parties and those responsible for addressing and finding a solution to this problem are paying no notice to the research findings.

2. If interventions are being instituted, they are failing to make a positive impact.

Other studies have also identified lack of involvement in decision-making (Harris, 1989), dealing with difficult patients (Bakker et al., 2000; Lewinson et al., 1981), insufficient pay (Chung & Corbett, 1998; McGrath et al., 1989), role conflict (Cordes et al., 1997), and role ambiguity (Edwards et al., 2000a; Gil-Monte et al., 1995; Revicki & May, 1989) to be sources of significant stress.

Unlike previous studies, however, the current nursing sample did not reveal ‘dealing with patient death and dying’, and ‘interpersonal conflict’ as major work stressors. Perhaps the discrepancy in findings may be explained by the researcher’s decision not to employ the commonly used NSS (Gray-Toft & Anderson, 1981a) to measure nurses’ work stress. Alternatively, Lazarus and Folkman (1984) suggest that the degree of stress specific events elicit in a person depends in part on the cognitive appraisal of that demand. It could be asserted then that dealing with patient death and dying and interpersonal conflict is not considered stressful by Australian nurses as they have sufficient resources to cope with these demands.

The current study found no significant differences between nurses’ levels of work stress based on gender, thus confirming Hypothesis 1. Other studies have also found male and female nurses’ perceptions of stress do not differ significantly (Deaux, 1984; Greenglass, 1991; Kirkcaldy & Martin, 2000; Martocchio & O’Leary, 1989; Tyler & Ellison, 1994). According to Frone, Russell, and Cooper (1995), the differences between men and women on
job stress are typically small. Folkman and Lazarus (1980) and Maslach (1982) found that men and women differ very little in the way they appraise potentially stressful events. However, it is important to note that the sample size for male nurses in the present study was typically small and any variation may not be evident from the data.

In summary, the sample of Australian nurses in the present study reported moderately low levels of job-specific stress and average levels of role stress. Gender had no significant impact on nurses’ perceptions of work stress, with male and female nurses reporting similar levels of work stress. Work stress is predominantly related to an excessive workload and insufficient staffing resources to cope with organisational demands.

**Burnout – A Multidimensional Construct**

The study provided supporting evidence for Maslach et al.’s (1996) assertion that burnout consists of three distinct, but conceptually related components, thus confirming Hypothesis 2. The present study demonstrated that Emotional Exhaustion is moderately positively related to Depersonalisation. Both Emotional Exhaustion and Depersonalisation are positively, but less strongly related to reduced Personal Accomplishment. This finding indicates that high levels of Emotional Exhaustion and Depersonalisation are associated with low levels of Personal Accomplishment. The low to moderate correlations between these variables suggests that the variables are sufficiently distinct.

**Level of Burnout among Nurses**

Overall, the sample population reported moderate levels of Emotional Exhaustion, Depersonalisation and Personal Accomplishment, thus confirming Hypothesis 3. More specifically, the sample of Australian nurses reported moderate levels of Emotional Exhaustion, moderately high levels of Depersonalisation, and moderately low levels of
Personal Accomplishment. Overall 5.9% of the sample population reported high levels of Emotional Exhaustion and Depersonalisation, and low levels of Personal Accomplishment.

When the mean burnout levels for Australian nurses were compared to other recent nursing studies, similar findings were reported. Foreign studies in Greece (Iacovides et al., 1997), Germany (Bakker et al., 2000), Poland (Schaufeli & Janczur 1994), and the United States (Turnipseed & Turnipseed, 1997) also found that overall, hospital nurses report moderate levels of burnout.

When compared to other human service professions, the sample reported lower levels of Emotional Exhaustion and Depersonalisation than physicians and teachers, and lower levels of Personal Accomplishment. In comparison to psychologists and counsellors however, nurses report significantly higher levels of Emotional Exhaustion and Depersonalisation and substantially lower levels of Personal Accomplishment. It could therefore be inferred that nurses tend to evaluate their accomplishments more negatively than other human service professions.

In the present research, a substantial proportion of nurses reported experiencing different aspects of burnout. For instance, 40% of nurses indicated high levels of Emotional Exhaustion. This suggests that a large percentage of nurses often feel overextended and depleted of one’s emotional resources. In addition, approximately 30% of nurses reported high levels of Depersonalisation, suggesting an excessive detachment from other people. However, the main manifestation of burnout among the current sample was related to feelings of diminished Personal Accomplishment (42%). This denotes a considerable decline in one’s feelings of professional competence and successful achievement in one’s work. According to McGrath et al., lower levels of Personal Accomplishment may be more likely
in a profession which attracts those with idealism which is not realised in practice. It was somewhat unexpected that nurses are reporting slightly lower levels of Personal Accomplishment than Emotional Exhaustion and Depersonalisation. This finding may cast some doubt on the sequential development of burnout and may point to the need to revisit the burnout process in the future. It is possible that Personal Accomplishment and Emotional Exhaustion develop in parallel to one another as proposed by Leiter (1993) and Lee and Ashforth (1996).

Taking into consideration the above findings, it could be concluded that nurses are indeed at risk of experiencing burnout. Overall, nurses are reporting moderate levels of burnout. In addition, approximately 6% of the sample population reported experiencing high levels of burnout (i.e., high levels of Emotional Exhaustion and Depersonalisation and low levels of Personal Accomplishment). Furthermore, a considerable proportion of the sample population reported experiencing a particular aspect of burnout. This result was surprising since the present nursing sample reported moderately low levels of job stress. It may be that nurses underestimate the effects stressful conditions have on their personal well-being. It is also plausible that nurses overestimate the degree to which they have control over certain events. Work stressors that are thought to be controllable are generally considered less distressing than those that are not perceived to be under an individual’s control (Aldwin, 1994). In the present study, nurses’ work stressors were classified as predominantly controllable. Research has demonstrated that people both feel and perform better when perceived control is high. Perceived control appears to enhance confidence, making tasks less stressful (Parker & Price, 1994). Additionally, perceived control is seen to increase concentration, task persistence, commitment involvement, motivation and performance
High levels of situational control may motivate nurses to continue to work hard in the face of difficult circumstances (Ross & Altmaier, 1994). However, when nurses expend a high degree of effort, they also become more susceptible to burnout. Over time, nurses may begin to feel emotionally depleted, the first major symptom of burnout.

**Correlates of Burnout**

In Study 3, the main correlates of burnout were examined. In particular, the relationships between work stress and burnout, as well as the relationships between sociodemographic factors and burnout were explored.

**Relationships between work stress and burnout.** The results provided partial support for Hypothesis 4 in that both job-specific stressors and role stressors were related to burnout in nurses. The findings demonstrated that high levels of work stress were associated with high levels of Emotional Exhaustion. Moderately high positive correlations were found between the three role stressors and Emotional Exhaustion, with correlation coefficients ranging from .26 to .53. In addition, all four job-specific stressors were related to Emotional Exhaustion, with correlation coefficients ranging from .15 to .49. Overall, Role Overload was most strongly correlated to Emotional Exhaustion, followed by Job Conditions, and Role Conflict.

Similarly, a number of work stressors are related to Depersonalisation. Moderate positive correlations were found between the three role stressors and Depersonalisation. Correlation coefficients ranged from .21 to .43. All the job-specific stressors except for Interpersonal Conflict were positively associated with Depersonalisation, with correlation coefficients ranging from .23 to .41. Role Conflict was most strongly correlated to
Depersonalisation, followed by Patient Care Uncertainty, and Lack of Professional Recognition and Support.

Few work stressors, however, are related to reduced Personal Accomplishment. Modest positive correlations were found for Personal Accomplishment and the role stressors Role Conflict \( (r = .39) \) and Role Ambiguity \( (r = .37) \). Job-specific stressors however, were not significantly related to Personal Accomplishment.

The above findings demonstrate that work stress is significantly related to burnout among nurses. Not all job-specific stressors however, were significantly and positively related to Emotional Exhaustion and Depersonalisation and significantly negatively related to Personal Accomplishment. Similarly, not all role stressors were significantly and positively related to Emotional Exhaustion and Depersonalisation and significantly negatively related to Personal Accomplishment. Thus Hypothesis 5 and 6 were only partially supported.

It was also shown that Emotional Exhaustion and Depersonalisation have more robust relationships with the work stressors than Personal Accomplishment. This finding provides support for Shirom’s (1989) view that Emotional Exhaustion and Depersonalisation are the core components of burnout. Furthermore, role stressors seem to be more strongly correlated with burnout, than job-specific stressors. It could be assumed from the present study’s findings, that nurses do not perceive work stressors that are highly specific to the nursing profession to be as relevant or salient in causing strain. This result contradicted Beehr et al.’s (2000) finding that job-specific stressors are more strongly related to psychological strain than generic role stressors. Finally, the results reveal that work stressors are differentially related to the three burnout components. This finding provides further support to the argument that burnout is a multidimensional construct and its linkages to
important variables should be tested (Byrne, 1994; Gmelch & Gates, 1998; Maslach et al., 1996).

Relationships between sociodemographic factors and burnout. The results confirmed that Age, Employment Status, and Nursing Experience are significantly related to burnout among nurses. Age correlated negatively with Emotional Exhaustion ($r = -0.14$) and Depersonalisation ($r = -0.32$), with younger nurses reporting higher levels of Emotional Exhaustion and Depersonalisation than older nursing staff, thus confirming Hypothesis 7. In addition, less experienced nurses report higher levels of Depersonalisation ($r = -0.23$) than more experienced nurses, thus confirming Hypothesis 8.

It could be inferred that older, more experienced nurses have developed more effective ways to cope with work stress and therefore report lower levels of burnout (Hinds, Quargnenti, Hickey, & Magnum, 1994). Schaufeli (1999) inferred that the greater incidence of burnout among younger, less experienced nurses might be caused by a ‘reality shock’ or by an identity crisis due to unsuccessful occupational socialisation. Furthermore, nurses early in their careers are faced with the demands of clinical contact with patients as well as the need to quickly learn practical clinical skills (Baldwin, 1999). Alternatively, a survival bias cannot be ruled out such that those who ‘burn out’ early in their careers are likely to quit, leaving behind the survivors who exhibit lower levels of burnout (Schaufeli, 1999). Furthermore, nurses working on a full-time basis report higher levels of Emotional Exhaustion than nurses working on a part-time or casual basis. Intuitively this makes sense as full-time nurses are exposed to the same stressful situations more frequently (i.e., daily) and for a longer duration than part-time/casual nurses.
Levels of Work Support

Nurses reported receiving moderate levels of support from within the workplace. More specifically, nurses reported receiving moderately low levels of Supervisor Support and moderately high levels of Coworker Support. The results supported Hypothesis 9 that nurses report higher levels of Coworker Support than Supervisor Support. The qualitative findings from Study 1 also suggested that the primary source of support for nurses is their coworkers. The sample of respondents in Study 1 indicated that they share their problems with their nursing colleagues because they identify with the problem and that they can diffuse a stressful situation through comfort and sometimes humour.

The Influence of Work Support on the Stress-Burnout Relationship

The influence of work support on nurses’ levels of burnout and nurses’ levels of work stress were explored using Pearson’s product-moment correlation coefficients.

Relationships between work support and burnout. Hypothesis 10 stated that work support would be significantly negatively correlated to Emotional Exhaustion and Depersonalisation and significantly positively related to Personal Accomplishment. The relationship between work support and burnout, however, did not appear to be very strong. Only Instrumental Coworker Support was significantly related to nurses’ levels of burnout. Specifically, lower levels of Instrumental Coworker Support was related to higher levels of Emotional Exhaustion. Similarly, lower levels of Instrumental Coworker Support was associated with lower levels of Personal Accomplishment. The remaining work support variables were not significantly related to the burnout dimensions. Thus, only partial support for Hypothesis 10 was found.
**Relationships between work support and work stress.** Partial support was found for Hypothesis 11, that work support would be significantly negatively correlated with work stressors. Modest positive correlations were found for Emotional Coworker Support and work stress, with correlation coefficients ranging from .27 to .37. Instrumental Coworker Support also had modest positive relations with work stress, with correlation coefficients ranging from .18 to .41. These findings suggest that support from coworkers reduces the perceived threat or the appraised stressfulness of various work events. Supervisor Support also had strong positive correlations with work stress, with correlation coefficients ranging from .12 to .55. The findings indicated that supervisors have a stronger influence in reducing nurses’ perceptions of work stress than coworkers. While Coworker Support was most strongly related to Lack of Professional Recognition and Support, Supervisor Support was most strongly related to Role Ambiguity. Interestingly, work support was not significantly correlated with Patient Care Uncertainty. It could therefore be concluded that work support has very little influence in how nurses perceive the unpredictability and uncertainty associated with treating patients. Overall, the findings supported Cohen and Wills (1985) assertion that work support reduces the likelihood that work events are perceived as highly stressful (Kong & Wertheimer, 1994).

**Main Predictors of Burnout**

For Emotional Exhaustion, predictor variables accounted for 42.2% of the total variance. Sociodemographic factors explained a small, but significant proportion of the variance (2.7%). Specifically, younger nurses reported higher levels of Emotional Exhaustion than older nurses. Furthermore, nurses working full-time reported higher levels of Emotional Exhaustion than nurses working part-time or casually. Work stressors, however, were the
main predictors of Emotional Exhaustion, explaining 41.5% of the total variance. Role Overload, Job Conditions, and Role Conflict were the main determinants of Emotional Exhaustion, with Role Overload explaining most of the variance.

This finding suggests that Emotional Exhaustion is strongly associated with work demands that directly increase the amount of effort needed to do the job. Support for this proposition is provided by Cordes et al. (1997). They inferred that individuals with insufficient time and resources to undertake job duties might expend an excessive amount of emotional energy in accomplishing role requirements, which over time, may lead to emotional exhaustion. For instance, if nurses are given extra patients to attend to, or extra administration work to complete, as well as their normal duties, extra effort is required to perform their job satisfactorily, which in time may result in emotional exhaustion.

This explanation also seems relevant in explaining the effects of nurses’ Job Conditions on Emotional Exhaustion. Nurses are regularly exposed to stressful conditions at work, such as caring for patients, managing a heavy work load, supervising less experienced nursing staff, keeping up with new developments, and trying to meet the general public’s expectations for high quality medical care. It could be assumed that nurses must consistently maintain a high level of effort in order to meet the everyday demands of their job.

Similarly, high levels of Role Conflict imply multiple sources of demands, whereby high levels of effort are necessary to satisfy those demands. According to Cash (1991), nurses are educated to believe that their primary responsibility is to meet the needs of the individual patient, but as employees they are also expected to meet the needs of their organisation. The conflict between meeting these demands would undoubtedly increase Emotional Exhaustion (Gil-Monte et al., 1995). Gil-Monte et al. added that nursing work
requires warmth and sympathy, together with objectivity and assertiveness, which may also result in inter-role conflict. The consequent effort for dealing with this conflict could be related to the depletion of one’s emotional resources.

For Depersonalisation, the predictor variables accounted for 34.2% of the total variance. Sociodemographic factors (11.5%) and work stressors (33.6%) both explained a significant proportion of the variance in Depersonalisation. Work stressors, however, are the strongest determinants of Depersonalisation. As was the case for Emotional Exhaustion, younger nurses report higher levels of Depersonalisation than older nurses.

Role Conflict and Patient Care Uncertainty were the main determinants of Depersonalisation, with Role Conflict explaining more of the variance. Similar findings are reported in the stress literature. For instance, Cash (1991) and Gil-Monte et al. (1995) also found Role Conflict to be a significant predictor of Depersonalisation. These researchers proposed that Depersonalisation is a defence mechanism developed by health care professionals to cope with conflicting role demands, the result of which is to dehumanise care to patients (Cash, 1991).

Further, it could be argued that a negative, dehumanising attitude towards one’s clients may develop as nurses try to cope with unforeseen pressures associated with caring for patients. Caring for patients is characterised by some degree of uncertainty and unpredictability. For instance, nurses can never be certain how patients will react to the medical diagnosis and treatment. Furthermore, nursing staff sometimes fear that a mistake will be made in the treatment of a patient. It could be inferred that Depersonalisation is one coping mechanism nurses employ to enable them to deal with the unpredictability and uncertainty associated with treating patients.
For Personal Accomplishment, role stress variables explain 20.5% of the total variance. Sociodemographic factors were not significantly associated with Personal Accomplishment and therefore were excluded from the regression equation. Role Conflict and Role Ambiguity were the main determinants of reduced Personal Accomplishment, with Role Conflict explaining most of the variance.

One possible explanation for this finding is that employees associate their ability to handle many tasks at the one time, and many roles at the one time, with personal competence (Cash, 1991). When an employee is unable to meet these demands they may feel inadequate and consequently develop feelings of diminished personal accomplishment (Cash, 1991). In addition, Cordes and Dougherty (1993, p.646) suggested that “when one feels unsure of what is expected of one’s performance or if little or no feedback is given in relation to their work, an individual’s sense of personal accomplishment may be undermined by ambiguity-induced suboptimal performance.” This ambiguity makes it difficult for employees to perform (or perceive they are performing) at an optimal level (Cordes & Dougherty, 1993). Not surprisingly, employees may begin to feel incompetent and start to doubt their ability to cope with any extra work demands (Jackson et al., 1986; Schwab & Iwanicki, 1982). Other researchers (Cash, 1991; Holgate & Clegg, 1991) have also found a significant negative relationship between Personal Accomplishment and Role Ambiguity. Cash (1991) suggested that although the focus of nursing is on care and not cure, many nurses have come to equate health care with cure. When the patients are not cured they may see themselves as failures and experience lower levels of Personal Accomplishment.

Overall, the above findings suggest that younger nurses are especially vulnerable to burnout. In addition, nurses working full-time are also more susceptible to experiencing
burnout than part-time or casual nurses. The results also demonstrate that work stressors are the main determinants of burnout. Generic role stressors appear to be better predictors of burnout than job-specific work stressors. Furthermore, Role Conflict appears to be the strongest predictor of burnout as it was that only stressor to significantly predicted Emotional Exhaustion, Depersonalisation and reduced Personal Accomplishment.

In the present study, Emotional Exhaustion is predicted by work stressors responsible for increasing the amount of effort expended by nurses, namely Role Overload, Job Conditions, and Role Conflict. Over time, a nurse’s emotional resources become depleted and Emotional Exhaustion may develop. Depersonalisation appears to be a response to conflicting role demands and unpredictable events that occur as a result of caring for patients. In trying to cope with multiple demands and unforeseen pressures, nurses may develop an excessive detachment from their patients. Personal Accomplishment seems to diminish when nurses doubt their ability to handle multiple role demands, especially if they do not obtain feedback about their job performance.

Main Effects of Work Support on Burnout

Evidence for main effects of work support on burnout were limited. For instance, the work support variables did not explain any additional variance in Emotional Exhaustion once the work stressors had been accounted. Supervisor Support had a small, but significant main effect on Depersonalisation ($\beta = -.15, p < .05$). Specifically, nurses with low levels of Supervisor Support report higher levels of Depersonalisation, than nurses with high levels of Supervisor Support. Overall, however, Supervisor Support explained a slight, but significant 2.7% in the explained variance of Depersonalisation.
Supervisor Support also had a small, but significant main effect on Personal Accomplishment ($\beta = -.24, p < .01$). In particular, nurses with low levels of Supervisor Support reported lower levels of Personal Accomplishment than nurses with high levels of Supervisor Support. Overall, however, Supervisor Support explained a slight, but significant, 4% in the explained variance of Personal Accomplishment. Coworker Support did not have a significant main effect on any of the burnout components. In the present study, the amount of variance explained by work support in the prediction of burnout appears to be much lower than other studies. For instance, Lee and Ashforth’s (1996) meta-analytic study found that on average, support from the supervisor explained 14% of the variance in Emotional Exhaustion, 6% of Depersonalisation, and 2% of Personal Accomplishment. Support from coworkers explained 5% of the variance in Emotional Exhaustion, 5%, of Depersonalisation and 2% of Personal Accomplishment. Their results, however, have not been replicated in longitudinal studies on social support and burnout (Dignam et al., 1986; Gusy, 1995).

In summary, evidence for the main effect model of work support was only apparent for Supervisor Support. Supervisor Support significantly reduces Depersonalisation and enhances levels of Personal Accomplishment, independent of nurses’ levels of work stress. This finding is consistent with the ‘independent distress deterrent’ model by Wheaton (1985). It could be argued that the supervisor is the most effective person in terms of relieving the nurses’ burnout. Contrary to expectations, Coworker Support had no significant main effects on burnout. This may be because coworkers are not in a position of power to alter or change the working situation at hand.
Buffering Effect of Work Support on Burnout

The buffering effect of work support was tested for each component of burnout. The interaction terms did not significantly explain any additional variance in the burnout components. The present study found no evidence of a significant buffering effect of work support on burnout and thus Hypothesis 12 was rejected.

Although a significant standardised beta coefficient was found for the interaction between Role Overload and Instrumental Coworker Support on Emotional Exhaustion ($\beta = -0.21, p < .05$), the interaction term did not significantly improve the prediction of Emotional Exhaustion. Visual inspection of the interaction term in graph format confirmed that although the interaction was very slight, higher levels of Emotional Exhaustion are associated with low levels of Instrumental Coworker Support when Role Overload is high. Conversely, lower levels of Emotional Exhaustion are associated with high levels of Instrumental Coworker Support when Role Overload is high. Most studies (Beehr, Stacy, Murray, & Jex, 1996; Bourbonnais et al., 1996; El-Bassel et al., 1998) have also failed to find any reliable evidence for the buffering effect of Coworker or Supervisor Support on health-related strains, such as burnout. Consequently, there was no significant evidence to support Cutrona and Russell’s (1990) assertion that for uncontrollable stressful events, emotional support will have a significant buffering effect on burnout, thus Hypothesis 13 was rejected. Similarly, there was no significant evidence to suggest that for controllable stressful events, instrumental support will have a significant buffering effect on burnout, thus Hypothesis 14 was also rejected. Possible reasons why significant buffering effects have not been found are now discussed.
**Limitations**

The failure to identify buffering effects may be due to methodological reasons. According to Aguinis and Stone-Romero (1997), the statistical power to detect interactive effects is quite low, especially in situations where the predictors are intercorrelated. In the present study, the work stressor and work support predictors were intercorrelated with coefficients ranging from .21 to .55. Furthermore, the current study examined only work support. It may be that for nurses, non-work support (i.e., family and friends) is more effective than work support in buffering burnout. Finally, studies that measure social support at a single point in time may provide inadequate tests of the buffering hypothesis because the effects of support are confounded in a cross-sectional interaction effect (Hutchinson, 1999). Thoits (1982) advocates a longitudinal design to test the buffering hypothesis.

The failure to find support for the stressor-support matching theory may be attributed to the measures used to assess Coworker Support and Supervisor Support. A major weakness of the work support scales in the present research was the high intercorrelations between the emotional and instrumental support subscales. Factor analysis of the Supervisor Support Scale in Study 2 revealed that the support items loaded primarily onto one factor. It was therefore not possible to examine the stressor-support matching hypothesis for Supervisor Support in Study 3. Although, factor analysis of the Coworker Support identified two subscales, that is, emotional and instrumental support, the subscales were highly correlated ($r = .72$). Significant overlap between the emotional and instrumental dimensions appears to be a common problem for a number of social support measures (Cutrona, 1990). For instance, Fenlason and Beehr (1994) used Caplan’s et al. Social Support Instrument to measure support among nurses and also found that the emotional and instrumental subscales were
highly correlated \((r = .74)\). The inability of the support scales to clearly discriminate between emotional and instrumental support may explain why supporting evidence for the stressor-support matching theory is not frequently found.

**Summary**

Taking into consideration the above findings, three main conclusions can be drawn from the current study. First, it was demonstrated that work stress is the strongest predictor of burnout in the nursing profession. Work stress predicts 39.2% of the variance in Emotional Exhaustion, 32.6% of the variance in Depersonalisation, and 17.7% of the variance in Personal Accomplishment. Work stressors are differentially related to the burnout syndrome. The results indicate that Role Overload, Role Conflict, and Job Conditions predict Emotional Exhaustion. Role Conflict and Patient Care Uncertainty predict Depersonalisation. Role Conflict and Role Ambiguity predict Personal Accomplishment.

Second, sociodemographic factors explain a small, but significant part of the variance in burnout. Age and Employment Status explained 3.4% of the variance in Emotional Exhaustion and Age explained 11.5% of the variance in Depersonalisation. Overall, however, sociodemographic factors are not major determinants of burnout.

Third, work support is a weak predictor of burnout, explaining 2.7% of the variance in Depersonalisation and 4.2% of the variance in Personal Accomplishment. Contrary to expectations, only Supervisor Support has a significant main effect on burnout. Coworker Support did not significantly influence burnout. Furthermore, there is no evidence to suggest that work support interacts with work stressors to buffer burnout. Cutrona and Russell’s (1990) proposition that certain forms of support are most beneficial following specific kinds of stress was also not supported. It would seem that supporting evidence for the optimal
matching model has primarily come from studies (e.g., Cohen & Wills, 1985; Cutrona & Russell, 1990) examining stressful life events rather than studies examining stressful work situations.
CHAPTER 9
Discussion and Conclusion of the Research Program

Chapter 9 presents an overall discussion of the current research program. First, an overview of the research program is given. Second, the main empirical findings from the research will be briefly discussed. Next, the theoretical implications of the research program on burnout are considered. This discussion leads into the fourth section that focuses on the theoretical and methodological issues associated with social support. Next, the implications of this research for the health care industry, and in particular nurses, are discussed. Finally, recommendations for future research, including suggestions to address the limitations of the current program of research are made.

Overview of the Research Program

The current research program was designed to identify specific job demands that relate to high levels of burnout in nurses, and to explore the influence of social support on the stress-strain relationship. Specifically, the thesis focused on Australian nurses working in the public hospital system. The research program commenced in 1999. It was at this time that the Australian nursing profession was frequently under the media’s spotlight. Hospitals were encountering a nursing shortage as staff were voluntarily leaving the profession or instead, were choosing to work part-time in an attempt to gain more control over their workload (Iliffe, 2002).

Changes to public hospital management systems over the last decade have had major implications on the nature of nursing work. The shift to a ‘cost-control’ approach has resulted in a higher patient throughput and a greater acuity of patients serviced (Lumby, 1996). At the same time, the level of responsibility and the degree of accountability assigned to nurses is increasing (Lumby, 1996). It is not surprising
that nurses have become increasingly vocal about issues affecting their daily working lives in the last few years. Nurses in all States and Territories have taken industrial action, or have threatened to take action over poor wages and unfair job conditions (Iliffe, 2002).

The timing and value of this research was extremely pertinent and the researcher seized this opportunity to conduct research on burnout in a highly stressful occupation. To the researcher’s knowledge, there are no studies to date that have taken into consideration the influence of work support on Australian nurses’ levels of burnout.

The program utilised both qualitative and quantitative research methodologies. First, qualitative data was collected and analysed using a technique known as content analysis. Second, quantitative data was gathered and subjected to statistical analysis using SPSS Version 11.0. In Study 1, a focus group methodology provided rich contextual data on nurses’ perceptions of the types of stressors they are exposed to at work and the types and sources of support they receive at work. It involved the facilitation of ten focus groups with 68 nurses from two public hospitals. The decision to use these two public hospitals was primarily determined by the circumstances associated with obtaining official permission to conduct the research.

Study 1 provided insight into different types of job-specific stressors and generic role stressors nurses confront at work. These findings assisted the researcher in selecting relevant measures of work stress to be used in Study 2. Study 1 also provided evidence that social support should be conceptualised as a multidimensional construct. Nurses identified two primary sources of support (i.e., coworkers and the supervisor) and two major types of support (emotional and instrumental support)
available to them at work. Based on these findings, the researcher developed a contextually relevant measure of work support for nurses.

Study 2 involved the development of a survey to measure the main variables of interest to the research program: job-specific stress, role stress, work support (coworker and supervisor support) and burnout. A total of 273 nurses (38 males, 235 females) from three public hospitals completed the survey. The response rate for the survey was adequate (approximately 68%). The sample’s sociodemographic characteristics were similar to those of the larger Australian nursing population. Although empirically it was not possible to make generalisations about the larger nursing population, the above finding would seem to suggest that the research findings are typical of the Australian nursing population.

In Study 2, the factorial validity and internal consistency of the job-specific stress measure (the HPSI) and the work support measures (i.e., the Supervisor Support Scale and the Coworker Support Scale) were established. The decision to further investigate the psychometric properties of the job-specific measure was prompted by the fact that the HPSI (Wolfgang, 1988a) has not been strongly represented in the nursing literature and therefore few empirical studies have examined its appropriateness in measuring nurses’ work stress. Furthermore, the HPSI was modified for the purpose of the current research. Similarly, the work support scales were constructed specifically for the purpose of this research and therefore the soundness of these measures, in terms of their reliability and validity, were not known.

The factor structure of the HPSI was found to be somewhat different from previous empirical studies. The emerging factor structure that emerged, however, was deemed to reflect a more accurate representation of Australian nurses’ perceptions of
major sources of work stress. The new factor composition was therefore retained. The factor structure of the Coworker Support Scale performed as expected. The items loaded onto two factors reflecting emotional and instrumental support. This scale was limited by a degree of overlap between the emotional and instrumental support subscales ($r = .72$). However, Tabachnick and Fidell (1996) suggest that statistical problems created by singularity and multicollinearity occur at much higher correlations (.90 and higher) and therefore a decision was made to retain the two subscales for further statistical analyses in Study 3. In contrast, the factor structure of the Supervisor Support Scale revealed a one-factor solution. Thus, in subsequent analyses, the items were aggregated to give a unidimensional measure of Supervisor Support.

The quantitative data collected in Study 2 was subjected to further statistical analysis in Study 3. In Study 3, the program’s main research hypotheses were examined. Specifically, referent levels of work stress, burnout, and work support were established. Second, the relationships between the main research variables were explored. Third, the primary determinants of burnout were examined. Finally, the effects of work support on the stress-burnout relationship were investigated.

**Overview of the Main Research Findings**

In Study 1, the data obtained from the focus group discussions provided valuable insight into the stressful conditions Australian nurses regularly confront working in a public hospital setting, thus answering principal research question 1. Nurses’ work stressors were classified into four broad stress categories. These included: 1) job conditions; 2) job uncertainty; 3) interpersonal conflict; and 4) lack of professional recognition and support. A frequency count revealed five key sources of stress for Australian nurses. These included: 1) work overload; 2) lack of respect and
recognition from doctors; 3) difficult/demanding patients; 4) difficult/demanding relatives; and 5) lack of support. These findings are consistent with recent Australian empirical studies (Bryant et al., 2000; Healy & McKay, 2000; Lumby, 1996), as well as international empirical studies (e.g., Wheeler, 1998; Wheeler & Riding, 1998). The findings from Study 1 prompted the researcher to utilise Wolfgang’s (1988a) HPSI in Study 2 to measure nurses’ job-specific stressors.

Study 1 also answered principal research question 2 by clarifying some of the confusion surrounding the conceptualisation and operationalisation of the social support construct. In the present research, nurses reported that their coworkers, followed by their supervisor, were their main sources of support at work. Furthermore, nurses discussed social support from a multidimensional perspective, recognising various support components that could be classified broadly as emotional and instrumental support. Based on these findings, *work support* was defined as the emotional and instrumental assistance an individual receives through his or her interpersonal relationships at work. Due to methodological insufficiencies in previous nursing support scales, the researcher constructed a work support measure to assess nurses’ levels of Coworker and Supervisor Support. Items that closely aligned to nurses’ perceptions of emotional and instrumental support were adapted from established measures including: Shinn et al.’s (1989) Supervisor Support Scale, Ray and Miller’s (1994) Supervisor/Coworker Support Scale and King et al.’s (1995) Family Support Inventory.

In Study 2, supporting evidence to suggest that the HPSI, the Coworker Support Scale, and the Supervisor Support Scale possess adequate levels of internal consistency and construct validity was found. Factor analysis of the HPSI revealed a four-factor structure: Lack of Professional Recognition and Support, Patient Care
Uncertainty, Job Conditions and Interpersonal Conflict. The HPSI subscales yielded Cronbach coefficient alphas ranging from .62 to .83. Inter-scale correlations were low to moderate, indicating that none of the four factors were redundant. The HPSI subscales also demonstrated evidence of convergent validity when the HPSI subscales were correlated with role stress and burnout.

Factor analysis of the work support scales provided interesting results. As expected, a two-factor structure emerged for the Coworker Support Scale. These factors, labelled Emotional Coworker Support and Instrumental Coworker Support, yielded Cronbach coefficient alphas of .92 and .88 respectively. The emotional and instrumental subscales shared approximately 52% variance. Since 42% of the variance remained unique, the subscales were not considered redundant. Factor analysis of the Supervisor Support Scale, however, revealed a one-factor solution, yielding a Cronbach coefficient alpha of .96. The work support scales demonstrated some evidence of construct validity when they were correlated with the work stress and burnout variables.

The findings from Study 3 indicated that overall Australian nurses report low to moderate levels of work stress. Although nurses are exposed to a variety of stressful situations, most job demands are not perceived to be highly stressful. Their primary source of stress was their excessive workload. It was inferred that for nurses, individual job demands alone are insufficient to cause high levels of stress. Rather, it is a combination of work demands that leads to moderate to high levels of stress among nurses. For instance, nurses perform a number of duties, meet tight deadlines imposed by others, and contend with multiple interruptions and rationing of insufficient resources on a daily basis. The qualitative data in Study 1 further supported this finding. Examination of the wider nurse stress literature (e.g., Bryant et
al., 2000; Hillhouse & Adler, 1997; Healy & McKay, 2000; Riding & Wheeler, 1995; Taylor et al., 1999; Tyler & Cushway, 1995; Wheeler & Riding, 1994) also reveals that workload is the key source of stress for nurses. Taken together, these findings would seem to suggest that workload is the primary source of stress for nurses both nationally and internationally. It could be concluded that a nurses’ workload is the main reason why this profession is perceived to be stressful.

In Study 3, nurses reported receiving moderate levels of work support. Nurses’ coworkers were perceived to provide higher levels of support than their supervisors. The respondents in the focus group discussions in Study 1 also identified their coworkers as their primary source of support. They indicated that their colleagues relate well to the pressures and problems they experience at work.

Despite receiving moderate levels of support, the overall sample reported moderate levels of burnout. Furthermore, a substantial proportion of the sample population acknowledged experiencing some aspect of burnout. In particular, 40% of the sample reported high levels of Emotional Exhaustion, while 33% reported high levels of Depersonalisation. In addition, 42% reported low levels of Personal Accomplishment. Almost 6% of the study sample could be categorised as having high levels of burnout (i.e., high Emotional Exhaustion, high Depersonalisation and low Personal Accomplishment). These results suggest that nurses are indeed vulnerable to burnout. In comparison to other health care professionals, such as physicians, nurses reported lower levels of Emotional Exhaustion and Depersonalisation, but higher levels of diminished Personal Accomplishment.

The findings showed that both job-specific stressors and role stressors are related to burnout, however role stressors are more strongly related to the burnout dimensions. Sociodemographic factors (Age and Employment Status) and work
stressors (Role Overload, Role Conflict and Job Conditions) significantly predicted Emotional Exhaustion among Australian nurses. However, work stressors explained most of the total variance (39.2%). Role Overload was the key determinant of Emotional Exhaustion. The study’s variables explained overall 42.2% of the variance in Emotional Exhaustion.

The findings demonstrated that Age, and the work stressors - Role Conflict and Patient Care Uncertainty significantly predicted Depersonalisation, with work stress explaining most of the total variance (22.1%). Supervisor Support was also a significant predictor of Depersonalisation. Supervisor Support, however, did not significantly buffer the relationship between work stress and Depersonalisation. The study’s variables explained 34.2% of the total variance in Depersonalisation.

Only role stressors (i.e., Role Conflict and Role Ambiguity) were significant predictors of Personal Accomplishment. Role stressors explained 17.7% of the variance in Personal Accomplishment. Again, Supervisor Support significantly predicted Personal Accomplishment, but it did not significantly buffer the relationship between role stressors and Personal Accomplishment. The study’s variables explained 20.5% of the total variance in Personal Accomplishment.

The present research program extended our current knowledge of the major antecedents of burnout in nurses. The findings also seem to suggest that overall, Emotional Exhaustion is related to quantitative workload rather than qualitative demands that result from problems in interacting with difficult patients or dealing with their emotional problems (Schaufeli & Enzmann, 1998). This differs from the traditional conceptualisation of burnout in which it was assumed that emotionally charged interactions with clients were its root cause (Schaufeli & Enzmann).
section below, the implications of this research on the conceptual model of burnout are discussed.

*Theoretical Implications for Burnout*

The current research program extends our understanding of the burnout phenomenon among nurses. Although the present study is unable to comment on the sequential ordering of the burnout components, the findings provide further support for the multidimensionality of burnout and insight into the critical variables that contribute to its development.

First, the findings demonstrate support for Maslach’s (1993) assertion that burnout is not a unidimensional concept. Significant modest correlations were found between Emotional Exhaustion and Depersonalisation. In addition, both Emotional Exhaustion and Depersonalisation were significantly but weakly related to reduced Personal Accomplishment. The results indicated that burnout is a three-component syndrome. The three burnout components were conceptually distinct but were not empirically uncorrelated.

Second, the value of distinguishing between the three burnout dimensions in the present research was shown by findings of differential patterns between the burnout components and the independent variables (sociodemographic factors, work stressors, social support). Taking into consideration previous models of burnout and the present study’s findings, a tentative model of burnout for nurses has been devised (see Figure 9.1). This conceptual model is based on a stress-strain-coping theoretical framework (Lazarus & Folkman, 1984). Longitudinal studies are required, however, to confirm the appropriateness of the causal relationships between the variables.
Figure 9.1. A conceptual model of burnout among nurses.

It could be inferred from the conceptual model that Emotional Exhaustion is primarily and strongly associated with work demands that increase the amount of emotional energy required by nurses to perform their work, for example, Role Overload, Job Conditions, and Role Conflict. Other researchers have found similar results (e.g., Cordes & Dougherty, 1997; Jackson et al., 1986). Age and Employment Status are also weak, but significant contributing factors of Emotional Exhaustion in
nurses. In particular, younger nurses report higher levels of Emotional Exhaustion than older nurses. Other nursing studies (e.g., Bennett et al., 1991; Koivula et al., 2000; Van Servallen & Leake, 1993) have also found evidence that a nurses’ age influences burnout levels, with younger nurses experiencing more burnout than older nurses. Furthermore, full-time nurses have a greater likelihood of experiencing Emotional Exhaustion than part-time or casual nurses.

Depersonalisation is argued to be a means (albeit futile) of stanching the flow of emotional energy, of coping with growing exhaustion (Schaufeli & Enzmann, 1998). It could be inferred that Depersonalisation results from work stressors that place heavy demands on nurses’ emotional reserves, such as Role Conflict. It could also be argued that Depersonalisation is strongly related to unpredictable stressful events, such as Patient Care Uncertainty. Age is also a major determinant of Depersonalisation. Specifically, younger nurses are more likely to adopt a detached manner than older nurses. Higher levels of Emotional Exhaustion and Depersonalisation among younger nursing staff have been attributed to the discrepancy between their education and the harsh reality of their work (Koivula et al., 2000).

Finally, it could be assumed that reduced levels of Personal Accomplishment in nurses is strongly related to factors that suggest that they are unable to competently manage multiple demands, such as Role Conflict. Low levels of Personal Accomplishment may also result from being unsure about what is expected, such as Role Ambiguity. It could be argued that it is difficult to develop strong feelings of efficacy when role demands are incongruent or incompatible or when one is unsure of what is expected of one’s performance.
While Supervisor Support does not significantly predict Emotional Exhaustion, it is significantly associated with Depersonalisation and reduced Personal Accomplishment among nurses. This finding may provide some support for Leiter’s (1993) model of burnout in which work demands and resources (e.g. coping) are differentially associated with the three dimensions. Specifically, it is posited that demands are more strongly related to Emotional Exhaustion, and resources are more strongly related to either Depersonalisation or reduced Personal Accomplishment. Hobfoll and Freedy (1993) suggested that job demands trigger strain in the form of physical and emotional exhaustion, whereas resources help to overcome the need for defensive coping and enhance one’s self-efficacy. In the present research, it was found that Supervisor Support enhanced a nurse’s ability to cope with burnout.

Theoretical and Methodological Implications for Social Support

The current research program extended our knowledge of the social support construct and its effects on stress and burnout among nurses. First, content analysis of the qualitative data in Study 1 enabled the research to offer a concise conceptualisation of the social support construct. In the present research program, work support was defined as the emotional and instrumental assistance an individual receives through his or her interpersonal relationships at work.

It was observed by the researcher that when nurses were asked about their main sources of work support, their first thoughts were of their nursing colleagues. A frequency count identified nursing colleagues as their primary source of support, followed by their supervisor. The quantitative findings in Study 3 also indicated that nurses reported receiving higher levels of Coworker Support than Supervisor Support.

In Study 1, the types of assistance nurses receive at work were broadly classified as emotional support and instrumental support. For the purpose of this
research program, *Emotional support* was defined as the emotional comfort an individual receives during a stressful situation that leads the person to believe that they are cared for and valued by others. *Instrumental support* was defined as the instrumental assistance that a person receives as a result of being given the necessary resources (e.g., physical help with a task) to cope with the stressful situation, or guidance or advice to help solve a problem. The researcher noted during the focus group discussions that nurses predominantly discussed examples of emotional support when they discussed the supportive actions provided by their coworkers. In contrast, nurses primarily discussed examples of instrumental support when they discussed the assistance provided by their supervisors.

Interestingly, factor analysis of the work support scales in Study 2 revealed that although nurses were able to recognise the difference between emotional and instrumental support when offered by their coworkers, they were unable to clearly distinguish between emotional and instrumental support when it was provided by their supervisor. Perhaps instrumental acts of support provided by a supervisor (e.g., giving advice or practical assistance) are also perceived by nurses as evidence that their supervisor cares and understands the stressful situation, which is also an indication of emotional support. The relationship between different types of social support needs to be further investigated (Scheck et al., 1997). Although the present thesis does not test this possibility, it seems that there may be a reciprocal relationship between emotional and instrumental support. A review of the social support literature suggests that there is a lack of theory focusing on the specific relations among various support components (Scheck et al.). These findings may also suggest that for nurses, the person who is providing the support (the source of support) is more important than the actual support given (type of support). This raises questions about the relative value of
measuring different types of support. Perhaps future research should focus on testing the unique contributions of different sources of support rather than the different types of support.

The research demonstrated that work support assists nurses in one of two ways. First, work support mitigated perceived work stressors. Perhaps support helps nurses to redefine the potential harm in a stressful situation (Cordes & Dougherty, 1993). Study 3 revealed that Coworker Support and Supervisor Support were significantly negatively related to certain job-specific stressors and role stressors. More specifically, high levels of work support were associated with lower levels of work stress. Alternatively, low levels of work support were associated with higher levels of work stress. This finding may point to the need for further investigation of the indirect effect model in which social support is hypothesised to have an indirect effect on strains by directly reducing the impact of work stressors.

Second, work support was found to reduce the level of strain experienced by nurses, regardless of their levels of work stress. Examination of the effects of work support on burnout revealed that only Supervisor Support had a main or direct effect on burnout among nurses. Specifically, nurses reporting higher levels of Supervisor Support report lower levels of Depersonalisation than nurses reporting lower levels of Supervisor Support. Similarly, nurses reporting higher levels of Supervisor Support report higher levels of Personal Accomplishment than nurses reporting lower levels of Supervisor Support. These findings are inconsistent with previous studies (Barrera, 1986; Sandler & Barrera, 1984; Sarason, Shearin, Pierce, & Sarason, 1987; Stokes, 1983) documenting that the receipt of support is associated with poor adjustment. While some researchers (e.g., Barrera, 1986; Fisher, Nadler, & Whitcher-Alagna, 1982) believe that the receipt of support entails a cost to self-esteem, the present
research clearly demonstrated that the receipt of work support, specifically Supervisor Support, promotes well-being in nurses.

The results demonstrated that neither Emotional nor Instrumental Coworker Support had a main effect on burnout. This may suggest that coworkers are not in a position to provide the appropriate resources that enhance a nurse’s ability to cope with the different aspects of burnout. There is some evidence in the research literature, that supervisors are more effective in reducing stressors than coworkers (Beehr et al., 1990; Ganster et al., 1986; Jackson et al., 1986; O’Driscoll & Beehr, 1994). It is proposed that because supervisors are in a higher position than their nursing subordinates, they also have more power to alter stressors in the work environment. Alternatively, it could be that a supervisor is able to provide the necessary resources (or instrumental support) to assist nurses to cope with the situation. In addition, the nursing supervisor may encourage subordinates to engage in problem-focused coping, rather than emotion-focused coping. According to Lazarus and Folkman’s (1984) coping theory, when coping actions change the person-environment relationship for the better, they eliminate or reduce the psychological grounds for harm or threat. The resulting changed appraisal may in turn lead to changes in the psychological response to the stressful situation. Overall, however, work support explained between 1 to 4% of the variance in burnout. This finding suggests that the receipt of work support plays a small, but significant, role in reducing burnout among nurses.

The current research program found no evidence to suggest that work support significantly buffers burnout in nurses. Although the results in Study 3 indicated that Instrumental Coworker Support interacts with Role Overload to reduce Emotional Exhaustion, it did not significantly improve the prediction of Emotional Exhaustion.
Several other studies have also found no evidence of the buffering effect of social support (e.g., Bourbonnais et al., 1998; El-Bassel, et al., 1998). According to Cohen and Wills (1985) and Cutrona and Russell (1990), buffering is most likely to occur when there is a reasonable match between the needs elicited by the stressful event and the functions of support. If this proposition is correct, it could be assumed from the present study’s findings that there is an inadequate match between nurses’ needs and the types of support they receive at work. Alternatively, it may be that support from outside the workplace has a greater influence of nurse’s health and well-being. Some studies (e.g., Munro, Rodwell, & Harding, 1998; Peeters & LeBlanc, 2001) have found that non-work support (i.e., family, friends) is more significantly related to employee’s health and satisfaction than work support. For instance, Peeters and LeBlanc (2001) found that family support moderated the relationship between quantitative demands and Depersonalisation in nurses. Furthermore, a study by Roxburgh (1999) also showed a gender difference with regard to the relative importance of work and non-work support. Women seemed to profit more from non-work support, whereas men benefited more from work support. Since nursing is predominantly a female profession, it could be inferred that overall, non-work support may be more beneficial to nurses than work support. Further research is necessary, however, to confirm this hypothesis.Thoits (1982) argued that the modest support for a significant buffering effect is probably overestimated as the majority of studies have used cross-sectional data. When longitudinal studies (e.g., Lin & Easel, 1984; Thoits, 1982) have been conducted, support for the buffering hypothesis has been weak and probably not greater than would be expected by chance (Dignam & West, 1988; Payne & Jones, 1987).
The failure to find any evidence of the significant buffering effects of social support in the present research, however, may also be attributed to methodological issues. The present research took the perspective that social support is effective in promoting coping and reducing the effects of stress when the type of assistance provided matches the demands of the stressor. The emphasis was on the actual assistance given by others during a stressful situation. Thus, a measure of received support was used to investigate the stressor-support matching hypothesis. There has been, however, a lack of evidence supporting the stress-buffering effect when measures of received support have been used (Cohen et al., 1984; Cohen & Hoberman, 1983; Sandler & Lakey, 1982; Wethington & Kessler, 1986).

One possible explanation may be that it is not the actual receipt of support, but the belief that support is available if required that protects persons against the adverse effects of stress. From this perspective, the emphasis is on an individual’s perception that support is available if needed. According to Lazarus and Folkman (1984), how people interpret situations is very important in determining the stressfulness of an event. Cohen and Hoberman (1983) hypothesised the belief that support is available reduces the effects of stress by contributing to less negative appraisals. Because the subjects’ perceptions of the availability of support are central to the appraisal of stress, a measure of perceived availability of functional support is considered optimal when investigating the stressor-support matching theory. It could be argued therefore that in the present study, a measure of perceived support may have been more appropriate than a measure of received support to test the stressor-support matching model. However, it was the intention of the current research program to assess supportive transactions between nurses and their primary sources of support by examining the actual level of support nurses’ receive. The present research heeded
Stewart’s (1993) advice and went beyond individual self-reports of perceived support to examine how actual work relationships influence nurses’ adaptation to work stress and burnout.

Another limitation of the current research program was that the Coworker and Supervisor Support Scales did not possess optimal psychometric properties. Testing of the buffering model requires sophisticated assessment techniques. In the current research program, a measure of support was developed to assess nurses’ perceptions of the main types of support they receive at work. There was, however, a degree of overlap between the emotional and instrumental subscales on the Coworker Support Scale. In addition, the Supervisor Support Scale was unable to discriminate between emotional and instrumental support, thereby making it impossible to tests the differential effects of the two types of supportive functions. Furthermore, the work support scales were designed to measure two broad types of support emotional and instrumental support. Perhaps a measure of work support that taps into multiple independent support functions would be more effective in determining the particular support functions that interact with work stressors to affect burnout, thereby shedding light on the mechanisms linking social support to health. Researchers need to focus their attention on designing a work support measure that does not suffer from high inter-scale correlations. To date, most multidimensional measures of social support are limited by the significant overlap between the social support dimensions.

Furthermore, it is proposed that quantitative surveys should be used in conjunction with qualitative methods to research the buffering effect of social support. For instance, a standardised interview (verbal or written) could be used to determine what types of support are optimally effective in reducing different types of stressful situations. Respondents could be asked to discuss what types of support they use
from different sources of support to combat specific types of stress. At the same time, the researcher could obtain information about the nurses’ degree of control over each stressful situation to establish whether there is a link between the types of support used and the controllability of the stressful situation. It is proposed that a qualitative approach may be a more valid and in-depth way of determining how support functions to enhance coping and reduce stress-related outcomes.

**Implications for the Health Care Industry**

The findings from the current research program have implications for the health care industry, and more specifically for nurses. The current research has shown that burnout in nurses is strongly related to organisational demands and that a nurse’s supervisor plays a small, but important role in reducing burnout. In addition, younger nurses and nurses working full-time are the most vulnerable to burnout.

Previous studies (e.g., Constantini et al., 1997; Duquette et al., 1995; Kilfedder et al., 2001) have demonstrated that high levels of burnout among employees have detrimental consequences for both the individual and the organisation. For individuals, consequences may include a variety of physical and psychological problems such as irritability, tension, anxiety, headaches and depression (Constantini et al., 1997; Duquette et al., 1995; Kilfedder et al., 2001). From an organisational perspective, high levels of burnout are associated with increased absenteeism, intention to leave the organisation, low job satisfaction, and low levels of employee commitment to the organisation (Constantini et al., 1997; Duquette et al., 1995; Kilfedder et al., 2001). It is therefore important that hospital managers acknowledge that nurses are stressed and are vulnerable to burnout and accept that interventions are required to combat this problem.
The most effective way to manage burnout among nurses is for management to take a proactive stance and target nurses who are potentially vulnerable to burnout. Burnout may be tackled at an individual level and organisational level (Edwards & Burnard, 2003). In the section below, interventions designed to reduce burnout are discussed. Interventions aimed at an organisational level will be outlined briefly, before examining interventions targeting individuals.

Organisational Interventions

Organisational interventions generally focus on strategies to minimise stressful work conditions. There is some evidence that organisational level interventions are more beneficial to nursing staff than individual interventions (Akroyd et al., 2002; Healy & McKay, 2000). The present thesis identified a number of key environmental stressors experienced by Australian nurses working in public hospitals. These included: (1) work overload pressures due to insufficient time and resources, (2) role conflict pressures due to multiple task demands, (3) pressure due to lack of involvement in planning and decision-making, (4) pressure related to insufficient pay, (5) pressure due to insufficient performance feedback, and (6) pressures associated with difficult/demanding patients. In the section below, potential strategies to reduce Australian nurses’ main sources of work stress are outlined.

It would seem that management’s first responsibility might be to try and reduce nurses’ workload. This is a complex issue that will require more than one method and further funding from the Australian government to help make a difference. A nurse’s workload often varies and it is difficult to control. Their workload is dependent on their daily patient load and adequacy of staffing numbers. Their workload is unevenly distributed throughout the day and may alternate between slow and fast paced work, but generally the day consists of multiple demands on their
time (Gaudine, 2000). In order to reduce nurses’ perceptions of workload, management may need to consider putting in place some strategies designed to increase nurses’ control over their workload. For example, if nurses are given some control over staffing on their ward, they may feel less stressed. Nurses could be given access to a list of available staff (e.g., agency staff, non–rostered nurses) that they could call upon during peak periods if it was absolutely necessary. This would be particularly useful for nurses doing night duty. It is important, however, that nurses on the availability list are actually available. A nurse would feel the availability list is worthless if they had to waste time on the telephone trying to find someone who is willing to come into work at short notice. According to Gaudine (2002), hospitals that value quality of patient care and their human resources should give some of the responsibility for managing workload to nurses.

Other strategies to assist nurses manage their workload may be the introduction of team nursing where nurses work in small groups to complete daily tasks (e.g., answering the phone, administering medications, and doing patient observations). Alternatively, a system could be put in place where staff are re-allocated to different patients or different tasks every so often so that they are not exposed to the same stressor for long periods of time. Another strategy may be the introduction of nurse-patient ratio limits in which a nurse’s patient load is dependent on patients’ level of acuity.

To reduce role conflict, nurses need to be given a clear definition of the boundaries of their work. It is not acceptable that other health care professionals and other hospital staff off-load additional work and responsibilities to nurses without their consent. The division between nurses and other members of the health care profession may need to be made more explicit. Supervisors may need to re-educate
nurses about their role boundaries. This way, nurses will feel less obliged to take on extra work if they are already busy. They will also feel more in control of their workload if they are able to choose to accept additional tasks or responsibilities that are requested from other staff.

In the present research, there is some evidence that nurses do not feel involved in decisions concerning the successful functioning of the hospital. To allow nurses some input into larger hospital issues, a nursing representative could be chosen from each ward to attend management meetings in which pertinent hospital matters are discussed. The ward representative could be responsible for speaking on behalf of their nursing colleagues at the meetings. This will also ensure nurses are informed about current hospital issues. In turn, this may enhance nurses’ organisational commitment.

Overall, the sample of nurses in the current study indicated that they were inadequately paid in relation to other health care professionals. Nurses also believed that their skills, qualifications and experience were not rewarded appropriately in relation to other human service professionals. Since conducting this study in 2000, nurses’ wages have been reviewed by the Australian Industrial Relations Commission. In May 2003, all Level One nurses (i.e., general ward nurses) were awarded a 16.3% pay rise to be rolled out over three years (Queensland Nurses Union, 2003). This may serve to enhance nurses’ perceptions that they are valued members of the health care industry.

Nurses also indicated that they do not receive regular feedback about their job performance. In order to reduce the level of uncertainty and ambiguity experienced by nurses as a result of their work environment, and to avoid role conflict, it is important supervisors give adequate and frequent feedback to nurses about their performance on
the job. Formal performance reviews conducted every six to twelve months may serve to reduce nurses’ levels of role ambiguity and role conflict, and improve their levels of personal accomplishment.

Finally, it is evident that nurses require further training in constructive and appropriate ways of handling challenging (e.g., anger, violence, verbal abuse) or demanding patient behaviour (e.g., highly dependent). To enhance awareness, recent nursing graduates should also be lectured on the different types of patient behaviours they may encounter at work. This will help prepare younger nurses for what to expect in the ‘real’ world.

**Individual Interventions**

Hospitals may also offer individual-level interventions to reduce stress and to prevent burnout. Most individual-level interventions focus on managing burnout through stress-inoculation training. The training begins with strategies designed to increase nurses’ awareness of stress and burnout, such as self-assessment and self-monitoring (Akroyd et al., 2002). Monitoring one’s levels of stress could involve keeping track of stressful events over a short period of time and relating them to one’s overall feeling of well-being. Nurses could also complete self-report instruments designed to establish individual levels of stress and burnout. It is recommended that nurses be given feedback about what their scores on the tests mean and how their score compares to a representative norm sample. Those who score highly on a stress or burnout measure should be encouraged to attend stress management workshops on adopting a healthy lifestyle or learning relaxation techniques.

A healthy lifestyle workshop may promote stress-reducing activities such as physical exercise, proper nutrition, and weight control (Akroyd et al., 2002). Research has demonstrated that physical exercise may be one of the more effective strategies to
prevent or lessen the effects of depression and anxiety. Relaxation techniques are at the core of many stress management programs. These programs attempt to provide the individual with positive physiological and psychological responses to replace the negative responses accumulated from exposure to various stressors.

The current research suggests that supervisors play a key role in creating a healthy work environment for nurses. Supervisors need to be aware of their potential capacity to affect levels of Depersonalisation and Personal Accomplishment in their staff. It is proposed that supervisors be trained in different ways to provide support to nurses. For instance, instrumental support may be effective during task execution and emotional support may be useful during conflict management. Supervisors should also be trained in providing feedback to nurses on their job performance. Performance feedback will serve to enhance role clarity and reduce the ambiguity and uncertainty associated with the clinical nursing role. These interventions may contribute to the prevention and reduction of burnout among nurses.

The above interventions may be part of a broader development strategy of the health care institution aimed at the promotion of a healthy and productive working environment for nurses. Improving the working conditions of nurses may not only decrease their levels of stress but it might also encourage them to continue nursing. Genuine efforts to alleviate burnout among nurses should have positive effects, including increased quality of patient care, improved quality of work life, higher levels of job satisfaction and commitment, and lower staff turnover (Akroyd et al., 2002). Interventions designed to identify and lessen specific aspects of workplace stress at an organisational level may be more effective than individual-level interventions because they focus on the cause of the problem, not predominantly on the outcomes of the problem. However, the effectiveness of the individual and
organisational interventions will only be known if the interventions are systematically evaluated over a period of time.

In summary, healthcare organisations will ultimately pay the price for high levels of employee burnout via the quality of services they offer (Akroyd et al., 2002). Organisational improvements involving the individual in the workplace may have a more pervasive and long-lasting impact on burnout than individual interventions. Providing employees with techniques to reduce job stress is helpful, but such methods will be more effective if the organisation also seeks to make the job less stressful. An organisation must recognise that burnout is a legitimate workplace problem before effective interventions can be put in place.

Limitations

It has to be recognised that the current research program had some limitations. First, the program employed cross-sectional data to identify significant relationships between the research variables. Consequently, no firm conclusions can be made regarding the exact magnitude of the causal effects. Longitudinal designs, although much more difficult to achieve, are crucial for furthering our understanding of the nature of burnout among nurses and its development over time. A second weakness was that the measures used to assess the main variables of interest to the research program were all self-report instruments. Self-report measures are open to biases in reporting. For example, the nursing sample may have under-estimated or over-estimated their levels of stress, burnout and work support. While reliance on self-report data always has its criticisms, some researchers argue that stress is an experience based on the perception of a mismatch between demands and resources, and therefore subjective reporting is paramount (Kilfedder et al., 2001). It was also evident that the work support measures developed for the purpose of this research
require further revising in order to improve their psychometric properties. In the future, investigators should attempt to identify a social support instrument that uses a format that has been shown to convenient and reliable, that reflects the multifaceted nature of social support, demonstrates adequate construct validity, that can be adapted to obtain responses that are relevant to the aims of the study and is applicable in a variety of clinical nurse settings (Hutchinson, 1999; Stewart, 1993). Finally, some caution should be taken when interpreting the research findings in relation to the Australian nursing population. This is because participants were recruited from a small catchment area (i.e., the Brisbane metropolitan district), respondents providing the measure of the predictor and criterion variables were the same people, the response rate was lower than desired, and some nursing divisions comprised a small number of respondents. In addition, the management of public hospitals is not consistent across States and Territories of Australia. Furthermore, the majority of the sample population were female (approximately 86%) and therefore one has to be careful with regard to generalisation of these findings to male nurses.

**Future Research Recommendations**

The research program extended current nursing knowledge in the areas of occupational stress, social support, and burnout. Traditionally in nursing research, work stress and burnout have been examined as separate and static states. The present research viewed the development of burnout as a process, in which antecedent conditions such as work stressors, and interpersonal coping resources such as social support play an important role.

Most of our knowledge of burnout, particularly its antecedents and consequences, has come from empirical research. More recently, burnout research has been integrated into a wider psychological theoretical framework. For instance, in the
present research, the relationship between job stressors, burnout, and work support, were examined using a stress-strain-coping theoretical framework. Furthermore, there has been a renewed interest in the process of burnout and its sequential relationships. A limitation of the present study, however, is its use of cross-sectional data to investigate the links between job demands, coping resources, and burnout. A limitation of cross-sectional research is that no causal inferences can be made. Testing the causal factors of burnout requires longitudinal research designs. In addition to providing better evidence for causal relationships, longitudinal studies would yield valuable information about the development and successive phases of burnout. Although time-consuming and costly, such studies are critical to our understanding of burnout.

It is recommended that further research be conducted to address the lack of health care studies investigating levels of burnout. To date, reliable estimates of the prevalence of burnout in the health care setting do not exist. On the empirical front, more research into burnout rates is required. Researchers must replicate this study to confirm burnout levels in nurses working in the public hospital system. A replication will also address previously discussed concerns about the sample’s representativeness which arose from the lower than desired response rate.

Finally, very little is known about the success of interventions designed to reduce burnout. To date, there is no concrete evidence that interventions actually work. A major goal of burnout research is to determine effective strategies for dealing with it and therefore evaluation research is absolutely critical. Baseline measures of burnout should be collected prior to the intervention to help determine the effectiveness of the intervention over time. Future studies could extend this program
of research by systematically and periodically monitoring nurse burnout in public hospitals on a six-monthly basis.

While great strides are being made in our understanding of burnout, our knowledge of how social support facilitates coping and adjustment among employees is still very poor. The investigation into the effects of social support on nurses’ levels of burnout is still in its early stages and several issues remain unclear. Until the role of social support in preventing burnout is understood, the benefits of social support cannot be used to its full potential (Ganster et al., 1986). In the attempt to demystify social support, more questions have been raised. For instance, does received support promote the initiation and maintenance of coping efforts? Do people change the way they cope in response to received support? What types of received support are most effective in positively influencing coping efforts?

While the current research provides evidence that the supervisor plays a significant role in reducing burnout, it is not known what types of support provided by the supervisor promote coping. This was because the measure developed to assess supervisor support did not adequately distinguish between the different support functions.

It is also not apparent from the present investigation why support provided to nurses by their coworkers did not significantly reduce burnout. Since very little research has been conducted in the empirical literature concerning sources of support, it seems appropriate to extend the stressor-support matching hypothesis by including the match between sources of support and stressful events. It is proposed that supervisors and coworkers assist nurses in different ways and their effect on nurses’ health and well-being is poorly understood. For example, Supervisor Support may be useful in resolving work-related problems, whereas Coworker Support may provide
nurses with a sense of social integration. It is imperative that research into received support continues and that a more refined measure of received support is used that takes into consideration multiple support functions.

It is also important to keep in mind that the study of social support is complex and necessitates the consideration of many factors when designing studies to measure this concept (Hutchinson, 1999). Mixed findings regarding the role of social support in the process of burnout are attributed to the lack of consensus on how to measure support due to the variability in definitions and conceptualisations. Future research should therefore adopt a definition that is based on a theoretical framework and that can be operationalised in accordance with the aims of the study.

The present study employed a measure of received support to examine the stressor-support matching theory (Cohen & Wills, 1985; Cutrona & Russell, 1990). It was proposed that received support is more likely to predict outcomes when support is optimally matched to the demands of the stressor. However, Cohen and Wills (1985) posited that it is the perception that appropriate support is available that protects persons against the adverse effects of stressors. According to Lazarus and his colleagues (Lazarus, 1966; Lazarus & Folkman, 1984), how people interpret situations is very important in determining an event’s stressfulness. There is some evidence that perceptions of support availability are more effective in altering appraisals if they counter the specific needs elicited by the stressful event (Cohen & Hoberman, 1983; Cohen & McKay, 1984). It is therefore recommended that further research examining the stressor-support matching theory use a measure of perceived support that adequately distinguishes between different support functions (Lakey & Cohen, 2000). It is also recommended that the buffering effects of both work and non-work support on the stress-burnout relationship among nurses be investigated. Finally,
both qualitative and quantitative approaches should be used to measure social support, although qualitative measures of social support are considered by some to be superior because of their greater predictive power regarding personal adjustment (e.g., Griffith, 1985). The value of collecting qualitative data is in its ability to provide rich data on the support needs of this particular occupational group. It is paramount that the mechanisms of social support are further researched before promoting the implementation of formal social support interventions within the nursing profession.

Conclusion

In conclusion, the present research program further contributed to our understanding of stress, burnout, and work support among a sample of Australian nurses. The findings suggest that burnout can be understood within a stress-strain-coping context. According to Lazarus and Folkman’s (1984) transactional coping theory, strain (burnout) occurs when demands (e.g., work stressors) exceed coping resources (e.g., social support).

The present study demonstrated that nursing in a public hospital is stressful. The most immediate concern for nurses is their work overload. Overall, the sample reported moderate levels of burnout. However, in comparison to other health care professionals, the current sample of nurses generally experienced lower levels of Emotional Exhaustion and Depersonalisation, but higher levels of reduced Personal Accomplishment. Investigation of the major determinants of burnout revealed that role stressors explain more of the total variance in burnout than job-specific stressors.

The current program has shown that the effects of social support in ameliorating work stress and reducing burnout deserves more attention in the nursing literature. This cross-sectional research program found evidence that social support can influence the severity of work stressors and reduce the level of strain experienced
by individuals. The results indicated that both Supervisor and Coworker Support reduced the likelihood that job demands would be perceived as stressful. Furthermore, support received from supervisors significantly reduced Depersonalisation and increased Personal Accomplishment in nurses, irrespective of their level of work stress (i.e., main effect). There was no significant evidence that support received from coworkers or the nursing supervisor moderated the effects of work stress on burnout (i.e., buffering effect). Future studies should try to examine whether specific combinations of sources and types of support significantly add to our understanding of the mechanisms of social support.
APPENDIX A

Information Sheet and Survey Used in Study 2

A Study on Nurses’ Work Stressors, Work Support, and Psychological Health and Well-being

Dear Respondents,

Before filling out the following questionnaire, it is important that as a participant, you understand the importance of this study and what it hopes to achieve. The present study is designed to examine how work support influences perceptions of work stress. A key unanswered question in the social support literature is whether certain forms of social support are most beneficial following specific kinds of stress. Cutrona and Russell (1990) propose that by matching support components to specific types of stress, better social support-based interventions could be designed. Theoretically, the discovery of optimal stress-support combinations may help us better understand how stressful events threaten and how social support protects or enhances individual well-being.

The current research involves two studies. Study 1 has been completed. It consisted of a series of 30-minute discussion groups in which nurses from the Princess Alexandra Hospital and Redland Hospital provided valuable feedback about events in their daily working life that cause them the most stress; and the types and sources of support they receive from within the workplace. The information gained from Study 1 was used to design this questionnaire. Study 2 involves the completion of a questionnaire. It is designed to measure the types of work stressors you experience in your ward, your health and well-being, and finally the level and types of support you receive from within your ward.

If you would like to be involved in Study 2, it should be noted that your responses to the questionnaire will remain confidential and anonymous. All response forms are coded and therefore your responses will not at any time be able to identify you. Responses to this survey will be viewed only by the researcher. If you have any queries about the study itself or how to fill in the questionnaires, please do not hesitate to call me on [Insert Details] or my supervisor on [Insert Details].

If you have any complaints concerning the manner in which this research project is conducted and an independent person is preferred, you make contact the:

University’s Research Ethics Officer
[Insert Details].

Thank you for supporting this research initiative.
A Study on Nurses’ Work Stressors, Work Support, and Psychological Health and Well-being

The information from this questionnaire will be used to determine how workplace supports can be used more effectively to reduce work stress and to enhance overall well-being. Please provide the information as carefully as you can.

N.B. The completion and submission of this questionnaire to the researcher will be understood to be informed consent to participate in the this study.
Please read the instructions carefully before completing each section. In order for this research to be valid, each question should be answered. Please note there are no right or wrong answers.

**Demographic Information**

1. Please circle the appropriate responses below.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>30-39yrs</th>
<th>40-49yrs</th>
<th>&gt; 50 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>&lt; 25 yrs</td>
<td>25-29 yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Status</td>
<td>Full-time</td>
<td>Permanent</td>
<td>Part-Time</td>
<td>Casual</td>
<td>Graduate Placement</td>
</tr>
<tr>
<td>Years practicing in the nursing field?</td>
<td>&lt; 1 yr</td>
<td>1-2yrs</td>
<td>2-5 yrs</td>
<td>5-10yrs</td>
<td>&gt; 10yrs</td>
</tr>
<tr>
<td>Length of time working within this particular hospital?</td>
<td>1-6 months</td>
<td>6-12 months</td>
<td>1-2 yrs</td>
<td>2-5yrs</td>
<td>&gt; 5 yrs</td>
</tr>
<tr>
<td>Length of time working in this particular ward?</td>
<td>1-6 months</td>
<td>6-12 months</td>
<td>1-2 yrs</td>
<td>2-5yrs</td>
<td>&gt; 5 yrs</td>
</tr>
</tbody>
</table>

2. Please circle the hospital you work at and the ward that you currently work in.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Royal Brisbane Hospital</th>
<th>Princess Alexandra Hospital</th>
<th>Redland Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward</td>
<td>Orthopaedics</td>
<td>Emergency Department</td>
<td>Renal Unit</td>
</tr>
<tr>
<td>Children’s Ward</td>
<td>ICU</td>
<td>Rehabilitation Unit</td>
<td>Adult Ward</td>
</tr>
</tbody>
</table>

If Other hospital please state………………………………………………………………

<table>
<thead>
<tr>
<th>Ward</th>
<th>ICU</th>
<th>Rehabilitation Unit</th>
<th>Adult Ward</th>
<th>Maternity Ward</th>
<th>Other</th>
</tr>
</thead>
</table>

If Other, please state………………………………………………………………
Health Professions Stress Inventory (Adapted from Wolfgang, 1998)

The following survey consists of 31 job situations health professionals might be expected to encounter in the performance of their duties.

**Circle** the number (from 0 to 4) that best describes how **often** you find each work situation to be stressful.

<table>
<thead>
<tr>
<th></th>
<th>Never/ Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Usually</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Having so much work to do that everything cannot be done well.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Experiencing conflicts with supervisors and/or administrators.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Feeling ultimately responsible for patient outcomes.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Not receiving the respect or recognition that you deserve from physicians.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Being uncertain about what to tell a patient or family about the patient’s condition and/or treatment.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Caring for the emotional needs of patients.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Disagreeing with other health professionals concerning the treatment of a patient.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Not having opportunities to share feelings and experiences with colleagues.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Experiencing conflicts with coworkers.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. Having job duties which conflict with family responsibilities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Allowing personal feelings/emotions to interfere with the care of patients.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. Keeping up with new developments in order to maintain professional competence.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. Feeling that opportunities for advancement on the job are poor.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. Trying to meet society’s expectations for high-quality medical care.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. Supervising the performance of coworkers.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. Dealing with ‘difficult’ patients.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Not being recognised or accepted as a true health professional by other health professionals.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
### Health Professions Stress Inventory (continued)

<table>
<thead>
<tr>
<th></th>
<th>Never/ Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Usually</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Being inadequately prepared to meet the needs of patients.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. Possessing inadequate information regarding a patient’s medical condition.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Not receiving adequate feedback on your job performance.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. Not having enough staff to adequately provide necessary services.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. Having non-health professionals determine the way you must practice your profession.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. Not knowing what type of job performance is expected.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. Being interrupted by phone calls or people while performing job duties.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Not being allowed to participate in making decisions about your job.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. Not being challenged by your work.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. Feeling that you are inadequately paid as a health professional.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. Caring for terminally ill patients.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. Not being able to use your abilities to the fullest extent on the job.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30. Fearing that a mistake will be made in the treatment of a patient.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31. Dealing with difficult/demanding relatives.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996)
Maslach Burnout Inventory (continued)
Occupational Roles Questionnaire (Adapted from Osipow & Spokane, 1987)

Below are 30 statements related to your role at work. Read each statement carefully. For each statement, circle the number (from 1 to 5) that best describes how often you feel this way about your role at work.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never/Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Usually</th>
<th>Most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. At work I am expected to do too many different tasks in too little time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I feel that my job responsibilities are increasing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I am expected to perform tasks on my job for which I have never been trained.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I have to take work home with me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I have the resources I need to get my job done.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I feel competent in what I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I work under tight deadlines.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I wish I had more help to deal with the demands placed upon me at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. My job requires me to work in several equally important areas at once.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. I am expected to do more work than is reasonable.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I feel conflict between what my employer expects me to do and what I think is right or proper.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. I feel caught between factions at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. I have more than one person telling me what to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. I feel I have a stake in the success of this hospital.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. I feel good about the work I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. My supervisors have conflicting ideas about what I should be doing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. I am proud of what I do for a living.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. It is clear who really runs things where I work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. I have divided loyalties on my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. The work I do has as much pay-off for me as my employer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. My supervisor provides me with useful feedback about my performance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Occupational Roles Questionnaire (continued)

<table>
<thead>
<tr>
<th></th>
<th>Never/ Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Usually</th>
<th>Most of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>


The following 12 statements are designed to examine the level of support you receive at work from your coworkers. Indicate the degree to which your coworkers support you at work by circling a response from 1 (strongly disagree) to 5 (strongly agree).

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
### Coworker Support Scale (continued)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. My coworkers will help me figure out a work problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. My coworkers cooperate with me to get things done at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. If my job duties become very demanding, my coworkers will take on extra work responsibilities to help me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. My coworkers can be relied on to help when things get tough at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. My coworkers share useful ideas or advice with me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>


The following 12 statements are designed to examine the level of support you receive at work from your supervisor (e.g., your NPC/CNC). Indicate the degree to which your supervisor supports you at work by circling a response from 1 (strongly disagree) to 5 (strongly agree).

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My supervisor listens to my problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. My supervisor is understanding and sympathetic.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. My supervisor respects me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. My supervisor appreciates the work I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. My supervisor always seems to make time for me if I need to discuss my work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I feel comfortable asking my supervisor for help if I have a problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. When I’m frustrated by some aspect of my work, my supervisor tries to understand.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. My supervisor will help me figure out a work problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. My supervisor cooperates with me to get things done at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Supervisor Support Scale (continued)

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. If my job duties become very demanding, my supervisor will take on extra work responsibilities to help me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. My supervisor can be relied on to help when things get tough at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. My supervisor shares ideas or advice with me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

You have now come to the end of the questionnaire. Thank you for taking the time to complete this questionnaire.
APPENDIX B

The information sheet and consent form provided to nurses in Study 1 is presented below. In addition, the coding instructions and coding sheet used to assist the independent researcher in analysing the focus group data is provided.

**Information Sheet**

**A Study on Nurses’ Work Stressors, Work Support, and Psychological Health and Well-Being in Nurses**

Before participating in the focus group, it is important you understand what this study hopes to achieve. I am interested in examining nurses in order to discover which particular types of workplace support are particularly effective in enabling nursing staff to cope with particular types of workplace stress. By doing so we can answer a key unanswered question in the social support literature that is, whether certain forms of workplace support are most beneficial following specific kinds of stress.

The current research involves two studies. In **Study 1**, a 30-minute focus group will be conducted. **Study 2** will involve the completion of a questionnaire measuring work stress, work support and your overall well-being. In the focus groups, you will be asked to discuss:

1. Which particular events within your daily working life cause you the most stress?
2. Which people within your work environment serve as a support to you when you are experiencing a stressful day at work?
3. What do these people do that makes you feel supported?

The information gained from your participation in this discussion will assist the researcher’s understanding of the most salient work stressors experienced by nurses and the types of support your receive at work.

It is important that you understand that what is expressed in the focus group is strictly confidential and therefore any information disclosed during the focus group is not to be taken outside of the room. It is essential that you understand the importance of maintaining confidentiality and anonymity before commencing. If at anytime you feel uncomfortable in responding to a question, feel free to decline. Alternatively, you may withdraw from the focus group discussion at any time. If you have any queries about the study itself, please do not hesitate to call me on [Insert Contact Number] or my supervisor on [Insert Details].

The focus group will be held:
[Insert Details]

You are most welcome to attend this focus group.

Yours sincerely,

Rebecca Spooner-Lane
Consent Form

A Study on Nurses’ Work Stressors, Work Support, and Psychological Health and Well-Being

I understand that:

1) there are no risks associated with taking part in this research;

2) my participation is voluntary and I have the right to withdraw from the research at any time;

3) my responses will only be available to the researcher;

4) the information that I may provide may be published in professional publications, but never in such a way that I can be identified. My anonymity is assured.

Thank you for taking the time to consider this request

I give my consent to participate in this focus group.

Participant’s Signature ................................................. Date........................................
Coding Sheet Used to Analyse the Focus Group Data

Background
A series of focus group discussions were conducted with nurses from the Princess Alexandra Hospital and Redland Hospital. Nurses were required to discuss three questions:

1. Which particular events within your daily working life cause you the most stress?
2. Which people within your work environment serve as a support to you when you are experiencing a stressful day at work?
3. What do these people do that makes you feel supported?

Content Analysis Procedure
1. The researcher listened to the ten tapes. The tapes were transcribed verbatim and observational data was added to the transcripts (Refer to the shaded information in brackets).
2. The main issues discussed for each question were recorded.
3. Broad overarching themes were established.
4. Definitions for these broad over arching themes were created.
5. The recording units (i.e., key words, sentences and phrases) were generated.

It should be noted that when analysing the work stress factors, sub-categories were also identified.

The aim of this exercise is to check the accuracy/reliability of the coding criteria used to analyse the focus group data. A set of steps for you to follow are provided below.

1. On each tape you will notice that the ward, hospital and date have been provided. Listen to each tape one at a time. When listening to the tape, try to get an overall ‘feel’ of the focus group discussion. For example, listen to the tone of voice used by each speaker. Take note of whether the participant is speaking positively or negatively about a particular topic.
2. Read the corresponding transcript for the tape.
3. Code all the text. A coding table has been provided for you. Make a tally in the ‘frequency’ column to indicate the number of times a recording unit (i.e., key words, sentences, and phrases) is mentioned.
4. Note in the ‘ward(s)’ column which ward discussed the recording unit.
5. Re-read the transcript and check for accuracy. Ensure that all the main categories (and sub-categories have been identified).
6. Make a note of any inconsistencies, or difficulties that you had in assigning a recording unit to a particular category.
7. Make a note of work stressors that are unique to a specific ward.
Q1. WHICH PARTICULAR EVENTS WITHIN YOUR DAILY WORKING LIFE CAUSE YOU THE MOST STRESS?

Work Stress Category

Job Conditions:
Demands associated with being in a nursing role, as well as the conditions associated with working as a nurse in a hospital.

<table>
<thead>
<tr>
<th>Work Stress Subcategory</th>
<th>Examples</th>
<th>Frequency (i.e., the no. of times a recording unit is mentioned)</th>
<th>Ward(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Overload: Being assigned too many tasks or insufficient time to accomplish assigned tasks.</td>
<td>Staff shortages, too much documentation, interruptions, heavy patient load, too many responsibilities. Workload increasing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Conflict: Being required to assume two or more conflict roles or when expectations of these roles differ.</td>
<td>Being responsible for the running of the department as well as the patient’s well-being. Doing the work that clerks should be doing. Carrying a full workload and teaching as well. Doing other people’s jobs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Ambiguity: A lack of clarity about the expectations associated with a role, the way in which the role should be fulfilled, or the consequences of role performance.</td>
<td>Not being sure about what is required of nurses. Not having access to written protocol. Not knowing whether it is our role to enforce things (e.g., visiting hours).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Resources: Insufficient resources to carry out nursing role successfully.</td>
<td>Lack of beds, space, medical equipment, experienced staff.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Stress Subcategory</td>
<td>Examples</td>
<td>Frequency (i.e., the no. of times a recording unit is mentioned)</td>
<td>Ward(s)</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------</td>
<td>-------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Other</td>
<td>Noise</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Job Uncertainty:**
Unexpected stressful events that often beyond a nurse’s control.

<table>
<thead>
<tr>
<th>Work Stress Subcategory</th>
<th>Examples</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Unpredictability:</em> The unpredictability associated with the nursing role.</td>
<td>Rostering schedule, patient load, interruptions, mistakes in treating a patient.</td>
<td>(i.e., the no. of times a recording unit is mentioned)</td>
</tr>
<tr>
<td><em>Unfamiliar Problems:</em> Being expected to perform tasks that you have never done before.</td>
<td>Treating medical conditions that you have not experienced before. Using new medical equipment.</td>
<td></td>
</tr>
<tr>
<td><em>Doctor Availability:</em> Doctors that are not available when needed.</td>
<td>Waiting for doctors after-hours. We ring the doctor up so many times and they don’t answer. They hold us up for a couple of hours. They disappear.</td>
<td></td>
</tr>
<tr>
<td><em>Lack of communication:</em> The lack of communication between health care professionals and between nursing wards.</td>
<td>There’s a lack of communication between staff. There’s not enough communication between departments.</td>
<td></td>
</tr>
<tr>
<td>Work Stress Subcategory</td>
<td>Examples</td>
<td>Frequency (i.e., the no. of times a recording unit is mentioned)</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Interpersonal Conflict:**
Conflicts that arise from working so closely with patients and their relatives, as well as doctors, all in times of acute stress conditions.

<table>
<thead>
<tr>
<th>Work Stress Subcategory</th>
<th>Examples</th>
<th>Frequency</th>
<th>Ward(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Difficult/Demanding Patients</strong></td>
<td>Demanding, attention-seeking, psychiatric, acutely ill, abusive, violent, intoxicated patients. Stay too long, don’t take responsibility for themselves. Patients that expect too much of nurses.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Difficult/Demanding Relatives</strong></td>
<td>Relatives that blame the nurse for a patient’s condition. Dysfunctional families. Relatives that expect too much of nurses.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Demanding Doctors</strong></td>
<td>Different personalities, different philosophies about how tasks should be done, different expectations. Demanding doctors who want you to stop everything to do what they want.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Lack of Professional Recognition and Support:
The undervaluing of nurses’ skills, experience, and qualifications by other health professionals, especially doctors, and the insufficient provision of support.

<table>
<thead>
<tr>
<th>Work Stress Subcategory</th>
<th>Examples</th>
<th>Frequency</th>
<th>Ward(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disrespectful Doctors:</strong> The lack of respect demonstrated by doctors towards nurses.</td>
<td>They blame us for their mistakes. Their tone of voice suggests that we’re beneath them. They don’t value our experience or skills. They don’t recognise our qualifications.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lack of Support:</strong> The lack of support available to nurses at work.</td>
<td>We don’t receive any feedback or recognition for what we do. We don’t get the support we need. There is a lack of medical supervision and guidance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Insufficient wages:</strong></td>
<td>We don’t get paid enough to do what we do. Not adequately paid.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. WHICH PEOPLE WITHIN YOUR WORK ENVIRONMENT SERVE AS A SUPPORT TO YOU WHEN YOU ARE EXPERIENCING A STRESSFUL DAY AT WORK?

<table>
<thead>
<tr>
<th>Sources of Support</th>
<th>Examples</th>
<th>Frequency (i.e., the no. of times a recording unit is mentioned)</th>
<th>Ward(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing colleagues</td>
<td>Nursing co-workers, other nursing staff.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Supervisor</td>
<td>CNC, NPC, head nurse, senior nurse. Level 2 nurse. Bay person.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Professionals</td>
<td>Doctors, staff counsellors, staff educators, physiotherapists, allied health, after-hours co-ordinator.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Health Professionals:</td>
<td>Ward persons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Patients, relatives.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 3. WHAT DO THESE PEOPLE DO THAT MAKES YOU FEEL SUPPORTED?

<table>
<thead>
<tr>
<th><strong>Types of Support</strong></th>
<th><strong>Examples</strong></th>
<th><strong>Frequency</strong></th>
<th><strong>Ward(s)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotional Support:</strong> The emotional comfort an individual receives during a stressful situation that leads a person to believe that they are cared for and valued by others.</td>
<td>Listening, identifying with the problem, understands the problem, emphathises with the situation, shows respect, appreciates the work we do, reassurance, laughing together.</td>
<td>(i.e., the no. of times a recording unit is mentioned)</td>
<td></td>
</tr>
<tr>
<td><strong>Instrumental Support:</strong> The instrumental assistance that a person receives as a result of being given the necessary resources to cope with a stressful situation, or the guidance, or advice to help solve a problem.</td>
<td>Getting some help or assistance with jobs, getting the advice to be able to do our jobs, sharing experiences with others, problem solving.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Social gatherings outside of work.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

In the section below, the rating system used by experienced nurses to classify nurses’ work stressors into controllable and uncontrollable events is delineated.

*Are the Stressful Events Commonly Experienced by Nurses Predominantly Controllable or Uncontrollable?*

The aim of this rating exercise is to examine stressful events commonly experienced by nurses working in a hospital setting in order to identify which stressful events are predominantly controllable (i.e., the occurrence or consequences of the stressful event can be prevented) or uncontrollable (i.e., there is nothing that can be done to prevent the event from occurring or lessen its consequences).

In Part A, you will examine job stressors that are thought to be specifically related to nurses. These items were taken from Wolfgang’s (1988) Health Professions Stress Inventory. In Part B, you will examine role stressors that are thought to be common among most occupations. Items were taken from Osipow and Spokane’s (1987) Occupational Roles Questionnaire.

**Part A**

*Job-Specific Stress*

*Instructions*

The stressful events outlined below have been broadly categorised using four broad work stress factors: 1) Lack Of Professional Recognition; 2) Patient Care Uncertainty; 3) Job Conditions; and 4) Interpersonal Conflict.

Briefly examine the definition provided for each broad work stress factor. Identify whether each factor is a source of work stress that hospital nurses can generally control or whether it is a source of work stress that is generally uncontrollable.

To assist you in making your decision, the types of stressful events that align to the broad work stress category are provided. Look at each stressful event independently and determine whether it is a controllable or uncontrollable event.

For each work stress factor, total the number of controllable events and total the number of uncontrollable events.

If the total number of controllable events is greater than the total number of uncontrollable events, this would indicate that the work stress factor is predominantly controllable.

Alternatively, if the total number of uncontrollable events is greater than the total number of controllable events, this would indicate that the work stress factor is predominantly uncontrollable.
In the column beside the work stress factor, place a ‘C’ for controllable if you believe the source of stress is predominantly preventable. Place a ‘U’ for uncontrollable if you perceive the source of work stress to be unpreventable.

*Points to Remember.*
1. There are no right or wrong answers.
2. It is important that you do not spend too much time in determining whether the source of work stress or associated work stressors are controllable or uncontrollable. Your initial reaction to the statement is probably your best indication of your perception of the controllability of the event.
3. In some cases, you will feel that the work stressor could be controllable or uncontrollable depending on the situation. Although this may be true, it is necessary to identify whether overall, the stressor is predominantly controllable or predominantly uncontrollable. You will need to make a choice one way or another.

An **controllable** stressful event is one in which the occurrence or consequences of the stressful event can be prevented. An **uncontrollable** stressful event is one in which there is nothing that can be done to prevent the event from occurring or lessen its consequences.

<table>
<thead>
<tr>
<th>Lack of Professional Recognition</th>
<th>C = Controllable</th>
</tr>
</thead>
<tbody>
<tr>
<td>The absence of opportunities for nurses to use their abilities fully and to contribute to important decisions concerning their job, and the lack of recognition and support provided to nurses by other health professionals.</td>
<td>U = Uncontrollable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Survey Items</th>
<th>C = Controllable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not being allowed to participate in making decisions about your job.</td>
<td>U = Uncontrollable</td>
</tr>
<tr>
<td>Not being able to use your abilities to the fullest extent on the job.</td>
<td></td>
</tr>
<tr>
<td>Not receiving adequate feedback on your job performance.</td>
<td></td>
</tr>
<tr>
<td>Not being challenged by your work.</td>
<td></td>
</tr>
<tr>
<td>Feeling that opportunities for advancement on the job are poor.</td>
<td></td>
</tr>
<tr>
<td>Not being recognised or accepted as a true health professional by other health professionals.</td>
<td></td>
</tr>
<tr>
<td>Feeling that you are inadequately paid as a health professional.</td>
<td></td>
</tr>
<tr>
<td>Not receiving the respect or recognition that you deserve from physicians.</td>
<td></td>
</tr>
<tr>
<td>Not having opportunities to share feelings and experiences with colleagues.</td>
<td></td>
</tr>
<tr>
<td>Having non-health professionals determine the way you must practice your profession.</td>
<td></td>
</tr>
</tbody>
</table>

Total Number of Controllable Events = \( \mathcal{E} \)  
Total Number of Uncontrollable Events = \( \mathcal{E} \)
**Patient Care Uncertainty**
The unpredictability and uncertainty associated with caring for patients and the patient’s family.

<table>
<thead>
<tr>
<th>Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being uncertain about what to tell a patient or their family about the patient’s condition and/or treatment.</td>
</tr>
<tr>
<td>Dealing with difficult/demanding relatives.</td>
</tr>
<tr>
<td>Dealing with difficult patients.</td>
</tr>
<tr>
<td>Caring for terminally ill patients.</td>
</tr>
<tr>
<td>Allowing personal feelings or emotions to interfere with the care of patients.</td>
</tr>
<tr>
<td>Being inadequately prepared to meet the needs of patients.</td>
</tr>
<tr>
<td>Possessing inadequate information regarding a patient’s medical condition.</td>
</tr>
<tr>
<td>Fearing that a mistake will be made in the treatment of a patient.</td>
</tr>
<tr>
<td>Disagreeing with other health professionals concerning the treatment of a patient.</td>
</tr>
</tbody>
</table>

Total Number of Controllable Events = $\mathcal{E}$ Total Number of Uncontrollable Events = $\mathcal{E}$

<table>
<thead>
<tr>
<th>Job Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The tasks and responsibilities that nurses’ undertake in addition to caring for the physical needs of patients.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being interrupted by phone calls or people while performing job duties.</td>
</tr>
<tr>
<td>Trying to meet society’s expectations for high quality medical care.</td>
</tr>
<tr>
<td>Feeling ultimately responsible for patient outcomes.</td>
</tr>
<tr>
<td>Supervising the performance of less experienced workers.</td>
</tr>
<tr>
<td>Caring for the emotional needs of patients.</td>
</tr>
<tr>
<td>Having so much work to do so that everything cannot be done well.</td>
</tr>
<tr>
<td>Not having enough staff to adequately provide necessary services.</td>
</tr>
<tr>
<td>Keeping up with new developments in order to maintain professional competence.</td>
</tr>
</tbody>
</table>

Total Number of Controllable Events = $\mathcal{E}$ Total Number of Uncontrollable Events = $\mathcal{E}$
Interpersonal Conflict
The conflict that may arise as a result of working closely with other nurses.

<table>
<thead>
<tr>
<th>Survey Items</th>
<th>C = Controllable</th>
<th>U = Uncontrollable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiencing conflicts with supervisors or administrators.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiencing conflicts with co-workers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Number of Controllable Events = \( \exists \) Total Number of Uncontrollable Events = \( \exists \)

Part B
Generic Role Stressors

Instructions
The stressful events outlined below have been broadly categorised using three broad role stress factors: 1) Role Overload, 2) Role Conflict, and 3) Role Ambiguity.

Briefly examine the definition provided for each broad role stress factor. Identify whether each factor is a source of stress that hospital nurses can generally control or whether it is a source of stress that is generally uncontrollable.

To assist you in making your decision, the types of stressful events that align to the broad role stress category are provided. Look at each stressful event independently and determine whether it is a controllable or uncontrollable event.

For each role stress factor, total the number of controllable events and total the number of uncontrollable events.

If the total number of controllable events is greater than the total number of uncontrollable events, this would indicate that the role stress factor is predominantly controllable.

Alternatively, if the total number of uncontrollable events is greater than the total number of controllable events, this would indicate that the role stress factor is predominantly uncontrollable.

In the column beside the role stress factor, place a ‘C’ for controllable if you believe the source of stress is predominantly preventable. Place a ‘U’ for uncontrollable if you perceive the source of role stress to be unpreventable.
**Points to Remember.**

1. There are no right or wrong answers.
2. It is important that you do not spend too much time in determining whether the source of role stress or associated stressors are controllable or uncontrollable. Your initial reaction to the statement is probably your best indication of your perception of the controllability of the event.
3. In some cases, you will feel that the role stressor could be controllable or uncontrollable depending on the situation. Although this may be true, it is necessary to identify whether overall, the role stressor is predominantly controllable or predominantly uncontrollable. You will need to make a choice one way or another.

A **controllable** stressful event is one in which the occurrence or consequences of the stressful event can be prevented. An **uncontrollable** stressful event is one in which there is nothing that can be done to prevent the event from occurring or lessen its consequences.

<table>
<thead>
<tr>
<th>Role Overload</th>
<th>C = Controllable</th>
<th>U = Uncontrollable</th>
</tr>
</thead>
<tbody>
<tr>
<td>This occurs when too many behaviours are expected of an individual, or the behaviour expected is too complicated or difficult for the individual to execute.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Survey Items</th>
<th>C = Controllable</th>
<th>U = Uncontrollable</th>
</tr>
</thead>
<tbody>
<tr>
<td>At work I am expected to do too many different tasks in too little time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that my job responsibilities are increasing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am expected to perform tasks on my job for which I have never been trained.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have to take work home with me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have the resources I need to get my job done.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel competent in what I do.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I work under tight deadlines.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wish I had more help to deal with demands placed upon me at work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My job requires me to work in several equally important areas at once.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am expected to do more work than is reasonable.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Number of Controllable Events = Σ Total Number of Uncontrollable Events = Σ
### Role Conflict

This occurs for an individual when a person in the work environment communicates an expectation about how he or she should behave and this expectation makes it difficult or impossible to fulfil another behavioural expectation or set of expectations.

<table>
<thead>
<tr>
<th>Survey Items</th>
<th>C = Controllable</th>
<th>U = Uncontrollable</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel conflict between what my employer expects me to do and what I think is right or proper.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel caught between factions at work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have more than one person telling me what to do at work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I have a stake in the success of this hospital.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel good about the work I do.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My supervisors have conflicting ideas about what I should be doing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am proud of what I do for a living.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is clear who really runs things where I work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have divided loyalties on my job.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The work I do has as much pay-off for me as for my employer.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Number of Controllable Events = 9  Total Number of Uncontrollable Events = 9

### Role Ambiguity

This results when there is inadequate, unclear, or confusing information about expected role behaviours; unclear or confusing information about what behaviours may enable the incumbent to fulfil role expectations; or uncertainty about the consequences of certain role behaviours.

<table>
<thead>
<tr>
<th>Survey Items</th>
<th>C = Controllable</th>
<th>U = Uncontrollable</th>
</tr>
</thead>
<tbody>
<tr>
<td>My supervisor provides me with useful feedback about my performance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is clear to me what I have to do to get ahead.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am uncertain about what I am supposed to accomplish in my work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When faced with several tasks, I know which should be done first.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know where to begin a new project when it is assigned to me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My supervisor asks for one thing, but really wants another.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand what is acceptable personal behaviour on my job (e.g., dress, interpersonal relations).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The priorities of my job are clear to me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a clear understanding of how my supervisor wants me to spend my work time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know the basis on which I am evaluated.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Number of Controllable Events = 9  Total Number of Uncontrollable Events = 9
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Kitzinger, J. (1994). The methodology of focus groups: The importance of interactions between research participants. *Sociology of Health and Illness, 16*, 103-121.


Senate Community Affairs References Committee (2002). The patient profession, time for action report on the inquiry into nursing. Canberra: Senate Community Affairs References Committee Secretariat.


