The Impact of Nursing Culture

on Stress, Coping Strategies and Health Outcomes

of Student Nurses

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NATALIE FLAVELL

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Abstract

To examine the effect of acculturation on the stress, coping strategies, and health outcomes of student nurses, a questionnaire was completed by 192 student nurses. A new instrument, the Student Nurse Acculturation Measure (SNAM), was developed to measure degree of acculturation, while established instruments were used to measure the remaining constructs. Results indicated that demands and degree of acculturation increased for student nurses as training progressed. Greater acculturation was associated with increased use of avoidance coping strategies. Increased demands and increased avoidance coping strategies were associated with higher levels of psychological and physical distress, however these variables did not interact to affect distress levels. Nicotine dependency also increased for students and, although this increase was associated with year of study, it was not associated with any of the remaining variables.

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Introduction

Student nurses leave training programmes for a variety of reasons. Stress has been identified as a common reason (Lindop, 1993). A change to academic based training has been linked to increased student stress and attrition (Hamill, 1995; Lindop, 1999). Increased stress levels for nursing students can adversely affect the quality of nursing care (Beck & Srivastava, 1991). Workers experiencing high stress were more likely to be absent than workers reporting low stress and the economic cost of such stress-related sickness absence in the United Kingdom is estimated at 6 billion pounds (Cooper, 1998; Jacobsen et al., 1996). In the United States, 54% of the sickness absence is stress related. Other stress costs include staff replacement and retraining, special supervision, unplanned absences, service complaints and work flow interferences. At an individual level, costs include increased physical symptoms, loss of professional development, loss of self and professional esteem, and psychological distress and disorders (Dollard, 2003).

High levels of stress and distress in student nurses during training may continue as these students become qualified and move into clinical situations. Nursing stress for individuals in a nursing organisation has been associated with turnover, absenteeism, sickness, reduced job satisfaction, higher work accident rates, poor quality of care, and impaired organizational effectiveness (Tully, 2004; Warshaw, 1988). Worldwide nursing student numbers dropped at the end of last century, and there is a genuine shortage of nurses in the British National Health System (Deary, Watson, & Hogston, 2003). Therefore, information about nursing student stress has important implications for understanding outcomes for student nurses, qualified nurses, and health care in general.

Stress and Coping

Lazarus & Folkman (1984) defined stress in terms of a transaction. Stressors, and the demands of those stressors, are related to the situations, events, issues, people and objects that individuals face in encounters with their environment (Cooper, Dewe, & O'Driscoll, 2001). Individual perception (cognitive appraisal) and reaction (coping) to a specific encounter are central to this model.

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In the transaction, the person and the environment interact to the extent that their independent identities are lost and they form a new condition or state (Folkman & Moskowitz, 2004). For a stressor to be perceived a certain way there must be a particular combination of individual and environmental or organizational variables. No two will be the same, so no stressor will ever be perceived in exactly the same way.

The transactional model emphasizes stress as a process, changing over time and across situations, as the individual strives to make sense of the encounter (Lazarus & Folkman, 1987). Cognitive appraisal is therefore central to the process. This appraisal involves evaluative judgments about the significance and implications of the demands of the encounter for the individual. Primary appraisal involves attributing meaning and significance to the stressor, and decision making about what stakes the individual has in the encounter. Three kinds of primary appraisal have been described. The first kind involves an appraisal that the stressor is irrelevant, with no implications for well-being and nothing to be lost or gained from it. The second is an appraisal that the stressor is benign-positive. This occurs when the outcome is seen to be positive. The third type of appraisal has several elements. The encounter can be assessed as involving harm or loss already experienced by the individual. Alternatively, the appraisal may be that there is an anticipated threat or challenge to the individual. This appraisal suggests anticipated harm or loss. Challenge appraisal is the perception of potential for growth during the encounter. When an individual has high stakes or a particular investment in the encounter, there is likely to be a threat or challenge appraisal, leading to a mobilization of resources (Lazarus & Folkman, 1984).

Threat and challenge appraisals are affected by two factors that help determine the extent to which the encounter is beneficial or harmful (Lazarus & Folkman, 1987). The first factor involves individual psychological characteristics brought to the encounter, and includes motivational characteristics such as individual goals and goal hierarchies. These characteristics play an important role in determining individual appraisal of an encounter (Lambert, 2003; Lazarus, 1993; Tugade & Frederickson, 2004). The cognitive characteristics of an

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individual such as beliefs and ways of thinking about the world also play a part in the way an individual appraises an encounter (Folkman & Moskowitz, 2004).

The second factor affecting primary appraisal relates to the social and environmental conditions surrounding an individual's encounter with a stressor. One of these conditions is the situation itself. The novelty, predictability and duration of the encounter will impact on appraisal (Lazarus & Folkman, 1984). Paton (1996) includes conditions such as degree of uncertainty, time of occurrence, and intense media interest or scrutiny as situational conditions that have the potential to impact on stress and strain experienced by team members. The second social and environmental condition affecting primary appraisal relates to the resources of the organizational culture. Individuals will evaluate what resources the organization has to offer them, and how available those resources are to them. The third social and environmental condition affecting primary appraisal includes organizational constraints. These are the internalized beliefs and values of the individual that derive from an organisation's culture. Cultural norms act as important behavioural and emotional constraints, dictating when and if certain types of behaviour are suitable or not. Individual characteristics may play a role in determining how likely that individual is to adhere to these norms (Lazarus & Folkman, 1984). Thus, an encounter will be appraised in a certain way depending on the unique combination of psychological characteristics and situational factors as discussed.

Secondary appraisal of an encounter involves further cognitive appraisal during which the individual makes an evaluative judgment about what can be done about the encounter; what individual resources are available; and what the likelihood is that these resources will be effective. This secondary appraisal impacts on primary appraisal, as the perception of harm, threat, challenge or benefit is influenced by what the individual believes can be done about the encounter. The options deemed available by the individual are affected by the perceived availability of social, personal, economic and organizational resources (Cooper et al., 2001).

The subsequent mobilization of resources has been described as the "thoughts and behaviors that people use to manage the internal and external demands of situations that are appraised as stressful" (Folkman & Moskowitz,

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2004). Such coping behaviour is initiated because the individual has decided that important goals have been lost, harmed or threatened. Coping involves thoughts and behaviours aimed at reducing, mastering or tolerating the effects of a stressor. Coping behaviours are a consequence of primary and secondary appraisal, and as such are part of a process involving ongoing efforts by the individual to manage appraised stressor demands. A dynamic relationship between the individual, the stressor and the environment exists. Coping behaviour and thoughts change over time as coping efforts and the stressor are reappraised and re-evaluated (Cooper et al., 2001; Folkman & Lazarus, 1985; Folkman & Moskowitz, 2004).

Two main functions of coping have been identified (Lazarus & Folkman, 1987). Problem focused coping aims to change the terms of the stressor encounter by dealing with its demands. It includes behaviour such as planning and rational thinking. Emotion focused coping aims to regulate the emotions surrounding and resulting from the stressor and includes behaviour such as distancing and drug and alcohol use. A particular coping strategy may be effective and adaptive in one encounter, but not in the next. Effectiveness of coping will depend on the context and unique combination of variables (Folkman & Moskowitz, 2004). No one strategy can be said to be inherently good or bad, but research by Hart & Wearing (1995) suggested that emotion focused coping and psychological distress among police officers tended to correlate together. These authors concluded that emotion focused coping tends to be maladaptive, with problem focused coping more adaptive. These conclusions have been supported by further research in which it was found that emotion focused coping is adaptive in the shorter term, but that long-term such strategies are ruminative and less beneficial for individual adjustment to stressors (Stanton, Danoff-Burg, Cameron, Bishop, & Collins, 2000). Rumination is an emotion focused coping strategy described as the tendency to passively and repeatedly focus on negative emotions. Such behaviour is associated with increased depression and anxiety, and the onset of major depressive outcomes (Nolen-Hoeksema, 2000).

The choice of coping strategy may change within a particular encounter. For example, it may be effective to use problem focused coping when a situation is controllable, but useful to change to an emotion focused tactic when the

situation because uncontrollable. Folkman & Lazarus (1985) found that students preparing for examinations were more likely to use problem focused coping, and then switch to emotion focused coping strategies such as distancing while waiting to be notified of the results of those examinations (Folkman & Lazarus, 1985). Reappraisal occurs when the individual evaluates the effectiveness of the coping strategies used.

Appraisal and coping processes are therefore seen to shape the stress process. As discussed, this process is influenced by variables within the individual and the environment (Lazarus, 1993). The physical stress response is considered to involve two arousal pathways. The first process to be activated in the stress context, especially in most work situations, is the sympathetic nervous system's adrenal-medullary pathway. This pathway is responsible for releasing adrenalin and noradrenalin. The second pathway is the pituitary-adrenal-cortical system that causes the pituitary gland to release glucocorticoids, such as cortisol into the blood (Dollard, 2003). Successful coping with work related stressors results in low baseline arousal of these pathways. When a stressor is faced, arousal may be quick and strong, but there is a quick return to low baseline levels once the demand is over. Unsuccessful coping involves situations where the worker is unable to cope easily with work stressors. This may be because of a mismatch between coping strategy chosen and the particular job demand (Dollard, 2003). In this situation, individuals show elevated baseline arousal levels in both systems and a slower return to baseline. Unsuccessful coping also leads to increased pituitary-adrenal-cortical arousal. The cortisol released in this process has a half-life of 90 minutes, so arousal is unable to cease once the demand is over. This stress reaction is therefore less adaptive (Dollard, 2003). It appears that these physiological changes underlie the subsequent physical and psychological problems associated with strain.

Strain and distress occur when individuals perceive the stressor and its demands to exceed their resources or capacities (Lazarus & Folkman, 1984). Psychological distress may occur as a negative response to stressor demands, involving alterations to cognitive, affective, and physiological states. Acute work-related demands derive from particularly stressful episodes that occur suddenly, are relatively short-lived, and cause distress immediately (Anshel & Robertson,

1997). Chronic stressors are described in terms of daily hassles or stressful events that are ongoing issues about an individual's important goals and beliefs (Gruen, Folkman, & Lazarus, 1988). Exposure to acute demands causes alterations to physiological states as previously described, and this activation is adaptive, causing no long-term outcomes. Chronic, repeated activation of this physiological system may have serious long-term effects. Such exposure can also contribute to negative outcomes for cardiovascular, biochemical, and gastrointestinal systems (Kemeny, 2003). Behavioural indicators of strain include poor job performance, lowered job satisfaction, turnover, depression, and absenteeism (O'Driscoll & Cooper, 2002).

For student nurses, increased use of emotion focused coping strategies has been linked to greater strain and greater general and psychological distress (Beasley, Thompson, & Davidson, 2002). In particular, some escapist strategies such as avoidance are consistently associated with poor mental health outcomes (Folkman & Moskowitz, 2004; Sheu, Kao-Hsiung, Lin, & Hwang, 2002). A positive relationship has been found between nursing stress and emotion focused coping (Deary et al., 2003; Tully, 2004). Students who experienced increased stress tended to use emotion focused coping strategies (Evans & Kelly, 2004; Lesergent & Haney, 2005). In contrast, students experiencing lower levels of distress and stress reported greater use of direct, problem focused coping strategies (Jones & Johnston, 1997). Active participation in doing something about demands is considered to be more effective in reducing the strain experienced (Hamill, 1995). It has been observed that as nurses progress in their training and career, stressors increase and the use of types of coping changes (Hamill, 1995; Tully, 2004). To explain this shift, it has been suggested that the relationship between stress, coping and strain is moderated by the organizational culture of nursing (Parkes, 1986). This suggestion will now be developed in a discussion of the influence of organizational acculturation and its effect on coping by nurses.

Organisational culture

Organisational culture has been defined as the beliefs, norms, values and assumptions of an organisation (Schneider & Gunnarson, 1991). Culture represents what an organisation has learnt as a group, evolving over time to

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provide stable solutions for problems as they arise. These solutions aim to reduce and contain anxiety associated with unpredictable and changing environments, and can be seen to provide cognitive stability, normalising and stabilising events (Schein, 1991, 2004). They help the organization to cope with problems of external adaptation and internal integration (Schein, 1990). Organisational culture provides group members with a mental map of the organisation's world, providing meaning and setting rules and guidelines for subsequent behaviours, practices and procedures. The rules tell group members how to behave, think, and react emotionally to situations.

The behaviour, practices and procedures are part of the climate of an organisation. Climate is an observable artifact of culture, a manifestation of that culture. It represents the culture, reflecting the underlying, unconscious assumptions and values of the organisation. Other artifacts include the visible products of a group such as language, technology, manner of address, emotional displays, rituals and ceremonies. Artifacts can be measured in order to identify these underlying assumptions (Schein, 1993, 2004).

Schein (2004) suggests that culture can also be studied at the level of espoused values and beliefs. These are the articulated behavioural standards and norms that are tested by the group. They provide guidelines for the group in certain situations and are used to train new members on acceptable ways to behave. Over time they become unconscious, underlying assumptions after having been repeatedly successful for the group. Different organisations will have different underlying assumptions depending on the nature of their work and the organisational history. Nursing is an occupation that has developed its own culture and climate. Perry (2000) suggests that the origin of nursing culture lies within the theories and practices of the founder of modern nursing, Florence Nightingale. Other theorists and practitioners have followed, providing a framework for the underlying values and premises that guide nurses today.

Nursing Culture and Socialisation

Nursing culture has been described as having a hegemonic structure (Clare, 1993). Hegemony occurs when the dominant group or class is able to exercise political and social control over the group or organisation. That control is legitimized when particular beliefs and values are accepted as common sense,

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and new behaviour is learnt. By influencing the consciousness of the people, existing systems, institutions and practices are maintained. For nursing students, dominant groups in healthcare (tutors, mentors, doctors, administrators, older nurses) define the ways they should think and act. Nursing education can be seen to reinforce hegemonic structures. Clare (1993) suggests that students quickly learn their way around these structures, and conform in order to succeed both within the classroom and the clinical setting. This process of professional socialization involves individuals learning about the culture of an organization, and is vital to transmitting and perpetuating that culture (Major, 2000). The assumptions that are passed on in the socialization process have historically worked well in the organizational context, and are considered valid enough to be passed on. In this way students acquire for themselves the values, attitudes and practices that make nursing unique. They come to realize the significance of fitting in and see that they will be rewarded for conformity to group norms. Rewards may include feeling that they have made the transition from outsiders to insiders, receiving good assessment, reducing stigma, and increasing the likelihood of a good placement (Gray & Smith, 1999; Major, 2000).

The hegemonic structure of nursing and socialization into such healthcare settings may have developed because of the nature of the work. Reliance on conformity, rules, regulations and rigid timeframes is at times necessary in a medical environment. It has also been suggested that the reason for the hierarchical structure of both classroom and clinical environments is to provide a social defence system for nurses and students who must deal with difficult operational demands (Hamill, 1995). Traditional teaching methods meant that nursing students were not allowed to exercise independent thought, had no control over authoritative rules, and perceived that they were a nuisance to tutors. This learning environment created compliant, dependent, rule-abiding, procedure-following, subservient students and nurses (Hamill, 1995).

The extent to which an individual is acculturated or socialised into an organizational culture, may be measured by the individual's commitment to the goals and values of an organization. Organizational commitment refers to internalized normative pressures to display behaviour that meets organizational goals and interests (Weiner, 1982). Normative commitment results from

organizational actions such as selection and socialization processes (Mathieu & Zajac, 1990). Once individuals have internalized these norms, individual behaviour may be influenced over the long-term. Commitment is assessed by the degree to which an individual understands and is predisposed to be guided by these internalized values. A deeply committed individual may behave in a way that is designed to meet organizational interests, rather than in a way that is best for that individual (Weiner, 1982). Weiner (1982) suggests that two factors help determine the contribution that organizational commitment makes to normative control. Firstly, in organisations where there is a high level of normative control, organizational commitment plays an important role in determining individuals' behaviour. Nursing can be said to take place within a hierarchical and bureaucratic environment that maintains a high level of normative control. Secondly, external and environmental threats to an organization and its members create situations where individuals within the organization are more dependent on each other. In these situations normative pressures become salient and commitment to the organization becomes more important (Weiner, 1982). Nurses face external and environmental pressure from patients, management, and health-care organizations. Because of the high levels of normative control and external threats to nursing staff, it appears likely that nurses and nursing students will become highly committed to nursing. This commitment will play a substantial role in determining their behaviour.

Schein (1990) outlines further factors that determine the strength and degree of a particular culture's internal consistency. These factors include the stability of the group, the length of time the group has existed, the intensity of the group's experiences of learning, and the strength and clarity of assumptions of the leaders and founders of the group. The hegemonic structure of nursing culture (Clare, 1993), and the long history of nursing suggests that nursing culture is internally consistent, making it a strong and stable culture.

Organisational commitment will be learnt as organisations communicate cultural values to potential and new employees (Adkins & Caldwell, 2004). The nursing organisation, in the same way, attempts to communicate nursing values and beliefs to nursing students. Imposing such values and beliefs may be an attempt to create a "fit" between the values of the individual and the organisation.

Vanderberghe (1999) found that such a value fit produced better overall outcomes for organisations. The close interaction of individuals within nursing would suggest a strong, shared culture (Schneider & Gunnarson, 1991). The style in which these interactions occur tends to be repeated and this repetition leads to a shared perception that this is the way things are done. Individuals then use these shared meanings to guide current and future behaviour. Individuals see what is and what isn't acceptable, and modify their behaviour accordingly. In this way, nursing students come to understand the culture and achieve a sense of group identity. The shared culture becomes a stabilising force that won't be given up easily. In this way, the shared and stable culture defines the group (Schein, 2004).

The more individuals are exposed to a culture, the greater the internalization of that culture's norms and values, and the more behaviour is likely to change. New recruits in an organisation were aware of important organisational values, but the longer they were in the company, the greater their ideological commitment (Ashkanasy, Broadfoot, & Falkus, 2000). The process of socialization is completed when newcomers come to understand and accept the important goals, values and ways of doing things in an organization. Thus the extent to which students are socialized may depend on the degree of exposure to nursing culture. Holland (1999) has described the three separate years of nursing training as a transition period during which individuals learn different ways of seeing themselves and different ways of behaving. The first stage is becoming a student nurse; the second stage is being a student nurse; and the third stage is becoming a qualified nurse. Students must follow the cultural rules to pass through this process (Holland, 1999).

Individuals are socialised by supervisors, through feedback processes that provide information about what behaviour will be rewarded. These rewards may be seen as signs that individuals have been accepted by the organization (Major, 2000). The ability of supervisors to socialize newcomers can be seen in research examining the impact of mentoring systems for nursing students. After two periods of mentoring, student nurses showed different shifts in perceptions of the professional role of nurses, and showed two different changes in attitudes (Goldenberg & Iwasiw, 1993; Ouellet, 1992). Coworkers also play an important

part in the socialization process. Because newcomers are often involved in impression management practices, coworkers can be a valuable and non-threatening source of information and support (Major, 2000).

As nursing students undertake clinical placements they will be exposed to behavioural and emotional norms acceptable to nursing culture. The socialization of students during clinical placement may occur not simply because individual students are newcomers, but also because there is a disparity between the cultural values of the educational institutions and those of clinical areas. This has been referred to as the gap between theory and practice (Philpin, 1999). The size of the gap between the two cultures can impact on socialization processes and outcomes for nursing students. Philpin (1999) found that in acute clinical placements such as intensive care units and emergency rooms, harsher, more negative sanctions were experienced by students. The aim of these sanctions was to ensure students learnt their roles. This resulted in less satisfactory outcomes for those students. In chronic clinical placements such as medical and elderly care wards, students felt there was less dissonance between the values of the learning institution and placements, and socialization processes were less extreme. This resulted in more satisfactory outcomes for students and qualified nurses. This study illustrates an organisational culture's potential to impact on student nurse outcomes, including their experience of stress.

It has been suggested that congruence between the values of a healthcare organization and those of its nursing recruits will lead to more satisfactory outcomes such as decreased turnover (Vandenberghe, 1999). However, some research suggests that socialization may increase stress for nursing students. Mathieu & Zajac (1990) suggest that organisational commitment, and congruence between organization and individual values, may have negative consequences. These authors report that high commitment and the subsequent modified behaviour can lead to greater stress, less innovation, less creativity, and less adaptation, as individuals strive to conform to behavioural norms. Earlier research found evidence of reduced self development, career stagnation and family strains alongside high organizational commitment (Mowday, Porter, & Steers, 1982).

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In summary, the discussed research suggests that nursing students are likely to be strongly influenced by nursing culture, due to the hegemonic nature and strong internal consistency of the nursing environment, and also because of the disparity between nursing theory and practice.

Organisational culture as a moderator of the stress process

The environmental resources or constraints offered by an organisation's culture may be a moderator of the stressor-strain relationship in the same way as moderators such as individual differences, perception of control, and environmental factors like social support. Social support is a psychosocial characteristic of the environment that has been examined as a moderator of the stressor-strain relationship. Social support is a transaction between individuals that involves one or more of the following factors: emotional concern; instrumental help such as goods and services; information about the environment; and information relevant to self-evaluation (House, 1981, cited in (Cooper et al., 2001). The organizational environment may influence the availability of social support and how it is received.

The social support made available by the organizational environment influences the information and advice offered to individuals by the organisation's social network, increasing or decreasing their ability to confront and solve a problem (Dunkel-Schetter, Folkman, & Lazarus, 1987; Newton & Keenan, 1985). The type of social support offered in these circumstances influences an individual's choice of coping strategy. For example, Newton & Keenan (1985) found that coping by withdrawal was less likely in warm and supportive environments. Social support is therefore an organizational resource or constraint that depends on the cultural environment and impacts on the stressor-strain relationship.

Previous research has found that organizational culture has a stronger influence over morale and overall levels of well-being than positive work experiences or personality variables (Cotton & Hart, 2003; Hart & Cotton, 2003a). Unit and organisation-wide culture have been found to impact on dimensions of job satisfaction, empowerment, and overall job satisfaction (Fayram, 1998; Upenieks, 2002). Ostroff (1993) found that individuals' perceptions of climate and culture were related to outcomes such as satisfaction, commitment,

adjustment, turnover and absenteeism. Individual climate perceptions were also related to stress and the amount of strain experienced by individuals. Ostroff's taxonomy of climate dimensions was used to examine the effects of those facets on individual outcomes (Carr, Schmidt, Ford, & DeShon, 2003; Ostroff, 1993). All climate facets were related to psychological well-being and withdrawal from the workplace. Hart & Wearing (1995) examined the work experiences of police and reviewed similar teacher research. They found that for both these groups, experiences relating to the organization were more bothersome, and caused greater strain, than operational experiences. Due to similarities between the demands of police and nursing staff, this research could be generalized to nurses and nursing students. The research illustrates the way that aspects of the organization, including culture, can impact on stress processes. Research focusing specifically on nursing found that culture fostered or deterred certain behavioural outcomes including turnover and absenteeism (Hemingway & Smith, 1999). Of those who started smoking during nursing training, 71% were strongly influenced by peer pressure (Wagner, 1985).

The socialisation process during which nursing students come to be acculturated into nursing may change the experience of stress for student nurses by acting as a moderator of the stressor-strain relationship, influencing decisions students make about coping strategies they use in attempting to deal with demands. Schein (1990) suggests that validated assumptions of a culture will be taught to new members as the correct way to think, perceive and feel about organizational problems. Culture can therefore be considered to moderate the stressor-strain relationship by influencing the primary and secondary appraisal of stressors. Evidence of this was found in research indicating that culture influenced appraisal of stressors and made a major contribution to coping strategy choice, especially in more difficult circumstances such as those with high work load and low support (Parkes, 1986). Coping strategy choice subsequently impacts on health outcomes (Folkman & Moskowitz, 2004). Professional socialisation and normative pressures may force students to cope in ways that are acceptable to the group, thereby changing the way students may have previously chosen to cope with stressors. This is because coping does not only depend on personal coping ability, but also on the support received from others in a group or organisation by way of information. Organisational cultures

value the process of mastery and use of particular coping skills, and allocate resources accordingly (Smit & Schabracq, 1997). The culture then supports individuals to become competent with certain coping skills, providing normative feedback, and allowing a sense of belonging to the group.

This sense of belonging is very important to group members. Marginality occurs when individuals leave one social group or culture, without being accepted into another. In this situation, individuals experience a sense of homelessness and loss of status. With the aim of becoming group members, individuals make decisions about new coping strategies. Strategies used by nursing students in these marginal situations have included conforming to student behaviour through accepting the status quo, withdrawing from clinical situations; and withdrawing from training courses (Pilhammar Andersson, 1995).

Other coping strategies learnt by nursing students include passive acquiescent behaviour in the training environment (Hamill, 1995). In this research it was noted that students coped with the authoritative nature of the training environment by putting up with the situation and not challenging anything, with the aim of escaping perceived sanctions or punishment. They avoided situations that required them to seek advice from apparently disinterested and inconsistent tutors. The use of these short-term, emotion focused strategies were reinforced for some students when they passed subsequent examinations and assignments, making it more likely that this behaviour would continue. In regards to coping behaviour in clinical situations, nursing students have reported behaving differently as their training progressed. They re-appraise situations on the wards as they continue with clinical placements, and use different coping strategies accordingly (Hamill, 1995). Tobacco use is another example of a coping mechanism used when individuals experience demands (Rowe & Clark, 2000). Previous research suggests that the prevalence of tobacco smoking among student nurses is higher than for other populations, including student populations of the same age group (Suzuki, Ohida, Yokoyama, Kaneita, & Takemura, 2005). It is also suggested that perceived stress, worry and tension contribute to increases in the smoking behaviour of nursing students. Smoking behaviour may be initiated and maintained by the social networks that formulate within the context of nursing education (Rowe &

Clark, 2000). In addition, New Zealand Public Health Services cite anecdotal evidence of student nurses beginning to smoke, or increasing their smoking behaviour, during nursing training (R. Holdaway, personal communication, January 18, 2005).

These studies provide evidence that nursing students change coping behaviours as training progresses. Further research suggests that a tendency to use more emotion focused coping strategies develops (Adejumo & Brysiewicz, 1998; Deary et al., 2003; Evans & Kelly, 2004; Lindop, 1993). This may be because of a lack of support services that promote the use of problem focused coping strategies. Lindop (1993) suggests lack of such services is largely due to the fact that nursing culture sees self-sacrifice as a virtue. Such a culture suggests that individuals should always cope, whatever the situation. To admit to experiencing stress is a sign of weakness.

In addition to changes in coping strategies, nursing students reported a general increase in stress levels and distress as training progressed (Lindop, 1999; Lo, 2004; Tully, 2004). Deary, Watson & Hogston (2003) found student nurses experienced increasing levels of stress alongside increased use of emotion focused coping strategies such as avoidance and distraction. Qualified nurses also experienced increased psychological distress when avoidance coping strategies are chosen to deal with stressors (Tyler & Cushway, 1995).

In sum, stress levels, intensity of distress, and strain as an outcome increase for nursing students as training progresses, as does the frequency of use of emotion focused coping strategies. Previous research into the stress transaction has examined the impact of moderators such as individual differences; perception of control over the environment; and environmental factors such as work demand and social support in this stress process. Culture and its impact on coping and well-being outcomes have also been researched at varying levels. These studies have looked at the impact of culture at one point in time.

For the purposes of the present study, it is suggested that culture encourages the use of emotion focused coping strategies, thereby increasing strain and negative well-being outcomes. It does this by acting as a moderator through its involvement in the primary and secondary appraisal of stress.

Organisational culture influences the internalised beliefs and values of an individual who then makes a judgment about what is important, damaging or desirable behaviour, and when this behaviour is allowed to occur (Lazarus & Folkman, 1984). Coping behaviour is therefore based on what the individual believes is available; acceptable; and effective for the individual and for the organisational culture in which that individual is involved. It is suggested that the degree to which an individual is involved in, and committed to, an organizational culture will have an impact on what s/he believes is culturally acceptable coping behaviour. These beliefs will then impact on the coping strategies chosen. It is also suggested that these beliefs will change as training continues and s/he becomes more involved in nursing culture. This in turn will lead to an increased use of emotion focused coping strategies and increases in strain and associated negative outcomes.

The present study will investigate the impact that changes in socialisation into nursing culture have on coping strategies chosen by nursing students over three years of study. Levels and sources of stress, degree of acculturation, coping strategies, and strain outcomes (psychological and physical distress) will be measured over this three year period.

The following hypotheses will be tested:

1. Student nurses become more acculturated into nursing as training progresses.

2. Student nurses who are more acculturated into nursing are more likely to use emotion focused coping strategies to deal with demands.

3. Greater demands from different aspects of student life will be associated with higher levels of physical and psychological distress.

4. Greater use of emotion focused coping strategies in dealing with demands will be associated with greater physical and psychological distress.

5. The relationship between demands and health outcomes will be moderated by the type of coping strategies used.

6. The relationship between demands and health outcomes will be moderated by degree of acculturation.

Method

Participants

Participants were students who were enrolled in the three-year Bachelor of Nursing degree at one campus of Massey University and two campuses of the Universal College of Learning. Students were from campuses in one town and two cities. Participants were in year 1, 2 or 3 of their programme.

At the Massey University campus, 84 students were enrolled in the first year; 94 in the second year, and 78 in the third year of the nursing programme. At the Universal College of Learning campus in the smaller town, a total of 90 students were enrolled in the nursing programme. At the Universal College of Learning campus in the city, 100 students were enrolled in the first year; 105 in the second year; and 97 in the third year of the programme.

The participants were aged between 18 years and 55 years of age, with 28 years being the average age of participants. Further demographic information was not obtained from the participants in order to maintain anonymity. Because of factors such as small class sizes and small numbers of male students and other minority groups, obtaining such demographic details may have identified some students.

The first year of the Universal College of Learning programme comprises 240 practicum hours, made up of 40 hours clinical placement in a health care organization outside the educational institutions, and 200 hours of simulated practicum in laboratory settings supervised by registered nurses. The second year of the programmes comprises 480 practicum hours, made up of four 3 week blocks of external clinical placement, with the remaining hours spent in simulated practicum as previously outlined. The third year of the programme comprises four 3 week blocks of external clinical placement with an additional 8 weeks clinical placement that is designed as a transition to practice. The remainder of the academic years for students at all levels is spent in classroom situations.

The first year of the Massey University programme comprises 300 hours of clinical placement. The second year comprises 400 hours, with the third year comprising 88 hours. On hundred and fifty hours of clinical laboratories are

spread throughout the three years. In total, nursing students at all institutions must complete 1500 hours of practicum work over the three years of the Nursing degree. This requirement is set by the New Zealand Nursing Council.

A total of 192 students returned completed questionnaires (response rate: 30 %). Of these 37 % (N=71) were first year students; 28.6 % (N=28.6) were second year students; and 34.4 % (N=66) were third year students.

Measures

The measures in the current study are detailed in the following sections.

Student Nurse Stress Index (SNSI).

Jones & Johnston (1999) developed the SNSI using a 43 item stress inventory (BSSI, Beck & Srivastava, 1991). The BSSI assesses sources and levels of stress for student nurses. The items are relevant for medical and dental students and are designed specifically for student nurses. This instrument has shown acceptable reliability indices and convergent validity. Jones & Johnston (1999) suggested the following deficiencies in the BSSI: the measure contains items relevant to only a subset of the student nurse population; it was not validated across independent samples of student nurses; and the factor structure and test construction methods weren't described or explored adequately, more specifically, item criteria retention was not described.

Because of these problems, the SNSI was created using the 35 item BSSI, alongside 15 additional and relevant items. The new items were derived from the literature and also from student feedback. The SNSI has a four factor structure with the underlying variables of: academic load; clinical concerns; interface worries; and personal problems.

The SNSI subscale and total scores are calculated using the unit weighting method of scoring. A total score is obtained by summing scores on all items with scores ranging from 22 to 110. The Academic Load subscale score is obtained by summing scores on 5 items, to give a subscale total ranging from 7 to 35. The Clinical Concerns subscale score is obtained by summing scores on 7 items to give a subscale total ranging from 7 to 35. The Personal Problems subscale score is obtained by summing scores on 4 items to give a subscale total ranging from 4 to 20. The Interface Worries subscale score is obtained by

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summing scores on 6 items to give a subscale total ranging from 7 to 35. Higher subscale scores indicate greater stress experiences for participants on that particular subscale.

Jones & Johnston (1999) report cross sample factor congruence, good internal reliabilities, and concurrent and discriminant validity for the SNSI. Because the SNSI shows a minor association with social desirability response bias, the authors suggest that the measure be administered alongside a measure of social desirability such as the 60 item Marlowe-Crowne Social Desirability Index (Crowne & Marlowe, 1960). The purpose of this additional measure is to detect and control for this response style. For the purposes of the current research, a social desirability measure was not included. This decision was made with the aim of preventing participant response fatigue.

Student Nurse Acculturation Measure (SNAM).

The SNAM was developed by the author (See Appendix A) in order to measure the degree to which individual student nurses are acculturated into and involved with nursing culture. Interviews were conducted with qualified nurses and cultural themes and dimensions identified. Items were then generated that measured individuals' understanding of those dimensions. It is suggested that greater understanding of the dimensions indicates deeper acculturation and involvement in nursing culture.

Items were formatted into a questionnaire and completed by a small group of qualified nurses ($N=5$) and a group of non-nurses ($N=5$). Rational construction of the final 17 items was used, taking into consideration the themes identified by the original informant interview, and the reliability analyses that identified the items that most reliably measured these themes. Cronbach's alpha coefficient for the themes ranged from .65 to .87.

The Brief COPE.

Stress and coping processes involve individuals striving to change what is distressing and undesirable about a particular situation. The measurement of coping in this context requires observations about thoughts and acts that have occurred or are occurring, rather than what usually occurs. This measures coping in a particular context, allowing individuals to compare what they might

usually do with what they actually did in a particular situation (Lazarus & Folkman, 1987). Momentary accounts of coping strategies used in a particular situation address the problem of bias due to recall. Retrospective accounts address the problems of complexity. A checklist approach may help prompt people in recalling the strategies use in a particular situation, therefore providing coping information that may have been overlooked (Folkman & Moskowitz, 2004).

For these reasons the Brief COPE (Carver, 1997) was selected in the present study with the intention of capturing the behaviours used by an individual in a particular encounter (Cooper et al., 2001). In addition, the Brief COPE suited the present study because it was intended to be used in naturally occurring settings, for retrospective or concurrent situations, and alongside other measures (Carver, 1997). The measure also has the advantage of being based on the transactional stress model (Lazarus & Folkman, 1984).

The Brief COPE contains 28 items measuring 14 conceptually differentiable coping responses. It is derived from the Full COPE (Carver, Scheier, & Weintraub, 1989), and has similar factor structure. Reliability analysis suggests acceptable internal reliability, and good internal structure for both the Full and Brief COPE (Carver, 1997; Fillion, Kovacs, Gagnon, & Endler, 2002; Muller & Spitz, 2003). With the aim of making the factor structure more stable, an extra item was included in each of the 14 subscales. The extra items were drawn from the Full COPE, and improved reliability of the items, so that cronbach's alpha ranged from .51 to .93 (D. Gardner, personal communication, August 2005).

The participants were asked to think of the most stressful situation that they had experienced in the previous few weeks. They were then required to indicate how often they used a particular coping response. The answers to the items were given on a 5-point-rating scale ranging from '0' = "Not at all" to '5' = "Very Much". Scale scores were calculated by adding the item scores. The possible total scores for each subscale ranged from 3 to 15.

SF-12 Health Survey.

The SF-12 Health Survey is a multi-purpose, short-form measure taken from the SF-36 Health Survey (Ware, Kosinski, & Keller, 1996). It is a generic measure designed to be a briefer, more practical alternative to the 36- item SF36 Survey. Eight domains of health are measured and include: Physical functioning; Role Physical; Bodily Pain; General Health; Vitality; Social Functioning; Role Emotional, and Mental Health. The 8 domains measured produce 8 scale scores ranging from 0-100. Two summary measures (physical component summary and mental component summary) are then generated from these scales. Higher scores on the SF-12 indicate better health.

Alternate forms estimation methods were used to estimate the reliability of the SF-12 scales. Reliability coefficients ranged from .73 to .89, suggesting that using the SF-12 to measure health produces scores that are consistent and reproducible. The SF-12 is suitable for groups in which the focus is on overall physical and mental health outcomes. The measure has been found to be valid for such purposes (Gandek et al., 1998).

The Modified Fagerstrom Tolerance Questionnaire.

In order to assess the use of tobacco as a coping strategy for nursing students nicotine dependence of participants was measured. The extent to which student nurses are dependent on nicotine was measured using questions derived from the Modified Fagerstrom Tolerance Questionnaire (FTND; (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). This instrument aims to measure physical dependence and tolerance to nicotine. One question contains a likert rating scale of 1 to 4. The other items are fixed-choice, requiring a yes or no response. For scoring purposes, a yes response resulted in a score of 2, and a no response resulted in a score of 1. The test was validated and the scale items found to be associated with physiological measures of dependence such as body temperature and heart rate (Fagerstrom, 1978). This measure has also demonstrated reasonable reliability and validity in cross-sectional and prospective studies (Suchanek Hudmon, Pomerleau, Brigham, Javitz, & Swan, 2005). The brevity of the measure was suitable in the present study due to its use alongside other measures.

Three further questions were asked of participants relating to smoking habits. They are as follows: "Have you started smoking while studying nursing?"; Are you an ex-smoker who has started to smoke again while studying nursing?"; and "If you are a smoker, has the new legislation banning smoking in bars and restaurants reduced your smoking?". These questions were included for the purpose of providing information to the New Zealand Public Health Services. The final question about "new legislation" refers to the Smoke-free Environments Amendment Act (2003) that banned smoking in licensed premises on 10 December, 2004.

Procedures

Questionnaires, information sheets and return envelopes were distributed to participants by the researcher in the classroom setting (See Appendix B). The researcher explained the research to students who took the questionnaires away to complete in their own time. Students had a choice as to whether they participated in the study. Students were informed that returning a completed questionnaire allowed them to enter a draw to win 3 prizes of compact discs each valued at $30. Completed questionnaires were returned to the researcher by the return freepost envelopes. Separate name and address sheets were attached to questionnaires, and upon receipt of the completed questionnaires, the researcher removed the name and address sheets to ensure anonymity. All materials and procedures used in the present study were approved by the Massey University Human Ethics Committee (See Appendix C).

Analysis

The statistical package SPSS/PC v12 was used to evaluate the data and relationships among the variables. Analysis was undertaken in two main stages.

1. Data was screened for accuracy of data entry, missing values, and the fit of variable distributions to the assumptions of the analyses used.

2. The following analyses were undertaken to investigate the hypotheses of the study:

    i.   Analysis of variance (ANOVA) was conducted to determine the statistical significances between the levels of acculturation at each of the three years of study;

ii.   Principle Components Analysis (PCA) of the Brief Cope items was conducted in order to reduce the number of subscales. PCA identifies factors representing underlying processes that create correlations between variables.   Identification of such factors allowed examination of fewer, yet still independent factors, and their role in the stress process.

iii. Pearson product-moment correlation coefficients were obtained to establish the relationship between levels of acculturation and Avoidance Coping strategies, and the frequency of use of Avoidance Coping strategies at the three different years of training.

iv.   Hierarchical multiple regression analyses were conducted to examine the relationship between greater demands from different aspects of student life and levels of physical and psychological distress;

v.   Hierarchical multiple regression analyses were also conducted to examine the impact that greater use of Avoidance Coping strategies had on physical and psychological health outcomes;

vi.   Hierarchical multiple regression analysis was conducted to examine the moderating effect of degree of acculturation on the relationship between demands and health outcomes.

Results

Data Screening

Data screening followed the guidelines provided by Tabachnick & Fidell (2001). Missing cases were deleted for some analyses. The number of cases (*n*) varies for each analysis. This reflects different response rates for different measures. Normality of all measures was examined using histograms and skewness and kurtosis values. None of the measures violated normality assumptions. Levene's test of homogeneity of variances for the measures suggested that the population variances for each group were approximately equal. The assumptions of linearity, homoscedasticity and tolerance were satisfied. Examination of generated variables, including residuals, Mahalanabis distance, leverage, and Cook's distance found no evidence of outliers.

Descriptive Statistics

SNSI and subscales.

The descriptive statistics for subscale and total SNSI scores are reported in Table 1.

Table 1. *Means (M) and Standard deviations (SD) for SNSI total and subscale scores.*

	Year 1		Year 2		Year 3	
	M	**SD**	**M**	**SD**	**M**	**SD**
SNSI Total	59.17	11.53	60.20	11.57	65.92	10.05
Academic Load	22.35	4.15	21.98	4.49	23.92	3.24
Clinical Concerns	16.79	4.39	17.31	3.84	18.26	4.31
Personal Problems	8.54	3.62	9.71	3.83	10.91	3.76
Interface	19.54	4.70	19.18	4.87	21.71	3.98

ANOVA was used to compare the means of the SNSI total and subscale scores across the 3 years of nursing study. Academic Load was the greatest source of stress for student nurses, with year 3 students experiencing this source of stress more than years 1 and 2 respectively. Significant differences were found between the 3 years, $F(2,189)=4.27$, $p= .015$. Further analysis using Tukey's HSD test showed that the significant differences lay between years 2 and 3.

Interface Concerns was the second highest scoring subscale. Significant differences were found between the groups, $F(2,189)= 5.93$, $p= .003$. Tukey's HSD test showed that significant differences lay between all 3 groups. Clinical concerns was the third highest scoring subscale. No significant differences were found between the years of study. Personal problems was the lowest scoring of the subscales. Significant differences were found between the groups $F(2,189)= 6.93$, $p= .001$. Tukey's HSD test showed that these significant differences lay between year 1 and year 3.

The SNSI total scores indicate that overall stress increases for nurses throughout the 3 years of training. Significant differences were found between all 3 years, $F(2,189)=7.18$, $p= .001$.

SNAM.

Of the questionnaires returned, 7 participants did not answer all the items for this measure. The responses from these participants were not included in any analysis of acculturation. As predicted acculturation scores tended to increase as training progressed, indicating greater acculturation into nursing. The acculturation scores for first year students ($M= 45.24$, $SD= 3.37$) were less than those of second year students ($M=45.8$, $SD= 2.97$), and less than those of third year students ($M= 47.45$, $SD=3.39$). Further analyses of the SNAM are reported later in this section.

Brief COPE.

Of the returned questionnaires, 6 participants did not fully complete all the coping items, hence their coping responses were not included in the analyses.

Factor Analysis of Brief COPE.

In order to reduce the number of subscales provided by the Brief COPE (Carver, 1997), principal components analysis with varimax rotation was used to summarise the information contained in the variables This analysis yielded two possible solutions.

The first solution was a two-factor solution that explained 31% of the variance in the items. Higher scores on Factor 1 (Active Coping) were interpreted as reflecting more active coping styles that involved individual's participation in doing something to deal with the problem or emotions related to the demand. Higher scores on Factor 2 (Avoidance Coping) were interpreted as reflecting attempts by an individual to remove themselves from the problem or emotions related to the demand.

The second solution was a four-factor solution that explained 48% of the variance in the items. The first and second factors were similar to the factors of the first solution as previously outlined. Higher scores on Factor 3 (Substance Use Coping) reflected greater use of substances to avoid dealing with demands and associated emotions. Higher scores on Factor 4 (Self Blame Coping) reflected individual's using self blame strategies in facing demands and emotions.

For the purposes of conducting the present research the two-factor solution was selected. The factor loadings for the two factors are presented in Table 2.

Table 2. *Factor Matrix Loadings - Active Coping (Active) and Avoidance Coping (Avoid).*

Item	Item Description	Active	Avoid
BC64	I took action to try to make the situation better	**.655**	.111
BC61	I tried to see it in a different light, to make it seem more positive	**.644**	.106
BC81	I tried to come up with a strategy about what to do	**.639**	-.004
BC59	I looked for something good in what happened	**.592**	.018
BC68	I did what had to be done, one step at a time	**.570**	-.088
BC41	I concentrated on doing something about it	**.568**	-.036
BC60	I got help and advice from other people	**.561**	.453
BC44	I admitted to myself I couldn't deal with it and stopped trying	**-.554**	.441
BC78	I made a plan of action	**.540**	-.001
BC74	I got comfort and understanding from someone	**.526**	.298
BC50	I thought hard about what steps to take	**.520**	.145
BC43	I gave up trying to deal with it	**-.514**	.443
BC73	I thought of what I could learn from the experience	**.469**	.250
BC63	I asked people who had had similar experiences what they did	**.458**	.328
BC71	I got emotional support from others	**.438**	.427
BC66	I tried to see the funny side of things	**.404**	.185
BC55	I made fun of the situation	**.296**	.263
BC77	I tried to get advice or help from other people about what to do	**.520**	.529
BC70	I did something to think about it less, such as going to movies, watching TV, reading or shopping	-.133	**.510**
BC80	I criticized myself	-.069	**.487**
BC75	I gave up the attempt to cope	-.371	**.480**
BC76	I turned to work or other activities to take my mind off things	-.047	**.465**
BC67	I day dreamed about other things to take my mind off it	-.134	**.446**
BC72	I used alcohol or other drugs to make myself feel better	-.289	**.445**
BC47	I expressed my negative feelings	.033	**.440**
BC53	I told myself it was all my fault	-.102	**.424**
BC82	I refused to believe that it had happened	-.240	**.410**
BC54	I said to myself "This isn't real"	-.181	**.405**
BC48	I used alcohol or other drugs to help me get through it	-.306	**.372**
BC65	I used alcohol or other drugs to thing about it less	-.367	**.368**
BC52	I blamed myself for what had happened	-.113	**.307**

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This solution satisfied the assumptions of factor analysis as described by Tabachnick & Fidell (2001). There are more than 4 variables per proposed factor, 10 cases per variable, and the sample size is not less than 50. The correlation matrix for this solution contained moderate correlations between variables, with some correlations being greater than .30. This result suggests that the correlation matrix is factorable. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .728. This is described as a "middling" measure of sampling adequacy averaged over all the variables. The closer the measure is to 1, the more adequate the measure is deemed. Bartlett's test of sphericity produced a significant result at an alpha level of .001 (p= .000). This finding suggests that the correlation matrix is significantly different from an identity matrix. The descriptive statistics for the scores on the 2 factors are presented in Table 3.

Table 3. *Means (M) and Standard deviations (SD) for Active Coping and Avoidance Coping Subscales of Year 1 to 3 students.*

	Year 1		Year 2		Year 3	
	M	SD	M	SD	M	SD
Active Coping	3.14	.53	3.19	.59	3.27	.59
Avoidance Coping	2.18	.53	2.22	.50	2.28	.70

The mean use of active coping and avoidance coping strategies increased as training progressed. ANOVA was used to compare the means of the 2 coping strategies across the 3 years of training. The differences between the means of the 3 years were not significant.

SF-12 Health Outcomes.

The descriptive statistics for these scores are presented in Table 4.

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Table 4 *Means (M) and Standard deviations (SD) for SF-12 Total, SF-12 Mental, and SF-12 Physical Health outcomes.*

	Year 1		Year 2		Year 3	
	M	**SD**	**M**	**SD**	**M**	**SD**
SF-12 Total Health	36.93	4.74	36.40	5.64	34.14	6.16
SF-12 Mental Health	19.68	3.16	19.45	3.82	17.44	4.35
SF-12 Physical Health	20.76	2.69	20.47	3.28	19.65	3.48

ANOVA was used to compare the means of the 3 health outcomes across the 3 years of training. SF-12 Total Health outcome scores decreased as training progressed, indicating deterioration in overall health outcomes for students. Significant differences were found between the groups $F(2,185)= 4.64$, $p= .011$. Further analysis using Tukey's HSD test indicated that the significant differences in overall health outcomes lay between year 1 and year 2 students.

SF-12 Mental Health outcome scores also decreased as training progressed, indicating deterioration in mental health outcomes for students. Significant differences were found between the groups $F(2,189)= 6.96$, $p= .001$. Further analysis using Tukey's HSD test showed that the significant differences existed between all 3 groups. SF-12 Physical Health outcome scores decreased as training progressed, indicating deterioration in physical health outcomes for students. However these differences were not statistically significant. Table 5 presents the Intercorrelations of SF-12 Mental and Physical Health scores, SNSI subscales, and Active and Avoidance Coping.

Table 5. *Pearson Inter-correlations of Measures.*

	2	3	4	5	6	7	8
1. Mental Health	.654*	-.389*	-.329*	-.287*	-.517*	.114	-.381*
2. Physical Health		-.354*	-.299*	-.320*	-.557*	.032	-.256*
3. Academic Load			.568*	.576*	.393*	.003	.190*
4. Interface Concerns				.431*	.392*	.031	.207*
5. Clinical Concerns					.401*	-.018	.117
6. Personal Problems						-.002	.284*
7. Active Coping							.128

All SNSI subscales were positively correlated with each other, and negatively correlated with SF-12 Mental and Physical Health scores. Active and Avoidance Coping were not correlated with each other, while SF-12 Mental Health scores were positively related to SF-12 Physical Health scores.

Avoidance Coping was significantly and negatively related to SF-12 Mental and Physical Health scores. This coping strategy was also negatively related to Academic Load, Interface Concerns and Personal Problems.

Smoking and Nicotine dependence.

Of the 192 participants, 31 student nurses regarded themselves as smokers. Descriptive statistics for number of cigarettes smoked per day and nicotine dependency scores are presented in Table 6.

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Table 6. *Descriptive statistics for smoking frequency and nicotine dependency.*

	Year 1		Year 2		Year 3		All Years	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Number of cigarettes per day	9.31	7.9	14.11	7.39	14.56	5.08	12.23	7.27
Nicotine dependency scores	6.85	1.82	9.11	2.09	9.89	1.83	19.73	8.67
	n=13		n=9		n=9		n=31	

As a group, student nurses smoked between 2 and 35 cigarettes per day. Tukey's HSD Test found no significant differences between the smoking frequency of the 3 groups. Fifteen participants reported they had stopped smoking while studying to be a nurse. Five students who had not smoked before reported starting to smoke while studying, and 5 ex-smokers started to smoke again while studying. Sixteen of the smokers reported that the new legislation banning smoking had not reduced their smoking. Three smokers said it had reduced their smoking a lot, while 12 said it had reduced their smoking a little.

Nicotine dependency scores were measured using the Modified Fagerstrom Tolerance Questionnaire (FTND; (Heatherton et al., 1991). A test for homogeneity of variances produced a non-significant Levene statistic (p=.984), suggesting there were no significant differences in the variance of the 3 groups. ANOVA was used to compare the nicotine dependency means of the 3 groups of students. Significant differences were found between the groups $F(2,28)$= 7.71, p= .002. Tukey's HSD test found that the significant differences lay between Year 1 and 2 students, and Year 1 and 3 students. These results suggest that nicotine dependency increases as nursing training progresses.

The relationships between nicotine dependence and other variables were examined using Pearson product-moment correlation coefficient. A significant positive relationship was found between nicotine dependency scores and year of

study (r= .578, p< .001). No significant relationships were found between nicotine dependency scores and the following variables: degree of acculturation; SNSI Total demands and subscales; SF-12 Total Health outcome and physical and mental outcomes; active coping; avoidance coping.

Hypothesis 1

Student nurses become more acculturated into nursing as training progresses.

Analysis of variance was used to compare the means of total acculturation scores for the 3 years of nursing training. With an alpha level of .05, the effect of year of training on degree of acculturation was statistically significant, $F(2, 188)$= 7.31 p< .05. Further analysis using Tukey's HSD test showed that the significant differences lay between years 1 and 3.

Hypothesis 2

Student nurses who are more acculturated into nursing are more likely to use Avoidance Coping strategies.

ANOVA was used to compare the mean avoidance coping scores for students across the 3 years of nursing study. No significant differences were found between the 3 years. The relationships between degree of acculturation and the two coping factors of active and avoidance coping were examined using Pearson product-moment correlation coefficient. No significant relationship was found between degree of acculturation and active coping. A significant positive relationship existed between degree of acculturation and the use of avoidance coping strategies (r= .19, p< .01). Thus greater acculturation into nursing was associated with greater use of avoidance coping strategies.

Hypothesis 3

Greater demands from different aspects of student life will be associated with higher levels of physical and psychological distress.

The relationships between demands (SNSI Total scores and subscale scores) and health outcomes (SF-12 Total health; SF-12 Mental Health; and SF-12 Physical Health) were examined using Pearson product-moment correlation coefficient. The results of this analysis are presented in Table 5.

Significant negative correlations were found between SNSI Academic Load, Clinical Concerns, Personal Problems, and Mental and Physical Health scores. These results indicate that increases in overall demands are associated with deterioration in overall health outcomes and higher levels of physical and psychological distress. The correlations between SF-12 Health outcomes and Personal Problems were greatest, indicating that increases in Personal Problems are more highly associated with deterioration in overall health outcomes than the other subscales.

Multiple regression analyses were conducted to examine the relationships between the demands together and health outcomes. Tabachnick & Fidell (2001) suggest that there should be no less than 5 cases per variable in such analysis. The number of cases in the present study satisfies this requirement. Two analyses involved SF-12 Physical Health scores and SF-12 Mental Health scores entered as the criterion variables, with SNSI subscale scores as the predictor variables. The criterion variables of Personal Problems, Academic Load, Clinical Concerns and Interface Concerns were entered into the analyses. The aim of these analyses was to examine the effect demands have on Mental and Physical Health. Table 7 presents the results of the multiple regression analyses.

Table 7. *Multiple Regression of SF-12 Mental and Physical Health on SNSI subscales.*

	Mental Health	Physical Health
Predictors	Beta	Beta
Academic Load	-.128	-.205*
Clinical Concerns	-.045	.026
Personal Problems	-.481*	-.424*
Interface	-.018	-.058
R	.577*	.557*
R^2	.333*	.310*
Adjusted R^2	.319*	.295*
R^2 Change	.333*	.310*

*$p < .05$

The subscale scores together explained 32% of the variance in SF-12 Mental health scores, $F(4,187)= 23.342$, $p=.000$. Personal Problems was the only significant contributor to the regression equation. The subscale scores together explained 30% of the variance in SF-12 Physical Health scores, $F(4,187)= 21.007$, $p= .000$. Personal Problems and Academic Load were the only significant contributors to the regression equation.

Hypothesis 4

Greater use of avoidance coping strategies in dealing with demands will be associated with greater physical and psychological distress.

The relationships between the use of Avoidance Coping strategies and 2 health outcomes (SF-12 Mental Health scores; and SF-12 Physical Health scores) were examined using Pearson product-moment correlation coefficients.

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A significant negative relationship was found between the use of Avoidance coping strategies and SF-12 Mental Health outcomes ($r = -.381$, $p < .01$). This shows that greater use of avoidance coping strategies is related to poorer mental health outcomes for student nurses. A significant negative relationship was found between the use of avoidance coping strategies and SF-12 Physical Health outcomes ($r = -.256$, $p < .01$). This indicates that greater use of avoidance coping strategies is related to poorer physical health outcomes for student nurses.

Hypotheses 5 & 6

The relationship between demands and health outcomes will be moderated by the type of coping strategies used or the degree of acculturation.

A series of hierarchical multiple regression analyses were conducted in order to examine the effects of demands and coping strategies on SF-12 Mental and Physical Health scores. Analyses were conducted that included all the SNSI demands as predictor or criterion variables. Personal Problems was the only significant predictor of SF-12 Mental Health scores, while Personal Problems and Academic Load were the only significant predictors of SF-12 Physical Health scores. The other demands added no explanation to the two SF-12 Health scores. For these reasons, two further analyses were conducted using only the significant predictors of Personal Problems and Academic Load.

The first analysis involved SF-12 Mental Health as the criterion variable. Personal Problems was entered at the first step of the equation. Active and Avoidance Coping were entered at the second step in order to examine the effects that coping strategies have on SF-12 Mental Health scores in addition to those of Personal Problems.

For the third step of the analysis Interaction terms were created that examined the interaction effects of Personal Problems and Active and Avoidance Coping. The aim was to examine the effect of Personal Problem scores on Mental Health scores, given different levels of Active and Avoidance coping. Interaction terms were created by first subtracting the mean Personal Problems score from individual Personal Problems scores. This variable was then multiplied by the mean Active Coping score subtracted from individual Active

Coping scores (Interaction 1), and by the mean Avoidance Coping score subtracted from individual Avoidance Coping scores (Interaction 2). These two interaction terms were then entered at the third step of the equation.

The squared semi-partial correlations (sr^2) were calculated in order to establish the unique contribution of each predictor to the regression equation. Table 8 presents the results of these analyses.

Table 8. *Hierarchical regression SF-12 Mental Health scores on Personal Problems, Active and Avoidance Coping.*

Predictors	Step 1		Step 2		Step 3	
	Beta	sr^2	Beta	sr^2	Beta	sr^2
Personal Problems	.557*	.31	-.480*	.21	-.489*	.21
Active Coping			.148*	.02	.154	.02
Avoidance Coping			-.268*	.07	-.282*	.07
Interaction 1					.027	
Interaction 2					.076	
R	.557*		.623*		.628	
R^2	.310*		.388*		.394	
Adjusted R^2	.306*		.378*		.377	
R^2 Change	.310*		.078*		.006	

*p <.005

At Step 1, Personal Problems explained 31% of the variance in SF-12 Mental Health scores, $F(1, 184)= 82.650$, $p= .000$.

At Step 2, Personal Problems along with Active and Avoidance Coping explained 38% of the variance in SF-12 Mental Health scores, $F(3, 182)= 38.409$, $p= .000$. All three predictors were significant contributors to the regression equation. At this step, Personal Problems, Active and Avoidance Coping contributed a unique 21%, 2% and 7% of the variance respectively (sr^2).

At step 3, Personal Problems along with Active and Avoidance Coping explained 38% of the variance in SF-12 Mental Health scores, $F(5,180)= 23.392$, $p= .000$. Again, these three predictors were significant contributors to the regression equation. Personal Problems, Active and Avoidance Coping contributed unique explanations to the variance of SF-12 Mental Health scores of 21%, 2% and 7% respectively. The interaction terms provided no additional explanation.

In the second analysis, SF-12 Physical Health scores were entered as the criterion variable. Personal Problems and Academic Load subscales were entered at the first step of the equation as the only significant predictors of SF-12 Physical Health scores. Active and Avoidance Coping factors were entered at the second step of the equation.

For the third step of the analysis interaction terms were created that examined the interaction effects of Personal Problems, Academic Load and Active and Avoidance Coping. In this analysis, the aim was to examine the effect of Personal Problem and Academic Load scores on SF-12 Physical Health scores, given different levels of Active and Avoidance Coping.

Academic Load interaction terms were created by subtracting the mean Academic Load score from individual Academic Load scores. This new variable was then multiplied firstly by the mean Active Coping score subtracted from individual Active Coping scores (Interaction 3), and secondly by the mean Avoidance Coping score subtracted from individual Avoidance Coping scores (Interaction 4). The Personal Problem interaction terms were used from the previous analysis. These four interaction terms were entered at the third step of the analysis. Table 9 presents the results of this analysis.

Table 9. *Hierarchical regression of SF-12 Physical Health on Personal Problems, Academic Load, Active and Avoidance Coping.*

Predictors	Step 1		Step 2		Step 3	
	Beta	sr^2	**Beta**	sr^2	**Beta**	sr^2
Personal Problems	-.417*	.15	-.390*	.13	-.391*	.12
Academic Load	-.229*	.05	-.219*	.04	-.237*	.05
Active Coping			.046	.002	.043	.002
Avoidance Coping			-.111	.001	-.094	.007
Interaction 1					.084	
Interaction 2					-.07	
Interaction 3					.015	
Interaction 4					.076	
R	.544*		.555		.570	
R^2	.296*		.308		.324	
Adjusted R^2	.289*		.293		.294	
R^2 Change	.296*		.012		.016	

*$p< .05$

At Step 1, Personal Problems and Academic Load explained 29% of the variance in SF-12 Physical Health scores, $F(2, 183)= 38.524$, $p= .000$. Personal Problems and Academic Load were significant contributors to the regression equation. The unique contribution of Personal Problems and Academic Load was 15% and 5% respectively.

At Step 2, Personal Problems and Academic Load, along with Active and Avoidance Coping explained 29% of the variance in SF-12 Physical Health scores, $F(4, 181)= 20.166$, $p= .000$. Personal Problems and Academic Load were significant contributors to the regression equation. In this second step the unique contribution of Personal Problems, Academic Load, Active and Avoidance Coping was 13%, 4%, .2% and .1% respectively.

At step 3, Personal Problems and Academic Load, along with Active and Avoidance Coping explained 29% of the variance in SF-12 Physical Health scores, $F(8,177)= 10.622$, $p= .000$. Personal Problems and Academic Load were significant contributors to the regression equation. In this third step the unique contribution of Personal Problems, Academic Load, Active and Avoidance Coping was 12%, 5%, .2%, and .7% respectively The interaction terms provided no contribution to explained variance in SF-12 Physical Health scores.

Further analyses were conducted in order to examine the effects of demands and acculturation on SF-12 Mental and Physical Health scores. SF-12 Mental Health was the first criterion variable. Personal Problems was entered at the first step of the equation. Acculturation scores were entered at the second step to examine the effect that acculturation has on mental health in addition to Personal Problems. For the third step of the analysis, interaction terms were created that examined the interaction effects of Personal Problems and Acculturation. The aim was to examine the effect of Personal Problem scores on Mental Health scores, given different levels of acculturation.

Interaction terms were created by first subtracting the mean Personal Problem score from individual Personal Problem scores. This variable was then multiplied by the mean Acculturation score subtracted from individual acculturation scores (Interaction 5).

The squared semi-partial correlations (sr^2) were calculated in order to establish the unique contribution of each predictor to the regression equation. Table 10 presents the results of these analyses.

Table 10. *Hierarchical Regression of SF-12 Mental Health scores on Personal Problems and Acculturation.*

Predictors	Step 1		Step 2		Step 3	
	Beta	sr^2	**Beta**	sr^2	**Beta**	sr^2
Personal Problems	-.561*	.32	-.538*	.29	-.540*	.28
Acculturation			-.196*	.04	-.194*	.037
Interaction 5			.046	.002	.022	.0005
R	.561*		.594*		.594	
R^2	.315*		.352*		.343	
Adjusted R^2	.311*		.346*		.294	
R^2 Change	.315*		.038*		.000	

*$p < .001$

At Step 1, Personal Problems explained 32% of the variance in SF-12 Mental Health scores, $F(1, 189)= -86.79$, $p= .00$. At Step 2, Personal Problems along with Acculturation scores explained 35% of the variance in SF-12 Mental Health scores, $F(2, 188)= 51.17$, $p= .000$. Personal Problems and Acculturation were significant contributors to the regression equation. At this step. Personal Problems and Acculturation contributed a unique 29% and 4% of the explained variance respectively.

At Step 3, Personal Problems, Acculturation and the interaction term explained 34% of the variance in SF-12 Mental Health scores, $F(3, 187)= 34.003$, $p= .000$. Personal Problems, Acculturation and the interaction term contributed unique explanations to the variance of SF-12 Mental Health scores of 28%, 3.7% and .05% respectively.

Further analyses were conducted with SF-12 Physical Health scores as the criterion variable. Personal Problems and Academic Load were entered at

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the first step of the equation. Acculturation was entered at the second step in order to examine the effect that Acculturation had on SF-12 Physical Health scores in addition to those of Personal Problems and Academic Load.

For the third step of the analysis, interaction terms were created that examined the interaction effects of Personal Problems, Academic Load, and Acculturation. The aim was to examine the effect of Personal Problems and Academic Load on Physical health, given different levels of Acculturation. Acculturation and the interaction term provided no contribution to explained variance in SF-12 Physical Health.

Discussion

The present study sought to determine whether student nurses become more acculturated into nursing over the three years of nursing training and whether this acculturation is associated with changes in choice of coping strategy used by students. The study examined whether demands on students, and greater use of avoidance coping strategies, were associated with higher levels of psychological and physical distress. We also sought to establish if the relationship between demands and health outcomes would be moderated firstly by the type of coping strategy chosen, and secondly by the degree of acculturation.

Descriptive Findings

Sources of stress.

The greatest single source of stress for students was Academic Load. This finding is supported by previous research suggesting that academic workload, examinations and assignments are a major source of stress for nursing students (Beck & Srivastava, 1991; Hamill, 1995; Lindop, 1999). Evans & Kelly (2004) recently found academic concerns about examinations, and amount and difficulty of work to be an intense source of stress for nursing students. Third year students experienced Academic Load more than years 1 and 2, but the significant differences lay between years 2 and 3.

Interface concerns was the second most experienced source of stress. Interface concerns are demands relating to students balancing study and other aspects of their lives such as family and part-time work. These concerns increased significantly for students across all three years of study. Clinical concerns was the third highest scoring subscale, with scores increasing as training progressed. There were no significant differences were between the 3 years. A major factor that has historically affected clinical stress relates to responsibilities given to nursing students in placements (Evans & Kelly, 2004). These authors suggest that excessive responsibility is no longer a major source of stress for nursing students. This may explain why clinical concerns are not

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highly rated by participants. Personal problems was the least experienced source of stress across the 3 years of study.

Total stress scores increased significantly for students over the 3 year training programme. Similar increases in stress levels have been found in previous research (Lindop, 1993; Lo, 2004; Tully, 2004). There are several explanations for increased stress experiences. Third year students may face greater professional demands, and expect more from themselves. They may have greater insight and empathy into the nursing role, and be more able to perceive the disparity between nursing theory and practice (Lambert & Lambert, 2001; Lindop, 1999). A more qualitative approach to this topic is suggested for future research, and may obtain fuller explanations for increases in demands.

The SNSI sources of stress were positively related to one another, but were not perfectly intercorrelated. Correlations of $r > .80$ between predictors can be problematic (Licht, 1995). The correlations between the sources of stress in the present study were less than $r = .57$. Therefore these sources of stress appear to be distinct constructs. The relationships between the sources may have occurred because individuals with stress in one area of life are likely to have similar levels in other areas.

Ways of Coping.

Lazarus & Folkman (1987) identified two groups of coping strategies. Problem focused coping includes strategies designed to change the terms of a stress encounter by directly dealing with the demand. Emotion focused coping strategies aim to regulate the emotions associated with demands.

The first factor obtained from the factor analysis of the present study was active coping. This factor is similar to problem focused coping in that it includes strategies that deal directly with demands. It also includes strategies that deal directly with the emotions associated with demands, and as such are not part of the problem focused coping strategies as described by Folkman & Lazarus (1987). Examples of strategies within this factor are seeking and obtaining instrumental and social support. It is suggested that this second group of strategies can be adaptive and effective in dealing with demands in the short-term (Stanton et al., 2000), or in situations that are considered uncontrollable by

the individual (Hart & Wearing, 1995). All the items in the active coping factor involve some form of direct action by the individual and for this reason were included in the factor. Such strategies are considered to be more effective and adaptive in dealing with stress, and are associated with improved health outcomes (Hart & Wearing, 1995).

In contrast, the second factor, avoidance coping, included strategies that involved individuals distancing themselves from demands and emotions. They included drug and alcohol use, self-blame, distraction and distancing techniques. This factor is similar to emotion focused coping as described by Folkman & Lazarus (1987). Such strategies are considered to be less effective in dealing with demands over the long-term (Nolen-Hoeksema, 2000; Stanton et al., 2000).

Coping resources are mobilized in order to reduce, master or tolerate the effects of a stressor (Folkman & Moskowitz, 2004). In the present study the use of active and avoidance coping strategies increased as students progressed through training. It is suggested that this finding reflects greater mobilization of resources in response to increased demands as previously discussed.

Nicotine Dependence.

Smoking frequency and nicotine dependency were measured in the current research as a coping strategy used by nursing students to deal with demands. Smoking is considered an avoidance coping strategy, but was not treated as a separate item in the avoidance coping factor developed in the current study. Ten smoking participants started smoking while training, and 15 had stopped. Of the new smokers, 5 were ex-smokers. The Smoke-free legislation caused 15 of the smokers to reduce smoking, but has not affected a further 16 smokers.

Nicotine dependency increased for smoking students as training progressed. Nicotine dependency was also positively associated with year of study. The results suggest that as smoking students progress through training, they are likely to become more dependent on nicotine. This result is in line with other increases in avoidance coping strategies. Interestingly, there were no relationships between nicotine dependency and other aspects of student life including: demands, acculturation, coping strategies and psychological and

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physical health outcomes. In this study, smoking is not related to any of the other variables investigated. This result supports research suggesting that factors such as addiction, enjoyment, and work pressures are more influential than cultural and environmental factors such as peer influence (McKenna et al., 2003). In contrast, previous research has found that smoking uptake and frequency can be affected by environmental factors such as peer pressure (Wagner, 1985),

Health Outcomes.

Psychological distress increased for nursing students as they progressed through training, with significant differences between all 3 groups. Psychological distress can occur when individuals perceive the stressor and its demands to exceed their resources, or when there is a mismatch between the stressor and coping strategy chosen (Dollard, 2003). Physical distress increased for students as they progressed through training, however, there were no significant differences between the 3 groups. This finding may reflect the fact that exposure to chronic and acute demands, accompanied by ineffective and maladaptive coping, has long-term, rather than short-term effects (Kemeny, 2003; O'Driscoll & Cooper, 2002). Students in the present study may not be experiencing physical distress currently, but may report such distress in the future. These results are consistent with other research in which psychological and physical distress increased for student nurses as they trained (Deary et al., 2003).

Psychological distress and physical distress were associated. The relationship between these two health outcomes can be explained by the physiological changes that occur during exposure to demands. Such physiological changes may affect both psychological and physical outcomes (Dollard, 2003; Kemeny, 2003).

Hypothesis 1

As predicted, student nurse become more acculturated as training progresses. Acculturation scores, as assessed by the SNAM, increased for student nurses as training progressed. Higher SNAM scores reflect increasing alignment with, and endorsement of, the values, beliefs and norms of nursing culture as suggested by the informants of the pilot study. There were significant

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differences between year 1 and year 3 students, indicating that acculturation is a process that occurs over time. This result supports previous research suggesting that the more individuals are exposed to a culture, the greater the internalization of norms and values, and the more behaviour is likely to change (Goldenberg & Iwasiw, 1993; Ouellet, 1992).

The finding of increased acculturation illustrates the potential that culture has to change the way individuals view the world and behave within that world (Schein, 1990, 1991, 2004). Nursing culture offers individuals a mental map of their organization, and provides meaning, sets rules and guides behaviour, practices and procedures (Schein, 1990). As acculturation increases, student nurses become more aware of the culturally appropriate way of thinking, behaving and reacting emotionally to situations. Through involvement in the professional socialization process, students help to transmit and perpetuate that culture (Major, 2000). In return, socialisation provides rewards to nursing students such as feelings of belonging (Gray & Smith, 1999; Major, 2000).

Hypothesis 2

As hypothesized, it was found that student nurses who are more acculturated into nursing are more likely to use avoidance coping strategies. These strategies serve to distance student nurses from demands and the emotions associated with those demands. Coping strategy choices are made during primary and secondary appraisal of a stressor and some of the factors affecting these appraisals are the social and environmental conditions surrounding the encounter (Lazarus & Folkman, 1984). The resources and constraints provided by an organization are appraised and subsequent coping strategy choices are made. Previous research by Parkes (1986) found that environmental constraints and resources strongly influenced choice of coping strategy, particularly in more difficult circumstances. In the present study, as acculturation increased, students increasingly chose avoidance coping strategies. This finding suggests that the resources and constraints provided by nursing culture encourage and support the use of avoidance coping.

In contrast, active coping was not associated with acculturation. This may reflect a lack of resources in clinical and classroom environments that serve to promote active coping. Lindop (1993) suggests lack of support for active

coping relates to a theme of self-sacrifice in nursing. To actively address a demand suggests there is a problem, and this may be interpreted as a sign of weakness. Weakness is unacceptable in nursing culture. Consequently, as students progress through training, they recognize that avoidance coping is more acceptable than active coping and so adopt these strategies. Conforming to cultural norms and ways of behaving provide rewards such as success in clinical and classroom settings; reducing stigma through "fitting in"; and receiving good assessment (Clare, 1993; Gray & Smith, 1999; Major, 2000).

Holland (1999) described the 3 separate years of nursing training as a transition period in which individuals learn different ways of seeing themselves and different ways of behaving. The present study found that individuals changed coping behaviour by increasing avoidance coping. These increases were associated with degree of acculturation, and not year of study. It appears that although exposure to a culture is an important part of acculturation, length of that exposure is not the only influence in the socialization process and subsequent choice of avoidance coping strategy. One explanation is that, in addition to organizational resources and constraints, individual psychological characteristics brought to the encounter impact on appraisal and coping strategy choice (Evans & Kelly, 2004; Lazarus & Folkman, 1987; Lindop, 1999). For example, more experienced or more positive students may not endorse cultural values as readily as younger students. The findings of the present study suggest that acculturation is a complex process requiring individuals to recognize, understand and internalize cultural values. This process is influenced by cultural norms dictated by the social and environmental conditions, and also by individual differences.

The finding indicates that newly internalized cultural norms are related to behaviour changes in terms of coping, and illustrates how important culture is to individual behaviour within the nursing organization. If acculturation is associated with coping behaviour, it may also be associated with other employee behaviour. Future research may investigate the association between acculturation and other organizational outcomes such as: employee behaviour and productivity; job satisfaction; absenteeism; and turnover. Such research could be generalized to organizations other than nursing.

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Hypothesis 3

Every source of stress except clinical concerns increased significantly as training progressed. Total stress also increased significantly as predicted. Similar increases in stress intensity have been found in previous research (Lindop, 1993; Lo, 2004; Tully, 2004). As predicted, it was also found that increases in demands from different aspects of student life were associated with greater psychological and physical distress. Folkman & Lazarus (1984) suggest that higher levels of distress occur as a negative response to demands that individuals perceive exceed their resources. In a nursing context, increases in demands have been associated with increased distress and outcomes such as higher turnover, sickness, absenteeism, higher accident rates, and reduced job satisfaction (Tully, 2004; Tyler & Cushway, 1995; Warshaw, 1988).

Not unexpectedly, as the greatest source of stress, academic load was strongly associated with psychological and physical distress. Previous research suggests that a change to more academic based programs has been linked to increased student nurse distress and attrition (Hamill, 1995; Lindop, 1999). Personal problems, as the source of stress experienced the least by students, was the source of stress most highly associated with psychological and physical distress. It may be that personal problems do not occur as often as problems associated with academic load. However, when personal problems occur, they elicit much stronger responses and distress outcomes. When examining the distress outcomes separately, it was found that personal problems was the only source of stress that was a significant predictor of psychological distress. Academic load and personal problems were the only significant predictors of physical distress. These results indicate that not all sources of stress are related to health outcomes, even when those sources of stress are frequently experienced. Similar results were reported by Tully (2004) who suggested that while SNSI items are very stressful for students, they do not necessarily influence levels of distress. This author suggested that stress sources considered less stressful were more likely to correlate with higher levels of distress. The results of the present study support this suggestion.

The sources of stress together explained 32% of the variance in psychological distress, and 30% of the variance in physical distress. These

results suggest that approximately a third of the individual differences among nursing students' levels of psychological and physical distress was caused either by the combination of the stress sources, or by factors linked to these sources of stress.

Hypothesis 4

As predicted, greater use of avoidance coping was associated with higher levels of psychological and physical distress. When individuals used more of these strategies, their mental and physical health deteriorated. In contrast, when active coping was used as a strategy, it was associated with better mental and physical health outcomes. These results are supported by previous research in a police population (Hart & Wearing, 1995) and in a nursing and student nurse context (Beasley et al., 2002; Deary et al., 2003; Hamill, 1995; Jones & Johnston, 1997; Tully, 2004).

These relationships may be explained by findings that avoidance coping is a maladaptive and ineffective strategy associated with increasing distress, particularly over the long-term (Folkman & Moskowitz, 2004; Hart & Wearing, 1995). Greater distress has implications for student nurses and a general nursing population. Stress and distress have been linked to outcomes such as absenteeism, loss of professional development, increased physical symptoms, attrition, and reduced quality of care (Beck & Srivastava, 1991; Dollard, 2003; Tully, 2004).

Hypotheses 5 & 6

The present study established that greater demands and greater use of avoidance coping were associated (separately) with increased psychological and physical distress. The aim of the final series of analyses was to establish whether these demands and coping strategies interact to affect distress. Previous research has examined the moderating effects on the stressor-strain relationship of factors such as individual differences, control perception and social support (Klag & Bradley, 2004; Lambert, 2003; Lazarus, 1993; Newton & Keenan, 1985; Tugade & Frederickson, 2004; Tyler & Cushway, 1995). The influence of organizational climate and culture on overall levels of well-being has also been examined (Cotton & Hart, 2003; Hart & Cotton, 2003b). However,

none of these studies investigated how degree of acculturation moderates the stressor-strain relationship. The present study extended this research by considering the possible moderating effects of demands and coping, and additionally, demands and acculturation on the stressor-strain relationship.

Hierarchical multiple regression was used to examine the relationship between demands and coping strategies and psychological and physical health. The analyses revealed that personal problems, along with active and avoidance coping were related to mental health. The psychological health of students is affected by the personal problems they experience, and additionally by the active and avoidance coping strategies they use to deal with those demand. However, personal problems and coping strategies do not interact to affect mental health. The analyses revealed that personal problems and academic load, but not active and avoidance coping strategies, are related to physical health. The physical health of students is affected by these demands, but not by the coping strategies they use to deal with them. In addition, these demands and coping strategies do not interact to affect physical health. Hierarchical multiple regression was also used to examine the relationship between demands and acculturation and mental and physical health. The analyses reveal that demands and acculturation do not interact to affect psychological or physical health.

The increases in explained total variance for all the interaction analyses were low. This may be explained by the low efficiency that such tests have in field studies, even when reliable moderator effects are found. More power may be required to obtain greater increases in obtained variance (McClelland & Judd, 1993). Increasing sample size in future research could obtain this greater power, and provide useful information about the effect of demands on health outcomes given different levels of avoidance and active coping and acculturation.

Development of the SNAM

The SNAM was developed to measure how deeply individual student nurses were acculturated into nursing. Unlike other culture instruments that focus on describing characteristics of a culture, or measure attitudes about a culture, the SNAM provides a way of measuring the degree to which student nurses have understood, internalized and endorsed cultural assumptions and values. Interviews from informant nurses and reviews of the literature identified

themes that reflect espoused cultural assumptions, values and beliefs. From these themes, items were developed to measure recognition and endorsement of the themes. It was suggested that greater recognition and endorsement of the themes indicated deeper acculturation. Therefore, individuals with higher SNAM scores are considered to be more highly acculturated. Such individuals will be expected to display greater commitment to the nursing organization. This commitment will play a substantial role in determining individual behaviour (Weiner, 1982).

The results of the present study indicate that differences do occur in individual nurses' degree of acculturation. As training progresses, these students develop a greater understanding of the values and behaviour that is most acceptable to other nurses and to nursing culture. This greater understanding is reflected in higher SNAM scores. The relationship between the year of training and degree of acculturation provides some support for the validity of the measure and it would be useful to compare these results with other samples in the future. The process by which the SNAM was developed could be replicated in other organizations that share a strong and developed culture. Understanding the values of nursing or any other organizational culture, and determining how deeply individuals are involved in these cultures has implications for selection; education; training; stress management; further culture research; and culture change programmes.

Limitations of Present Research

One limitation of the present study is the lack of demographic details obtained from participants. The initial aim was to protect the anonymity of participants by not obtaining details that identified them. This meant, however, that in the various analyses variables such as age and sex could not be controlled for. Obtaining these details may not necessarily have identified participants, and it is suggested that future research include such information. Information about personality characteristics may be also have been useful in order to examine the impact that personality has on the stress process, in addition to environmental and social conditions.

Due to the cross-sectional nature of the study, it was not possible to compare individual changes in behaviour occurring as nursing training

progressed. A longitudinal design may offer information about genuine changes and the stability of some characteristics. This is a particularly salient point when considering demand appraisal, coping strategy choice, and distress judgments. A more accurate picture of changes in smoking behaviour would also be obtained.

Summary

A substantial finding of the present research is that students become more acculturated into nursing as training progresses. Students develop a greater understanding of the values and behaviour that are most acceptable to other nurses and nursing culture. One of the behaviours that changes alongside acculturation is avoidance coping. As students became more involved in nursing culture, they use more avoidance coping strategies. Greater acculturation is also related to greater psychological and physical distress. The findings of the present study provide some evidence that culture is a social and environmental factor that impacts on coping strategy choice and health outcomes as described by the transactional stress model (Lazarus & Folkman, 1984). Nursing culture encourages avoidance coping and discourages active coping.

The present study found that overall demands for student nurses increase as training progresses and these increases are related to psychological and physical distress. When considering demands separately, only personal problems affected psychological distress, while personal problems and academic load affected physical distress. Avoidance coping was also related to greater distress.

Overall, results suggest that greater demands, avoidance coping and acculturation act separately to influence health outcomes for student nurses. Analyses indicate that demands and coping strategies; and demands and acculturation do not interact to affect psychological and physical health in the present study. It is possible that demands, acculturation and coping do interact to affect health outcomes, but that the sample size of the present study wasn't large enough to provide evidence of these interactions. The results of the present study have implications for individual outcomes during and after training, and also for the healthcare organisations in which these qualified nurses work.

Appendix A

Development and Pilot study

of the Student Nurse Acculturation Measure (SNAM)

Abstract

This study is a pilot of a brief instrument constructed to measure nurses' degree of acculturation into nursing, to be used alongside instruments measuring stress, coping and well-being outcomes. Reviews of the research literature found instruments that described culture, or measured attitudes towards a culture, but did not measure individual acculturation or involvement in nursing culture. To develop the items, interviews were conducted with nurses, and cultural themes identified, relating to nurses' values, beliefs, attitudes and behaviours. Items were generated from the themes that aimed to measure recognition and endorsement of the items. It is suggested that greater recognition, understanding and endorsement of the themes indicates deeper acculturation into nursing culture. The items were initially tested with a nurse and a non-nurse group. The final 17 items were chosen on the basis of their rational fit with the themes and reliability analysis.

Introduction

When members of an organisation share a set of values and assumptions, and those values are consistent with those of the organisation, individuals will have greater job satisfaction and be less likely to leave (Adkins & Caldwell, 2004). To many organisations, finding out what values members of the organisation share is an important part of maintaining or improving individual and organisational outcomes such as productivity and job satisfaction. Within healthcare organisations, outcomes such as patient quality of care, worker morale, stress, accident rates, turnover, and burnout are affected by members' shared values and assumptions (Gershon, Stone, Bakken & Larson, 2004).

These values and basic assumptions are part of the culture of an organisation. They tell the members how to behave, think, feel and react emotionally to situations. Organisational culture has been defined as the beliefs, norms, values and assumptions of an organisation (Schneider & Gunnarson, 1991). Culture represents what an organisation has learnt as a group, evolving over time to provide stable solutions for problems as they arise. These solutions aim to reduce and contain anxiety associated with unpredictable and changing environments, and can be seen to provide cognitive stability, normalising and stabilising events (Schein, 1991, 2004). Organisational culture provides group members with a mental map of the organisation's world, providing meaning and setting rules and guidelines for subsequent behaviours, practices and procedures.

The behaviour, practices and procedures are part of the climate of an organisation. Climate is an observable artifact of culture, a manifestation of that culture. It represents the culture, reflecting the underlying, unconscious assumptions and values of the organisation. Other artifacts include the visible products of a group such as language, technology, manner of address, emotional displays, rituals and ceremonies. Artifacts can be measured in order to identify these underlying assumptions (Schein, 1993, 2004).

Schein (2004) suggests that culture can also be studied at the level of espoused values and beliefs. These are the articulated behavioural standards and norms that are tested by the group. They provide guidelines for the group in certain situations and are used to train new members in acceptable ways to

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behave. Over time they become unconscious, underlying assumptions after having been repeatedly successful for the group.

Different organisations will have different underlying assumptions depending on the nature of their work and the organisational history. Nursing is an occupation that has developed its own culture and climate. Perry (2000) suggests that the origin of nursing culture lies within the theories and practices of the founder of modern nursing, Florence Nightingale. Other theorists and practitioners have followed, providing a framework for the underlying values and premises that guide nurses today.

Organisations "attempt to communicate to potential and new employees the values that define the culture" (Adkins & Caldwell, 2004, p970). The nursing organisation, in the same way, attempts to communicate nursing values and beliefs to nursing students. Imposing such values and beliefs may be an attempt to create a "fit" between the values of the individual and the organisation. Vanderberghe (1999) found that such a value fit produced better overall outcomes for organisations. The close interaction of individuals within nursing would suggest a strong, shared culture (Schneider & Gunnarson, 1991). The style in which these interactions occur tends to be repeated. This repetition leads to a shared perception that this is the way things are done. Individuals then use these shared meanings to guide current and future behaviour. Individuals see what is and what isn't acceptable, and modify their behaviour accordingly. In this way, nursing students come to understand the culture and achieve a sense of group identity. The shared culture becomes a stabilising force that won't be given up easily. In this way, the shared and stable culture defines the group (Schein, 2004).

The aim of the future research as described in the abstract is to investigate whether the degree to which student nurses are acculturated into nursing has an impact on their choice of coping strategy, stress levels, and well-being outcomes. In order to do this, an instrument that measures degree of enculturation at an individual student level is to be located.

In order to locate such an instrument, generic organisational culture instruments were reviewed. Several were designed to measure attitudes of employees regarding their organisation (For example, the Campbell

Organizational Survey, Campbell 1988, MMYB II; Diagnosing Organizational Culture, Harrison & Stokes, 1992, MMYBII). Many of the measures were designed to be used alone and required lengthy periods of time to complete (For example, the Oliver Organizational Description Questionnaire, Oliver, 1981, MMYBII: Work Environment Scale, Moos & Insell, 1974, MMYBII). Schein (1993, p 705) suggests that generic culture surveys "purport to tell an organisation...what the important elements of its culture are". Such surveys may include dimensions of culture that are not relevant to all organisations, and fail to include dimensions that are relevant. The reviewed instruments did not appear to contain dimensions relevant to nurses and nursing students. Culture instruments relating to healthcare settings were reviewed by Gershon, Stone, Bakken, & Larson (2004). These instruments were relevant to nurses and nursing students, but again were lengthy. None of the instruments were relevant to a New Zealand setting.

All the culture and climate instruments reviewed were considered unsuitable for the future research due to the fact they were designed to describe culture in terms of previously identified dimensions, or they were designed to measure individual attitudes towards a culture. Some of these dimensions were considered to be irrelevant to nursing, and the descriptions they were designed to obtain did not measure the degree to which individuals were acculturated into an organisation.

The aim of this study was to develop an instrument that measures dimensions drawn from a New Zealand nursing setting, that measures how deeply individual nursing students are acculturated into the nursing organisation, and is brief enough to be used alongside other instruments, including stress, coping and well-being measures.

The index was developed by identifying themes relating to nursing culture in New Zealand. The themes were obtained through interviews with qualified nurses. Themes were identified at the level of espoused values, beliefs and behaviours of nurses as described by the informants. These are articulated behavioural standards and norms that provide guidelines for the group (Schein, 2004). Items were then generated from those themes. These items were designed to measure an individual's recognition of the themes. It is suggested

that greater endorsement of the themes as appropriate behaviour (the way it is for nurses) represents deeper acculturation and involvement in nursing culture.

Participants

Three nurses were interviewed for the purposes of this research. One informant worked in the neo-natal ward at Wellington Public Hospital, and had, at the time of the interview, 20 years nursing experience. The second informant also worked at this Hospital, in a more general ward, and had three years nursing experience. The third informant was a specialist midwife with general nursing qualifications. She had nine years nursing experience.

Procedure

Each informant was interviewed separately in an informal setting. Interviews consisted of discussions about work and daily routines, organisational values, career histories, and critical incidents in which the informants described situations and events that were significant to them. During the interviews, the researcher attempted to gather information that was at the levels of artifacts and espoused values and beliefs as suggested by Schein (2004). Information was recorded by the researcher in handwritten form. The researcher divided the collected information into themes. Questions were generated relating to each theme. The generated questions were designed to reflect the themes, and measure endorsement of each theme as relating to nurses. The following themes were identified:

Inclusion.

The first theme related to the way that when nurses start their careers they are not trusted by other nurses. They often feel that they must prove themselves as nurses to be accepted. It appears that nurses are very judgmental of each other. There is a lot of competition to be good, and competition between specialities. There is a sense that outsiders do not understand their work, and that feeling continues between specialities. The informants saw this inclusion theme as a way of nurses protecting their work environment, and considered it a very important theme. Questions reflecting this theme were:

There is a feeling of trust among nurses.

Generally, nurses are accepting of new staff.

Generally, nurses are accepting of each other.

Generally, nurses are judgmental of each other.

Nurses have to prove themselves at work to be accepted as a nurse.

When a nurse is given more complex work to do, this means that he or she has been accepted as a nurse.

Clinical Competence.

This theme relates to the value that nurses place on being practical, reliable, logical, organised, able to prioritise, trustworthy, and seen to be knowledgeable and competent. Questions reflecting this theme were:

Clinical competence is valued by nurses.

There is competition between nurses to be better than each other.

Nurses need to be able to prioritize work well.

Nurses need to prioritize time well.

It is not the role of nurses to prioritize patients and their care.

It takes time for a nurse to become clinically competent, qualifying is not enough.

Nurses are expected to hit the ground running, it should not take time for a nurse to become clinically competent.

Nurses must demonstrate their clinical competence to other nurses.

Professionalism.

This theme relates to wearing a brave and professional face. It is rarely acceptable to let patients know what they really think, patients have enough to deal with already. Nurses must be seen to operate in an honest and professional manner at all times. Nurses are supposed to support and encourage patients' faith in the medical system, even if he or she does not share that faith. Things

have changed a little recently. A nurse wouldn't challenge a doctor directly, but would go through nursing colleagues first. A hierarchy still exists in which a professional nurse must work. Questions reflecting this theme were:

These days it is acceptable for patients and their families to see that nurses are affected by their work.

It is important to support a doctor's clinical decision.

It is not acceptable for nurses to berate other medical staff in front of patients.

It is important that nurses support and protect other nurses from patients, their families, and the management system.

Caring.

Nurses seem to be attracted to nursing because of its holistic nature. They like to focus on emotional as well as physical health. Questions reflecting this theme were:

Nursing is not just about physical health, it includes patients' emotional health as well.

Nursing involves an holistic approach to health.

These days, most nurses are nursing for the money, they are not as concerned as they were in the past with the health of their patients.

Nurses often blame themselves when things go wrong with their patients.

Coping.

This theme relates to the ways that nurses distance themselves from their work. In the days when hospitals weren't totally smoke-free, some staff would use their smoking time to get away from their work and patients. One informant discussed the fact that many of the staff in the demanding neo-natal ward were extremely overweight. She considered that food was an escape from their environment, and their larger bodies kept their core physically further from the babies. Questions reflecting this theme were:

Nurses distance themselves from what is happening at work by behaviour such as smoking.

Hierarchy.

This theme relates to the pecking order of the nursing system. Clinical questions should be asked of the next person in the pecking order. Nurses do not bother the boss about these issues. Tasks are also allocated with reference to this hierarchy. Questions reflecting this theme were:

If a nurse has questions about clinical issues, she will usually ask the person in charge/the charge nurse.

New nurses should always ask for clinical information from the person in charge/the charge nurse.

All of the items were formatted into a questionnaire with a response scale (see appendix A1). Participants were asked to indicate how much they agreed with each item. The answers to items were given on a 5-point scale ranging from 1 (Not at all) to 5 (Strongly).

Pilot study of the items

The questionnaire was then given to 5 nurse and 5 non-nurse participants to complete. The participants were friends or acquaintances of the researcher. The questionnaires were anonymous, with participants asked only to record "nurse" or "non-nurse" on the completed questionnaire.

Analysis and results

Reliability analyses were conducted to identify the items that most reliably measured the themes. Items that decreased reliability or did not add value to the measurement of themes were discarded. In addition, items were retained, rather than discarded if they seemed to fit the theme well, so that they could be tested again on the larger sample in the main study. Two additional items were written to tap a theme whose items had not worked well together. Seventeen items were retained as follows:

Inclusion alpha = .72
Nurses have to prove themselves at work to be accepted as a nurse.
Generally, nurses are judgmental of each other.
When a nurse is given more complex work to do, this means that he or she has been accepted as a nurse.

Clinical Competence alpha= .87
Nurses are expected to hit the ground running, it should not take time for a nurse to become clinically competent.
Clinical competence is valued by nurses.
Nurses need to be able to prioritise work well.
It is not the role of nurses to prioritise patients and their care.
Nurses need to prioritise time well.

Professionalism alpha= .65
It is important to support a doctor's clinical decision.
These days it is acceptable for patients and their families to see that nurses are affected by their work.
There is competition between nurses to be better than each other.
It is important that nurses support/protect other nurses from patients and their families, and the management system.

Caring alpha= .13
Nurses often blame themselves when things go wrong with their patients.

Nurses are personally responsible for their patients' outcomes.
If a patient dies, nurses should consider how they contributed to this outcome.

(The second and third items of the Caring theme were written after the pilot study, because none of the other caring items appeared to tap into this theme. They were drawn from the informant interviews).

Coping

This theme was discarded as none of the items reached acceptable levels.

Hierarchy alpha= .66
If a nurse has questions about clinical issues, she will usually ask the person in charge of the shift.
New nurses and students should always ask for information from the person in charge of the shift.

T-tests were conducted on the item themes to test for differences between nurse and non-nurse groups (independent samples). The nurse group scored significantly higher than the non-nurse group on the inclusion theme, $t=$ .327, $df=8$, $p=$ .016). No significant differences were between the two groups for the remaining themes. This measure was included in the study described in this thesis in order to conduct further psychometric testing on a larger sample.

Appendix A1.

Below is a list of statements associated with nurses. Please indicate what you think about each statement by using the described scale.

Do you agree with this statement?

1 Not a all	2 A bit	3 Moderately	4 A lot	5 Strongly

There is a feeling of trust among nurses.	1	2	3	4	5
Nurses are expected to hit the ground running, It should not take time for a nurse to become clinically competent.	1	2	3	4	5
Nursing is not just about physical health, it includes patients' emotion health as well.	1	2	3	4	5
Generally, nurses are accepting of new staff.	1	2	3	4	5
It is important to support a doctor's clinical decision.	1	2	3	4	5
Nurses often blame themselves when things go wrong with their patients.	1	2	3	4	5
Nurses have to prove themselves at work to accepted as a nurse.	1	2	3	4	5
These days it is acceptable for patients and their families to see that nurses are affected by their work.	1	2	3	4	5
Patient privacy must be maintained wherever possible.	1	2	3	4	5
Clinical competence is valued by nurses.	1	2	3	4	5
There is competition between nurses to be better than each other.	1	2	3	4	5

If a nurse has questions about clinical issues, s/he will usually ask the person in charge/the charge nurse.	1	2	3	4	5
Generally, nurses are accepting of each other.	1	2	3	4	5
It is not the role of nurses to prioritize patients and their care.	1	2	3	4	5
Pain is bad, and unless required for diagnostic purposes should be relieved.	1	2	3	4	5
It takes time for a nurse to become clinically competent, qualifying is not enough.	1	2	3	4	5
It is important that nurses support/protect Other nurses from patients and their families, and the management system.	1	2	3	4	5
These days, most nurses are nursing for the money, they are not as concerned as they were in the past with the health of their patients.	1	2	3	4	5
Nurses distance themselves from what is happening at work by behaviour such as smoking.	1	2	3	4	5
Nurses need to prioritise time well.	1	2	3	4	5
Nurses must support and encourage the patient's faith in the medical system, even if they do not share that faith.	1	2	3	4	5
Generally, nurses are judgment of each other.	1	2	3	4	5
New nurses and students should always ask for information from the person in charge.	1	2	3	4	5
When a nurse is given more complex work to do, this means that s/he has been accepted as a nurse.	1	2	3	4	5

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Appendix B

Massey Letterhead

Information Sheet- Maintaining Well Health for Nursing Students: Looking at Stress and Coping

Kia Ora,

My name is Natalie Flavell and I would like to invite you to participate in my research project examining stress and coping for nursing students. Before considering whether you wish to be involved, please read this letter carefully to ensure you fully understand the nature of the research project and your rights should you choose to participate.

I am conducting the research as part of my Master of Arts degree through Massey University. The project is a quantitative study examining the influence that nursing culture has on nursing students and the ways they cope with stress. The project involves completion of the attached questionnaire. You are asked to post the completed questionnaire to Massey University using the attached pre-paid and addressed envelope (note that you do not need a stamp). The questionnaires are anonymous and you will not be able to be identified as a participant in this study. At the completion of the research, a summary of the research findings will be made available to you. Your educational institution will receive a summary, as will the Director of Public Health, Palmerston North Hospital. Attached to this questionnaire is a name and address sheet. Should you wish to personally receive a copy of the research findings, please complete it and return it with your questionnaire. An independent person will remove the slip from the questionnaire in order to maintain your anonymity.

Participation is <u>not</u> a course requirement. If you choose to take part in the research then you have the right to:
- Decline to answer any particular question;
- Ask any questions about the study at any time during participation;
- Be given a summary of the findings of the study once it is completed.

If any part of this research concerns you please feel free to contact me (Phone ▮▮▮▮▮▮/Email ▮▮▮▮▮▮▮▮▮▮ or the research supervisor (Dr Christine Stephens: Phone 06 801 5799 x2081/Email c.v.stephens@massey.ac.nz). Attached to this information sheet is a list of support organizations. This list is included in case this research raises any personal, health or other issues for you, and you feel you may need some support.

By way of thanking you for completing the questionnaire, I have also attached an entry form to the questionnaire. **Completing the name and address details and returning them with the completed questionnaire will place you in a**

draw to win 3 prizes of CD vouchers worth $30 each. The entry form will be removed from the questionnaire to retain your anonymity.

The aim of this research is to add information that will help nurses maintain their health, and enable them to reach their study and career potential. If you are interested in taking part in this research project then please complete the attached questionnaire and return it to Massey University in the pre-paid envelope.

Kind Regards,
Natalie Flavell
This project has been reviewed and approved by the Massey University Human

Ethics Committee, Wellington Application 05/11. If you have any concerns about

the ethics of this research, please contact Professor Sylvia Rumball, Chair,

Massey University Campus Human Ethics Committee: WGTN telephone (06)

350 5249, email humanethicswn@massey.ac.nz

Support Organisations

Massey University_ Wellington Campus
Student Health and Counselling Centre
Massey Campus- Student Services Building
Ph 801 2542
Services: doctors, nurses, counselors, physiotherapists, dietitian, dental service.

Budget Advisor/Hardship Funds
Massey Campus- Student Services Building
Ph 801 2540

Massey Recreation Centre
Massey Campus
Ph 801 2792 x6932

Chaplain's Office
Massey Campus- 2nd floor, Student Centre

Disability Support Centre
Massey Campus
Ph 801 5799 x6811 or 6139

Universal College of Learning (UCOL)
Student Health Centre
Palmerston North- 156 King Street, Ph 952 7010.
Wanganui- Health Care Centre, T. House, Campbell St, Ph 348 0845

Accessibility/Disability Issues

Palmerston North- Kearns Building 156 King St.
Wanganui- Contact Katie ▮▮▮▮▮▮▮▮▮▮▮

Study Support
Palmerston North- Faye Garnham Centre, Block 6, Te Panau, ▮▮▮▮▮▮▮▮
Wanganui- Library Learning Centre, ▮▮▮▮▮▮▮▮

Student Relations Coordinator
All campuses- Contact Adele Wilson, Ph ▮▮▮▮▮▮▮▮

International Students
All campuses- email: ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Massey University

Maintaining Health -
Stress and coping for nursing students
QUESTIONNAIRE

Instructions:

- Please answer every question.

- If you are unsure about how to answer a question, circle or tick the response for the closest answer to how you feel.

- Please read the instructions above each section very carefully. Some questions may refer to different time periods.

- Do not spend a lot of time on each question, usually your first answer is best.

- Completing this questionnaire implies your consent to participate in this study.

SECTION A
Below is list of items that may be associated with stress by students such as yourself.

Think of real events which have occurred in the past month in your role as a student. Please **circle** the response that best represents your answer.

		NOT STRESSFUL				EXTREMELY STRESSFUL
1.	Amount of classwork material to be learned.	1	2	3	4	5
2.	Difficulty of classwork material to be learned.	1	2	3	4	5
3.	Examination and/or grades.	1	2	3	4	5
4.	Peer competition.	1	2	3	4	5
5.	Attitudes/expectations of other professionals towards nursing.	1	2	3	4	5
6.	Lack of free time.	1	2	3	4	5
7.	College/School response to student needs.	1	2	3	4	5
8.	Fear of failing in course.	1	2	3	4	5
9.	Actual personal health problems.	1	2	3	4	5
10.	Physical health of other family members.	1	2	3	4	5
11.	Relationships with parents.	1	2	3	4	5
12	Other personal problems.	1	2	3	4	5
13.	Relations with other professionals.	1	2	3	4	5
14.	Too much responsibility.	1	2	3	4	5
15.	Lack of timely feedback about performance.	1	2	3	4	5

SECTION A continued

Please answer the following questions and **circle** the response that fits your clinical experience:

		NOT STRESSFUL				EXTREMELY STRESSFUL
16.	Client attitudes towards me.	1	2	3	4	5
17.	Client attitudes towards my profession.	1	2	3	4	5
18	Atmosphere created by teaching staff.	1	2	3	4	5
19.	Relations with staff in the clinical area.	1	2	3	4	5

Other academic and related items:

		NOT STRESSFUL				EXTREMELY STRESSFUL
20.	I am not sure what is expected of me.	1	2	3	4	5
21.	I have no time for entertainment.	1	2	3	4	5
22.	I do not have enough time for my family.	1	2	3	4	5

SECTION B
The following statements relate to your understanding of the organisational culture of nursing.

		Strongly Disagree	Disagree	Agree	Strongly Agree
23.	Nurses are expected to hit the ground running, it should not take time for a nurse to become clinically competent.	1	2	3	4
24.	It is important to support a doctor's clinical decision.	1	2	3	4
25.	Nurses often blame themselves when things go wrong with their patients.	1	2	3	4
26.	Nurses have to prove themselves at work to be accepted as a nurse.	1	2	3	4

SECTION B continued

		Strongly Disagree	Disagree	Agree	Strongly Agree
27.	These days it is acceptable for patients and their families to see that nurses are affected by their work.	1	2	3	4
28.	Clinical competence is valued by nurses.	1	2	3	4
29.	There is competition between nurses to be better than each other.	1	2	3	4
30.	Nurses need to be able to prioritise work well.	1	2	3	4
31.	If a nurse has questions about clinical issues, she will usually ask the person in charge of the shift.	1	2	3	4
32.	When a patient dies, nurses should consider how they contributed to this outcome.	1	2	3	4
33.	It is not the role of nurses to prioritise patients and their care.	1	2	3	4
34.	It is important that nurses support/protect other nurses from patients and their families, and the management system.	1	2	3	4
35.	Nurses need to prioritise time well.	1	2	3	4
36.	Generally nurses are judgmental of each other.	1	2	3	4
37.	New nurses and students should always ask for information from the person in charge of the shift.	1	2	3	4
38.	When a nurse is given more complex work to do, this means that he or she has been accepted as a nurse.	1	2	3	4
39.	Nurses are personally responsible for their patient's outcomes.	1	2	3	4

		1st	2nd	3rd	3rd +
40.	What year of your nursing study are you currently in?				

SECTION C
The following statements relate to coping with stress.

To respond to these statements, you must have a specific stressful situation in mind. Take a few moments and think about the most stressful situation that you have experienced in the past few weeks or so.

By "stressful" we mean any situation where you had to use considerable effort to deal with the situation. Before responding to the statements, think about the details of this stressful situation, such as *where* it happened, *who* was involved, *how* you acted, and *why* it was important to you. While you may still be involved in the situation, or it could have already happened, it should be the most stressful situation that you experienced during the past weeks.

Please indicate briefly the stressful situation:

_____

_____

_____

_____

_____

_____

_____

_____

Keeping this situation in mind, please indicate how often you used each coping response with this particular situation. **Circle** *the rating that applies to you.*

		Not at all				Very much
41.	I concentrated on doing something about it.	1	2	3	4	5
42.	I made jokes about it.	1	2	3	4	5
43.	I gave up trying to deal with it.	1	2	3	4	5
44.	I admitted to myself I couldn't deal with it and stopped trying.	1	2	3	4	5
45.	I learned to live with it.	1	2	3	4	5
46.	I pretended it hadn't really happened.	1	2	3	4	5
47.	I expressed my negative feelings.	1	2	3	4	5
48.	I used alcohol or other drugs to help me get through it.	1	2	3	4	5

SECTION C continued

		Not at all				Very much
49.	I talked to someone about how I was feeling.	1	2	3	4	5
50.	I thought hard about what steps to take.	1	2	3	4	5
51.	I put my trust in God.	1	2	3	4	5
52.	I blamed myself for what had happened.	1	2	3	4	5
53.	I told myself it was all my fault.	1	2	3	4	5
54.	I said to myself "this isn't real".	1	2	3	4	5
55.	I made fun of the situation.	1	2	3	4	5
56.	I prayed or meditated.	1	2	3	4	5
57.	I accepted the fact that it had happened.	1	2	3	4	5
58.	I just got used to the idea that it had happened.	1	2	3	4	5
59.	I looked for something good in what happened.	1	2	3	4	5
60.	I got help and advice from other people.	1	2	3	4	5
61.	I tried to see it in a different light, to make it seem more positive.	1	2	3	4	5
62.	I let my feelings out.	1	2	3	4	5
63.	I asked people who had had similar experiences what they did.	1	2	3	4	5
64.	I took action to try to make the situation better.	1	2	3	4	5
65.	I used alcohol or other drugs to think about it less.	1	2	3	4	5
66.	I tried to see the funny side of things.	1	2	3	4	5
67.	I daydreamed about other things to take my mind off it.	1	2	3	4	5
68.	I did what had to be done, one step at a time.	1	2	3	4	5
69.	I tried to find comfort in my religion or spiritual beliefs.	1	2	3	4	5

SECTION C continued

		Not at all				Very much
70.	I did something to think about it less, such as going to movies, watching TV, reading or shopping.	1	2	3	4	5
71.	I got emotional support from others.	1	2	3	4	5
72.	I used alcohol or other drugs to make myself feel better.	1	2	3	4	5
73.	I thought of what I could learn from the experience.	1	2	3	4	5
74.	I got comfort and understanding from someone.	1	2	3	4	5
75.	I gave up the attempt to cope.	1	2	3	4	5
76.	I turned to work or other activities to take my mind off things.	1	2	3	4	5
77.	I tried to get advice or help from other people about what to do.	1	2	3	4	5
78.	I made a plan of action.	1	2	3	4	5
79.	I said things to let my unpleasant feelings escape.	1	2	3	4	5
80.	I criticized myself.	1	2	3	4	5
81.	I tried to come up with a strategy about what to do.	1	2	3	4	5
82.	I refused to believe that it had happened.	1	2	3	4	5

83. I did something else to deal with the situation. (please specify)

_____

_____

_____

_____

_____

☺ Not long to go now!

SECTION D
The following questions relate to your health in general and how this affects your daily activities.

Please **tick** the appropriate response.

84.	In general, would you say your health is: *(Mark one only)*	Excellent	O
		Very good	O
		Good	O
		Fair	O
		Poor	O

*The following items are about activities you might do during a typical day. Does health now limit you in these activities? Please **circle** the rating that best represents your response.*

		Yes, limited a lot	Yes, limited a little	No, not limited at all
85.	*Moderate activities, such as, moving a table, pushing a vacuum cleaner, bowling or playing golf.*	1	2	3
86.	*Moderate activities, such as, climbing several flights of stairs.*	1	2	3

During the **past four weeks**, have you had any of the following problems with your work or regular daily activities **as a result of your physical health**?

87.	Accomplished less than you would like.	Yes	No
88.	Were limited in the kind of work or other activities.	Yes	No

During the **past four weeks** have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems**, *(such as feeling depressed or anxious)?*

89.	Accomplished less than you would like.	Yes	No
90.	Didn't do work or other activities as carefully as usual.	Yes	No

SECTION D continued

*These questions are about how you feel and how things have been for you over the **past four weeks**. For each question, **please circle the one answer** that comes closest to the way you have been feeling. How much of the time during the **past four weeks**.*

		All of the time	Most of the time	A good bit of the time	Some of the time	A little bit of the time	None of the time
91.	Have you felt calm and peaceful?	1	2	3	4	5	6
92.	Did you have a lot of energy?	1	2	3	4	5	6
93.	Have you felt downhearted and blue?	1	2	3	4	5	6

Please **tick** the appropriate response.

94. *During the past four weeks, how much did pain interfere with your normal work, (including both work outside the home and housework)?*

Not at all	O
A little bit	O
Moderately	O
Quite a bit	O
Extremely	O

95. During the past four weeks, how much of the time has your physical health or emotional problems interfered with your social activities, like visiting with friends, relatives? *(Mark one only)*

All of the time	O
Most of the time	O
A good bit of the time	O
Some of the time	O
A little bit of the time	O
None of the time	O

If there are any other issues related to your health that you feel would be important for us to know, please note them below.

_____

_____

SECTION D continued

96.	Do you smoke cigarettes?	Yes	No
97.	Have you quit smoking while studying nursing?	Yes	No

If you have answered YES to question 96 please continue with the next question.

If you have answered NO to question 96 then please go straight to page 11.

IF YOU ANSWERED YES TO QUESTION 96
PLEASE CONTINUE TO ANSWER THE FOLLOWING QUESTIONS.

Please **tick or circle** the appropriate response.

98.	If you have answered question **96** YES, how soon after you wake up do you smoke your first cigarette?	More than 60 minutes after I wake up	O
		Within 31 to 60 minutes of waking up	O
		With 6 to 30 minutes of waking up	O
		Within 5 minutes of waking up	O

99.	Do you find it difficult to refrain from smoking in places where it is forbidden? (for example: library, cinema, church, bar, restaurant).	Yes	No

100.	Which cigarette would you be the most unwilling to give up?	First one in the morning	O
		Any other	O

101.	How many cigarettes a day do you smoke?	_____

102.	Do you smoke more during the first hours in the morning than during the rest of the day?	Yes	No

103.	Do you smoke if you are so ill that you are in bed all day?	Yes	No

104.	Have you started to smoke while studying nursing?	Yes	No

105.	Are you an ex-smoker who has started to smoke again while studying nursing?	Yes	No

106.	If you are a smoker, has the new legislation banning smoking in bars and restaurants reduced your smoking?	Yes	O
		No	O
		A little	O
		A lot	O

☺ Thank you for your time! ☺

Your response to this questionnaire is much appreciated.

Name and Address Slip
Please complete if you would like a summary of research findings sent to you.

Name:...

Postal Address:...

....

....

....

Entry Form for draw to win $30.00 worth of CD Vouchers
Please complete if you would like to enter this draw.

Name:...

Postal Address:...

....

....

....

Note: This page will be removed promptly from the completed questionnaires in order to maintain anonymity.

Appendix C

Massey University

20 June 2005

Natalie Flavell

Dear Natalie

Re: HEC: WGTN Application – 05/11
Nursing students: Stress and coping

Thank you for your letter received 12 June 2005.

On behalf of the Massey University Human Ethics Committee: Wellington I am pleased to advise you that the ethics of your application are approved. Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

A reminder to include the following statement on all public documents: *"This project has been reviewed and approved by the Massey University Human Ethics Committee, Wellington Application 05/11. If you have any concerns about the ethics of this research, please contact Professor Sylvia Rumball, Chair, Massey University Campus Human Ethics Committee: WGTN telephone 06 350 5249, email humanethicswn@massey.ac.nz".*

Yours sincerely

Professor Sylvia V Rumball, Chair
Massey University Campus Human Ethics Committee: Wellington

cc Dr Christine Stephens   Prof Ian Evans, HoS
    School of Psychology   School of Psychology
    PN320   PN320

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