OCCUPATIONAL STRESS OF PROFESSIONAL AND ENROLLED NURSES IN SOUTH AFRICA

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NOTE

- The reader must note that the publication and reference style used in this mini-dissertation is in accordance with the instructions for publication (4th ed.) of the American Psychological Association (APA). This is in accordance with the policy of the Programme in Industrial Psychology at the PU for CHO to use the APA- style in all scientific documents since January 1999.

- In this mini-dissertation, the article option has been chosen.

PREFACE

I would like to express my gratitude to the following people for their contribution to this research:

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SUMMARY

Subject: Occupational stress of professional and enrolled nurses in South Africa.

Key terms: Stress, burnout, occupational stress, nurses and health workers.

Occupational stress of nurses has been widely researched, for example in specific health care units – intensive care, specific conditions – cancer. Personal characteristics like emotional involvement and depersonalisation of patients are also suggested as stressors for nurses. In South Africa the Department of Health has made a number of changes since 1994. One of the changes involved the restructuring of the different departments to unify the fragmented health services. No comparison study was found for professional and enrolled nurses. The objectives of this study were to determine the construct validity and internal consistency of the Nursing Stress Indicator (NSI) and to identify differences between occupational stressors of professional and enrolled nurses.

A cross-sectional survey design was used. An random sample of professional nurses (N = 980) and enrolled (N = 800) nurses of seven of the nine provinces of South Africa were used. The NSI was developed as measuring instrument and administrated together with a biographical questionnaire. Descriptive statistics and inferential statistics were used to analyse the data.

Five internally consistent factors were extracted. The first factor was labelled Stress: Patient Care. It relates to stress because of the care nursing staff provide to patients. The second factor was labelled Stress: Job Demands, and refer to the demands associated with the work of the nurse. The third factor indicated a lack of support in the organisation as well as from supervisors and colleagues, and was labelled Stress: Lack of Support. The fourth factor was labelled Stress: Staff Issues, because it included item loadings on things like shortage of staff, and fellow workers not doing their job. The fifth factor contains items concerning working hours, especially overtime, and was labelled Stress: Overtime.

The results indicated that a difference in stress levels exists between professional and enrolled nurses. Professional nurses' severity for the different stressors are higher on all five

the extracted factors than those of the enrolled nurses. The sources of occupational stress for professional and enrolled nurses were almost the same. One source of stress for professional nurses that the enrolled nurses did not experience is management of staff. Professional nurses (compared with enrolled nurses) obtained practically significant higher scores on two stressors, namely stress because of making a mistake when treating a patient and stress because of disagreement with medical practitioners or colleagues concerning the treatment of a patient.

Recommendations for future research were made.

OPSOMMING

Onderwerp: Beroepsstres van die professionele en ingeskrewe verpleegsters in Suid-Afrika.

Sleutelterme: Stres, uitbranding, beroepsstres, verpleegster en gesondheidswerker.

Beroepsstres vir verpleegsters is wyd nagevors, byvoorbeeld in spesifieke gesondheidsorg eenhede – intensiewe sorg, spesifieke toestand – kanker. Persoonlikheidseienskappe soos emosionele betrokkenheid en ontpersoonliking van die pasiënt is ook gesugereer as stressors vir verpleegsters. In Suid Afrika het die Departement van Gesondheid 'n klomp wysigings aangebring vanaf 1994. Een van die veranderinge behels die herstrukturering van die verskillende departemente om die gefragmenteerde gesondheidsorg saam te voeg. Geen vergelykende studie tussen professionele en ingeskrewe verpleegsters is gevind nie. Die doelstelling van hierdie navorsing was om die konstrukgeldigheid en interne konsekwentheid van die Nursing Stress Indicator (NSI) te bepaal asook om die verskille in beroepsstressors tussen professionele en ingeskrewe verpleegsters te bepaal.

'n Dwarsdeursnee opname-ontwerp is gebruik. Die studiepopulasie is met behulp van 'n beskikbaarheidsteekproef Professionele verpleegsters (N = 980), en Ingeskrewe verpleegsters (N = 800) van sewe van die nege provinsies in Suid Afrika verkry. Die NSI is ontwikkel vir die studie en saam met die biografiese vraelys afgeneem. Beskrywende statistiek en inferensiële statistiek is gebruik om die data te analiseer.

Vyf interne konsekwente faktore is onttrek. Die eerste faktor is Stres: Pasiënte sorg. Dit het betrekking op stres as gevolg van die sorg wat verpleegsters aan pasiënte verleen. Die tweede faktor is Stres: Pos-eise, en dit verwys na die eise van die werk wat die verpleegster doen. Die derde faktor dui op 'n gebrek aan ondersteuning binne die organisasie sowel as van toesighouers en kollegas, en die faktor word genoem Stres: Gebrek aan Ondersteuning. Die vierde faktor is Stres: Personeel aangeleenthede, aangesien dit itemladings insluit op faktore soos tekort aan personeel en kollegas wat nie hulle werk doen nie. Die vyfde faktor het op items gelaai wat betrekking het op werksure, veral oortyd en is genoem Stres: Oortyd.

Die navorsing het getoon dat daar 'n verskil bestaan tussen die stresvlakke van Professionele en Ingeskrewe verpleegsters. Die Professionele verpleegsters se belewing van die stressors was meer intens vir al vyf die faktore as díe van die Ingeskrewe verpleegsters. Die oorsprong van die stres vir die Professionele en Ingeskrewe verpleegsters is byna dieselfde. Een oorsprong van stres vir die Professionele verpleegster wat nie deur die Ingeskrewe verpleegsters ervaar word nie, is die bestuur van personeel. Professionele verpleegsters (in vergelyking met ingeskrewe verpleegsters) het prakties betekenisvolle hoër tellings ten opsigte van twee stressore behaal, naamlik stres wat geassosieer word daarmee om foute in die behandeling van pasiënte te maak, en stres a.g.v. meningsverskille met mediese praktisyns rakende die behandeling van pasiënte.

Aanbevelings vir toekomstige navorsing is aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This mini-dissertation deals with the internal consistency and construct validity of a measuring instrument of occupational stress of nurses and differences between occupational stressors of professional and enrolled nurses.

In Chapter 1 the motivation for the research is discussed in terms of the problem statement and aims of the research. The research method and the division of the chapters are discussed.

1.1 PROBLEM STATEMENT

Internationally, changes in the workplace account for a lot of stress. Changes like restructuring, mergers, acquisitions, increased global competition, and new technological innovations keep work stress widespread. (Robbins, 1991, 1998). South Africa has experienced vast changes since 1994 and all organisations, professions and individuals have had to adapt to the new democratic South Africa. This is also true for the health services in South Africa.

One of the changes experienced in the Department of Health is the restructuring of all the different departments. In the White Paper for the Transformation of the Health System in South Africa, published in 2000, one of the goals is to unify fragmented health services at all levels into a comprehensive and integrated National Health Service. These recommendations are included in the National Health Bill (B 32B-2003).

In reviewing the literature there is no doubt that nurses experience a lot of stress in the workplace. In an international literature review Lambert and Lambert (2001) found that the following work environment factors in South Africa contributed to a stressful work environment for nurses: impaired communication with management, racism, lack of fair competitive remuneration and disregard for professional worth, non-conducive physical and psychological surroundings, lack of support from supervisors, high responsibility, long working hours and task overload.

Cooper, Dewe and O'Driscoll state that determinants of strain can be grouped into three major categories, namely job-specific sources, organisational sources, and individual sources. As this research focus on occupational stress, the researcher will look only at job-specific and organisational sources. Job-specific sources include things like workload, work hours, new technology and exposure to risk and hazards. Organisational sources include items like responsibility, leadership style, promotion and career advancement.

Robbins (1998) describes stress as a dynamic condition in which an individual is confronted with an opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important. Ivancevich and Matteson (1993) define response stress as the physiological or psychological response of an individual to an environmental stressor, where a stressor is a potentially harmful external event or situation. It is an internal response. The response-based theory of stress was developed and examined by Hans Selye. Animals were mostly used in the research and the results extrapolate to humans. In attempts to measure stress in humans, researchers used heart rate, blood pressure, plasma and urinary cortisol, and antibody production (Lyon, 2000).

In the stimulus approach, the stressor is a life event or life change and it is to this that the person responds. The central proposal of this approach is that too many life changes increase the person's vulnerability to sickness (Lyon, 2000). Ivancevich and Matteson (1993) define stimulus stress as the force or stimulus acting on the individual that results in a response of strain, where strain is pressure or, in physical sense, deformation. Stress is an external event.

Lazarus, as quoted by Lyon (2000), contends that stress does not exist in the event but rather is a result of a transaction between a person and his or her environment. As such, stress encompasses a set of cognitive, affective, and coping variables. Lazarus (2000) stated that in his early research, sponsored by the military, it seemed obvious that the arousal and effects of stress depended on how different individuals evaluate and cope with the personal significance of what was occurring. Putting stimulus and response together, Ivancevich and Matteson (1993) define stress as the consequence of the interaction between an environmental stimulus and the individual's response. They view stress as more than either a stimulus or a response; it is the result of a unique interaction between stimulus conditions in the environment and the individual's predisposition to respond in a particular way.

Ivancevich and Matteson (1993, p. 244) compiled a working definition, using the response, stimulus and stimulus-response definitions: An adaptive response mediated by individual differences and/or psychological processes, that is a consequence of any external (environmental) action, situation, or event that places excessive psychological and/or physical demands on a person.

The word "stress" began to appear in nursing journals in 1956. Stress as a phenomenon gained recognition in the nursing environment because of the data from patients and empirical studies by researchers that suggested that stress and health are closely linked. It was not only nursing that recognised the importance that stress plays in health. Other health-related disciplines started contributing empirical studies to the link between health and stress (Lyon, 2000). Nurses are seen to have more stress than most people due to the nature of the job and the system within which they work (Bond, 1986).

Nurses use the word stress to describe a combination of unpleasant situations and unpleasant inner personal experiences (Bond, 1986). In the research done by Vachon (1987) in Canada, United States, Australia, England and Sweden, she found that much of the stress experienced by caregivers was not related to interaction with patients. She reported a distribution of variables as follows: illness 15%, patient/family 23%, occupational role 26% and work environment 36%.

Cherniss (1995) found in his longitudinal research that professionals such as teachers, nurses, therapists and lawyers, start out as idealistic, caring, enthusiastic and committed. Unrealistic expectations and the fact that their formal schooling had not prepared them for the challenges they had to face, quickly had them disillusioned. One of the nurses serving in Vietnam put it this way: "Everything I believed – my idealism, my romanticism, my faith – was destroyed" (Norman, 1991). New-comer nurses in an old age hospital ward for continuing care quickly lose their idealism and enthusiasm, because they feel that the patients were "on hold" and that they were struggling against the gradual encroachment of decay (Roberts, 1994).

Cherniss (1995) identified the feeling of incompetence as a stressor with young professionals. The new professionals often did not know what to do or where to start. Something that is linked to the feeling of incompetence is the lack of autonomy. This lack of autonomy made it more difficult for the professionals to do their best. For the nurses that served in Vietnam, one

of the hardest things was to give up on their autonomy. They were used to the mutual professional regard between physician and nurse in Vietnam. Back in the United States, nurses saw themselves slip into the traditional role of a "handmaiden". One of the nurses said this: "I questioned a doctor and got reprimanded. It was like a slap in the face, and I saw all my powers taken away from me." (Norman, 1991). Interviews with professional nurses whose roles were changed from the hospital environment to nursing roles in the community, showed their experience of an acute fear of their new professional autonomy. Community nurses become aware of their previously protected status as professionals who were not expected to think for themselves, or take any initiatives while working in hospitals (Roberts, 1994).

Through her seminars and workshops, Bond (1986) came to the conclusion that emotions have a bad name in nursing. The dangers of emotional involvement for nurses are often pointed out, but not the dangers of emotional shallowness. Emotional maturity is considered as the absence of emotions rather than skill in being aware of them and expressing them appropriately. We speak of controlling emotions rather than encouraging them. "Getting emotional" is seen as failure, whereas being rational is over-valued. In an effort not to show emotions, nurses work harder. They do not discuss it with their colleagues and in the process they try killing off one of the greatest resources they have to cope with stress and for helping others to do so.

In trying not to show emotions, nurses depersonalise the patients. A nurse who served in Vietnam said: "Patients were no longer people. They were wounds to me. They were heads and backs. I never thought I'd say that, but it happened. The more patients we lost, the less I wanted to know." Roberts (1994) notices in her study at the Shady Glen old-age hospital that staff try to defend themselves against the feelings of guilt, anxiety, anger and experience with death by depersonalising relations with patients by treating them as objects, and by sticking to rigid routines. Cohn (1994) noticed that when she was working with nurses in a baby care unit, because of the many urgent, practical, and necessary procedures that needed to be followed, it was easy to see how emotional needs could be regarded as almost irrelevant. When it was not possible for the nurses to have contact with the families of the babies, it seems that the nurses become mechanical, and sometimes appeared hard, especially when a baby died.

A common feeling associated with death is the feeling of inadequacy, there is the grief about the death itself and also the feeling of having failed to save a life (Mawson, 1994). Obholzer and Roberts states that staff working closely with people in great pain and people dying, experience much stress. Cohn (1994) concluded that greater awareness and understanding of the feelings of the nurses, and allowing the expression of it, led to better working practices and to a happier ward.

Lack of resources is another source of stress for nurses. James (2002) found in her interviews with nurses that they experience a lack or inadequate amount of resources. This lack of resources leaves the nurses with a feeling of dissatisfaction because they can't do their nursing work as expected of them. The resources include items such as staff, linen, food and equipment.

For Smythe (1984) the whole system of nursing contributes to the stresses of nursing. She argues that one of the reasons that nurses lack status is the fact that nursing is not valued as highly as other services. The reason she feels this way is that nursing services are not reflected in the patient's bill, but only a room rate charge is shown.

Support by nurse managers seems to be very important to nurses and the lack thereof is a source of stress. James (2002) found that the nurses she interviewed, felt unsafe and insecure to operate optimally as nurses, because of the lack of support and favouritism practised and displayed by the nurse managers. This lack of professional support for the nurses led to the following feelings:

- Confused expectations of role
- Frustration
- Limited personal and professional growth
- Conflict in existing relationships
- Lack of team spirit
- A feeling of loneliness.

Shift work places a lot of stress on the nurse. Two out of the eight most common problems of shift work are the major communication problems among shifts, and informal cliques on any shift that are viewed as negative and intimidating (Schaffner & Bermingham, 1993).

In a study done by Tummers, Janssen, Landeweerd, and Houkes (2001), they described workload as "budget constraints with the consequences of staff shortages, low salary, low career opportunity, and less time for direct patient care." They found that workload was high for mental health as well as for general nurses. The scores in their studies indicate that workload is an important predictor of emotional exhaustion. Govender (1995) found in her research that, in comparison with professional nurses, nurses' seniority correlates positively and significantly with the total sources of stress scores, especially with issues related to workload and conflict with doctors.

Relationships with colleagues, nurse managers and doctors can cause stress for the nurse. When nurses feel helpless towards their patients, they tend to experience a lot of anger and frustration, but this is often denied. This causes their negative feelings to erupt on one another or be directed at their superior. Sometimes doctors prescribe pain-inflicting procedures and the nurses unconsciously blame the doctors for that. The structure of the relationship between the doctors and nurses does not allow the far more experienced nurses to advise doctors on the best ways to do a particular procedure (Cohn, 1994). In interviewing urban and rural nurses, Wilkes and Beale (2001) found that the nurses feel that the conflict with doctors causes stress for the nurses. They had different ideas on medication and the doctors were unable to support the nurses when they needed it.

It seems that in order to protect themselves, nurses would deny a colleague support. Mawson (1994) experienced in the Walsingham Child Health Team, that the team does not want to become involved with the feelings of guilt in a member, caused by the pain-inflicting procedures unfortunately necessary for her patient. The team does not want "the pain in their work made more acute".

Roberts (1994) found in an old-age hospital that the nurses in the continuing care wards were low on morale, and relationships were antagonistic towards the nurses in the other wards. These nurses worked in the wards where there was no hope for the elderly to heal and leave the hospital. The nurses receive little positive feedback from colleagues, patients or families

of the patients. In fact many of their patients died soon after being transferred to the ward. He found that the nurses in these wards were deprived of hope and satisfaction of seeing their patients improve and moving back into the community. Davies (1995) found that nurses often feel that it is the divisions within their own ranks and the unwillingness to engage in action at any level that are the caurse of their trouble.

The historical social role of the woman is one of the problems of nursing. Nursing is seen as a natural work for woman (Smythe, 1984). When the public is asked to give their images of a nurse it is of motherly calm, caring, someone that sees you when your emotions are in turmoil and you are stripped of your usual protection mechanisms. Images such as these are of woman. In the public mind nursing is a job for females (Davies, 1995). In a world that does not distinguish between job names for men and woman, a man in the nursing job is called a male nurse. Dartington (1994) feels that nurses feel themselves to be oppressed not by men per se, but by social systems.

While being involved in a nursing student project, Dartington (1994) had an experience that sums up the emotional demands of nursing: "What I, the students and the tutors were all experiencing at first hand were the unconscious assumptions of the hospital system, which were that attachment should be avoided for fear of being overwhelmed by emotional demands that may threaten competence, and that dependency on colleagues and supervisors should be avoided. One should manage stoically, not make demands of others, and be prepared to stifle one's individual response."

In an attempt to protect them, the new professionals made some changes. They adopted more modest goals so as to reduce the feeling of failure. This in turn helped them to feel more competent. They started blaming others or something else and if that did not help, they reduced their psychological involvement which means they started caring less (Cherniss, 1995).

In interviews with nurses who served in Vietnam, Norman (1991) found that nurses insulate themselves, they avoid feeling sad or angry or helpless. One of the nurses stated: "not getting overly emotional with patients, just in case the die". Not showing any emotions was one of the things promoted by Florence Nightingale, herself (Norman, 1991).

A vast number of stressors for nurses were identified. Not all of them are applicable to all nurses at all time. In most of the research, the researchers concentrated on the stress of nurses in a specific health care unit, intensive care (Le Blanc, De Jonge, De Rijk & Schaufeli, 2001; Couden, 2002), psychiatric or mental wards (Erasmus, Poggenpoel & Gmeiner, 1998; Humpel & Caputi, 2001; Levert, Lucas & Ortlepp, 2000), gynaecology (Orji, Fasubaa, Onwudiegwu, Dare & Ogunniyi, 2002), general nurses (Yip, 2001), conditions such as AIDS and cancer (Lempp, 1995), healthcare management (Rodham, 2002). A few comparison studies were identified, emergency department and general ward nurses (Yang, Koh, Lee, Chan, Dong & Chia, 2001), general and mental nurses (Tummers, Janssen, Landeweerd & Houkes, 2001), urban and rural nurses (Wilkes & Beale, 2001). No study could be found by the researcher on a comparison between professional and enrolled nurses, no matter in which ward they work, what the condition of their patients are or what their demographic information is.

It is important to determine the stressors endemic to the professional and enrolled nurses. According to Spielberger and Vagg (1999), the identification of major sources of stress at work offers a twofold benefit for both management and employees. Firstly, by resulting in work environment changes that reduce stress and increase productivity, and secondly by facilitating the development of effective interventions that could reduce the debilitating effects of occupational stress. It is also important to validate a suitable instrument for the early identification of stressors to address these in suitable interventions.

1.2 RESEARCH OBJECTIVES

The research objectives consist of general and specific objectives.

1.2.1 General objective

The general objective is to determine the internal consistency and construct validity of a measuring instrument of occupational stress of nurses and to determine the difference between occupational stressors of professional and enrolled nurses.

1.2.2 Specific objectives

The specific objectives of this research are the following:

- To conceptualise stress and the effects thereof on professional and enrolled nurses and ways to manage their well-being thereafter from the literature.
- To determine the internal consistency and construct validity of the "Nursing Stress Indicator".
- To determine the different levels of stress between professional and enrolled nurses.
- To determine the different sources of occupational stress in professional and enrolled nurses.
- To make recommendations for prevention and/or management of stress in professional and enrolled nurses.

1.3 RESEARCH METHOD

1.3.1 Research design

A cross-sectional design is used to achieve the research objectives. This design allows for the measuring of a group of people, of different ages, at the same time (Kerlinger & Lee, 2000). The design can also be used for the description of the population at a specific point in time, and is also suited to the development and validation of questionnaires (Shaughnessy & Zechmeister, 1997).

1.3.2 Participants

Participants were taken from Hospital wards, Psychiatric wards, Community/Occupational Services and Nursing management. The following nursing ranks were included: Enrolled auxiliary nurse, enrolled nurse (staff nurse), registered nurse, unit manager, process manager, nursing manager and nursing services specialist. Languages identified were: Afrikaans, English, Sepedi, Sesotho, Setswana, SiSwate, Tshivenda, IsiNdebele, IsiXhosa and IsiZulu. The participants came from seven of the nine provinces.

1.3.3 Measuring instruments

The Nursing Stress Indicator (NSI) is used for the purpose of this study. The NSI was developed for the job stressors specific to the nursing environment and measures the frequency of the stressful events and stressful job-related events in severity. The NSI consists of 124 items. Firstly, participants will rate each of the 62 statements in terms of perceived intensity of the particular stressor on a 9-point scale, ranging from 1 (Low) to 9 (High). In the second part of the questionnaire, the participants will be asked to respond in terms of perceived frequency in experiencing these stressors over a period of the past 6 months on a 10 point scale ranging from 0 (no days) to 9+ (more than 9 days).

A biographical questionnaire was also included. Participants were given the option of providing their names and contact details if they wanted feedback. Other information included in the questionnaire was rank, working full time or part time, unit working in, time in unit, specialised training needed for unit, time in profession, shifts, province, education, gender, marital status, language and health.

1.3.4 Statistical analysis

The SAS-program was used to carry out statistical analysis regarding the internal consistency and construct validity of the NSI. (SAS Institute, 2000) Descriptive statistics (e.g. means, standard deviations, skewness, kurtosis, intensity, frequency and severity) are used to analyse the data. Principal factor extraction with Varimax and oblique rotation were carried out through SAS FACTOR on the 124 items of the NSI for a sample of 980 professional nurses and 800 enrolled nurses. Cronbach alpha coefficients and inter-item correlations were used to assess the internal consistency of the measuring instrument. A cut-off point of 0,50 (medium effect) is set for the practical significance of differences between means. Pearson product-moment correlation coefficients would be used to specify the relationships between the variables. A cut-off point of 0,30 (medium effect) is set for the practical significance of correlation coefficients.

1.4 DIVISION OF CHAPTERS

The chapters in this mini-dissertation are presented as follows:

Chapter 1: Introduction
Chapter 2: Research article
Chapter 3: Conclusion, shortcomings and recommendations.

1.5 CHAPTER SUMMARY

In this chapter the background and motivation for the research were discussed, followed by a description of the problem statement. The general and specific objectives were formulated. The paradigm perspective of the research was investigated. The research design and method were discussed, followed by the chapter division.

Chapter 2 consists of the research article.

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CHAPTER 2

RESEARCH ARTICLE

OCCUPATIONAL STRESS OF PROFESSIONAL AND ENROLLED NURSES

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ABSTRACT

The objective of this study was to determine the construct validity and internal consistency of the Nursing Stress Indicator (NSI) and to identify differences between occupational stressors of professional and enrolled nurses. A cross-sectional survey design was used. A random sample professional nurses (N = 980) , and enrolled nurses (N = 800) of seven of the nine provinces of South Africa were used. The NSI was developed as measuring instrument and administrated together with a biographical questionnaire. Five internal consistent factors, namely Stress: Patient Care, Stress: Job Demands, Stress: Lack of Support, Stress: Staff Issues and Stress: Overtime were extracted. The stressors responsible for the strain of professional and enrolled nurses are almost the same. The severity for all five the factors are much higher for the professional nurses than for the enrolled nurses.

OPSOMMING

Die doelstelling van hierdie navorsing was om die konstrukgeldigheid en interne konsekwentheid van die Nursing Stress Indicator (NSI) te bepaal asook om die verskille in beroepstressors tussen professionele en ingeskrewe verpleegsters te bepaal. 'n Dwarsdeursnee opname-ontwerp is gebruik. 'n Ewekansige steekproef bestaande uit professionele verpleegsters (N = 980) en ingeskrewe verpleegsters (N = 800) van sewe van die nege provinsies in Suid-Afrika verkry. Die NSI is ontwikkel vir die studie en saam met die biografiese vraelys afgeneem. Vyf interne konsekwente faktore, naamlik Stres: Pasiëntesorg, Stres: Poseise, Stres: Gebrek aan ondersteuning, Stres: Personeel aangeleenthede en Stres: Oortyd is onttrek. Die stressors verantwoordelik vir die spanning van professionele en ingeskrewe verpleegsters is soortgelyk. Die ernstigheid van al vyf die faktore is aansienlik hoër vir die professionele verpleegsters as vir die ingeskrewe verpleegsters.

In reviewing the literature there is no doubt that nurses experience a lot of stress in the workplace. In an international literature review done by Lambert and Lambert (2001), they found that the following work environment factors in South Africa contributed to a stressful work environment for nurses: impaired communication with management, racism, lack of fair competitive remuneration and disregard for professional worth, non-conducive physical and psychological surroundings, lack of support from supervisors, high responsibility, long working hours and task overload.

Cooper, Dewe and O'Driscoll state that determinants of strain can be grouped into three major categories: job-specific sources, organisational sources and individual sources. As this research focuses on occupational stress, the researcher will look only at job-specific and organisational sources. Job-specific sources include items like workload, work hours, new technology and exposure to risk and hazards. Organisational sources include factors like responsibility, leadership style, promotion and career advancement.

Robbins (1998) describes stress as a dynamic condition in which an individual is confronted with an opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important. Ivancevich and Matteson (1993) define response stress as the physiological or psychological response of an individual to an environmental stressor, where a stressor is a potentially harmful external event or situation. It is an internal response. The response-based theory of stress was developed and examined by Hans Selye. Animals were mostly used in the research and the results extrapolate to humans. In attempts to measure stress in humans, researchers used heart rate, blood pressure, plasma and urinary cortisol, and antibody production (Lyon, 2000).

In the stimulus approach, the stressor is a life event or life change and it is to this that the person responds. The central proposal of this approach is that too many life changes increase the person's vulnerability to sickness (Lyon, 2000). Ivancevich and Matteson (1993) define stimulus stress as the force or stimulus acting on the individual that results in a response of strain, where strain is pressure or, in physical sense, deformation. Stress is an external event.

Lazarus, as quoted by Lyon (2000), contended that stress does not exist in the event but rather is a result of a transaction between a person and his or her environment. As such, stress encompasses a set of cognitive, affective, and coping variables. Lazarus (2000) stated that in

his early research, sponsored by the military, it seemed obvious that the arousal and effects of stress depended on how different individuals evaluate and cope with the personal significance of what was occurring. Putting stimulus and response together, Ivancevich and Matteson (1993) define stress as the consequence of the inter action between an environmental stimulus and the individual's response. They view stress as more than either a stimulus or a response, it is the result of a unique interaction between stimulus conditions in the environment and the individual's predisposition to respond in a particular way.

Ivancevich and Matteson (1993) compiled a working definition, using the response, stimulus and stimulus-response definitions: An adaptive response mediated by individual differences and/or psychological processes, that is a consequence of any external (environmental) action, situation, or event that places excessive psychological and/or physical demands on a person.

The word "stress" began to appear in nursing journals in 1956. Stress as a phenomenon gained recognition in the nursing environment because of the data from patients and empirical studies by researchers that suggested that stress and health are closely linked. It was not only nursing that recognised the importance that stress plays in health. Other health-related disciplines started to contribute empirical studies to the link between health and stress (Lyon, 2000). Nurses are seen to have more stress than most people due to the nature of the job and the system within which they work (Bond 1986).

Nurses use the word stress to describe a combination of unpleasant situations and unpleasant inner personal experiences (Bond, 1986). In the research done by Vachon (1987) in Canada, United States, Australia, England and Sweden, she found that much of the stress experienced by caregivers was not related to interaction with patients. She reported a distribution of variables as follows: Illness 15%, Patient/family 23%, and occupational role 26% and work environment 36%.

Cherniss (1995) found in his longitudinal research that professionals such as teachers, nurses, therapists and lawyers, start out as idealistic, caring, enthusiastic and committed. Unrealistic expectations and the fact that their formal schooling had not prepared them for the challenges they had to face, quickly had them disillusioned. One of the nurses serving in Vietnam put it this way: "Everything I believed – my idealism, my romanticism, my faith – was destroyed" (Norman, 1990). New-comer nurses in an old age hospital ward for continuing care quickly

lose their idealism and enthusiasm, because they feel that the patients were "on hold" and that they were struggling against the gradual encroachment of decay (Roberts, 1994).

Cherniss (1995) identified the feeling of incompetence as a stressor with young professionals. The new professionals often didn't know what to do where to start. Something that is linked to the feeling of incompetence, is the lack of autonomy. This lack of autonomy made it more difficult for the professionals to do their best. For the nurses that served in Vietnam, one of the hardest things was to give up on their autonomy. They were used to the mutual professional regard between physician and nurse in Vietnam. Back in the United States, nurses saw themselves slip into the traditional role of a "handmaiden". One of the nurses said this: "I questioned a doctor and got reprimanded. It was like a slap in the face, and I saw all my powers taken away from me." (Norman, 1990). Interviews with professional nurses whose roles were changed from the hospital environment to nursing roles in the community, showed their experience of an acute fear of their new professional autonomy. Community nurses become aware of their previously protected status as professionals who were not expected to think for themselves, or take any initiatives while working in hospitals (Roberts, 1994).

Through her seminars and workshops, Bond (1986) came to the conclusion that emotions have a bad name in nursing. The dangers of emotional involvement for nurses are often pointed out, but not the dangers of emotional shallowness. Emotional maturity is considered as the absence of emotions rather than skill in being aware of them and expressing them appropriately. We speak of controlling emotions rather than encouraging them. "Getting emotional" is seen as failure, whereas being rational is over-valued. In an effort not to show emotions, nurses work harder. They do not discuss it with their colleagues and in the process they try killing off one of the greatest resources they have to cope with stress and for helping others to do so.

In trying not to show emotions, nurses depersonalise the patients. A nurse who served in Vietnam said: "Patients were no longer people. They were wounds to me. They were heads and backs. I never thought I'd say that, but it happened. The more patients we lost, the less I wanted to know." Roberts (1994) noticed in her study at the Shady Glen old-age hospital that staff try to defend themselves against the feelings of guilt, anxiety, anger and experience with death by depersonalising relations with patients by treating them as objects, and by sticking

to rigid routines. Cohn (1994) noticed that when she was working with nurses in a baby care unit, because of the many urgent, practical, and necessary procedures that needed to be followed, it was easy to see how emotional needs could be regarded as almost irrelevant. When it was not possible for the nurses to have contact with the families of the babies, it seems that the nurses become mechanical, and sometimes appeared hard, especially when a baby died.

A common feeling associated with death is the feeling of inadequacy. There is the grief about the death itself and also the feeling of having failed to save a life (Mawson, 1994). Obholzer and Roberts (1994) states that staff working closely with people in great pain and people dying experience much stress. Cohn (1994) concluded that greater awareness and understanding of the feelings of the nurses, and allowing the expression of it, lead to better working practices and to a happier ward.

Lack of resources is another source of stress for nurses. James (2002) found in her interviews with nurses that they experience a lack or inadequate amount of resources. This lack of resources leaves the nurses with a feeling of dissatisfaction because they can not do their nursing work as expected of them. The resources include items such as staff, linen, food and equipment.

For Smythe (1984) the whole system of nursing contributes to the stresses of nursing. She argues that one of the reasons that nurses lack status is the fact that nursing is not valued as highly as other services. The reason she feels this way is that nursing services are not reflected on the patient's bill, but only a room rate charge is shown.

Support by nurse managers seems to be very important to nurses and the lack thereof is a source of stress. James (2002) found that the nurses she interviewed, felt unsafe and insecure to operate optimally as nurses, because of the lack of support and favouritism practised and displayed by the nurse managers. This lack of professional support for the nurses led to the following feelings:

- Confused expectations of role
- Frustration

- Limited personal and professional growth
- Conflict in existing relationships
- Lack of team spirit
- A feeling of loneliness.

Shift work places a lot of stress on the nurse. Two out of the eight most common problems of shift work are the major communication problems among shifts and informal clique forming on any shift that is viewed as negative and intimidating (Schaffner & Bermingham, 1993).

In a study done by Tummers, Janssen, Landeweerd, and Houkes (2001), they described workload as "budget constraints with the consequences of staff shortages, low salary, low career opportunity, and less time for direct patient care." They found that workload was high for mental health as well as for general nurses. The scores in their studies indicate that workload is an important predictor of emotional exhaustion. Govender (1995) found in her research that, in comparison with professional nurses, nurse's seniority correlates positively and significantly with the total sources of stress scores, especially with issues related to workload and conflict with doctors.

Relationships with colleagues, nurse managers and doctors can cause stress for the nurse. When nurses feel helpless towards their patients, they tend to experience a lot of anger and frustration, but this is often denied. This causes their negative feelings to erupt on one another or be directed at their superior. Sometimes doctors prescribe pain-inflicting procedures and the nurses unconsciously blame the doctors for that. The structure of the relationship between the doctors and nurses does not allow the far more experienced nurses to advise doctors on the best ways to do a particular procedure (Cohn, 1994). In interviewing urban and rural nurses, Wilkes and Beale (2001) found that the nurses feel that the conflict with doctors causes stress for the nurses. They had different ideas on medication and the doctors were unable to support the nurses when they needed it.

It seems that in order to protect themselves, nurses would deny a colleague support. Mawson (1994) experienced in the Walsingham Child Health Team, that the team does not want to become involved with the feelings of guilt in a member, caused by the pain-inflicting

procedures unfortunately necessary for her patient. The team doesn't want "the pain in their work made more acute".

Roberts (1994) found in an old-age hospital that the nurses in the continuing care wards were low on morale, and relationships were antagonistic towards the nurses in the other wards. These nurses worked in the wards where there was no hope for the elderly to heal and leave the hospital. The nurses receive little positive feedback from colleagues, patients or families of the patients. In fact many of their patients died soon after being transferred to the ward. He found that the nurses in these wards were deprived of hope and satisfaction of seeing their patients improve and moving back into the community. Davies (1995) found that nurses often feel that it is the divisions within their own ranks and the unwillingness to engage in action at any level that are the cause of their trouble.

The historical social role of the woman is one of the problems of nursing. Nursing is seen as a natural work for woman (Smythe, 1984). When the public is asked to give their image of a nurse, it is one of motherly calm, caring, someone that sees you when your emotions are in turmoil and you are stripped of your usual protection mechanisms. Images such as these are of woman. In the public mind nursing is a job for females (Davies, 1995). In a world that does not distinguish between job names for men and woman, a man in the nursing job is called a male nurse. Dartington (1994) feels that nurses feel themselves to be oppressed not by men per se, but by social systems.

While being involved in a nursing student project, Dartington (1994) had an experience that sums up the emotional demands of nursing: "What I, the students and the tutors were all experiencing at first hand were the unconscious assumptions of the hospital system, which were that attachment should be avoided for fear of being overwhelmed by emotional demands that may threaten competence and that dependency on colleagues and supervisors should be avoided. One should manage stoically, not make demands of others, and be prepared to stifle one's individual response."

In an attempt to protect them, the new professionals made some changes. They adopted more modest goals so as to reduce the feeling of failure. This in turn helped them to feel more competent. They started blaming others or something else and if that did not help they

reduced their psychological involvement which means they started caring less (Cherniss, 1995).

In interviews with nurses who served in Vietnam, Norman (1990) found that nurses insulate themselves, they avoid feeling sad or angry or helpless. One of the stated: "not getting overly emotional with patients, just in case they die". Not showing any emotions were one of the things promoted by Florence Nightingale, herself (Norman, 1990).

A vast number of stressors for nurses were identified. Not all of them are applicable to all nurses at all times. In most of the research, the researchers concentrated on the stress of nurses in a specific health care unit, intensive care (Le Blanc, De Jonge, De Rijk & Schaufeli, 2001; Couden, 2002), psychiatric or mental wards (Erasmus, Poggenpoel & Gmeiner, 1998; Humpel & Caputi, 2001; Levert, Lucas & Ortlepp, 2000), gynaecology (Orji, Fasubaa, Onwudiegwu, Dare & Ogunniyi, 2002), general nurses (Yip, 2001), conditions such as AIDS and cancer (Lempp, 1995), healthcare management (Rodham, 2002). A few comparison studies were identified: emergency department and general ward nurses (Yang, Koh, Lee, Chan, Dong & Chia, 2001), general and mental nurses (Tummers, Janssen, Landeweerd & Houkes, 2001), urban and rural nurses (Wilkes & Beale, 2001). No study could be found by the researcher on a comparison between professional and enrolled nurses, no matter in which ward they work, what the condition of their patients are or what their demographic information is.

It is important to determine the stressors endemic to the professional and enrolled nurses. According to Spielberger and Vagg (1999) the identification of major sources of stress at work offers a twofold benefit for both management and employees. Firstly, by resulting in work environment changes that reduce stress and increase productivity, and secondly by facilitating the development of effective interventions that could reduce the debilitating effects of occupational stress. It is also important to validate a suitable instrument for the early identification of stressors to address these in suitable interventions.

The objectives of this study were to determine the construct validity and internal consistency of the Nursing Stress Indicator (NSI) and to identify differences between occupational stressors of professional and enrolled nurses.

METHOD

Research design

A cross-sectional survey design was used to achieve the research objectives. This design allows for the measuring of a group of people of different ages, at the same time (Kerlinger & Lee, 2000). The design can also be used for the description of the population at a specific point in time, and is also suited to the development and validation of questionnaires (Shaughnessy & Zechmeister, 1997).

Study population

Random samples (N = 1780) were taken from Hospital wards, Psychiatric wards, Community/Occupational Services and Nursing management. The sample for professional nurses was N = 800 and the sample for the enrolled nurses was N = 980. The characteristics of the study population are reported in Table 1.

Table 1

Characteristics of the Study Population ($N = 1780$)

Item	Category	Percentage
Home Language	Afrikaans	54,15
	English	30,94
	Sepedi	1,77
	Sesotho	1,49
	Setswana	3,41
	SiSwati	0,14
	Tshivenda	0,07
	IsiNdebele	0,07
	IsiXhosa	2,34
	IsiZulu	5,18
	Other	0,43
Rank	Enrolled auxiliary nurse	21,29
	Enrolled nurse (staff nurse)	19,71
	Registered nurse	43,17
	Unit manager	9,64
	Process manager	1,29
	Nursing manager	0,86
	Nursing services specialist	0,22
	Other position	3,81
Province	Eastern Cape	6,91
	Free State	5,20
	Gauteng	45,12
	Kwa-Zulu Natal	22,02
	Mpumalanga	6,84
	North West	6,99
	Western Cape	6,91
Gender	Male	2,88
	Female	97,12
Marital status	Single	15,89
	Engaged/close relationship	8,41
	Married	55,45
	Divorced	12,97
	Separated	2,42
	Widow/er	3,49
	Remarried	1,35

Table 1 shows that more than half of the sample was made up of Afrikaans-speaking women (54,15%). Furthermore, it seems that registered (professional) nurses form the biggest part of the rank of the different nurse categories (43,17%). Seven of the nine provinces of South Africa participated in the study. Females are by far the biggest part of the sample (97,12%).

Measuring instrument

The Nursing Stress Indicator (NSI) was used for the purpose of this study. The NSI was developed for the job stressors specific to the nursing environment and measure the frequency of the stressful events and stressful job-related events in severity. The NSI consists of 124 items. Firstly, participants will rate each of the 62 statements in terms of perceived intensity of the particular stressor on a 9-point scale, ranging from 1 (Low) to 9 (High). In the second part of the questionnaire, the participants will be ask to respond in terms of perceived frequency in experiencing these stressors over a period of the past 6 months on a 10 point scale ranging from 0 (no days) to 9+ (more than 9 days).

A biographical questionnaire was also included. Participants were given the option of providing their names and contact details if they wanted feedback. Other information included in the questionnaire was rank, working full time or part time, unit working in, time in unit, specialised training needed for unit, time in profession, shifts, province, education, gender, marital status, language, and health.

Statistical analysis

The SAS-program was used to carry out statistical analysis regarding the internal consistency and construct validity of the NSI. (SAS Institute, 2000) Principal factor extraction with Varimax and oblique rotation was carried out through SAS FACTOR on the 124 items of the NSI for a sample of 980 professional nurses and 800 enrolled nurses. Cronbach alpha coefficients and inter-item correlations were used to assess the internal consistency of the measuring instrument. T-tests were used to determine differences between the two groups in the sample. A cut-off point of 0,50 (medium effect) is set for the practical significance of differences between means.

RESULTS

The results of the factor analysis are shown in Table 2. Loadings of variance on factors, communalities and percentage of variance and covariance are shown. Variables are ordered and grouped by size of loading to facilitate interpretation. Zeros represent loadings that were under 0,45 (20% of variance). Labels for each factor are suggested in the footnote.

Principal factor analysis was done with a varimax rotation. Inspection of the table shows that five factors were extracted, accounting for 44,11% of the total variance in the data. As indicated by the SMC's, all factors were internally consistent and well-defined by the variables. Variables were reasonably well-defined by this factor solution. Communality values, as seen in the table, tend to be moderate. With a cut-off of 0,45 for inclusion of a variable in interpretation of a factor, 23 of 62 items did not load on the five factors.

The first factor dealt with patient care such as death of a patient and watching a patient suffer. This factor was labelled *Stress: Patient Care.* The second factor had items such as management of staff and meeting deadlines. This factor was labelled *Stress: Job Demands.* The third factor had items such as inadequate support by supervisor and lack of support from colleagues. This factor was labelled *Stress: Lack of support.* The fourth factor dealt with staff issues such as shortage of staff and insufficient time to perform tasks. This factor was labelled *Stress: Staff Issues.* The fifth factor dealt with overtime with items such as working overtime and working overtime due to "Moonlighting". This factor was labelled *Stress: Overtime.*

The items that failed to load on the five factors included:

- Assignment of disagreeable duties,
- Lack of opportunity for advancement,
- Assignment of new or unfamiliar duties,
- Dealing with crisis situations,
- Performing tasks not in job description,
- Assignment of increased responsibility,
- Periods of inactivity,
- Making critical on-the-spot decisions,
- Personal insult from patients or their family,

- Personal insult from doctors,
- Inadequate salary,
- Competition for advancement,
- Frequent interruptions,
- Excessive paperwork e.g. administrative duties,
- Insufficient personal time (e.g. coffee breaks)
- Conflict with other departments,
- Dealing with difficult doctors,
- Performing procedures that patients experience as painful,
- Caring for the emotional and spiritual needs of a patient or his/her family,
- Floating to other units that are short of staff,
- Criticism by a supervisor,
- Operating specialised equipment,
- Irregular working hours.

Table 2

Factor Loadings, Communalities (h^2), Percentage Variance and Covariance for Principal Factor Extraction and Verimax Rotation on NSI Items

Item	F_1	F_2	F_3	F_4	F_5	h^2
Death of a patient with whom you developed a close relationship	0,79	0,00	0,00	0,00	0,00	0,66
Watching a patient suffer	0,76	0,00	0,00	0,00	0,00	0,64
Death of a patient	0,71	0,00	0,00	0,00	0,00	0,58
Making a mistake when treating a patient	0,71	0,00	0,00	0,00	0,00	0,63
Communicating with a patient about death	0,65	0,00	0,00	0,00	0,00	0,54
Disagreement with medical practitioner or colleague concerning the treatment of a patient	0,64	0,00	0,00	0,00	0,00	0,58
Patients who fail to improve	0,64	0,00	0,00	0,00	0,00	0,53
Inadequate information from a medical practitioner regarding the medical condition of the patient	0,60	0,00	0,00	0,00	0,00	0,55
Demands of clients/patients	0,00	0,74	0,00	0,00	0,00	0,61
Stock control in the ward/unit/institution	0,00	0,63	0,00	0,00	0,00	0,46
Language and communication barriers with clients/patients	0,00	0,58	0,00	0,00	0,00	0,43
Adhering to the budget of the hospital/institution	0,00	0,58	0,00	0,00	0,00	0,40
Dealing with other health care professionals.(e.g. dieticians, social workers, pharmacists)	0,00	0,56	0,00	0,00	0,00	0,37
Management of staff	0,00	0,56	0,00	0,00	0,00	0,40
Dealing with difficult patients	0,00	0,54	0,00	0,00	0,00	0,46
Excessive involvement in committee meetings	0,00	0,53	0,00	0,00	0,00	0,39
Meeting deadlines	0,00	0,51	0,00	0,00	0,00	0,43
Frequent changes from boring to demanding activities	0,00	0,46	0,00	0,00	0,00	0,41
Security risk posed in area where your job is located	0,00	0,46	0,00	0,00	0,00	0,30
Health risk posed by contact with patients	0,00	0,46	0,00	0,00	0,00	0,32
Difficulty getting along with supervisor/manager	0,00	0,00	0,72	0,00	0,00	0,58
Poor or inadequate supervision/management	0,00	0,00	0,65	0,00	0,00	0,55
Inadequate support by supervisor/manager	0,00	0,00	0,62	0,00	0,00	0,52
Conflict with a supervisor/manager	0,00	0,00	0,61	0,00	0,00	0,58
Experiencing negative attitudes towards the organisation	0,00	0,00	0,51	0,00	0,00	0,44
Lack of support from colleagues	0,00	0,00	0,50	0,00	0,00	0,47
Inadequate or poor quality equipment	0,00	0,00	0,49	0,00	0,00	0,40
Lack of recognition for good work	0,00	0,00	0,46	0,00	0,00	0,39
Lack of participation in policy-making decisions	0,00	0,00	0,45	0,00	0,00	0,39
Lack of opportunity to talk openly with other staff members	0,00	0,00	0,45	0,00	0,00	0,40
Insufficient personnel to handle workload	0,00	0,00	0,00	0,59	0,00	0,52
Shortage of staff	0,00	0,00	0,00	0,55	0,00	0,50
Poorly motivated co-workers	0,00	0,00	0,00	0,50	0,00	0,54
Insufficient time to perform tasks	0,00	0,00	0,00	0,47	0,00	0,54
Fellow workers not doing their job	0,00	0,00	0,00	0,45	0,00	0,47
Covering work for another employee	0,00	0,00	0,00	0,45	0,00	0,46
Working overtime	0,00	0,00	0,00	0,00	0,67	0,53
Working emergency hours	0,00	0,00	0,00	0,00	0,61	0,43
Working overtime due to "Moonlighting"	0,00	0,00	0,00	0,00	0,49	0,31
Squared Multiple Correlations	0,89	0,86	0,81	0,76	0,71	
Percentage variance	11,44	11,29	9,66	7,98	3,74	
Percentage covariance	25,92	25,59	21,90	18,10	8,48	

Factor labels: F_1: Stress: Patient Care, F_2: Stress: Job Demands, F_3: Stress: Lack support, F_4: Stress: Staff Issues, F_5: Stress: Overtime.

Descriptive statistics for the intensity, frequency and severity of the NSI for $Factor_1$: Stress Patient Care of professional and enrolled nurses are given in Table 3. Severity is expressed as the product of intensity and frequency.

Table 3

Descriptive Statistics of Stressor Intensity and Frequency Items: $Factor_1$: Stress: Patient Care of Professional and Enrolled Nurses

Item	Professional Nurses					Enrolled Nurses				
	Intensity		Frequency		Severity	Intensity		Frequency		Severity
	Mean	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*	
Death of a patient with whom you developed a close relationship	5,50	3,12	1,77	2,58	9,74	4,77	3,05	2,28	2,90	10,88
Watching a patient suffer	6,21	2,72	3,87	3,33	24,03	5,18	2,99	3,12	3,16	16,16
Death of a patient	5,28	2,76	2,97	3,14	15,68	4,47	2,83	2,87	3,12	12,83
Making a mistake when treating a patient	5,76	3,10	1,18	1,92	6,80	3,95	2,96	1,30	2,08	5,14
Communicating with a patient about death	4,68	2,71	2,57	2,87	12,03	3,90	2,73	2,05	2,62	8,00
Disagreement with medical practitioner or colleague concerning the treatment of a patient	5,02	2,67	2,32	2,54	11,65	3,42	2,71	1,45	2,23	4,96
Patients who fail to improve	4,94	2,56	4,06	3,25	20,06	4,35	2,48	3,28	2,96	14,27
Inadequate information from a medical practitioner regarding the medical condition of the patient	5,31	2,63	3,32	3,05	17,63	4,22	2,79	2,48	2,87	10,47

According to Table 3 stressors experienced by professional nurses in terms of intensity of the first factor, Stress: Patient Care, are related to watching a patient suffer, making a mistake when treating a patient, and death of a patient with whom they developed a close relationship. Comparing the means for intensity items on the first factor, the means for all eight items are higher for professional nurses than for enrolled nurses. Stressors experienced by enrolled nurses in terms of intensity of the first factor are related to watching a patient suffer, death of a patient with whom they developed a close relationship, and death of a patient. The stressor with the highest mean for intensity for both the professional and enrolled nurses is watching a patient suffer.

The means for Patient Care are overall higher for the professional nurses than the enrolled Nurses.

In terms of the regular experience of stressors, the following stressors proved to be experienced very regularly by the professional nurses, namely patients who fail to improve, watching a patient suffer, and inadequate information from a medical practitioner regarding the medical condition of the patient. For the enrolled nurses the stressors that are experienced regularly are patients who fail to improve, watching a patient suffer, and death of a patient. The stressor with the highest mean for regularity for both the professional and enrolled nurses is patients who fail to improve.

Stressors experienced by professional nurses in terms of highest severity are related to watching a patient suffer, patients who fail to improve, and inadequate information from a medical practitioner regarding the medical condition of the patient. For the enrolled nurses the stressors with the highest severity are watching a patient suffer, patients who fail to improve, and death of a patient.

Descriptive statistics of stressor intensity and frequency items: $Factor_2$: Stress: Job Demands of professional and enrolled nurses are reported in Table 4.

Table 4

Descriptive Statistics of Stressor Intensity and Frequency Items: Factor$_2$: Stress: Job Demands of Professional and Enrolled Nurses

	Professional Nurses					Enrolled Nurses				
Item	Intensity		Frequency		Severity	Intensity		Frequency		Severity
	Mean	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*	
Demands of clients/patients	5,07	2,30	5,87	3,15	29,76	4,70	2,62	4,66	3,26	21,90
Stock control in the ward/unit/institution	4,98	2,41	5,54	3,30	27,59	4,40	2,70	4,40	3,37	19,36
Language and communication barriers with clients/patients	4,20	2,19	3,44	2,89	14,45	4,12	2,45	3,33	2,98	13,72
Adhering to the budget of the hospital/institution	4,75	2,40	4,96	3,36	23,56	3,92	2,69	3,38	3,27	13,25
Dealing with other health care professionals (e.g. dieticians, social workers, pharmacists)	3,33	2,00	4,21	3,44	14,02	3,00	2,18	2,95	3,19	8,85
Management of staff	4,65	2,40	5,08	3,43	23,62	3,56	2,69	2,44	3,10	8,69
Dealing with difficult patients	5,25	2,36	4,61	3,13	24,2	4,89	2,59	4,42	3,16	21,61
Excessive involvement in committee meetings	4,13	2,40	3,34	3,09	13,79	3,37	2,45	2,24	2,68	7,55
Meeting deadlines	5,10	2,33	4,67	3,21	23,82	4,18	2,67	3,17	3,10	13,25
Frequent changes from boring to demanding activities	4,65	2,31	4,52	3,24	21,02	4,19	2,48	3,41	3,16	14,29
Security risk posed in area where your job is located	3,89	2,51	3,34	3,09	12,99	3,89	2,68	2,23	2,68	8,67
Health risk posed by contact with patients	5,42	2,66	5,49	3,34	29,76	5,54	2,73	5,14	3,33	28,48

Comparing the means for intensity items on the second factor, Stress: Job Demands, the first and second highest means for both professional and enrolled nurses are health risk posed by contact with patients, and dealing with difficult patients. The intensity mean for health risk posed by contact with patients for the enrolled nurses, is the only intensity mean that is higher than the intensity means of all five factors of intensity means of professional nurses. Only one item measures high on intensity and frequency on both professional and enrolled nurse, namely health risk posed by contact with patients.

The frequency item with the highest mean for professional nurses is demands of clients/patients. For the enrolled nurses it is the second highest. The highest frequency item for enrolled nurses is health risk posed by contact with patients. It is the third highest for professional nurses.

Stressors experienced by professional nurses in terms of highest severity are related to demands of clients, health risk posed by contact with patients, stock control in the ward/unit/institution, and dealing with difficult patients. The highest severity for the enrolled nurses are related to demands of clients, health risk posed by contact with patients, and dealing with difficult patients. The stressors experienced by professional nurses for the factor Job Demands in term of severity are all higher than for the enrolled nurses.

Descriptive statistics of stressor intensity and frequency items: $Factor_3$: Stress: Lack of Support of professional and enrolled nurses are reported in Table 5.

Table 5

Descriptive Statistics of Stressor Intensity and Frequency Items: Factor$_3$: Stress: Lack of Support of Professional and Enrolled Nurses

Item	Professional Nurses					Enrolled Nurses				
	Intensity		Frequency		Severity	Intensity		Frequency		Severity
	Mean	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*	
Difficulty getting along with supervisor/manager	4,10	2,73	1,95	2,57	8,00	3,50	2,63	1,96	2,74	6,86
Poor or inadequate supervision/management	4,76	2,63	2,68	2,88	12,76	3,89	2,70	2,46	2,95	9,57
Inadequate support by supervisor/manager	5,33	2,61	3,10	3,06	16,52	4,59	2,66	2,81	3,01	12,90
Conflict with a supervisor/manager	4,58	2,77	2,10	2,64	9,62	3,52	2,69	1,81	2,51	6,37
Experiencing negative attitudes towards the organisation	4,84	2,47	3,77	3,17	18,25	4,06	2,64	3,07	3,10	12,46
Lack of support from colleagues	4,97	2,51	2,87	2,75	14,26	4,35	2,51	2,70	2,75	11,75
Inadequate or poor quality equipment	5,18	2,74	2,82	2,90	14,61	4,31	2,73	2,69	2,94	11,59
Lack of recognition for good work	5,63	2,35	4,20	3,29	23,65	5,33	2,70	4,04	3,37	21,53
Lack of participation in policy-making decisions	5,04	2,46	2,94	3,07	14,82	3,94	2,55	2,21	2,88	8,71
Lack of opportunity to talk openly with other staff members	4,28	2,41	2,57	2,72	11,00	4,01	2,40	2,74	2,85	10,99

Comparing the means for intensity items on the third factor, Stress: Lack of Support, the highest mean for intensity as well as frequency for both professional and enrolled nurses is, lack of recognition for good work. The second highest mean for intensity for both types of nurses is inadequate support by supervisor/manager. The second highest mean for frequency for both types of nurses is experiencing negative attitudes towards the organisation. The third highest intensity mean for the professional nurses is inadequate or poor quality equipment. For the enrolled nurses the third item for the enrolled nurse is lack of support.

Stressors experienced by professional nurses in terms of highest severity are related to lack of recognition for good work, experiencing negative attitudes towards the organisation, and inadequate support by supervisor/manager. For enrolled nurses it is the same, however in a different order.

Descriptive statistics of stressor intensity and frequency items: Factor$_4$: Stress: Staff Issues of professional and enrolled nurses are reported in Table 6.

Table 6

Descriptive Statistics of Stressor Intensity and Frequency Items: Factor$_4$: Stress: Staff Issues of Professional and Enrolled Nurses

Item	Professional Nurses					Enrolled Nurses				
	Intensity		Frequency		Severity	Intensity		Frequency		Severity
	Mean	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*	
Insufficient personnel to handle workload	6,30	2,27	5,67	3,08	35,72	5,45	2,75	4,69	3,34	25,56
Shortage of staff	6,74	2,32	5,93	3,20	39,97	6,17	2,73	5,44	3,28	33,56
Poorly motivated co-workers	5,90	2,37	4,90	3,07	28,91	4,97	2,64	4,41	3,27	21,92
Insufficient time to perform tasks	5,83	2,45	4,40	3,14	25,65	4,89	2,61	3,30	3,09	16,14
Fellow workers not doing their job	6,30	2,27	5,09	3,01	32,07	5,45	2,75	4,34	3,30	23,65
Covering work for another employee	4,97	2,60	4,15	3,23	20,63	4,79	2,77	4,04	3,23	19,35

In comparing the means for intensity and frequency for this factor, Stress: Staff Issues, it is noted that the pattern of first, second and third highest means is the same for both types of nurses. Highest is shortage of staff. Insufficient personnel to handle workload and fellow workers not doing their job, are jointly second. The means for the professional nurses for both the intensity and frequency are higher than that of the enrolled nurses.

In terms of the severity, the three items for the professional and enrolled nurses are the same and in the same order. They are: shortage of staff, insufficient personnel to handle workload and fellow workers not doing their job. Once again the severity for the professional nurses is higher than that of the enrolled nurses.

Descriptive statistics of stressor intensity and frequency items: Factor$_5$: Stress: Overtime of professional and enrolled nurses are reported in Table 7.

Table 7

Descriptive Statistics of Stressor Intensity and Frequency Items: Factor$_5$: Stress: Overtime of Professional and Enrolled Nurses

Item	Professional Nurses					Enrolled Nurses				
	Intensity		Frequency		Severity	Intensity		Frequency		Severity
	Mean	*SD*	*Mean*	*SD*		*Mean*	*SD*	*Mean*	*SD*	
Working overtime	4,07	2,52	4,49	3,52	18,27	3,56	2,49	3,76	3,43	13,39
Working emergency hours	3,41	2,62	2,38	3,05	8,12	2,83	2,56	1,90	2,86	5,38
Working overtime due to "Moonlighting"	2,84	2,77	1,83	2,99	5,20	2,75	2,64	2,00	3,06	5,50

According to Table 7 stressors experienced for this factor: Stress: Overtime, in terms of highest intensity, professional nurses experience working overtime, working emergency hours and than working overtime due to "Moonlighting" as stressful. It is the same for the enrolled nurses, except that the means for the professional nurses are higher.

The highest mean for the frequency for both the professional and enrolled nurses is to work overtime. The mean for the professional nurses is higher than for the enrolled nurses.

The severity also indicates that working overtime is the highest for both the professional and enrolled nurses, with once again the highest for the professional nurses.

Descriptive Statistics, Alpha Coefficients and Mean Inter-item Correlation Coefficients of the NSI Factors are reported in Table 8.

Table 8

Descriptive Statistics, Alpha Coefficients and Mean Inter-item Correlation Coefficients of the NSI Factors

Item	*Mean*	*SD*	Skewness	Kurtosis	*r*-Mean	α
Patient Care	39,08	18,00	-0,31	-0,87	0,57	0,91
Job Demands	52,99	19,42	-0,05	-0,42	0,38	0,88
Lack of support	45,61	18,41	-0,05	-0,63	0,44	0,89
Staff issues	34,27	11,68	-0,54	-0,40	0,49	0,85
Overtime	9,82	6,21	0,37	-0,66	0,44	0,70

Table 8 shows that the alpha coefficients of the five extracted factors of the NSI are highly acceptable to the guideline of 0,70 (Nunnaly & Bernstein, 1994). The values can be considered high and thus explain a large portion of the variance in the different scales (Clark & Watson, 1995). The mean inter-item correlation coefficients are in the recommended range ($0,15 < r < 0,50$) and thus confirm the internal consistency of the factors of the NSI.

Descriptive Statistics of the NSI Factors for professional and enrolled nurses are reported in Table 9.

Table 9

Descriptive Statistics of the NSI Factors for Professional and Enrolled Nurses

	Professional Nurses				Enrolled Nurses			
Item	*Mean*	*SD*	Skewness	Kurtosis	*Mean*	*SD*	Skewness	Kurtosis
Patient Care	42,71	17,59	-0,57	-0,53	34,27	17,41	-0,02	-0,94
Job Demands	55,45	18,84	-0,08	-0,34	49,74	19,72	0,03	-0,48
Lack of Support	48,72	18,38	-0,19	-0,59	41,50	17.63	0,10	-0,50
Staff issues	36,12	11,02	-0,69	-0,04	31,81	12,06	-0,33	-0,66
Overtime	10,32	6.28	0,34	-0,57	9,14	6,07	0,39	-0,82

Table 9 shows a comparison of the distribution of the five factors extracted for professional and enrolled nurses.

The significance of differences between intensity of stressors for professional and enrolled nurses is reported in Table 10.

Table 10

The Significance of Differences between Intensity of Stressors for Professional and Enrolled Nurses

Item	Professional Nurses		Enrolled Nurses		*d*
	Mean	*SD*	*Mean*	*SD*	
Stress: Patient Care	42,71	17,59	34,27	17,41	0,48
Death of a patient with whom you developed a close relationship	5,50	3,12	4,77	3,05	0,23
Watching a patient suffer	6,21	2,72	5,18	2,99	0,34
Death of a patient	5,28	2,76	4,47	2,83	0,29
Making a mistake when treating a patient	5,76	3,10	3,95	2,96	0,58*
Communicating with a patient about death	4,68	2,71	3,90	2,73	0,29
Disagreement with medical practitioner or colleague concerning the treatment of a patient	5,02	2,67	3,42	2,71	0,59*
Patients who fail to improve	4,94	2,56	4,35	2,48	0,23
Inadequate information from a medical practitioner regarding the medical condition of the patient	5,31	2,63	4,22	2,79	0,39
Stress: Job Demands	55,45	18,84	49,74	19,72	0,29
Demands of clients/patients	5,07	2,30	4,70	2,62	0,14
Stock control in the ward/unit/institution	4,98	2,41	4,40	2,70	0,21
Language and communication barriers with clients/patients	4,20	2,19	4,12	2,45	-
Adhering to the budget of the hospital/institution	4,75	2,40	3,92	2,69	0,31
Dealing with other health care professionals.(e.g. dieticians, social workers, pharmacists)	3,33	2,00	3,00	2,18	0,15
Management of staff	4,65	2,40	3,56	2,69	0,41
Dealing with difficult patients	5,25	2,36	4,89	2,59	0,14
Excessive involvement in committee meetings	4,13	2,40	3,37	2,45	0,31
Meeting deadlines	5,10	2,33	4,18	2,67	0,34
Frequent changes from boring to demanding activities	4,65	2,31	4,19	2,48	0,19
Security risk posed in area where your job is located	3,89	2,51	3,89	2,68	-
Health risk posed by contact with patients	5,42	2,66	5,54	2,73	-
Stress: Lack of Support	48,71	18,38	41,50	17,63	0,39
Difficulty getting along with supervisor/manager	4,10	2,73	3,50	2,63	0,22
Poor or inadequate supervision/management	4,76	2,63	3,89	2,70	0,32
Inadequate support by supervisor/manager	5,33	2,61	4,59	2,66	0,28
Conflict with a supervisor/manager	4,58	2,77	3,52	2,69	0,38
Experiencing negative attitudes towards the organisation	4,84	2,47	4,06	2,64	0,30

Table 10

The Significance of Differences between Intensity of Stressors for Professional and Enrolled Nurses

Item	Professional Nurses		Enrolled Nurses		*d*
	Mean	*SD*	*Mean*	*SD*	
Lack of support from colleagues	4,97	2,51	4,35	2,51	0,25
Inadequate or poor quality equipment	5,18	2,74	4,31	2,73	0,32
Lack of recognition for good work	5,63	2,35	5,33	2,70	-
Lack of participation in policy-making decisions	5,04	2,46	3,94	2,55	0,43
Lack of opportunity to talk openly with other staff members	4,28	2,41	4,01	2,40	-
Stress: Staff Issues	36,12	11,02	31,81	12,06	0,36
Insufficient personnel to handle workload	6,30	2,27	5,45	2,75	0,31
Shortage of staff	6,74	2,32	6,17	2,73	0,21
Poorly motivated co-workers	5,90	2,37	4,97	2,64	0,35
Insufficient time to perform tasks	5,83	2,45	4,89	2,61	0,36
Fellow workers not doing their job	6,30	2,27	5,45	2,75	0,31
Covering work for another employee	4,97	2,60	4,79	2,77	-
Stress: Overtime	10,32	6,28	9,14	6,07	0,19
Working overtime	4,07	2,52	3,56	2,49	0,20
Working emergency hours	3,41	2,62	2,83	2,56	0,22
Working overtime due to "Moonlighting"	2,84	2,77	2,75	2,64	-

* Practically significant difference: $d \geq 0,5$ (medium effect)

Table 10 shows practically significant differences (of medium effect) between professional and enrolled nurses only regarding the following stressors:

- Professional nurses (compared with enrolled nurses) obtained a higher score on stress because of the possibility of making a mistake when treating a patient.

- Professional nurses (compared with enrolled nurses) obtained a higher score on stress because of disagreement with medical practitioners or colleagues concerning the treatment of a patient.

DISCUSSION

It was the aim of this study to determine the internal consistency and construct validity of the NSI and to determine the differences between occupational stressors for professional and enrolled nurses. A 5-factor solution, consisting of Patient Care, Job Demands, Lack of support, Staff Issues and Overtime, describing the perceived occupational stressors for professional and enrolled nurses, fitted the data the best. This satisfactory internal consistency points to the utility of the instrument used in the research.

The first factor emphasises the physical help/care provided by the nurses to the patients and was labelled Patient Care. These include death of a patient with whom you developed a close relationship, watching a patient suffer, death of a patient, making a mistake when treating a patient, communicating with a patient about death and disagreement with a medical practitioner or colleague concerning the treatment of a patient.

In comparing professional and enrolled nurses' stress for the first factor, it becomes clear that almost the same aspects contribute to the stress level of the nurses, but that the professional nurses' mean for intensity, frequency, and severity is higher than that of the enrolled nurses.

The items loading on the second factor refer to the demands associated with the job of the nurse. It was labelled Job Demands and includes strains such as health risk posed by contact with patients, meeting deadlines, dealing with difficult patients, demands of clients/patients. As with the first factor it is almost the same aspects that contribute to the stress levels of the nurses. Here the administrative demand of the job also appears as stressful for the professional nurses but not for the enrolled nurses. The professional nurses' mean for intensity, frequency, and severity is higher than that of the enrolled nurses.

The third factor indicates a lack of support in the organisation as well as from supervisors and colleagues, the factor was labelled Lack of Support. The items loading on this factor include the following: lack of recognition for good work, inadequate support by supervisor/manager, inadequate or poor quality equipment, lack of support from colleagues. The stressors for both the professional and enrolled nurses are the same but, as with the previous factors, the professional nurses experience the stressors more intensely.

The fourth factor was labelled Staff Issues because it included item loadings on shortage of staff, fellow workers not doing their job and insufficient personnel to handle workload. It seems that the shortage of staff is a major stressor for both the professional and enrolled nurses.

The fifth factor loads on the items concerning working hours, especially overtime. The factor was labelled Overtime. The items loading on this factor were working overtime, working emergency hours, working overtime due to "Moonlighting". On this factor the professional nurses also experience the stressors more severely than the enrolled nurses.

Comparing the five factors with each other, it becomes clear that the factor on the Staff Issues' intensity, frequency, and severity are the highest for both the professional and the enrolled nurses. Second is the Job Demands factor, third Lack of Support, fourth Patient Care and fifth Overtime.

In the total sample for professional nurses, stressors that could be regarded as serious include shortage of staff, insufficient personnel to handle workload, fellow workers not doing their job, health risk posed by contact with patients, demands of clients/patients, poorly motivated co-workers. In the total sample for the enrolled nurses, stressors that could be regarded as serious include shortage of staff, health risk posed by contact with patients, insufficient personnel to handle workload, fellow workers not doing their job.

Items that showed medium intensity and frequency can typically be placed under the description of chronic stressors. For the professional nurses, these items deal exclusively with events that can be considered as daily occurrences in the nursing environment (except for two items, dealing with difficult patients, watching a patient suffer) for example, insufficient time to perform tasks, meeting deadlines, management of staff, adhering to the budget of the hospital/institution, lack of recognition for good work. These chronic stressors need to be addressed by the organisation. These chronic stressors would probably become less severe if the staff shortage is addressed properly. The one difference is the stressor of staff management that the professional nurses experience. Most of these stressors fall under the Factor: Job demands.

Items that showed medium intensity and frequency for the enrolled nurses include the following: poorly motivated co-workers, demands of clients/patients, dealing with difficult patients, lack of recognition for good work, stock control in the ward/unit/institution, and covering work for other employees. The stressors for the enrolled nurses are a combination of Staff Issues, Job Demands, and Lack of Support. With the necessary training for supervisors/managers in leadership skills, the problem of lack of support could be addressed.

The findings of this study indicate that professional nurses (compared with enrolled nurses) experience more stress regarding the possibility of making a mistake when treating a patient. Also professional nurses experience more stress because of disagreement with medical practitioners or colleagues concerning the treatment of a patient.

RECOMMENDATIONS

In terms of perceived strain, this study is a first step towards the development of a perceived strain profile for professional and enrolled nurses in South Africa. It is recommended that the study be expanded to all the provinces of South Africa. It is important for future research in the nursing environment to take into account the physiological, psychological and behavioural strains. It could be achieved by using a test battery approach (Cooper, Dewe & O'Driscoll, 2001). This would ensure a more holistic approach. Also, further refining and testing of the NSI is needed in other nursing samples. Furthermore, criterion-related validity studies are also necessary to establish the validity of this instrument, using it in conjunction with existing tests to determine its concurrent validity.

If staff issue stressors are allowed to continue unattended, the organisation can expect to find negative costs associated with continued, elevated levels of stress, such as burnout, employee turnover and lowered levels of service. The organisation is therefore advised to prioritise the issue of staff shortages by means of recruitment.

Future studies could focus on the staff issue stressors and their link to the mass exodus of South African nurses. It is recommended that future studies validate findings with regard to the equal comparison of the perceived strain construct across cultural groups. Cross-cultural comparisons would greatly enhance validity of findings in terms of the multi-cultural South-African context.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

In this chapter the conclusions made regarding the results of the empirical study are given, the limitations of the research are pointed out, and recommendations for future research are made.

3.1 CONCLUSIONS

The following conclusions with regard to the specific objectives are made:

- **Stress and its effects on professional and enrolled nurses.** In the literature of stress concerning nurses, a large number of stressors received attention. The research concentrated on between one and three stressors at a time, and in a specific unit/ward, e.g. intensive care (Le Blanc, De Jonge, De Rijk & Schaufeli, 2001; Couden, 2002), psychiatric or mental wards (Erasmus; Poggenpoel, & Gmeiner, 1998; Humpel, & Caputi, 2001; Levert, Lucas, & Ortlepp, 2000), general nurses (Yip, 2001). A few comparison studies between different wards/units were found e.g. emergency department and general ward nurses (Yang, Koh, Lee, Chan, Dong, & Chia, 2001), general and mental nurses (Tummers, Janssen, Landeweerd, & Houkes, 2001), urban and rural nurses (Wilkens, & Beale, 2001). No comparisons for stressors were find for professional and enrolled nurse.

- **Different levels of stress for professional and enrolled nurses.** The research clearly indicates that a difference in stress levels exists between professional and enrolled nurses. Professional nurses' severity for the different stressors are higher on all five the extracted factors than those of the enrolled nurses.

- **Different sources of occupational stress.** The sources for occupational stress for professional and enrolled nurses are almost the same. One source of stress for professional nurses that the enrolled nurses did not experience, is management of staff.

- **Internal consistency and construct validity of the Nursing Stress Indicator.** The alpha coefficients of the five extracted factors of the NSI are highly acceptable to the guideline of 0,70 (Nunnaly & Bernstein, 1994). The values can be considered high and thus explain a large portion of the variance in the different scales (Clark & Watson, 1995). The mean inter-item correlation coefficients are in the recommended range ($0,15<r<0,50$) confirming the internal consistency of the factors of the NSI. This satisfactory internal consistency points to the utility of the instrument used in the research.

3.2 LIMITATIONS OF THIS RESEARCH

The following limitations regarding this research have been identified:

- The empirical study included only seven of the nine provinces and the results cannot be evaluated from the demographical data.

- The largest part of the study population consists of Afrikaans-speaking women. Stressors for other languages and male groups cannot be compared to see if the severity of the stressors differs.

3.3 RECOMMENDATIONS

The following recommendations regarding the research can be made:

- Future studies could focus on the staff issue stressors and their link to the mass exodus of South African nurses.

- Another possible research area is why is the stress experienced by professional nurses higher than the stress level of the enrolled nurses.

- It is important for future research in the nursing environment to take into account the physiological, psychological and behavioural strains. It could be achieved by using a test battery approach (Cooper, Dewe & O'Driscoll, 2001). This would ensure a more holistic approach.

- Also, further refining and testing of the NSI is needed in other nursing samples.

- Furthermore, criterion-related validity studies are also necessary to establish the validity of this instrument, using it in conjunction with existing tests to determine its concurrent validity.

- It is recommended that future studies validate findings with regard to the equal comparison of the perceived strain construct across cultural groups. Cross-cultural comparisons would greatly enhance validity of findings in terms of the multi-cultural South-African context.

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