

FACTORS ASSOCIATED WITH PARTICIPATION IN CONTINUOUS PROFESSIONAL DEVELOPMENT ACTIVITIES LEADING TO PROFESSIONAL GROWTH OF PROFESSIONAL NURSES WORKING IN A PUBLIC NATIONAL REFERRAL HOSPITAL IN NAMIBIA.

by

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DECLARATION

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ABSTRACT

In nursing, aspects such as attending in-service training, performing research, continuing professional education (CPE) have been identified as some of the approaches which influence the professional growth of nurses. Professional growth and development for professional nurses must be a fundamental part of nurses' work environment. However, little is known about the factors that are associated with participation in continuous professional development activities leading to the professional growth of professional nurses in Namibia.

The purpose of this study was to investigate how the factors associated with participation in continuous professional development activities lead to the professional growth of professional nurses working in a public national referral hospital in Namibia.

A quantitative descriptive correlational case study design was conducted and the researcher targeted the total population of N=342 professional nurses working in a public national referral hospital. No sampling method was applied in this study. Data were collected with a previously validated Q-PDN data collection instrument. Data collection began with a pilot study conducted on 10% (n=34) of professional nurses in the hospital where the main study was conducted. The pilot study yielded consistent and reliable Cronbach alpha (α .848). The pilot study participants were excluded from participating in the main study which involved the distribution of a total of n=270 questionnaires. The return rate of questionnaires for the main study was n=241; an 89% response rate. The data were analysed using SPSS version 24. Pallant's exploratory factor analysis (EFA) method was used to check the scale validity and reliability of the measures. SPSS AMOS Version 23 was utilised for confirmatory factor analysis (CFA), and structural equation modelling (SEM) to determine and confirm the relationships between the constructs in the conceptual framework. Results from the data were presented in tables, figures and flow diagrams. Ethics approval was obtained from Stellenbosch University and from the health facility in which the study was conducted.

The study found that psychological empowerment importance factors, effort reward motivation factors, and structural empowerment condition factors, lead to professional growth of professional nurses in Namibia through participation in continuous professional development activities. The relationships between the factors in the final research measurement framework supported the conceptual framework's professional growth associations linked to participation in continuous professional development activities. The participation in Continuous Professional Development (CPD) factor mediated the relationships between psychological empowerment importance factors and professional growth; structural empowerment conditions factors and professional growth, and effort reward motivation factors and

professional growth. However, results found no significant relationship between psychological empowerment importance and structural empowerment conditions. The results provided further evidence for the importance of certification for the professional growth of professional nurses. This means that even if a professional nurse has worked for 10 years and has not obtained a post-graduate qualification he/she would not exhibit and embrace the professional growth concept.

It was outlined that individual professional nurses participate in CPD activities for different reasons. Findings imply that nurses should be encouraged to acquire higher certification levels early in their nursing career, as this will have a greater impact on their professional growth. To be recognised as having attained professional growth, professional nurses must have obtained a post-graduate certification in addition to their years of clinical experience. Therefore, it would be ideal if nurse administrators develop and maintain professional nurses' professional portfolios in order to keep track of the staff members' professional skills. Healthcare organisations may need to create better remuneration conditions for certified and experienced nurses to award their efforts and promote staff retention.

Keywords: certification, continuous professional development, participation, professional growth, professional nurses.

OPSOMMING

In verpleging is aspekte soos die bywoning vir indiensopleiding, die uitvoer van navorsing, en voortgesette professionele onderrig (VPO) geïdentifiseer as sommige van die benaderings wat die professionele groei van verpleegsters beïnvloed. Professionele groei en ontwikkeling van professionele verpleegsters moet 'n fundamentele deel van die verpleegsters se werkomgewing uitmaak. Nietemin, min is bekend oor hoe die faktore wat geassosieer word met die deelname aan voortgesette professionele ontwikkelingsaktiwiteite tot die professionele groei van professionele verpleegsters in Namibië lei.

Die doel van hierdie studie is om te bepaal hoe die faktore wat geassosieer word met deelname aan voortgesette professionele ontwikkelingsaktiwiteite lei tot die professionele groei van professionele verpleegsters in 'n openbare nasionale verwysingshospitaal in Namibië.

'n Kwantitatiewe beskrywende korrelasionele gevallestudie ontwerp was uitgevoer en die navorser het die totale populasie van N=342 professionele verpleegsters geteiken wat in die openbare nasionale verwysingshospitaal werk. Geen steekproefmetode is in die studie toegepas nie. Data was gekollekteer met 'n vorige geldige Q-PDN data insamelingsinstrument. Data-insameling het begin met 'n loodsondersoek van 10% (n=34) van professionele verpleegsters in die hospitaal waar die hoofstudie uitgevoer was, wat 'n volgehoue en betroubare Cronbach Alpha (α .848) gelewer het. Deelnemers aan die loodsondersoek was uitgesluit van deelname aan die hoofstudie wat die verspreiding van 'n aantal (n=270) vraelyste beteken het. Die terugstuurkoers van vraelyste vir die hoofstudie was n=241, wat 'n 89% responskoers was. Die data is geanaliseer deur gebruik te maak van SPSS weergawe 24 en die Pallant Exploratory Factor Analysis (EFA) metode om die skaalgeldigheid en betroubaarheid van die maatreëls te toets. SPSS AMOS weergawe 23 was gebruik vir Konformiteit Faktoranalise (KFA) en Strukturele Gelykstellingmodellering (SGM) om die verbande tussen die konstruksies van die konseptuele raamwerk te bepaal en te bevestig. Resultate van die data word in tabelle, figure en stroomdiagramme aangebied. Etiese goedkeuring was verkry van die Universiteit van Stellenbosch en van die gesondheidsfasiliteit waar die studie uitgevoer is.

Met die navorsingstudie is gevind dat die psigologiese bemagtigingsbelangrike faktore soos beloning vir pogings as motivering en strukturele bemagtigingskondisies tot professionele groei van professionele verpleegsters in Namibië lei deur hul deelname aan voortgesette professionele ontwikkelingsaktiwiteite. Die verbande tussen die faktore in die finale navorsingsinstrument se raamwerk (stroomdiagram 4.5) ondersteun die konseptuele raamwerk (figuur 1.3) se professionele groei-assosiasies wat gekoppel is aan die deelname

aan voortgesette professionele ontwikkelingsaktiwiteite. Deelname aan voortgesette professionele ontwikkeling hou verband met psigologiese bemagtigingsbelangrike faktore en professionele groei; faktore vir strukturele bemagtigingskondisies en professionele groei en beloning vir pogings as motiveringsfaktore en professionele groei. Nietemin, resultate het geen beduidende verband tussen psigologiese bemagtigingsbelangrikheid en strukturele bemagtigingskondisies gevind nie. Die resultate het verder bewyse vir die belangrikheid van sertifisering vir die professionele groei van professionele verpleegsters gelewer. Dit beteken dat al het 'n professionele verpleegster vir 10 jaar gewerk en nie 'n nagraadse kwalifikasie behaal nie, sal hy/sy nie die professionele groeikonsep openbaar en aangryp nie.

Dit het aan die lig gekom dat individuele professionele verpleegsters aan VPO-aktiwiteite om verskillende redes deelneem. Bevindinge impliseer dat verpleegsters aangemoedig behoort te word om hoër sertifiseringsvlakke vroeg in hul verplegingsberoep te behaal, want dit sal 'n groter impak op hul professionele groei maak. Om erken te word as iemand wat professionele groei toon, moet professionele verpleegsters 'n nagraadse sertifisering behaal het, addisioneel tot hul jare van kliniese ervaring. Die ideaal dus is dat verpleegadministrateurs, verpleegsters se professionele portefueljies moet ontwikkel en byhou, ten einde op die hoogte te bly van die personeel se professionele vaardighede. Gesondheidsorgorganisasies mag beter vergoedingskondisies vir gesertifiseerde en ervare verpleegsters skep om hulle pogings te beloon en personeelretensie te bevorder.

Sleutelwoorde: Sertifisering, Voortgesette professionele ontwikkeling, Deelname, Professionele groei, Professionele verpleegsters.

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ABBREVIATIONS

ANA	American Nurses Association
CEU's	Continuing education units
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CMIN	Chi-square minimum
CPD	Continuing professional development
CPPD	Clinical practice and policy development
DF	Degrees of freedom
EFA	Exploratory factor analysis
EFM	Effort rewards motives
HPCNA	Health Professions Councils of Namibia
HPCSA	Health Professions Councils of South Africa
HRDPF	Human Resource Development Policy Framework
HREC	Health Research Ethics Committee
ICU	Intensive care unit
MOHSS	Ministry of Health and Social Services
PEF	Psychological empowerment factors
PIR	Participate in research
PMMB	Pattern matrix model builder
PPD	Personal professional development
RMSEA	Root mean square error approximation
SEF	Structural empowerment factors
SEM	Structural equation modelling
SPSS	Statistical Package for Social Sciences
SRMR	Standardised root mean residual
Q-PDN	Questionnaire Professional Development of Nurses

CHAPTER 1

FOUNDATION AND OVERVIEW OF THE STUDY

1.1 Introduction

Attending in-service training, performing research, and continuing professional education are some of the approaches which influence the professional growth of professional nurses (Beaudoin, Alderson & St-Louis, 2014:177). It is important that professional nurses be life-long learners who must be committed to update their professional knowledge, skills, values and practice in order to become competent and be able to render quality and safe patient care (Giri, Frankel, Tulenko *et al.*, 2012:3). Moreover in healthcare organisations, the competencies of healthcare workers are vital for an effective healthcare system (Petaloti, 2009:47).

The professional growth and development for professional nurses must be a fundamental part of their living and work environment (Rahimaghaee, Nayeri & Mohammadi, 2010:264). In this regard, a nurse manager's behaviour and leadership styles play a substantial role in the facilitation of the professional growth and development of nurses (Rahimaghaee *et al.*, 2010:263). Literature has outlined that nurses participate in professional development activities when they have reasons to do so (Pool, Poell, Berings & Cate, 2015:940, Brekelmans, Poel & van Wjik, 2013:314). Some professional nurses engage in professional development activities because they are self-directed and self-motivated; because it is a mandatory requirement for an employer; and or because it is a requirement for re-registration (Ross, Barr & Steven, 2013:2; Esposito, 2016:5). Nurses in Australia since 2010 have been required to obtain 20 hours of Continuous Professional Development (CPD), as part of their yearly registration renewal (Ross *et al.*, 2013:2). Nurses in Malaysia have since 2008 been required to acquire minimum hours of participation in education and training each year (Chong, Sellick, Francis & Abdullah, 2011:38-39). Therefore mandating the compliance of nurses to participate in professional development activities must be seen as a way of sending a message that healthcare is dynamic and nurses must strive to update their skills and knowledge to keep pace with all the changes in a healthcare system (Chong *et al.*, 2013:39).

The importance of professional growth and development has been discussed in literature (Jakubik, 2008; Rahimaghaee *et al.*, 2010; Akamine, Uza, Shinjo & Nakamori, 2013; & Pool *et al.*, 2015). In addition, previous research indicated that there are factors which influence nurses to participate in professional development activities (Brekelmans, Maassen, Poell, Weststrate *et al.*, 2016:14-15). According to Pool *et al.* (2015:939) a nursing career can span more than 40 years, thus making continuous professional growth and development important. Lack of factors associated with participation in CPD activities leading to the professional

growth of nurses, may lead them to become job dissatisfied and turnover rates may continue to increase. In the nursing career, nurses participate in learning activities in accordance with their developmental change (Pool *et al.*, 2015:939). Furthermore, Pool *et al.* (2015:939) explain that lifespan psychology shows that occupational motivations change with age thus nurses' motivation for participating in CPD activities may also change. However, little is known about the factors which are associated with participation in CPD leading to the professional growth and development of professional nurses in Namibia. Therefore, understanding the dominant factors would be essential to encourage professional nurses to participate in CPD activities as required by the Health Professions Councils of Namibia (HPCNA). Indeed Brekelmans *et al.* (2013:320) found that opportunities for workplace learning are one of the factors for encouraging nurses' participation in CPD activities.

1.2 Significance of the problem

The thought that professional nurses must endeavour to continuously develop their skills and knowledge is a remarkable idea for individual nurses and healthcare organisations. The nursing practice is dynamic, and there are rapid changes within healthcare systems (Esposito, 2016:4). The rapidly changing nursing environments make continuous learning a vital role for an increase in the job satisfaction of nurses, and towards the improvement of patient care (Pool *et al.*, 2015:941). As such, nurses in Namibia are legally obliged by the HPCNA to participate in professional development activities (HPCNA, 2011:6). In Namibia, participation in professional development activities is not a mandatory requirement for annual re-registration. In other words, nurses can maintain their yearly registration with the nursing council without having to submit proof of attending CPD activities. However, all HPCNA registered and enrolled practitioners are subjected to random CPD audits and are required to submit proof of their learning portfolio to the CPD desk (HPCNA, 2011:16). It is therefore a necessity that professional nurses continue acquiring and developing new skills and attributes which are essential to deal with diversified and rapid changes in health and social care, and to meet the requirements of HPCNA.

In addition, as a mechanism to cope with changes, professional nurses in Namibia need to have constant access to activities which enable them to realise professional growth. Moreover, Namibian professional nurses have a choice of attending their preferred accredited activities for as long as they adhere to and meet the required number of continuing education units (CEUs).

1.3 Rationale

The researcher has worked as a professional nurse for eight years, but has never been

attached to a mentor. Neither has she ever had any colleague encouraging and or motivating her to study further. Lammintakanen and Kivinen (2012:36) explain that most nurses prefer work-based learning which occurs informally through mentoring by experienced colleagues. Research shows that nurses have a positive attitude and a strong interest in CPD (Lammintakanen & Kivinen, 2012:37). However, there are certain aspects such as shortage of staff, lack of financial support, family and domestic responsibilities, which prevent nurses from participating in CPD activities (Richards & Potgieter, 2010:48).

In the public hospital in Namibia where the researcher is currently employed and practicing as a professional nurse, she has observed that some professional nurses do not show interest to grow professionally and advance in their nursing career. Evidence from Liu, Yang, Liu *et al.* (2015:80) shows that lack of professional growth prohibits the development of a nursing team, and this may lead to a high turn-over. Indeed, in the hospital where the study was conducted, some professional nurses resigned to go back to university to study and resume different careers. Some of those who resigned gave reasons on exit interviews that they were moving to greener pastures because of the salary factor and working conditions. However, Duffield, Baldwin, Roche and Wise (2014:704) state that recognition and incentives of nurses need to be supplementary to their skills and expertise in order to show that their services are valued and to reduce staff turnover.

Healthcare organisations, and nurse managers, need to play a role in facilitating professional nurses' paths to advance in their careers by providing systems and resources for nurses to develop and grow in their profession (Jakubik, 2008:4). Without any doubt, a knowledgeable nursing team with up-to-date knowledge and skills is essential to the provision of quality nursing care (Nsemo, John, Etifit, Mgbekem & Oyira, 2013:328).

Since 2010 the HPCNA, which includes the Namibian nursing council, have required all registered health professionals working in Namibia to complete a series of accredited CPD activities on a yearly basis. Health professionals are required to accumulate CEUs which are valid for 24 months from the date of the accredited activity (HPCNA, 2011:7) (Appendix 5). Professional nurses are required to accumulate 30 CEUs in a 12 month period with at least five CEUs being for ethics, human rights and medical law (HPCNA, 2011:7).

Therefore, as healthcare organisations endeavour to provide patient-centred care, investing in the professional growth of each professional nurse needs to be emphasised. It is against this background that the researcher developed an interest in reviewing and describing how the factors associated with participation in CPD activities lead to the professional growth of professional nurses working in a specific public national referral hospital in Namibia.

1.4 Problem statement

In literature, aspects such as attending in-service training, performing research, continuing professional education have been identified as some of the approaches which influence the professional growth of professional nurses (Beaudoin, Alderson & St-Louis, 2014:177). However, in the training hospital where this study was conducted, the in-service training attendance registers show that a low number of professional nurses attend in-service training sessions. Conducting research is one of the core responsibilities of each professional nurse, but this role has been omitted by professional nurses. There are no research studies, and no reports of any study that has been conducted by professional nurses working in the study site hospital. The hospital is a teaching hospital and research is a responsibility for each professional nurse (Ministry of Health and Social Services, 2007). Although it is mandatory that registered and enrolled nurses accumulate 30 CEUs every 12 months (HPCNA, 2011:8), some professional nurses did not accumulate the required minimum CEUs; the defaulters were summoned by the nursing council of Namibia. It is against this background that this study was undertaken to describe the factors associated with participation in CPD activities leading to the professional growth of professional nurses working in a specific public hospital in Namibia.

1.5 Research question

The research question of the study was:

- How do the factors associated with participation in continuous professional development activities lead to professional growth of professional nurses working in a public national referral hospital in Namibia?

1.6 Research aim

The aim of this study was to investigate how the factors associated with participation in CPD activities lead to the professional growth of professional nurses working in a public national referral hospital in Namibia.

1.7 Research objectives

There were four objectives in this study.

- To describe the effort and reward factors associated with motivating nurses' participation in continuous professional development activities.
- To determine the importance of psychological empowerment in encouraging nurses' participation in continuous professional development activities.
- To describe the structural conditions required for empowering nurses' participation in continuous professional development activities.

- To establish the associated factor relationships between professional growth in nurses and nurses' participation in continuous professional development activities.

1.8 Conceptual framework

A conceptual framework is defined as a graphical or transcribed invention which explains in a graphic or narrative form the main factors to be studied, the key factors, concepts or variables and presumed relationships (Green, 2014:34). In describing the factors to categorise and explain the relationships and patterns regarding how participation in continuous development activities lead to professional growth of professional nurses, this study used frameworks developed by Kluska, Laschinger and Kerr (2004:122) (Figure 1.1) and Brekelmans *et al.* (2016:17) (Figure 1.2).

According to Goedhart, Van Oostveen and Vermeulen (2017:195) nurses' empowerment is a managerial practice which plays a fundamental role in their professional practice work environments. In addition, research has explained that professional practice work environments play a major role in the performance of nurses and the quality and wellbeing of patient care (Goedhart *et al.*, 2017:195). Similarly, Cicolini, Comparcini and Simonetti (2014:855) elucidate that satisfying workplace environments for nurses are related to structural and psychological empowerment.

According to Kluska *et al.* (2004:113) working with few resources, and little prospects for career advancement, make nurses feel devalued, job dissatisfied and may lead to high turnover rates. The model illustrated in Figure 1.1 on the next page was adopted to form the basis for this study's conceptual framework. This model was developed by Kluska *et al.* (2004:122) to test the possibility of reducing job stress in work environments. In this study, the concepts structural empowerment, psychological empowerment, over-commitment and effort reward imbalance, as illustrated in Kluska *et al.* (2004:122), were adopted and were described in relation to nurses' participation in continuous development activities leading to professional growth.

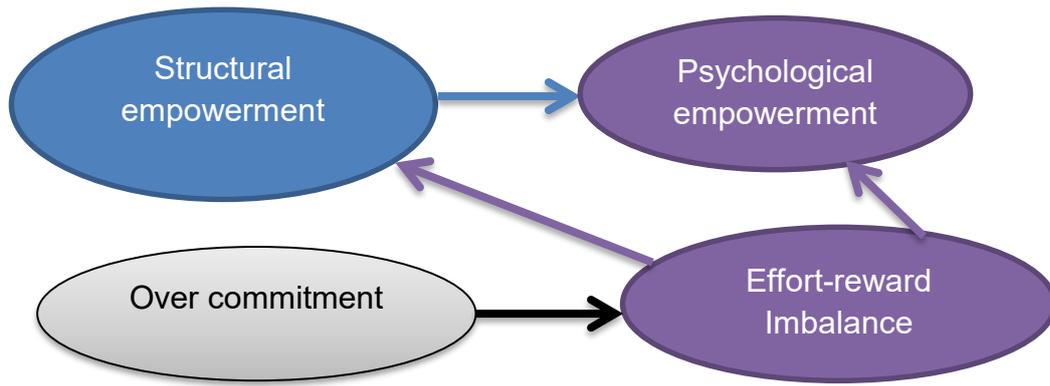


Figure 1.1: The original model developed by Kluska *et al.* (2004).

In addition to the model in Figure 1.1, this study also adopted the model of Brekelmans *et al.* (2016:17) as illustrated in Figure 1.2 below in which the concepts and the relationships between CPD conditions, CPD motives, CPD importance and actual participation in CPD activities also formed part of the conceptual framework of this study.

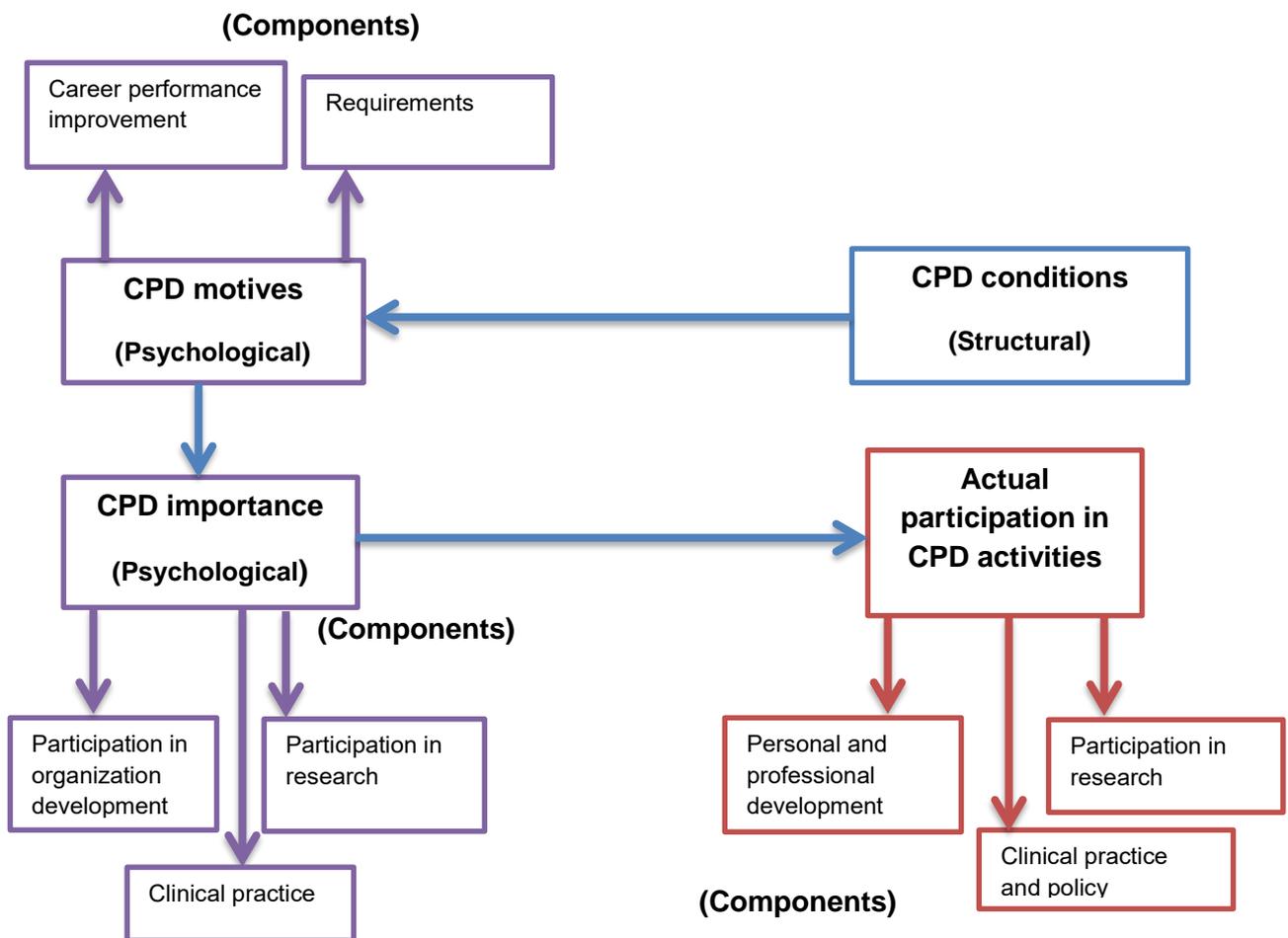


Figure 1.2: Original model developed by Brekelmans *et al.* (2016).

The conceptual framework for this study, as illustrated in Figure 1.3 below, was designed by the researcher with the assistance of her academic supervisor, Mrs A Damons. A detailed discussion of the conceptual framework factors is provided in chapter 2.

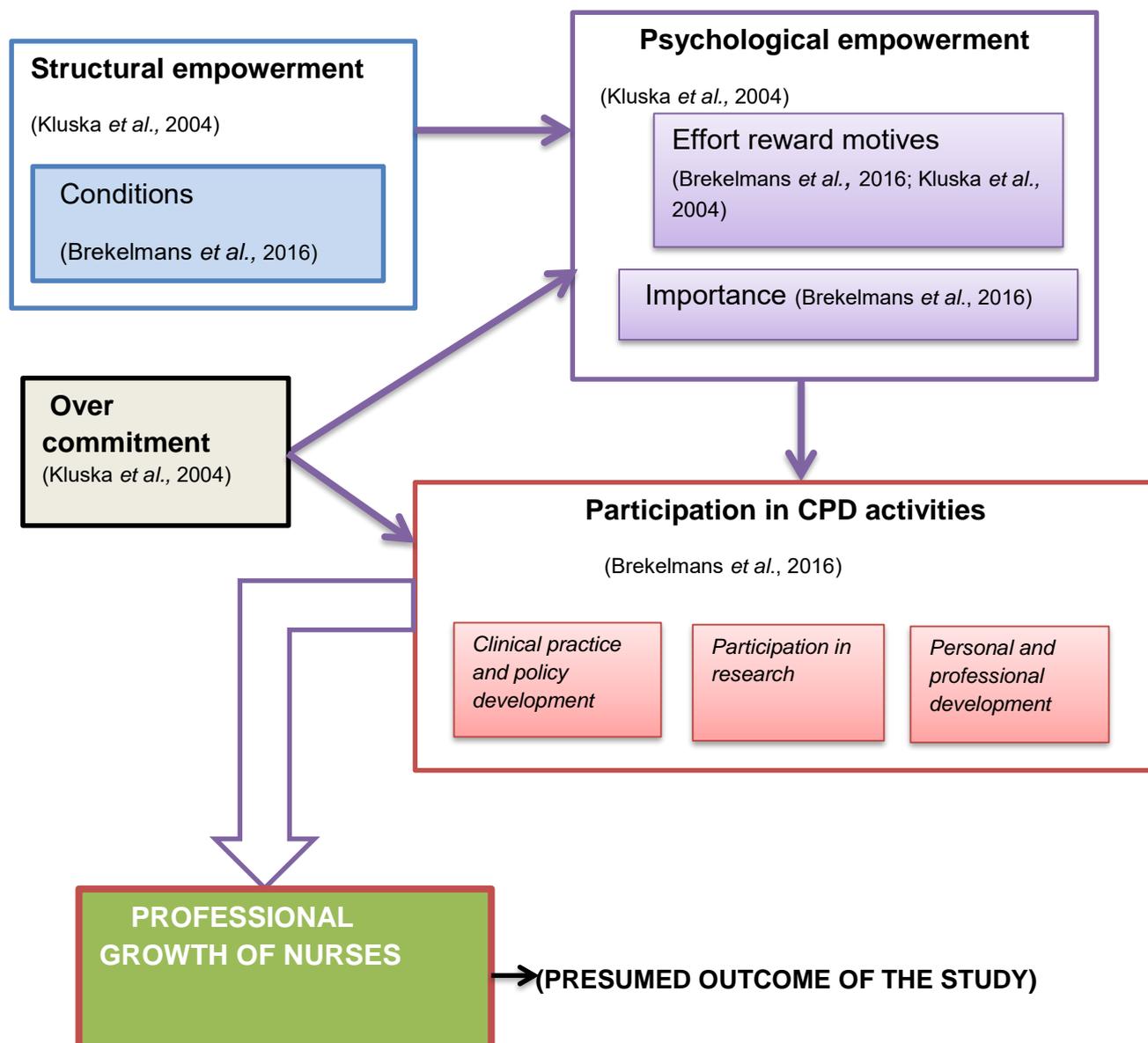


Figure 1.3: Conceptual framework of the study based on the models by Kluskal *et al.* (2004) and Brekelmans *et al.* (2016): (Designed by the researcher T. Mbidi, 2017).

Figure 1.3 is a combination of the respective models of Kluska *et al.* (2004:122) and Brekelmans *et al.* (2016:17) which form the basis for conceptualising the factors associated with participation in CPD activities leading to professional growth of professional nurses in this study. The constructs in the conceptual framework propose that the conditions under the structural empowerment factor are the driving force which influences professional nurses to

be motivated and realise the importance of participating in professional development activities. Thus, structural empowerment factors are shown to have a direct impact on psychological empowerment (Kluska *et al.*, 2004:122). The importance and effort reward motives, under the psychological empowerment, have an impact on nurses' actual participation in professional development activities. The model proposes that this could result in nurses experiencing professional growth and development. Over commitment has a direct impact on participation in CPD activities and psychological empowerment. Multiple studies have shown how psychological empowerment and structural empowerment are related (Kluska *et al.*, 2004:117; Knol & van Linge, 2009:362; Cicolini, *et al.*, 2014:860).

1.9 Research methodology

This section outlines what the researcher did in the study to solve the research problem and answer the research question (Brink, van der Walt & van Rensburg, 2012:199). Grove, Burns and Gray (2013:195) explain that research methodology refers to how a researcher plans to conduct a research study in accordance with the specific steps which make up a research process. In addition, Grove *et al.* (2013:3) state that researchers use research methods to test for reality and to generate knowledge. This study followed a quantitative method, which is defined as the systematic and objective process of obtaining numerical data for understanding aspects of the world (Grove *et al.*, 2013:23).

A brief overview of the research methodology is described in this chapter. A detailed description of the literature and implementation of the methodology are discussed in chapter 3.

1.9.1 Research design

In an attempt to describe how the factors associated with participation in CPD activities lead to the professional growth of professional nurses, a quantitative descriptive correlational design was used. Creswell (2014:41) states that in non-experimental quantitative descriptive correlational designs, researchers use correlational statistics to describe and measure the degree of associations between two or more variables. Furthermore, in descriptive studies questionnaires are used to obtain data about practices and also to make judgements about practice or situations (Creswell, 2014:41). A quantitative descriptive correlational method uses larger samples, and results are generalised to the larger population from which the sample was selected. This method assisted the researcher to measure and describes how the factors associated with participation in CPD activities lead to professional growth of professional nurses working in a public national referral hospital in Namibia.

1.9.2 Study setting

The study was conducted in a public national referral and a teaching hospital in Namibia. For the purpose of this study the hospital was pseudo named **Hospital A**. It has a bed capacity of 855 beds and a staff establishment of 1350 employees. Nurses make up the largest group of employees (n=650); n=292 are professional nurses, n=38 are senior professional nurses, n=11 professional nurses/clinical instructors, n=1 nurse manager, and n=308 enrolled nurses. The researcher is an employee and a senior professional nurse in the study site hospital. A pilot study was conducted under similar conditions consisting of 10% of the study population.

1.9.3 Population and sampling

Grove, Gray and Burns (2015:46) explain that population refers to all individuals or elements which meet the inclusion criteria and are considered to be suitable for a study. In this study, the target population was all the professional nurses (N=342) working in Hospital A. Grove *et al.* (2015:37) define sampling as a process during which participants are selected to represent the population of a study. Sampling was considered for the purpose of selecting elements which could accurately represent the features of the total population from which the study participants were chosen. The researcher submitted the population data to a statistician at the Biostatistics unit of Stellenbosch University to determine the sample size that would ensure a representative sample for the study. Based on the statistician's feedback, the researcher targeted all professional nurses (N=342) to ensure that those that would agree to participate would be a representative of the population. By using the entire professional nurse population meant that sampling was not needed.

Table 1.1 on the next page indicates the total number of professional nurses working in Hospital A (N=342), which reflects all categories of professional nurses who were targeted in the study for both the pilot and main study. It should be noted that n=34 (10%) of N=342 potential participants were used for the pilot study and excluded from the main study. The main study thus had n=308 potential participants to participate in the main study. The actual sample size is discussed in chapter 3, section 3.12 under questionnaire and response rate.

Table 1.1: Number of professional nurses working in Hospital A in Namibia

Professional nurse categories	Female (n)	Male (n)	Total population (n)
Registered/professional nurses	272	20	292
Registered/professional nurse/clinical instructor	11	0	11
Senior registered/professional nurses	33	5	38
Nurse manager	1	0	1
Total population (N)	N=317	N=25	N=342

1.9.4 Data collection instrument

Data were collected using the already validated structured questionnaire professional development nurses' instrument (Q-PDN). The Q-PDN is a validated instrument that was developed by Brekelmans, Maassen, Poell and van Wijk (2015: 232-238). The instrument is presented in Appendix 8. It is the original instrument that the researcher received from Brekelmans, the corresponding author. Permission was granted by the corresponding author to use the instrument and or make changes to make it fit for use within the Namibian context (see Appendix 4). The instrument consisted of 10 back-to-back pages. It comprised five parts. The projected time for participants to complete the questionnaire was 20-30 minutes. For the purpose of this study, the instrument was pre-tested to determine whether it suited the professional nurses working in the selected hospital in the study.

In this study the term participant is used to discuss any person who participates in a study. Respondent is used for the professional nurses who completed the questionnaire by providing answers to the questions in this study.

The questionnaire consisted of five parts as outlined below.

PART 1: DEMOGRAPHIC DATA: Consisted of questions that related to the respondents' demographics, work experience, employment status and qualifications.

PART 2: EFFORT REWARD MOTIVATION: Consisted of 16 questions regarding the reasons and motivations for nurses to participate in professional development activities. The respondents were required to score the activities in terms of: *mainly disagree, partly disagree,*

partly agree, and mainly agree.

PART 3: PSYCHOLOGICAL EMPOWERMENT FACTORS (IMPORTANCE): Consisted of 23 questions regarding the issues, which were important to the professional development of nurses. The respondents were required to score the issues in terms of: *not important at all, not important, important, and very important.*

PART 4: STRUCTURAL EMPOWERMENT FACTORS (CONDITIONS): Consisted of 21 questions about nurses' (respondents) limiting conditions of realising their professional development. They were required to score the activities in terms of: *mainly agree, partly agree, partly disagree, and mainly disagree.*

PART 5: PARTICIPATION FACTORS: Consisted of 23 questions about how nurses (respondents) actively performed CPD activities. They were required to score the activities in terms of: *never, occasionally, quite often, and very often.*

1.9.5 Pilot study

According to Grove *et al.* (2015:45) a pilot study is a minor version of a proposed study. A pilot study is undertaken to assess the reliability and validity of a research instrument (Grove *et al.*, 2015:46). In this study, a pilot test was conducted on 10% (n=34) of the professional nurses working in Hospital A. The pilot study was conducted in the study site to ensure that it would be in accordance of the hospital's conditions, which are not the same as in other hospitals in Namibia. The pilot study's respondents were excluded from the main study. After the pilot study was completed and changes made to the study instrument, the main study followed six days later. According to Thabane, Ma, Chu *et al.* (2010:9) a pilot study's participants can be excluded from a main study to avoid potential response bias.

After participants of the pilot study were recruited, the researcher and a trained field worker explained the study details, the purpose of the study to them, and then obtained informed consent from them. They were encouraged to voluntarily participate and thus had to sign an informed consent agreeing to participate voluntarily in the pilot study. It was estimated that 20-30 minutes would be required to complete the questionnaire. The time actually used to complete the questionnaire was the basis to confirm the time needed to complete the questionnaire in the main study. The feedback and comments received during the pilot study were used to adjust the study instrument accordingly. The data collected during the pilot study were analysed with the assistance of a statistician. The findings are reported in chapter 3.

1.9.6 Reliability and validity

Reliability refers to the degree to which an instrument can yield consistent results if used repeatedly (Grove *et al.*, 2015:287). The validity of an instrument determines how well the instrument will reflect the concept being examined. Furthermore, validity is established through various forms of evidence to support the interpretation of the score accuracy (Hagan, 2014:432). The instrument that was used in this study yielded reliable Cronbach scores of 0.70-0.89 when it was validated by Brekelmans *et al.* (2016:18). In this study, content and face validity were ensured through pre-testing of the research instrument. Construct validity was ensured with the support of the researcher's academic supervisor and a nurse educator in the nursing field equipped with experience and training in quantitative research. Moreover, a statistician with experience in factor analysis was consulted to assist with the data analysis. The concepts of reliability and validity are discussed in detail in chapter 3.

1.9.7 Data collection

Data collection for the main study was conducted by a trained field worker because the researcher was an employee of the health facility in which the study was conducted. Therefore, to avoid bias during the completion of the questionnaires, it was necessary to recruit a field worker. Data were collected with a self-administered structured questionnaire that was distributed and collected according to the predetermined data collection schedule as indicated in Table 1.2 on the next page. Data collection was conducted after ethics approval from Stellenbosch University Health Research Ethics Committee, as well as the ethics committee of the health facility in which the study was conducted. To ensure quality data collection processes, the trained field worker was a professional nurse who works as a lecturer at an institution of higher learning in Namibia, and who was not known by the potential participants. The data were collected from professional nurses who were working day and night duty shifts according to the data collection schedules. To further enhance the confidentiality of respondents they were requested to place their respective completed questionnaire in a provided sealed envelope for placement in a questionnaire box. The signed consent forms, delivered and collected completed questionnaires were then documented in a register which was kept by the researcher and the trained field worker.

Table 1.2: Data collection schedule

Activity	Day shift	Night shift
Week 1: Monday – Thursday	Questionnaires were handed out between 12h00 and 14h00 and collected the following day between 12h00 and 13h00.	Questionnaires were handed out between 21h00 and 23h00 and collected in the morning between 05h00 and 06h00.
Week 2: Monday – Thursday	Questionnaires were handed out between 12h00 and 14h00 and collected the following day between 12h00 and 13h00.	Questionnaires were handed out between 21h00 and 23h00 and collected in the morning between 05h00 and 06h00.
Week 3: Monday-Thursday	Questionnaires were handed out between 12h00 and 14h00 and collected the following day between 12h00 and 13h00.	Questionnaires were handed out between 21h00 and 23h00 and collected in the morning between 05h00 and 06h00.

1.9.8 Data analysis

The collected data were prepared for analysis. This required data was entered into the Statistical Package for Social Sciences version 24 computer programme. The researcher then cross checked the data for errors and for any missing data. With the assistance of a statistician, data were analysed using SPSS version 24. Pallant's (2013:188-192) exploratory factor analysis (EFA) method was used to check the scale validity of the measures. The statistician further used SPSS AMOS Version 23 to confirm, validate, and determine the interrelationships between variables. Advanced correlation techniques, using the dimension reduction EFA, were done to come up with a pattern matrix for the characteristic variables. The pattern matrix was then used in SPSS AMOS, for the confirmatory factor analysis (CFA), where fitting flow diagrams were iterated in structural equation modelling (SEM). The fitted flow diagrams were used to confirm or reject the relationships of the constructs in the study's conceptual framework and answer the research question. The results are presented in tables, figures, and flow diagrams.

1.10 Ethical considerations

The researcher adhered to the Nuremberg code of ethics, and the 2013 version of the declaration of Helsinki. Before commencing data collection, the researcher obtained an ethical approval with protocol number S16/10/223 from the Health Research Ethics Committee (HREC) of Stellenbosch University (Appendix 1). Approval and permission was also granted by the permanent secretary of the Ministry of Health and Social Services (MOHSS) (Appendix 2), and the medical superintendent of the hospital in which the study was conducted (Appendix 3). Informed written consent was obtained from potential participants after the study information was explained by the field worker and before they received the questionnaire. During the pilot study, some potential participants asked questions, which the researcher answered. The field worker was also given a chance to answer questions in the presence of the researcher to ensure that during the main study, the trained field worker would be able to answer to all questions.

1.10.1 Right to self-determination

The right to self-determination is related to the principle of respect. This was ensured in a way that participation in the study was voluntary, and participants were allowed to withdraw from participating in the study at any point without any penalties imposed on them (Grove *et al.*, 2015:101). Those who refused to participate in the study were thanked for making time to listen to the study information.

1.10.2 Right to confidentiality and anonymity

To ensure the privacy and anonymity of participants, they were informed that participation in the study was voluntary and were allowed to withdraw from participating from the study at any time (Brink *et al.*, 2012:37). Furthermore, a trained field worker was responsible to distribute the questionnaire to prevent possible bias because the researcher was an employee and was known in the hospital in which the study was conducted. The information obtained was anonymous. The respondents did not provide their names or any kind of identification on the questionnaire. The researcher provided her cellphone number on the questionnaire. This was done in case she was needed to answer to any queries which the field worker was not able to answer. To ensure confidentiality, all completed questionnaires were placed in sealed envelopes and dropped in a questionnaire box, which the trained field worker collected from the nurses' post in each department.

1.10.3 Right to informed consent

Autonomy is the right of individuals to choose and to voluntarily participate in a research study,

and is regarded as a primary ethical consideration (Brink *et al.*, 2012:32). To ensure that the principle of informed consent was adhered to, the trained field worker distributed the information sheet and explained the research study details to potential participants, after which they were required to sign informed consent to take part in the study (Burns & Grove, 2007:216-217). The trained field worker was also available to provide further explanations before the completion of the written consent form. The completed questionnaires were placed in sealed envelopes which were put into questionnaire boxes that were situated at the nurses' post. The informed consent form was in English as it is the official language in Namibia. The form was not translated into any other local language because all the professional nurses could read and speak English. English as a subject with at least a C symbol is a compulsory requirement for professional nurses' undergraduate admission to the University of Namibia to undertake a course in nursing (University of Namibia, 2017:2).

1.10.4 Right to protection from discomfort and harm

This study was a non-experimental study, thus participants were not exposed to any harmful situations. Also, the collected data in the study were not used for any other purpose. To ensure the principle of doing good and no harm, the contact numbers of the researcher, and that of her supervisor, were listed on the consent form and the questionnaire in case they had to clarify any concerns (Grove *et al.*, 2015:108).

1.11 Conceptual and operational definitions

For the purpose of this study, specific concepts were used with associated meanings as provided below.

❖ Continuous professional development activities

According to Giri *et al.* (2012:1) continuous professional development (CPD) is an ongoing method of education, in-service training, and support activities that build on the initial education of nurses to ensure the progress of new knowledge and skills which increase professional effectiveness. Ross, Barr and Stevens (2013:1) explain that CPD offers professional nurses the opportunity to expand and improve their nursing professional knowledge, skills and expertise which is mandatory throughout their professional lives. Similarly, Sykes and Temple (2012:194) indicate that through CPD, professional nurses maintain their competence and advance their professional knowledge and skills with the goal of ensuring that they safely and competently render safe evidence based care. In this study, CPD activities mean all the activities which contribute to the professional growth of professional nurses as measured with the items listed in Part 2 to 5 of the questionnaire.

❖ Professional growth

Professional growth is defined as the development of knowledge, skills and expertise enabling a professional nurse to perform at high levels of productivity (Rahimaghaee *et al.*, 2010:263). Moreover, Davis, Taylor and Reyes (2014:443) define professional growth as the progression which results from the process of lifelong learning; an obligation for professional nurses. Professional growth was also defined by Adeniran, Bhattacharya and Adeniran (2012:46) as the means for nurses to strive for knowledge, render patient centred care, be role models, and display a skilful attitude to ensure professional morals and devotion. In this study, professional growth is defined and measured in terms of the minimum CPD requirements, the number of years of work experience, and the post-graduate certification for professional nurses. Therefore these three need to work in conjunction with each other for professional growth to be realised.

❖ Professional nurse

A professional nurse is any person registered as a professional nurse with the nursing council of Namibia, a person who has fulfilled the prerequisites to practice and is a holder of prescribed qualifications for registration (Government of the Republic of Namibia, 2004:6). A professional nurse is referred to as a nurse who is licensed to practice nursing independently within her scope of practice (Republic of South Africa, 2005:27). Therefore in this study, professional nurses mean health professionals who are licenced and registered to practice comprehensive nursing autonomously within their scope of practice and as per their job description.

❖ Public national referral hospital

A public national referral hospital means a hospital that has to handle all public referral cases which are not manageable at public intermediate referral hospitals. The national referral hospital sets the standards of providing expertise healthcare services to the Namibian nation (Republic of Namibia, 2013:1). In this study, public national referral hospital means a healthcare facility which is state funded and which handles referral cases which are not manageable at other public healthcare facilities across Namibia.

❖ Structural empowerment

Structural empowerment means work structures and factors, which when available, enable nurses to carry out their work effectively and become job satisfied (Shariff, 2015:2). In this study structural empowerment was measured with scores on Part 4C (structural empowerment conditions factors) of the QPDN instrument (Brekelmans *et al.*, 2015:235).

❖ Psychological empowerment

Psychological empowerment is defined as the importance that professional nurses attach to their work, how competent they feel, and the confidence an individual professional nurse has to perform the job well (MacPhee, Skelton-Green, Bouthillette & Suryprakash, 2011:160). In this study, psychological empowerment was measured with the scores on Part 3B (psychological empowerment importance factors) of the Q-PDN instrument (Brekelmans *et al.*, 2015:235).

❖ **Effort reward motivation**

Efforts are defined as job demands, responsibilities and the workload of an employee. Rewards refer to incentives which employees expect to gain through their labour, and include career opportunities, esteem and monetary rewards (Sato, Watanabe & Asakura, 2017:451). In this study, effort reward motivation was measured with the scores on Part 2A (effort reward motivation factors) of the Q-PDN instrument (Brekelmans *et al.*, 2015:235).

❖ **Over commitment**

Over commitment is defined as a set of attitudes, behaviours and emotions reflecting an excessive determination, in combination with a strong desire to be approved and honoured within the workplace (Derycke, Vlerick, Burnay *et al.*, 2010:879). In this study, over commitment issues were measured in Part 2A (effort reward motivation factors) and Part 5D (participation in CPD activities) of the Q-PDN instrument (Brekelmans *et al.*, 2015:235).

1.12 Duration of the study

The researcher obtained ethics approval from the health research ethics committee of Stellenbosch University with protocol number S16/10/223 on 8 March 2017 which was valid for one year. Ethics approval from the permanent secretary of the Ministry of Health, and the healthcare facility in which the study was conducted, was obtained on 19 April 2017 and 21 April 2017, respectively. A pilot study was conducted on 22 and 23 April 2017. Data collection for the main study was conducted between 30 April 2017 and 03 June 2017. The completed thesis was submitted on 1 September 2017 to Stellenbosch University.

1.13 Chapter outline

- Chapter 1: Overview and foundation of the study. This chapter provided the background, rationale, problem statement, aim and objectives of the study. Furthermore, the conceptual framework which guided the study was included in this chapter and a brief overview of the research methodology that was used.
- Chapter 2: Literature review. In this chapter 2, the literature review related to the importance of professional growth and development of professional nurses in general and professional nurses in Namibia is outlined. Concepts related to and used

interchangeably with the concept of professional growth are defined. A brief background about the development of CPD directives according to the Health Professions Councils of Namibia is discussed. Furthermore, a detailed discussion about the relationship between the variables and constructs within the conceptual framework is outlined.

- Chapter 3: Research methodology. This chapter describes and discusses the research design and methodology that was followed to answer the research question in this study. In addition, findings from the pilot study are discussed in detail.
- Chapter 4: Results. This chapter 4 provides data analysis and presentation of the study findings, in relation to the study question and research objectives.
- Chapter 5: Discussion, conclusions and recommendations. The study findings, in relation to the aim and objectives of the study, are discussed in chapter 5. In addition, the final study conclusions are made and recommendations outlined based on scientific evidence obtained from the study findings. Limitations of the study are presented in this chapter.

1.14 Significance of the study

The review of current literature, specific to professional growth factors, made the researcher realise the importance of conducting this study in Namibia. There was abundant literature from developed countries, but a dearth of literature from developing countries, specifically Namibia. This study is the first of its kind to be conducted on professional nurses in Namibia. It may be of value for the professional growth of professional nurses within healthcare institutions, and Namibia at large. It could also be important for professional nurses to know the various factors within their work environment which are associated with participation in CPD activities and could influence their professional growth. Although this study was conducted on a sample of professional nurses working in the only public national referral hospital in Namibia, professional nurses working in other health facilities within Namibia could also benefit from the study findings. This means that although the hospital settings may not be the same as the setting where this study was conducted, the need for participating in CPD activities leading to professional growth for professional nurses in Namibia remains an obligation.

Moreover, the Namibian CPD monitoring system does not randomly select registered members according to the health facilities; the system selects any member who is registered with HPCNA for CPD audit checks. Therefore, all professional nurses in Namibia should always be prepared to provide proof of their CPD portfolio to the HPCNA's CPD desk.

The findings and recommendations of the study may help healthcare organisations to consider availing different additional support structures aimed at enabling professional nurses to realise

their professional growth and development. Thus health professionals who commit themselves to meet the requirements of continuing education will, together with their patients, reap the benefits of ongoing learning, personal and professional development.

Finally, the motivation for this study was to describe factors associated with participation in CPD activities leading to the professional growth of professional nurses in Namibia. In accordance with the study findings, suggestions were developed about intervention programmes for promoting professional growth which could help in reducing nurse turn over, improve intention to stay in the nursing profession, job satisfaction and eventually an increase in job morale.

1.15 Summary

This chapter introduced the scientific foundation of the study. The significance of the problem, rationale of the study, problem statement, research aim, objectives and the conceptual framework, were presented. In addition a brief plan of the research methodology, as applied in the study, was also outlined. In the next chapter, a detailed literature review of the relevant information related to professional growth and development of nurses is discussed.

1.16 Conclusion

Professional growth of a nurse is considered a success factor. The value of an expert nurse will always be recognised within the nursing profession. Professional nurses should experience job satisfaction, low burnout and less turn-over when their work environments provide empowerment and opportunities for continuing learning. It was therefore a necessity that factors associated with participation in CPD activities leading to the professional growth of professional nurses be outlined and described in this study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The practice of nursing and the healthcare environment is dynamic; it is constantly changing and becoming complex. What is stated as standard practice at present may change in months or years ahead (Esposito, 2016:4). Indeed, Shahhosseini and Hamzehgardeshi (2014:184), and Chong *et al.* (2011:39) outline that knowledge gained from basic professional training for nurses has a half-life of 2.5 years thus must be continuously updated. As healthcare environments advance, the needs of populations also change therefore professional nurses need to be attentive, and be equipped with current knowledge and skills to meet these evolving needs of populations (Esposito, 2016:4). According to Giri *et al.* (2012:1) continuous professional development (CPD) is an ongoing method of education, in-service training, and support activities that build on the initial education of nurses to ensure the progress of new knowledge and skills which increase professional effectiveness.

Badu-Nyarko (2015:97) indicates that the nursing career is a vital profession which requires health professionals to continuously acquire knowledge and skills. Florence Nightingale in her notes on nursing, *What it is and what it is not*, emphasised that nurses must not only learn through observation and experience, but they must learn continuously by seeking new knowledge and skills. Similarly Yfantis, Tiniakou and Yfanti (2010:194) explain that professional nurses need to keep improving their educational levels and maintain professional competence in order to meet patients' expectations. In order for individual nurses to keep maintaining and improving their competence, healthcare organisations may need to provide professional nurses with opportunities, and resources (Jakubik, 2008:4). According to Lawson, Miles, Vallish and Jenkins (2011:197) fulfilling work environments are those that offer and promote CPD activities for nurses. Consequently, when professional nurses are empowered their chances of professional growth and development are increased (Burchett & Spivak, 2014:20).

According to the American Nurses Association (ANA), a nurse owes the same duties to self as to others, including the responsibility to preserve integrity and safety, to maintain competence and to continue personal and professional growth (ANA 2015, provision 5). Similarly, in section 34 of the Namibian Nursing Act number 8 of 2004, the nursing council of Namibia explains that "the council will determine from time to time the continuing professional development activities that will apply to registered persons and enrolled persons or to a class of registered persons and enrolled persons" (Government of the Republic of Namibia, 2004:44). Therefore, continuing education, evidence based practice and research, and quality of practice, are some of the professional standards which nurses are accountable for (Witt,

2011:227).

2.2 Selecting and reviewing the literature

Literature review is a method used to identify the known and unknown facts about a topic under study. Literature review methods are used to synthesise available evidence in search of finding a solution to a problem and to remain current in everyday practice. Literature review contains the current theoretical and scientific knowledge about specific topics (Grove *et al.*, 2015:163).

The process of literature review assisted the researcher to identify gaps about factors associated with participation in CPD activities leading to the professional growth in the Namibian context. Furthermore, the literature review for this study was important because it assisted the researcher to avoid duplication of data on factors associated with participation in CPD activities leading to the professional growth of professional nurses in Namibia; particularly in a public national referral hospital. The databases used to search for literature were Pub-med, CINHALL, Science Direct and Google Scholar. The key terms used as single words, and also as a combination in the search were: professional growth, professional development, lifelong learning, continuing professional development, continuing professional education and career growth for professional/registered nurses. In addition, key terms such as structural empowerment, psychological empowerment, effort reward motivation, and over commitment in combination with professional growth or development for nurses, were also used.

The findings from the review of literature are presented in this chapter according to the following framework.

- 2.2.1 Background of the development of continuous professional development (CPD) directives according to the Health Professions Councils of Namibia
- 2.2.2 Definition of terms comparable to the term professional growth
 - 2.2.2.1 Professional growth
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- 2.3 Summary
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2.2.1 Background of the development of CPD directives according to the Health Professions Councils of Namibia

The Health Professions Councils of Namibia (HPCNA) promotes a CPD system aimed at ensuring the provision and delivery of quality of healthcare services by competent nurses. The HPCNA is made up of five councils: the Nursing Council; the Medical and Dental Council; the Pharmacy Council; the Social Work and Psychology Council; and the Allied Health Professions Council. The CPD system was developed and implemented as a dedication for best health practice and the desire to act and serve the Namibian population. The CPD committee is constituted by representatives from each of the five councils. These representatives are responsible to develop policy proposals for CPD activities and they are also accountable to the council (HPCNA, 2011: 5).

Continuous professional development is an ethical and a statutory obligation for all registered and enrolled health practitioners in Namibia. Furthermore, CPD was developed to address the emerging relevant needs and health priorities of the Namibian population. Moreover, the CPD system was also developed as a means of enabling all registered and enrolled persons to maintain and update their professional competence to promote, protect and ensure that best health services are rendered to the Namibian community (HPCNA, 2011:6). The composition of CPD activities include the traditional learning experience such as attending workshops, conferences, long and short term courses (HPCNA, 2011:6). This means the conditions pertaining to the CPD are not limited to attending and completing study courses or refresher courses (Government of the Republic of Namibia, 2004:44).

In South Africa the Health Professions Act no 56 of 1974 has endorsed CPD to be the means of maintaining and updating professional competence and also ensuring that the public

interest of the South African communities are protected and promoted (HPCSA, 2011:4). According to the Namibian nursing council CPD directives, all health professionals who register with the council for the first time must commence with CPD activities immediately (HPCNA, 2011:7). It is further explained that registered and enrolled professionals are required to accumulate 30 continuous education units (CEUs) every 12 months of which five CEUs must be for ethics, human rights and medical law.

In addition, the Namibian Nursing Act no 8 of 2004 states that the nursing council will determine the CPD activities which apply to all registered and enrolled persons. Moreover, the Namibian nursing council will also further ensure that the CPD record of registered and enrolled persons will not be upheld unless the registered and enrolled person has attended and completed CPD activities (Government of the Republic of Namibia, 2004:44). Therefore, all registered and enrolled health professionals are only required to submit their CPD portfolio when requested to do so by the CPD desk during a random compliance check. The CPD desk will randomly select individual health professionals for compliance checks twice a year; the size of the sample will depend on the number of health professionals on the register. Upon receipt of notification of being selected, a health professional will be obliged to submit his/her CPD portfolio within 21 days from the date of notification (HPCNA, 2011:8). The CPD portfolio consists of certificates of attendance which are issued by the different accredited service providers on completion of CPD activities. Therefore health professionals are responsible to maintain a record of their learning activities by ensuring that they are in possession of all the certificates of attendance for at least two years (HPCNA, 2011:8). The names of health professionals who do not comply with the CPD requirements will be forwarded to the HPCNA CPD committee for action (HPCNA, 2011:16).

2.2.2 Definition of terms comparable to the term professional growth

The terms professional growth, professional development, continuing professional development, continuing professional education, and lifelong learning, have been used in relation to each other. The discussion of these terms in this literature review was to help the researcher to get an understanding of their relationship to the research topic.

2.2.2.1 Professional growth

In a qualitative study by Rahimaghaee *et al.* (2010:263) professional growth is defined by one professional nurse as the development of knowledge, skills and expertise which enable nurses to perform at high efficiency levels. In addition professional growth is also defined as the progression of professional knowledge which enables change in the role and performance of a nurse. Moreover, professional growth of nurses is a means for nurses to strive for

knowledge, to render care which is patient-centred, to display skill, to be a role model, and to ensure professional morals and devotion (Adeniran, Bhattacharya & Adeniran, 2012:46).

2.2.2.2 Professional development

Professional development is an active process which enables professional nurses to make progress in their nursing careers (Rahimaghaee *et al.*, 2010:264). Spear (2016:100) defines professional development as a process of improving and increasing nursing competencies and knowledge through access to nursing education and training opportunities in the workplace or through the observation of other nurses performing nursing tasks.

2.2.2.3 Continuing professional development (CPD)

According to Giri *et al.* (2012:1) CPD comprises formal and informal activities which professional nurses undertake to update and enhance their professional knowledge and skills. As has been noted, CPD is an ongoing method of education, in-service training and support activities building on initial education to ensure the progress of new knowledge and skills which increase professional effectiveness (Giri *et al.*, 2012:1). To support this, Ross, Barr and Stevens (2013:1) explain that CPD offer professional nurses the opportunity to expand and improve their nursing professional knowledge, skills and expertise which is mandatory throughout their professional lives. Similarly, Sykes and Temple (2012:194) indicate that through CPD, professional nurses maintain their competence and advance their professional knowledge and skills with the goal of ensuring that they safely and competently render safe evidence based care.

2.2.2.4 Continuing professional education

Continuing professional education is said to be a form of post-graduation education, obtained through an accredited university, which professional nurses consider to be relevant to their professional practice and development (Sykes & Temple, 2012:195). In contrast Swift (2011:335) states that continuing education does not necessarily mean pursuing an advanced degree. However, Sykes and Temple (2012:195) assert that continuing professional education is a systematic process during which professional nurses continue to learn and improve throughout their professional career to enhance and keep their knowledge and skills up to date, thus improving their professional competencies.

Richards and Potgieter (2010:43) explain that continuing professional education empowers nurses to improve the quality of patient service delivery and to be effective in their professional job. In support, Nsemo *et al.* (2013:328) state that continuous professional education provides professional nurses with new ideas and suggestions. Jakubik (2008:4) did indicate that continuing professional education includes hospital based education and department or unit based education.

2.2.2.5 Lifelong learning

Davis, Taylor and Reyes (2014:444) define lifelong learning as a process which involves seeking and appreciating new ideas for the purpose of accomplishing new perspectives. Lifelong learning is also described as a fundamental process which requires professional nurses to engage in CPD in order to meet the evolving needs in the healthcare system (Davis *et al.*, 2014:444). Previous research indicates that lifelong learning equips professional nurses with expert skills and knowledge to meet and support patient needs (Pilcher, 2012:401).

To sum up, the definitions of the different concepts show some similarities that all point to learning activities undertaken by nurses with the purpose of updating and enhancing their professional knowledge and skills. In view of this the researcher was of the opinion that these concepts could be used in this study interchangeably.

2.2.3 The importance of professional growth and development for professional nurses

Whilst abiding by nursing regulations, it is important that nurses develop and find ways of achieving their career goals. This means that professional nurses need to remain informed about healthcare trends, treatments and nursing care techniques (Esposito, 2016:7). Duffield *et al.* (2014:697) explain that professional growth and development is important because it enhances a nurse's job satisfaction, nurses' organisational commitment, and nurse retention. Similarly, Fusilero, Lini, Prohaska *et al.* (2008:526) indicate that professional growth and development is an important contributing factor for nurses' job satisfaction. Indeed, Beaudoin, Alderson and St-Louis (2014:178) agree that professional nurses who practice according to the recommended standards of patient care would experience job satisfaction and less stress.

Professional growth and development assist professional nurses to acquire new knowledge and skills in order to improve their professional practice; this has a positive impact on patient care (Beaudoin *et al.*, 2014:178). It has been further explained that professional growth and development help professional nurses to improve their confidence and their communication skills with regard to patient care and management (Beaudoin *et al.*, 2014:178). Sykes and Temple (2012:196) maintain that professional nurses must view professional growth and development as an undertaking that is part of their professional career and lifelong learning aimed at influencing their daily practice through the transfer of knowledge. Therefore, individual professional nurses must take control of their own professional learning by engaging in the process of reflection (Yfantis *et al.* 2010:193). In agreement, Billet (2010:401) underscores that nurses' ability to be reflective and share their knowledge and skills with other nurses is central to their existence. Similarly, Altimier and Lasater (2014:34) indicate that professional nurses, who use reflective practice as a learning tool, may develop and progress

from a beginner nurse practitioner to a proficient and expert nurse practitioner. Even more importantly, reflective practice could be a means of preventing the routine of patient care activities; it can also mean looking at situations which a nurse may be confronted with from a different perception (Dube & Ducharme, 2014:16). Therefore, professional nurses need to continue acquiring new knowledge and continue to learn new skills to be able to develop and improve their nursing knowledge and skills that they already have (Billet, 2010:401).

Reflective practice is a method of learning and development through self-analysis of one's professional practice (Dube & Ducharme, 2014:10). Reflective practice enables nurses to look at activities and opinions which are considered to be a means of learning from professional practice (Altimier & Lasater, 2014:34). Learning from practice is therefore important for professional nurses because it is a form of professional development which is a vital element of sustaining their professional growth (Altimier & Lasater, 2014:34).

According to Pool *et al.* (2015:940) professional growth and development is important because of the fluctuation in demographics which requires healthcare organisations to retain older and experienced staff members. In addition, Pool *et al.* (2015:947) explain that the future of young nurses is open hence they should consider various career development activities. Pool *et al.* (2015:947) are of the opinion that older nurses were interested in remaining in the same job and that the importance of post-graduate education decreases with age. It should further be noted that CPD is not only essential for an individual professional nurse, but it is also important for a health-care organisation and society (Billet, 2010:403). Lautizi, Laschinger and Ravazzolo (2009:447) suggest that work environments that do not allow nurses to grow and move on to other roles within an organisation cause frustration and dissatisfaction among professional nurses. Thus, it is important that healthcare organisations offer professional development opportunities and programmes for nurses (Seagraves, 2010:12). In support, Lawson, Miles, Vallish and Jenkins (2011:197) explain that fulfilling work environments are those that offer and promote professional development activities for nurses. In addition, Swift (2011:340) posits that health-care organisations have accorded professional nurses the frameworks which enable them to practice professional autonomy and empowerment to partake in decision-making and policy development. Autonomy is defined as the freedom of making decisions based on the knowledge and expertise within the scope of practice of nurses (Petersen, Keller, Way & Borges, 2013: 363).

Beaudoin *et al.* (2014:182) state that nurses who are permitted to participate in decision-making and control over their clinical practice are empowered and thus tend to render quality care which has a direct impact on patient satisfaction. Similarly, Barden, Quinn-Griffin, Donahue and Fitzpatrick (2011:213) indicate that staff members who are involved in decision-

making tend to provide excellent services. Empowerment has been described as the enhancement of professional autonomy and the control over professional practice (Beudoin *et al.*, 2014:177). Awases, Bezuidenhout and Roos (2013:5) acknowledge that continuing education and job specific refresher courses help to retain the knowledge and skills of professional nurses in order to ensure excellent patient care, professional growth and competence. In addition, research seems to agree that career advancement is a means that supports excellence in nursing, enabling nurses who meet requirements to be conferred with high clinical status (Adeniran *et al.*, 2012:41).

2.2.4 Importance of continuous professional development according to the Nursing Council of Namibia

The HPCNA prescribes CPD to be the means of enabling professional nurses to maintain and improve their professional competencies (HPCNA, 2011:6). In addition, the HPCNA (2011:6) states that health professionals registered in Namibia are required to maintain a constant commitment for lifelong learning in order to update and develop their knowledge and skills as well for maintaining their ethical attitudes. It is thus important that individual professional nurses complete a series of continuing professional education activities each year (HPCNA, 2011:7). Professional development for professional nurses in Namibia is important because it will enable the interests of the public to be protected against unexperienced health professionals, while at the same time promoting the health of all Namibian citizens (HPCNA, 2011:6).

Moreover, CPD should address the evolving health needs which must be appropriate to the health priorities of the Namibian health-care system (HPCNA, 2011:6). According to the patient charter of Namibia, patients expect to be treated by professional nurses who are skilful, knowledgeable and competent, and nursing care should take place in a safe environment (Ministry of Health and Social Services, 2016).

The Namibian CPD system is monitored by the HPCNA CPD desk which randomly selects registered professionals twice a year to check for compliance. A health professional that gets selected is thus obliged to submit all required documents within 21 days of receipt of notification. The names of health professionals who do not comply are sent to the relevant council for noting. Therefore, the HPCNA believes that healthcare professionals in Namibia will commit themselves to meet the requirements for continuing professional education with a belief that both health professionals and patients will reap the benefits of professional development.

In addition to the HPCNA regulations (2011:6), the job description of all registered and

practicing professional nurses in Namibia has the following components about their research and educational duties (Ministry of Health and Social Services, 2007:1);

- Participate in conducting operational research and participate during the implementation of study recommendations.
- Conduct operational research from time to time and also implement recommendations.
- Participate in informal education activities which will enhance their professional growth and development.
- Improve the knowledge of colleagues and patients through formal and informal training.
- To assist with in-service training of subordinates and colleagues.

Similarly, Section 34 of the Namibian Nursing Act, 2004 (Act 8 of 2004) states that the council may determine:

- From time to time the continuing professional development activities that will apply to registered persons and enrolled persons or to a class of registered and enrolled persons;
- The nature, extent and duration of the professional development; and
- The conditions pertaining to the continuing continuous professional development by registered and enrolled persons and should not be limited to attending or completion or presenting of study courses or passing examinations relating to such professional development (Government of the Republic of Namibia, 2004:44).

Furthermore, in 2012 the Office of the Prime Minister in Namibia developed a Human Resource Development Policy Framework (HRDPF) to ensure that all Namibian public servants serving in different ministries uplift their knowledge, skills and have the right attitudes to enable them to fulfil their respective roles within the different government ministries (HRDPF, 2012:1). This framework makes provision for different Namibian ministries, including the Ministry of Health and Social Services (MoHSS), to identify job related competencies which are required to enable staff members to effectively and efficiently function in the work organisations. This means that work environments must allow staff members to learn and develop skills and competencies to maximise their job performance and commitments towards the aims and objectives of their respective ministries (HRDPF, 2012). This is consistent with the views of Coventry, Maslin-Prothero, and Smith (2015:2723) who posit that ideal work environments must be able to offer appropriate approaches to opportunities of CPD activities; nurse managers must be able to implement and support these approaches by using available resources such as opportunities, time and funding.

2.2.5 Discussion of the conceptual framework

The respective models of Kluska *et al.* (2004:122) and Brekelmans *et al.* (2016:17), as indicated in Figure 1.3 in chapter 1, formed the basis for conceptualising the factors and phenomenon of the factors associated with participation in CPD activities leading to the professional growth of this study. Positivist researchers observe phenomena from a detached position and by being objective a researcher would remain separate from the research setting and also from the study participants (Durham, Sykes, Piper & Stokes, 2015:11). In addition, positivist researchers can make predictions on the basis of previously observed and explained relationships. Therefore, in the conceptual framework for this study, the concepts of structural empowerment, psychological empowerment, effort-reward motivation, and over commitment, were based on the effort reward imbalance model of Kluska *et al.* (2004:122). The empowerment factors were found to be umbrella concepts which describe elements of professional growth and development (Goedhart, Van Oostveen & Vermeulen, 2017:195). In addition, Brekelmans *et al.*'s (2016:16) model of relationships between CPD motives, CPD importance, CPD conditions and actual participation in CPD activities, were also integrated and illustrated to show the relationship between the constructs that this study investigated. In this conceptual framework, there was a proposition that structural empowerment is related to psychological empowerment which is further related to participation in CPD activities which then result in the professional growth of professional nurses. In addition, over commitment was presumed to have a direct impact on the psychological empowerment factor and also an impact on participation in CPD activities. Multiple studies have shown how psychological empowerment and structural empowerment are related (Kluska *et al.*, 2004:122; Knol & van Linge, 2009:362; Cicolini *et al.*, 2014:860; Stewart, McNulty, Quin-Griffin & Fitzpatrick, 2010:29; Wagner, Cummings, Smith *et al.*, 2010:450).

The factors as illustrated in the conceptual framework (Figure 1.3) are discussed below.

2.2.5.1 Structural empowerment

Workplace structures that enable employees to carry out their work in a meaningful way are referred to as structural empowerment (Knol & van Linge, 2009:360). According to Goedhart *et al.* (2017:195) empowerment is used as an umbrella concept which describes elements of professional growth and development. Shariff (2015:2) defines structural empowerment as the support given to nurses to enable them to participate in activities and make decisions in relation to policy development. Thus, if professional nurses need to participate in policy development, they need to have the knowledge and experience. Therefore, if nurses are nurtured from their early nursing career years they will acquire knowledge and experience, which will enable them to develop confidence and allow them to participate in policy

development (Shariff, 2015:7).

Structural empowerment is also defined as a process that enhances the use of nursing skills and professional expertise thus resulting in job satisfaction among nurses (Lautizi *et al.*, 2009:446). In addition, Knol and van Linge (2009:360) define structural empowerment as the delegation of power and autonomy within organisational structures. Knol and van Linge (2009:360) further assert that structural empowerment is a structural element that influences nurses' behaviours in health-care organisations.

2.2.5.1.1 Conditions

According to Brekelmans *et al.* (2016:14-15), the availability of resources, time and access to professional development activities are some of the conditions that encourage nurses to take part in professional growth and development activities. Having access to these conditions would provide nurses with a sense of job satisfaction and motivation to be committed to a work organisation (Kluska *et al.*, 2004:116). Therefore, conditions would relate to what nurses consider to necessitate them to take part in professional development activities (Brekelmans *et al.*, 2016:13).

As part of the conditions in which a nurse decides to participate in professional development activities, Poell and Van der Krogt, (2014:428) used a qualitative study, based on semi-structured interviews, to conduct an empirical typology of hospital nurses' individual learning paths. The authors found that nurses have a number of different learning paths which they create. This means they select which themes are relevant to themselves. They then conduct learning activities around those specific themes which includes mobilising learning facilities which may be provided by their organisations. The authors concluded that nurses act strategically when it comes to their professional development (Poell & Van der Krogt, 2014:428).

According to Regan, Laschinger and Wong (2015:1), structural empowerment, authentic leadership, and professional nursing practice environments, enhance interpersonal collaboration. The authors further explain that to contribute to the enhancement of interpersonal collaboration, it is important that nurse leaders ensure access to resources including knowledge about interpersonal collaboration, authenticity and building trust relationships among nurses. Shariff (2015:10) developed an empowerment model for nurse leaders aimed at providing a framework of facilitating nurses to be involved in health policy activities. Shariff (2015:10) indicates that nurses need to be strategic and ensure that they, and their colleagues, are on the forefront of policy development.

Hayes, Bonner and Pryor (2010:812) state that it should not only be the sole responsibility of nurse managers to increase and improve the job satisfaction of nurses, but each nurse must contribute to the development and sustainability of environments which are conducive to increased levels of job satisfaction for themselves and for colleagues. Job satisfaction of nurses is influenced by nurse managers if they provide positive leadership, if they are role models, and when they understand local issues affecting nurses (Hayes *et al.*, 2010:812). Healthcare organisations have adopted frameworks which accord professional nurses professional autonomy and empowerment which enable them to contribute, practice and take part in decision-making processes (Swift, 2011:334). Even more important, availing professional nurses empowerment structures positively influence their job satisfaction and also increases their desire to remain in an organisation (Beaudoin *et al.*, 2014:181).

A correlational cross-sectional design study, conducted by Wang, Kunaviktikul and Wichaikhun (2013:2896), to describe and explore the relationship between work empowerment and burnout among registered nurses, found that if work environments provided empowerment, professional nurses were less likely to experience burnout. Therefore, the authors recommend that it would be important if nurse managers could empower nurses by availing them opportunities to study and also to create opportunities for nurses to collaborate with other nurses and share information. Wagner *et al.* (2010:461) in their systematic review examined the relationship between structural and psychological empowerment for nurses. Findings from their study indicate that increased structural and psychological empowerment are associated with nurse innovation, increased job satisfaction, reduced burnout, increased organisational commitment, and reduction in effort reward imbalance.

In Australia, a systematic review by Coventry *et al.* (2015:2715) found that healthcare organisations aimed at providing high quality and safe patient care by competent and committed nurses. Their review further found that healthcare organisations promoted and prioritised patient care by ensuring that nurses have access to CPD opportunities and that they are given ample time to implement evidence based practice.

In a phenomenological study, conducted in Belgium, nurses expressed their experience of a supportive peer relationship in addition to support from their hospital that afforded them opportunities for learning and for development, which are all characteristics of structural empowerment (Van Bogaert, Peremans, Diltour *et al.*, 2016:11).

Ahmad and Oranye (2010:583) describe structural empowerment as the ability: of getting organisational activities completed, mobilising resources within the organisation, and ensuring that nursing staff have all resources they need for attending to the organisational needs. It is

thus important that professional nurses be accorded an opportunity to practice their profession in an organisational climate which supports their professional autonomy (Lautizi *et al.*, 2009:447).

Wang *et al.* (2013: 2897) state that structural empowerment occurs in work settings that provide access to opportunities for growth, formal and informal power, support and resources which allow nurses to learn and develop. Nurses thus experience frustration and stress when healthcare organisations do not allow them to grow and move on into other roles within an organisation. Therefore, the opportunities given to nurses for learning and professional growth are important components of structural empowerment (Wang *et al.*, 2013:2897). Back-Pettersson, Jensen, Kylene *et al.* (2012:1104) observed that a system coordinated approach of building a substantive and sustainable research programmes stimulates nurses' interest and overcomes the barrier and stress of building research capacity. According to Wagner *et al.* (2010:459) structural empowerment leads to psychological empowerment; this results in positive workplace outcomes such as job satisfaction and increased organisational commitment.

2.2.5.2 Psychological empowerment

When a nurse has a sense of inspiration, in relation to workplace empowerment, the process is referred to as psychological empowerment (Stewart, McNulty, Quin-Griffin & Fitzpatrick, 2010:28). Psychological empowerment can also be defined as a cultural, social or psychological process by which individuals gain control, express and meet their needs or make a decision. Furthermore an individual's perception of what his or her job means and how the person is able to influence outcomes is referred to as psychological empowerment (Fan, Zheng, Liu & Li, 2016: 646). Psychological empowerment means the importance that professional nurses attach to their work, how competent they feel and the confidence a professional nurse feels in terms of performing his/her job well (MacPhee, Skelton-Green, Bouthillette & Suryaprakash, 2011:160).

In a similar way, MacPhee *et al.* (2011:160) explain that the psychological empowerment factor is based on enhancing feelings of self-efficacy and self-determination. Self-efficacy means having confidence in an individual's competencies to organise and accomplish courses of action that are required for managing situations (Adeniran *et al.*, 2012:46). Self-determination is described as a sense of control over an individual nurse's work and the maintenance of work activities in the workplace (Wagner *et al.*, 2010:449).

Literature indicates that psychological empowerment and structural empowerment are interrelated; the absence of either of them negatively affects the other. According to Stewart *et al.* (2010:28) psychological empowerment contains and is reflected in four elements:

meaning, competence, self-determination and impact. Stander and Rothmann (2010:2) define meaning as referring to how individuals value and care for their work. Competence is a belief that an individual nurse has the necessary knowledge and skills to perform the job well. Self-determination is an autonomous feeling of control over an individual's own work. Impact is a belief and feeling that an individual has about the ability to influence organisational outcomes (Stander & Rothmann, 2010:2).

2.2.5.2.1 Effort reward motives

Efforts are defined as job demands, responsibilities and the workload of employees; rewards refer to incentives which employees expect to gain through their labour and this include career opportunities, esteem and monetary rewards (Satoh, Watanabe & Asakura, 2017:451).

Healthcare workers are professionals whose job can be stressful if efforts exceed the rewards received at work. Nurses are exposed to work stressors such as high workloads, staff shortages, low promotion prospects, working with limited resources, and sometimes no opportunities for career growth (Darboe, Lin & Kuo, 2016:125). Therefore, because of the possible work stressors as mentioned by Darboe *et al.* (2016) an effort reward imbalance model was developed to analyse job stress (Tzeng, Chung, Lin & Yang, 2012:310). Although work stressors exist within workplaces, the theory of Kanter of organisational empowerment proposes that nurses in workplaces must still be empowered to be able to accomplish their work and to reduce the likelihood of occupational stress.

Furthermore, the nursing profession is sometimes associated with high levels of emotional strain and heavy workloads (Schulz, Damkroger, Heins *et al.*, 2009:225). It is thus important that nursing professionals are motivated and should be in a good state of health to ensure that they respond effectively to the health needs of populations (Darboe *et al.*, 2016:125). It is important to note that high efforts and low rewards imbalance causes high levels of job dissatisfaction among healthcare professionals (Schulz *et al.*, 2009:226). Indeed, Darboe *et al.* (2016:125) state that professional nurses who experience job dissatisfaction perform poorly and they may be prone to making errors in their clinical judgement.

In Malaysia and England, Ahmad and Oranye, (2010:590) found that psychological empowerment motives were related to job satisfaction and organisational commitment for nurses. In addition, the authors explain that in one healthcare setting, job satisfaction was determined by the pay factor, whilst in another healthcare setting, job satisfaction was determined by how nurses interacted with each other during working hours. In their conclusion, Ahmad and Oranye, (2010:590) indicate that cultural differences influence nurses' empowerment differently in different work setting. They also state in their findings that cultural

factors have a role which is of importance in the management of organisations across different cultures. Similarly, in Australia, Katsikitis, McAllister, Sharman *et al.* (2013:42) indicated that organisational culture motives, in terms of managerial support and willingness to change, are positively associated with nurses' attitude and how they value CPD. In other words, the study by Katsikitis *et al.* (2013:42) found that nurse managers in Queensland, Australia adopted an organisational culture of management support and willingness of management to accept changes; thus positively influencing the nurses attitudes and values towards professional development.

Kuokkanen, Leino-Kilpi, Numminem *et al.* (2016:1) conclude in their study that new graduate professional nurses need to be supported; career opportunities must be availed to them in order to decrease turnover intentions. In addition, their paper also explains that new graduate nurses want to be given feedback on their competence and how they manage different situations. This feedback thus has an effect on their work motivation and job satisfaction.

2.2.5.2.2 Importance

Sparks (2012:451), in a study on the psychological empowerment and job satisfaction between baby boomers and generation X nurses, indicates that there could be nurse generational differences in psychological empowerment which could affect nurses' perceptions of their work environments. In the findings, baby boomers are reported to have a high mean total psychological empowerment scores compared to those of generation X nurses. Therefore, it would be beneficial for nurse managers to consider what values each of the nurse generations consider within their work environment and maintain flexibility by putting in efforts to meet those needs (Sparks, 2012:451).

A study, conducted by Fogarty *et al.* (2014:15), to describe job satisfaction and retention of healthcare providers in Afghanistan and Malawi, found that nurses who get opportunities to attend training activities are job satisfied and have no intention to leave their workplaces. In addition, this study also found that in Malawi, nurses who have been longer in their workplaces were most likely receiving constructive feedback and would be recognised for a job well done. In contrast, the study found that Afghanistan nurses who were newer at their workplace were given constructive feedback.

An empowerment framework for nursing leadership development was a qualitative study by MacPhee *et al.* (2011:159). They reported on nurse leaders' perspectives of the outcomes of a formal leadership programme. Their findings show that nurse leaders were psychologically empowered by attending a nursing leadership institute programme. This empowerment enables them to empower their staff members by involving them in the decision-making

process (MacPhee *et al.*, 2011:167).

Barden *et al.* (2011:213) state in their study about shared governance and empowerment in registered nurses working in a hospital setting that shared governance is important for professional nurses because it provides a vital communication and decision-making infrastructure. In addition, their study suggests that shared governance would be a strategy for improving job satisfaction in nurses of the younger generation. In support, Lammintakanen and Kivinen (2012:45), in their study pertaining to age in CPD in nursing, explain that the question of age is vital in healthcare because nurses of different age groups work together and they have different values and their motives and competencies differ. Therefore, nurse managers need to strategise and plan working patterns whilst taking employees' respective age into consideration. Liu, Yang, Liu, Yang and Zhang (2015:84) also found that career growth differed across age, work seniority and professional title. In their study they tested the validity and reliability of a modified nurse's career growth scale.

Knol and van Linge (2009:359) conclude that both structural empowerment and psychological empowerment were predictors of innovative behaviour. They thus recommend that future research should consider nursing culture and personality characteristics as factors determining empowerment factors. Lautizi *et al.* (2009:451) observed that empowerment is an approach necessary to add value to activities of nurses who aspire to be autonomous in their practice and that nurses who would like to grow professionally. Therefore, it would be beneficial for patients if nurses are engaged in a lifelong learning process aimed at continuous improvement of their knowledge and skills thus enabling them to render high quality patient care.

2.2.5.3 Over commitment

Over commitment is defined as a set of attitudes, behaviours and emotions reflecting an excessive determination in combination with a strong desire to be approved and honoured within the workplace (Derycke *et al.*, 2010:879). Similarly, Trybou, Germonpre, Janssens *et al.* (2014:293) describe over commitment as a personality characteristic based on rational, emotional and motivational components of behaviour which reflect a desire combined with a need to be approved and esteemed.

Burchett and Spivak (2014:19) demonstrate that there must be peer review in the nursing profession to assess, monitor and make judgements of the quality of care rendered by nurses to patients. This peer review must be measured against the set standards. In addition, Burchett and Spivak (2014:20) also indicate that peer reviews are important because there is constructive feedback given which helps in promoting professional growth and development. Indeed, research seems to agree that a peer evaluation process empowers staff members to

be accountable thus resulting in competency, autonomy and eventually professional growth (Burchett & Spivak, 2014:20).

Similarly, LeClair-Smith, Branum, Bryant *et al.* (2016:328) established that feedback from peers is a nurse's mechanism of measuring the practice of nursing with the professional standards of individual nurses. In addition, peer feedback is also found to provide an opportunity for advancing and developing skills including opportunities for nurses to grow and develop professionally. Heidi and Wanda (2010:114) also explain that peer review provides professional nurses with professional growth opportunities and some nurses would also become autonomous. Additionally, the authors found that peer review is a form of continuous performance feedback which is seen as an important practice for the promotion of safe and quality care (Heidi & Wanda, 2010:108).

There is also networking which occurs when a nurse signs up for an organisational membership and or meets with other members of an organisation to exchange ideas (Swift, 2011:337). Social skills, and maintaining cooperation with other members of a multidisciplinary team, include the ability to welcome positive criticism. In addition, social skills are about an ability of a professional nurse to identify and prioritise the needs of patients (Adeniran *et al.*, 2012:47).

Dube and Durcharme, (2014:18) found in an action research study in Canada that it would be beneficial for healthcare settings to undertake a joint reflection process with academic settings in order to ensure the development, transition and maintenance of reflective practice for nurses throughout their professional career. Their study further reveals that reflective practice was an innovative and effective means during which nurses acquire new knowledge whilst obtaining recognition for professional experience.

2.2.5.4 Participation in CPD

According to Badu-Nyarko, (2015:93) nurses participate in continuing education when they are motivated. This finding is similar to Chong *et al.* (2011:39) who explain that professional advancement, professional knowledge, and improvement in collective relations, are some of the motivating factors for nurses' participation in continuing professional education. Furthermore, Brekelmans *et al.* (2016:17) also state that nurses, who want to have an influence in policies, consider participation in organisational development activities important. Nurse managers, according to Suangga and Tuppal (2017:24), must increase motivation of nurses to pursue continuing professional education by availing opportunities and or making funding available. Nsemo *et al.* (2013:333) also refer to the role of nurse managers by stating that they must make flexible rosters which enable nurses to participate in continuing education activities outside their work location. Moreover, in their cross sectional descriptive study,

Chong *et al.* (2011:43) found a significant relationship between educational levels and participation in continuous professional education.

2.2.5.4.1 Clinical practice and policy development

According to Kluska *et al.* (2004:123), nurses feel rewarded when they are allowed to be flexible in their work. In addition, if nurses are allowed to participate in decision-making, they will experience a high degree of autonomy which will then make them feel rewarded (Kluska *et al.*, 2004:123).

The effort reward imbalance model explains the adverse effects of fundamental psychological factors by focusing on the imbalance between effort and reward at work as a mechanism of workers' stress experience (Derycke *et al.*, 2010:879). Similarly, Rantanen, Feldt, Hyvonen *et al.* (2013:645) explain that the effort reward model hypothesises that a deficit of mutual benefit in efforts invested and rewards received can be harmful, resulting in emotional strain among other stress reactions. Additionally, Juarez-Garcia, Vera-Calzaretta, Blanco-Gomez *et al.* (2015:637) indicate that the effort reward imbalance model explains the adverse effects of psychosocial factors at work on health, focusing mainly on the imbalance between effort and reward at work as a mechanism of employees' stress experience. Indeed, the effort reward imbalance model predicts that employees exposed to high efforts working conditions and low rewards at work may suffer harmful psychosocial effects which may lead to emotional stress (Juarez-Garcia *et al.*, 2015:638).

A participatory study conducted by Richter, Mill, Muller *et al.* (2012:56) indicates that nurses, in Canada, Jamaica, Barbados, Kenya, Uganda, and South Africa, were not involved in policy development. Lack of involvement in policy development is related to both lack of communication and sharing of information. Therefore, the authors recommend that strong management support is necessary to involve nurses in policy development (Richter *et al.*, 2012:56). Similarly, AbuAiRub and Foudeh (2016:20) found a low involvement of nurses in health policy development. They recommend that focusing on the perceived benefits of health policy activities, education and training may enhance nurses' involvement in health policy activities (AbuAiRub & Foudeh, 2016:20).

In Kenya, Uganda, and Tanzania, Shariff and Potgieter (2012:6) indicate that few nurse leaders are involved in the process of health policy development. Furthermore, they found that nurse managers are mostly only involved during the policy implementation stage. However, Shariff and Potgieter (2012:1) explain that nurse leaders' involvement in policy development process requires them to be involved from policy formulation and policy implementation. Therefore, they recommended that nurse leaders be allowed to take part in all the stages of

the process of policy development.

2.2.5.4.2 Participation in research

Doerksen (2010:145) outlines that research is a professional development need which increases over time. The author continues to explain that the research area lacks support and therefore recommends that increased intellectual, administrative and financial support should be provided for advance practice nurses to enable them to conduct research. Back-Pettersson *et al.* (2012:1109) explain that if there are organisational support structures and research strategies; these would be an important capacity building in research participation between health institutions and academic institutions. Furthermore, Back-Pettersson *et al.* (2012:1109) also found that research and development is an effective way of stimulating nurses' lifelong learning through capacity building for conducting and applying nursing research in clinical practice. Brekelmans *et al.* (2016:17) found low scores on the actual participation of nurses in research; however they indicate that it is not clear why nurses considered participation in research as not an important activity. In addition, Brekelmans *et al.* (2016:17) further indicate that participation in research as a daily practice by nurses in the Netherlands is not a common practice.

It should further be noted that clinical nurses research capacity and building is a culture of research in academic hospitals which encapsulates research education and patient-focused care that is required for an effective inter-professional collaboration (Akerjordet, Lode & Severinsson, 2012:820). Indeed, the creation of organisational cultures, which value research use, while supporting clinical nurses' participation in research activities, is vital for the professional growth and development for nurses (Akerjordet *et al.*, 2012:820). Similarly, Syme and Stiles (2012:24) explain that clinical research is necessary for the development of the nursing body of knowledge which may improve the quality of nursing care. Syme and Stiles (2012:24) further add that conducting independent research affords nurses an opportunity of job fulfilment and opportunities for career growth and development.

A qualitative study conducted in Ireland by Timmins, McCabe and McSherry (2012:232) indicates that nurse managers and leaders must remember that evidence based nursing forms an integral part of each employee's role and responsibility to ensure quality and safe patient care. In terms of evidence based practice, there are gaps thus the authors suggest that these must be addressed by developing application and evaluating the efficiency and effective research education and training programmes (Timmins *et al.*, 2012:232). The development, application and evaluation of these research programmes will ensure that nurses are well skilled, knowledgeable and develop competency in reading, critiquing and applying research in their nursing practice (Timmins *et al.*, 2012:224). Similarly, Breimaier, Halfens and

Lohrmann, (2010:1753) posit that for research based practice to become a reality in Austria; nurses would need to attend to adequate research based information topics on daily practice. This will be in addition to the supportive organisational structures and nurse managers with knowledge of research and also including aspects of research implementation (Breimaier *et al.*, 2010:1744).

2.2.5.4.3 Personal and professional development

Nurses participate in professional development activities when they have reasons to and, also when they feel motivated and if the activity they want to pursue is important to them (Brekelmans *et al.*, 2016:14). It is thus important that effort at work must be appropriately rewarded to enable nurses to experience self-efficacy which is an outcome of an empowered employee (Darboe *et al.*, 2016:126).

Beaudoin *et al.* (2014:177) conducted a systematic review and explained that the certification of critical care nurses increases their professional satisfaction, their self-confidence and they become empowered. Furthermore, the certification processes have a potential of improving the psychological health of nurses. In Australia, Katsikitis *et al.* (2013:42) found that employers who pay for CPD activities increase the staff members' value for participating in ongoing education and professional development activities.

Walker-Reed (2016:46) in a review on clinical coaching found that clinical coaching and mentoring supports expert nurses to establish their leadership and professional development legacy in their daily nursing practice. In addition, mentoring other nurses is seen as a practical method of entrusting of skills, values and behaviours to less experienced and less knowledgeable nurses. These findings are similar to those of Race and Skees (2010:163) who suggest that effective mentorship positively impacts healthcare organisations by improving job satisfaction and promoting empowerment and professional development for nurses. Mentoring is defined as an association between a senior nurse, with advanced knowledge and skills, and a junior inexperienced nurse, whereby the experienced nurse provides support and helps the junior nurse to advance and develop professionally within a nursing career (Lekhuleni, Khoza & Amusa, 2012:62). Effective mentorship of professional nurses positively impacts the retention of professional nurses within healthcare organisations; furthermore effective mentorship is an influence for professional development and empowerment of nurses (Walker-Reed, 2016:41). Moreover, Walker-Reed (2016:41) also explains that clinical training and nurturing enables nurses to have opportunities of moving up through the clinical ladder for professional achievement.

A study by Fletcher (2016:72) about career coaching illustrates that career coaches must have

sustained beliefs that individual nurses might be able to realise their goals. In addition, Walker-Reed (2016:42) asserts that clinical coaching and mentoring enables novice nurses to advance and grow within the profession. Shermont, Krepcio and Murphy (2009:432) also agree that mentors help nurses to define their individual professional goals for which a plan must be developed and implemented to be achieved. In the same way, Shermont *et al.* (2009:433) indicate that individual plans and goals are necessary because the interests and career planning readiness varies with age, work experience, and other personal life factors of individual nurses.

2.2.6 The barriers prohibiting professional nurses from participating in professional growth and development activities

Whilst healthcare institutions need to commit to lifelong learning of health professionals, individual nurses will need to have a personal commitment to value continuing education as part of their professional responsibility (Witt, 2011:227). It must be noted that nurses participate in professional development activities for different reasons because, for example, it is a mandatory requirement for re-registration; they are self-motivated; or they want to keep abreast with new developments in the nursing practice and health (Pool *et al.*, 2015:940). Although literature indicates that healthcare organisations must provide nurses with opportunities to engage in professional growth and development activities, there are barriers that may be hindering nurses from engaging in professional development activities. Ross *et al.* (2013:5) observed that barriers prohibiting nurses from participating in CPD activities have been consistent in literature irrespective of country and geographic location. Therefore, Witt (2011:227) suggests that individual nurses and healthcare institutions must address these barriers.

Richards and Potgieter (2010:44) state that there are many barriers which prevent nurses from participating in continuous education activities; these factors are divided into categories such as situational, institutional, and attitudinal. In the situational category, lack of time, family and child responsibilities, and the inability to pay for the courses, are some of the barriers which prevent nurses from participating in professional development activities (Richards & Potgieter, 2010:44). In the institutional category, lack of transport to take nurses for activities offered outside the workplace, shortage of staff and lack of appropriate learning activities, which are relevant to nurses learning needs, are identified as barriers (Ross *et al.*, 2013:4). In addition, lack of support from nurse managers and peers, and the inability to obtain leave to attend CPD activities, are also illustrated as some of the barriers prohibiting nurses to participate in professional development activities (Doerksen, 2010:145). In the attitudinal category, lack of physical and emotional energy that leads to low motivation are some of the barriers which

prevent nurses from participating in continuing education activities (Richards & Potgieter, 2010:44).

According to Sheikhi, Khoshknab, Mohammadi and Oskouie (2016:50) one of the barriers which prevents nurses from participating in professional development activity is lack of support within the working environment. This includes inadequate opportunities for career advancement and lack of access to education. Cleary, Horsfall, Muthulakshmi *et al.* (2013: 2608) agree that lack of opportunity for professional development activities within a workplace causes professional nurses to become routinised, some nurses develop skill atrophy and others become bored. Ni, Hua, Shao *et al.* (2014:596) point out that time constraints and work commitments are also barriers that prohibit professional nurses from participating in continuing professional education activities. On the other hand, Beaudoin *et al.* (2014:183) state that the short time in which nurses could be allowed to study is a barrier which prohibits them from engaging in professional development activities. Furthermore, lack of organisation and family support are also factors mentioned in the literature which prevent professional nurses from participating in continuing education activities (Beaudoin *et al.*, 2014:183).

Additionally, Sheikhi *et al.* (2016:52) explain that lack of nurse role models within an organisation, and the lack of managerial support; prohibit nurses from participating in professional development activities. An increasing workload and nursing shortage are some of the factors which affect the ability of nurses to enrol in programmes which will facilitate their professional growth (Sheikhi *et al.*, 2016:52).

In critical care settings in Australia, nurses could not attend the CPD programmes because of their attitude which was influenced by communication, time constraint, financial implications and CPD (Viljoen, Coetzee & Heyns, 2017:70). The results of Schweitzer and Krassa, (2010:443) are consistent with the above findings. They also found that the inability of nurses to get time off from work because of staff shortage prohibits nurses from participating in professional development activities. It is therefore important that nurse managers understand the motivators and the barriers for nurse participation in order to accommodate them in the planning and to enable them to participate in learning activities (Schweitzer & Krassa, 2010:447).

2.3 Summary

In this chapter, a brief background on the development CPD, in terms of the HPCNA, was discussed. Moreover, the terms comparable to the professional growth concept were defined. The findings of the literature review evidently indicated that professional growth and development is important not only for an individual nurse, but also for healthcare organisations and for society at large. A detailed discussion of the constructs in the conceptual framework

was also presented in this chapter. Literature revealed that some researchers indicated that knowledge of caring for special conditions cannot simply be obtained through experience at the patient bedside or in the nursing unit therefore nurses must demonstrate continuing education. This chapter concluded with the barriers which prohibit nurses from participating in professional growth and development activities. In the next chapter, a detailed methodology that was followed to conduct this study is discussed.

2.4 Conclusion

The nursing profession is constantly evolving. With this constant evolution as well as complex environments, nurses are required to commit to improve their skills through the process of lifelong learning. Even more important, professional nurses need to remain confident and be open for collaboration and evaluation aimed at accomplishing best patient care. Moreover, the empowerment factor, which is a managerial practice, must play a fundamental role in the nurses' professional practice work environment. Professional growth and development for nurses must be a vital component for work environments and must be a collective effort both for professional nurses and nurse managers for the benefit of a successful healthcare system. What is more, ongoing provision of opportunities for professional growth for professional nurses can lead to improved healthcare practices and health outcomes for communities.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

In the preceding chapters, the background and overview of the study were discussed. The rationale of the study was also discussed. Moreover, current literature on the background of the development of CPD, according to the Health Professions Councils of Namibia's (HPCNA) definitions of the terms comparable to the term professional growth, was also discussed. Furthermore, the importance of professional growth and development for professional nurses, and the conceptual framework, were also discussed.

It is important that healthcare administrators and professional nurses are aware of the factors within the healthcare environment which are associated with participation in CPD leading to professional growth and development of professional nurses. In order for the researcher to address the objectives and find answers to the research question of this study, a research methodology had to be employed.

In this chapter, a detailed account of the research methodology that was followed is presented. The research methodology used was to address the aim and objectives of this study. This included sampling and data collection pertaining to the factors associated with participation in CPD activities leading to the professional growth of professional nurses working in a public national referral hospital in Namibia. The findings are discussed in the next chapter.

3.2 Research question

The research question guiding the study was: How do the factors associated with participation in continuous professional development activities lead to professional growth of professional nurses working in a public national referral hospital in Namibia?

3.3 Aim and objectives

The aim of this study was to investigate how the factors associated with participation in CPD activities lead to the professional growth of professional nurses working in a public national referral hospital in Namibia.

The objectives of this study were:

- To describe the effort and reward factors associated with motivating nurses' participation in continuous professional development activities.
- To determine the importance of psychological empowerment in encouraging nurses' participation in continuous professional development activities.

- To describe the structural conditions required for empowering nurses' participation in continuous professional development activities.
- To establish the associated factor relationships between professional growth in nurses and nurses' participation in continuous professional development activities.

3.4 Study setting

The study was conducted in a public national referral hospital in Namibia. The hospital is a teaching public hospital. For the purpose of this study and to protect the identity of the hospital, it was pseudo named Hospital A. It has a bed capacity of 855 beds and a staff establishment of 1350 employees. Nurses make up the largest group of employees with a total of 650 nurses: n=292 are professional nurses, n=38 are senior professional nurses, n=11 are professional nurses/clinical instructors, n=1 nurse manager and n=308 enrolled nurses. The researcher is an employee and a senior professional nurse in this hospital which was the study site.

Hospital A is the only public national referral hospital which provides specialised healthcare services in the whole country. Specialised healthcare services that are offered include intensive care unit services (ICU), renal dialysis unit, oncology centre, cardiac healthcare services, mental healthcare services, maternal and neonatal healthcare services, general nursing services, surgical nursing services, paediatric services, operating theatre, emergency and outpatient services in addition to nursing education and administration. The professional nurses' qualifications ranged from a diploma in general nursing and midwifery science to a Master's degree in nursing. Additionally, the hospital has been accredited by the HPCNA to provide clinical teaching and training for students in the various medical fields.

3.5 Research design

A research design is the rationality that links the data to be collected and the conclusions to be drawn to the initial questions of a study (Creswell, 2014:41). Grove *et al.* (2015:211) define research design as a blueprint for conducting a study. There are four main types of quantitative study designs for conducting nursing research: descriptive, correlational, quasi-experimental, and experimental designs (Grove *et al.*, 2015:211).

In this study, a quantitative descriptive correlational case study design was used to examine the relationships between or among two or more variables in a single group in a study (Grove *et al.*, 2015:217). According to Polit and Beck (2012:224) one criterion for causality is that an observed correlation between variables must be established. Therefore, this study used the descriptive correlational research design to describe relationships rather than to comprehend causal pathways. Furthermore, unlike other types of correlational research such as model testing or path analytic designs, the aim of descriptive correlational research is to describe

relationships among variables rather than to support inferences of causality (Grove *et al.*, 2015:342; Polit & Beck, 2012:503).

In addition, this study used an instrumental case study. This was a case study of nurses working in Hospital A. It began with a research question and a problem, and pursued cases which offered illumination as indicated in the study inclusion criteria (Polit & Beck, 2012:503). An instrumental case study is a type of study in which a group in a form of a single entity is used because it can maximise what could be learnt about the phenomena of interest (Polit & Beck, 2012:503). The aim of the case study was to use the cases (professional nurses in Hospital A) to understand the phenomenon of interest (professional growth). In this study, the case of a public national referral hospital in Namibia was selected which maximised what could be learned about the factors associated with participation in CPD activities leading to professional growth of professional nurses. The descriptive correlation design also determined the frequency with which one factor was associated with another. Therefore the use of questionnaires assisted the researcher to collect data from the respondents whilst they were in their natural setting.

3.5.1 Positivist paradigm

The researcher conducted this study using a quantitative method with a positivist philosophical underpinning. The researcher made an assumption that the Q-PDN instrument was reliable and would measure the factors associated with participation in CPD activities leading to professional growth. In addition, the researcher also assumed that all respondents would answer all the questions objectively and with honesty. Moreover, the researcher made an assumption that all professional nurses employed in Hospital A were aware of the factors influencing their professional growth and thus had assumed new knowledge and skills after their basic qualification. In the positivism principle, researchers who observe the same factual problems are believed to generate similar results if they use statistical tests and apply a similar process during the investigation of a large sample (Wahyuni, 2012:71).

Besides, because positivist researchers can make predictions on the basis of previously observed and explained relationships, this study had a conceptual framework as illustrated in Figure 1.3 in chapter 1. In the study's conceptual framework, the researcher predicted that the constructs within the framework were related and the outcome of the relationship was presumed to be professional growth. Positivist researchers believe in the power of replication research. In addition, the study was conducted in an objective way because the researcher had no influence on the study findings. The researcher used a trained field worker to distribute the questionnaires to participants and also collected the completed questionnaires from them. The positivists focus on causality and law-like generalizations, reducing phenomena to their

simplest elements. A goodness or quality criterion in positivism is a conventional benchmark of rigor; internal validity and external validity, reliability and objectivity (Aliyu, Muhammad, Rozilah & David, 2014:82).

3.6 Population and sampling

According to Grove *et al.* (2015:46) the population are all individuals or elements that meet certain inclusion criteria and are considered to be suitable for a research study. Therefore, in this study, 342 nurses constituted the population as the total number of professional nurses working in Hospital A and who were eligible to participate in the study. Grove *et al.* (2015:37) define sampling as a process during which participants are selected to represent the population of a study. Sampling is done for the purpose of selecting elements which accurately represent the features of the total population from which study participants were chosen. The population data was submitted to a statistician at the biostatistics unit of Stellenbosch University to assist the researcher with calculating and determining the study sample size that would ensure a representative sample. Based on the statistician's feedback, the researcher targeted the entire N=342 professional nurses to ensure that potential participants who would agree to participate in the study would be a representative of the population. Therefore in this study, the researcher did not use a sample, but targeted the total population (N=342).

Table 3.1 on the next page indicates the total number of professional nurses working in Hospital A (N=342), which reflects all the categories of professional nurses who were targeted in the study for both the pilot and main study. It should be noted that 10% of N=342 (n=34) participants were used for the pilot study and excluded from the main study; this means the remaining n=308 participants were targeted to participate in the main study. The actual sample size of the participants who participated in the main study is discussed in section 3.12 under questionnaire and response rate.

Table 3.1: Number of professional nurses working in Hospital A in Namibia

Professional nurse categories	Female (n)	Male (n)	Total population (n)
Registered/professional	272	20	292
Registered/professional nurse/clinical instructor	11	0	11
Senior registered/professional nurse	33	5	38
Nurse manager	1	0	1
Total population (N)	N=317	N=24	N= 342

3.6.1 Inclusion criteria

The study population included all the categories of professional nurses working in the national referral (Hospital A) in Namibia.

3.6.2 Exclusion criteria

All the professional nurses who were found to be on any type of leave (study, vacation, sick, maternity and compassionate leave) during the data collection period were excluded from participating in the study. In addition, professional nurses who participated in the pilot study were also excluded from participating in the main study.

3.7 Data collection tool

In order to fulfil the aim of this study, data were collected using an already validated structured questionnaire professional development nurses' instrument (Q-PDN). The Q-PDN was a validated instrument and was developed by Brekelmans, Maassen, Poell and van Wijk (2015: 232-238) (Appendix 8). This questionnaire was developed to measure several aspects of CPD among nurses in the Netherlands. The questionnaire measured four constructs: CPD motives, importance attached to CPD, conditions deemed needed for CPD and actual CPD activities undertaken. The instrument had 54 items which were rated on a five point Likert scale. Reliability analysis showed a Cronbach alpha score of 0.70-0.89 which means that the instrument was reliable to use.

Table 3.2 illustrates the Cronbach alpha of the four constructs included in the instrument.

Table 3.2: Cronbach alpha values for the four constructs included in the original data collection tool (Brekelmans *et al.*, 2016:16)

Construct name	Cronbach's alpha value
CPD motives	0.874
CPD conditions	0.879
CPD importance	0.811
CPD activities	0.723

Brekelmans *et al.* (2016:16) further used the validated Q-PDN instrument in their study. They recommended that managers can use the Q-PDN instrument to improve the current CPD situations in their workplace (Brekelmans *et al.*, 2016:238). The Q-PDN instrument used in this study was the modified version (see Appendix 7) of the original instrument to fit the Namibian context. Changes made to the questionnaire are discussed in section 3.8. The items were rated on a Likert scale of responses which ranged from 1 to 4.

The instrument consisted of 10 back-to-back pages. It was subdivided into five parts: part 1 demographics, part 2 effort reward motivation factors, part 3 psychological empowerment importance factors, part 4 structural empowerment condition factors, and part 5 participation factors.

PART 1: DEMOGRAPHIC DATA: Consisted of questions that related to the participants demographics, work experience and qualifications.

PART 2A: EFFORT REWARD MOTIVATIONS: Consisted of 16 questions regarding the reasons and motivations for why nurses participated in the professional development activities. The participants were required to score the activities in terms of *mainly disagree*, *partly disagree*, *partly agree* and *mainly agree*.

PART 3B: PSYCHOLOGICAL EMPOWERMENT (IMPORTANCE): Consisted of 23 questions regarding the issues which are important to the professional development of nurses. The participants were required to score the issues important to professional development in terms of: *not important at all*, *not important*, *important*, and *very important*.

PART 4C: STRUCTURAL EMPOWERMENT FACTORS (CONDITIONS): Consisted of 21 questions about the nurses limiting conditions of realising their professional development. The participants were required to score the activities in terms of: *mainly agree*, *partly agree*, *partly disagree*, and *mainly disagree*.

PART 5D: PARTICIPATION FACTORS: Consisted of 23 questions about how nurses actively perform continuing professional development activities. The participants were required to score the activities in terms of: *never*, *occasionally*, *quite often*, and *very often*.

The study participants took 15-25 minutes to complete the questionnaires. For the purpose of this study, the instrument was pre-tested to determine if it suited the specified professional nurses working in the selected study site (Hospital A). The findings from the pilot study are discussed in section 3.8.

3.8 Pilot study

Before any attempt to conduct a pilot study, the researcher obtained ethics approval (reference number S16/10/223) from the Health Research Ethics Committee 1 of Stellenbosch University. Thus before the researcher attempted to collect data for the main study, it was required that a pilot study be conducted (Grove *et al.*, 2015:45). The pilot study was conducted in order to determine the validity and reliability of the research instrument. Bell (2005:147) states there are three reasons to conduct a pilot study: to confirm the clarity of the questions, to check clarity of the related instructions, and to determine the time needed for respondents to complete a questionnaire. In other words, to obtain feedback from respondents on the content clarity and content relevance, a pilot study must be conducted (Bell, 2005:147).

The pilot study was conducted using the previously validated Q-PDN questionnaire with 10% (n=34) from the study sample to test for the validity and reliability. The researcher conducted the pilot study on 22-23 April 2017 to determine the length of time it would take respondents to complete answering the questionnaire; time needed to complete the questionnaire took between 15-25 minutes. During the pilot study, the information and consent forms were explained in English to all the participants. After completion and signing of the informed consent form, the questionnaires together with self-sealing envelopes were handed to those who agreed to participate in the pilot study.

The researcher observed that it might not be possible to get all the respondents' comments after completing the questionnaire during the period of collecting back because most were working different shifts. They were thus requested to add their additional comments on any empty space in the questionnaire in terms of questions that were not clear to them and any additional information that could have been omitted by the researcher in the questionnaire. Those who were present during the collection of completed questionnaires were asked to provide their comments and indicate whether they had any difficulties in completing the questionnaire.

The feedback and findings received from the pilot study respondents were incorporated into the adjustments made to the study instrument. With permission from the primary author as

indicated on Appendix 4, the researcher deleted items which did not yield any useable data and content which were not applicable in the Namibian context. Changes were made to part 1 of the demographic data.

- **Part 1:1.3:** Employment status was removed because all nurses who work in the public health facilities in Namibia are employed on a permanent basis and only work full time.

The following items were added in the questionnaire for the main study because they were applicable within the Namibian context.

- **Part 1:1.4:** In the health facility where the study was conducted, there were various units which did not appear in the original instrument during the pilot study. The omitted units were added to the questionnaire (See section 1.5 in questionnaire - Appendix 7).
- **Part 1:1.5:** Level of education: most of the professional nurses working in the health facility in which the study was conducted had a diploma in nursing; this qualification was not indicated in the pilot study instrument.
- **Part 1:1.6:** List your certification: various certifications which meant post-graduate studies taken after the initial general nurse training were also added to the main study instrument (Appendix 7).
- **Part 1:1.7:** In terms of position within the hospital, positions such as staff nurse, nurse leader, clinical nurse specialist, nurse practitioner and educator were not applicable in the Namibian context. Therefore, the following positions were added on the instrument used for the main study: registered/professional nurse, registered/professional nurse/clinical instructor, senior registered nurse, nurse manager.

The pilot study respondents' feedback was positive and comments were integrated in the questionnaire. Some stated that this was an interesting study and were looking forward to the findings and the implementation of the study recommendations because they felt there was a need to strengthen the concept and culture of professional growth within the workplace. Two older nurses above the age of 50 reported that they did not know what a journal was, but they had to answer the questions because it was explained on the study instructions that respondents must not leave any unanswered questions. Seven complained that the study would not be anonymous if they were required to enter their names on the informed consent form. Therefore, the space in the informed consent on the paragraph under declaration by participant starting with the sentence: "By signing below I (space provided for name) agree to take part" was deleted from the informed consent form. The participants were only required to sign without indicating their names.

It was evident from the findings of the pilot study that the instrument could be reproduced

because it yielded consistent Cronbach's alpha results (α .848) when it was tested on the Namibian nurses; this result was similar to that reported by Brekelmans *et al.* (2015:235) (α 0.70-0.89).

3.9 Validity and reliability

3.9.1 Validity

Validity means the degree to which a research instrument measures what it is supposed to measure (Polit & Beck, 2010:377). When testing for validity, it is necessary that the following aspects of validity be taken into consideration: face, content and construct validity.

3.9.1.1 Face validity

Face validity means the extent to which a research instrument is measuring the phenomenon that is being explored (Polit & Beck, 2010:377). In this study, face validity was ensured through the pilot study as the respondents expressed that the questions in the research instrument were clear and easy to understand.

3.9.1.2 Content validity

Content validity refers to the extent to which items of a research instrument would adequately cover the range of significant aspects of the areas being investigated (Polit & Beck, 2010:378). Content validity of this study was established through extensive literature review, the research supervisor and the statistician.

3.9.1.3 Construct validity

Construct validity means the extent to which a research instrument measures what it was designed to measure by accurately performing the functions it was intended to perform (Polit & Beck, 2010:379). In this study, construct validity was established through exploratory and confirmatory factor analysis statistical procedures by which the large sets of variables in the research instrument were grouped and reduced to represent a smaller number of related constructs. A statistician from Namibia with experience in factor analysis was consulted to assist with the data analysis.

3.9.2 Reliability

Reliability refers to the extent to which variables are consistent in what they were intended to measure. Reliability is about the ability of how an instrument can produce consistent study findings conducted under different conditions, different settings and during different times (Polit & Beck, 2010:566). This means the reproduction of the study in other research settings and the ability to obtain consistent results when measured statistically with Cronbach alphas;

also denoted to as coefficient of reliability greater than 0.60 (Polit & Beck, 2010:375). The Cronbach alpha ranges from 0-1. Alpha scores less than 0.60 are inadequate and those 0.70 - 0.90 are acceptable: 0.90 represents a high coefficient of reliability of a research instrument. The coefficient of reliability >0.60 represents the extent of the internal consistency for a set of constructs in a research instrument (Polit & Beck, 2010:374-376). The result from the pilot study indicated that the instrument used in this study was reliable. The Cronbach alpha was $\alpha .848$ for the pilot study data results.

3.10 Main study

The data collection for the main study commenced on the 30 April 2017 after the pilot study was completed and adjustments made to the instrument. The names of those who took part in the pilot study were highlighted in the nurses' change list to ensure that they were excluded from participating in the main study.

3.11 Data collection of the main study

For the purpose of data collection for the main study, the researcher obtained the nurses' change list for the period 30 April 2017- 03 June 2017 from the nurse administrator of the hospital. The change list was used by the field worker to ensure that all the professional nurses who were eligible to participate in the main study were located and reached. The professional nurses who agreed to take part in the main study were asked for their names which were then ticked off in the change list. The names of those who refused to participate were not ticked off the list. The change list also provided the names of professional nurses who were on study leave, maternity leave, and vacation leave. This made it easy for the researcher to count the total number of professional nurses who were on different types of leave at the time of data collection (see 3.6.2 – exclusion criteria).

Data collection for this study was conducted by a trained field worker during the period 30 April 2017- 31 May 2017. As the researcher was an employee at the study site, a field worker, who is a lecturer at an institution of higher learning with a Master's degree and experienced in quantitative research, was used for data collection. The field worker was employed to ensure that potential participants would not feel pressured to participate in the study by the researcher who was employed at the study site. The researcher did not want to possibly influence responses which could have been seen then as having induced a response bias.

In view of shift work the initial data collection schedule listed in Table 1.2 (see chapter 1) was revised as shown in Table 3.3. The data collection schedule was adjusted to meet the work demands of nurses and to allow them enough time to complete the questionnaire. Prior to handing the questionnaire to those who had agreed to participate in the study, the field worker first discussed the purpose of the study, informed them that participation was entirely voluntary

and that the data to be gathered would be anonymous. They were required to sign an informed consent form.

Table 3.3: Revised data collection schedule

Activity	Day shift	Night shift
<p>Week 1:</p> <p>Monday-Friday</p> <p>Saturday and Sunday</p>	<p>Questionnaires were handed out between 12h00 and 14h00 and collected the following day between 12h00 and 13h00.</p> <p>Questionnaires were handed out between 08h00 and 10h00 and again between 15h00 and 16h00 and then collected the next day between 12h00 and 14h00.</p>	<p>Questionnaires were handed out between 19h30 and 21h30 and collected in the morning between 06h00 and 07h00.</p> <p>Questionnaires were handed out between 19h30 and 21h30 and collected in the morning between 06h00 and 07h00.</p>
<p>Week 2:</p> <p>Monday-Friday</p> <p>Saturday and Sunday</p>	<p>Questionnaires were handed out between 12h00 and 14h00 and collected the following day between 12h00 and 13h00.</p> <p>Questionnaires were handed out between 08h00 and 10h00 and again between 15h00 and 16h00 and then collected the following day between 12h00 and 14h00.</p>	<p>Questionnaires were handed out between 19h30 and 21h30 and collected in the morning between 06h00 and 07h00.</p> <p>Questionnaires were handed out between 19h30 and 21h30 and collected in the morning between 06h00 and 07h00.</p>
<p>Week 3:</p> <p>Monday-Friday</p> <p>Saturday and Sunday</p>	<p>Questionnaires were handed out between 12h00 and 14h00 and collected the following day between 12h00 and 13h00.</p> <p>Questionnaires were handed</p>	<p>Questionnaires were handed out between 19h30 and 21h30 and collected in the morning between 06h00 and 07h00.</p> <p>Questionnaires were handed</p>

	out between 08h00 and 10h00 and again between 15h00 and 16h00 and then collected the following day between 12h00 and 14h00.	out between 19h30 and 21h30 and collected in the morning between 06h00 and 07h00.
Week 4:		
Monday-Friday	Questionnaires were handed out between 12h00 and 14h00 and collected the following day between 12h00 and 13h00.	Questionnaires were handed out between 19h30 and 21h30 and collected in the morning between 06h00 and 07h00.
Saturday and Sunday	Questionnaires were handed out between 08h00 and 10h00 and again between 15h00 and 16h00 and then collected the following day between 12h00 and 14h00.	Questionnaires were handed out between 19h30 and 21h30 and in the morning between 06h00 and 07h00.

During data collection, a few professional nurses refused to participate in the study. Therefore to respect the ethical principles of self-determination and informed consent, they were not requested to explain their reasons of refusal. In some departments, the field worker was requested to present proof of ethics approval as well as permission from the medical superintendent to conduct the study. These requested documents were presented to the nurse managers.

The field worker informed the participants that they were free to withdraw from participating in the study by deciding not to continue completing the questionnaire. In addition, the field worker also emphasised that all questions had to be answered. The field worker further pointed out that questionnaires that had omitted answers would be discarded. No questions were not answered hence there was 100% completed questionnaires.

3.12 Questionnaire and response rate

The data for the main study were collected at the selected study site (Hospital A). According to the study inclusion and exclusion criteria, all the professional nurses were eligible to participate in the study. Out of N=342 participants, 10% (n=34) participated in the pilot study which resulted in n=308 remaining to be targeted for the main study. A total of 270 informed

consent forms were signed and 270 questionnaires were distributed and 241 were completed and returned. The response rate 89% (241/270). The researcher targeted n=308 participants but some could be reached as per the exclusion criteria in section 3.6.2.

3.13 Data screening: missing data

The data were examined and screened in accordance with the Gaskin (2017) data preparation and screening procedure. The dataset was searched for missing values; the questionnaires with substantive missing data or poor quality responses were removed prior to analysis (Hair, Black, Babin & Anderson, 2013:44). Missing data affects data analysis from practical and substantive perspectives. Multivariate analysis cannot be performed efficiently because missing data effectively reduces a sample size. Moreover, missing data can introduce biases in the statistical results. After data screening, the study applied the SPSS version 24 missing value analysis (MVA), and found the missing data for all the variables within this study were all 0.0%.

3.13.1 Normality

Normality is a fundamental assumption in multivariate analysis and it is critical that the data be distributed normally and related to each other (Tabachnick & Fidell, 2007:56). If the variation from the normal distribution is sufficiently large, statistical tests resulting from such are deemed invalid (Hair *et al.*, 2013:39). In order to test whether or not the data were distributed normally, tests were performed relating to the measures of kurtosis and skewness (Hair *et al.*, 2013:42). Kurtosis looks at the distribution's peak or flatness relative to normal distribution; skewness describes distributions that are unbalanced and shifted to one side, i.e. right-negative skewness or left-positive skewness, and 0 in the case of balanced normal distribution.

For both skewness and kurtosis, the critical values should be within the range of ± 2.58 in order to accept that data distribution is not far from normal (Hair *et al.*, 2013:73). The variables in this study were based on Likert-type scales thus there was no valid reason to exclude variables based on skewness, unless they exhibited no variance. Instead of testing skewness, this study focused on kurtosis. Kurtosis greater than or less than ± 2.58 indicates a potentially problematic kurtosis and therefore lack of sufficient variance. Only seven items had kurtosis issues (above the 2.58) and these were:

- gender, and position;
- Part 2A 14: I take part in CPD activities in order to make a positive contribution to nursing practice (skewness=-1.82, kurtosis =3.72);
- Part 2A 10: I take part in CPD activities in order to increase the quality of healthcare

(skewness=-1.79, kurtosis =3.77);

- Part 5D 11= I write articles for professional journals (skewness=2.18, kurtosis =4.29);
- Part 5D 13= I participate in recruitment and selection interviews with new members of staff (skewness=2.28, kurtosis =4.56);
- Part 5D 20= I participate in the editing process of a professional journal (skewness=2.12, kurtosis =3.71).

3.13.2 Common method bias

According to Hair *et al.* (2013:546) the common method bias implies that, the covariance among measured items is driven by the fact that some or all of the responses are collected with the same type of scale. Therefore in this study, there was an attempt to determine the presence of common method variance bias amongst the study variables. Most researchers apply this technique by loading all the variables in their study into an exploratory factor analysis; the unrotated factor solution is then examined to determine the number of factors necessary to account for the variance in the variables. The basic assumption of this technique is that if a substantial amount of common method variance is present, either a single factor will emerge from the factor analysis, or one general factor will account for the majority of the covariance amongst the measure (Pallant, 2013:184).

The single factor extraction procedure used was the principal axis factoring, with varimax rotation. Pallant's (2013:184) method was followed. It entails extracting a single factor that emerges through EFA, where only items that contained factor loadings greater than 0.30 are retained. The EFA results showed the presence of common method bias in this study. Consequently, the EFA procedure chosen simplified the interpretation of the factors by focusing on the shared variance between items, by placing limitations on the location of the factors within the factor space. A minimum number of variables loaded highly on a factor.

3.14 Data analysis

Data analysis was performed to organise data, reduce data and give meaning to the phenomena which were being explored during the research study (Grove *et al.*, 2015:502). Researchers choose their choice of data analysis techniques based on the level of measurement methods in order to answer research questions and address research objectives (Grove *et al.*, 2015:47). Data analysis was conducted immediately after data entry and checking of missing data. The data were prepared, summarised and analysed by the researcher with the assistance of a statistician from Namibia by using SPSS version 24.

Pallant's (2013:188-192) method of exploratory factor analysis (EFA) method was used to check the scale validity for the research instrument. Statisticians use exploratory factor

analysis to reduce and group variables into smaller and manageable factors. EFA was conducted in order to examine the factorial structure of scales, and was initiated by clarifying the general properties of data. EFA defines the underlying structure amongst the variables, by taking what the data gives, and subsequently involves grouping variables together on a number of factors (Hair *et al.*, 2013:17). EFA is used to identify latent factors and to summarise and reduce a large set of observed variables to a smaller number of factors that account for co-variation (Tabachnick & Fidell, 2007:44).

3.14.1 Exploratory factor analysis (EFA)

There are three basic assumptions underlying EFA. These include the absolute sample size, the coefficients in the correlation matrix, and the sampling adequacy. As such, it is important to compute the variability in scores (variance) for any given measures (or variables). Notably, a variable which “has no variance would have a communality of one, whilst a variable that shares nothing with other variables would have a communality of 0” (Hair *et al.*, 2013:115). Thus, the variables with communalities of less than 0.2 are problematic and need to be removed (Gaskin, 2017). The study used communality, which is an output from the SPSS EFA analysis and is calculated from factor loading in a model containing multiple constructs. Communality was used to assess the adequacy of extraction, together with Eigen-values greater than (>) 1 and the scree plot.

In order to reduce the number of items and extract factors; the principal axis factor (PAF) analysis technique was performed in this study. This factor extraction method is available in SPSS and was used to extract the minimum set of variables accounting for the maximum variance in the data, as recommended in Pallant (2013:185). Moreover, rotation of the factor axes (dimensions) in the principal axis factor analysis obtains simple and interpretable factors. In order to achieve the best possible interpretation of the factors within this study, the varimax rotation method was utilised (Pallant, 2013:183). This study applied a varimax of orthogonal techniques as “its criterion centres on simplifying the columns of factor matrix” (Hair *et al.*, 2013:115).

The factor loadings equal or above 0.30 are considered practically significant (Hair *et al.*, 2013:117). In an attempt to assess the factorability of items, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) was examined. The Bartlett’s test of sphericity was also examined. The MSA measures whether or not the distribution of values is adequate for conducting factor analysis. For the early stage of data exploration, items with KMO measures of sampling adequacy greater than (>) 0.60 suggest satisfactory factorability (Tabachnick & Fidell, 2007:74). Bartlett’s test of sphericity (p-values) examines whether the variables in the

population are uncorrelated. Therefore, a Bartlett's test of less than ($<$) 0.05 suggests satisfactory factorability for all items (Hair *et al.*, 2013:117).

3.14.2 Confirmatory factor analysis (CFA)

Confirmatory factor analysis is similar to exploratory factor analysis in some respects, but philosophically they are quite different. With CFA, a researcher specifies both the number of factors that exist within a set of variables and which factor each variable will load highly on before results can be computed. Therefore, the technique does not assign variables to factors; instead, a researcher must be able to make this assignment before any results can be obtained. SPSS AMOS version 23 software was used to carry out a confirmatory factor analysis (CFA). This was done to determine the construct validity of the four research measures. The analysis also involved determination of the model fit for the structural model. The iteration method suggested by Gaskin (2017), and model fit measure cut off criterion from Hu and Bentler (1999:45), were used. The model fit iterations were carried out using the Gaskin and Lim (2016) AMOS model fit measures plugins.

The procedure was based on the researcher's a-priori pattern of factor loadings guided by the literature review and the conceptual framework. The study follows Gaskin's CFA/SEM procedure that involves using SPSS AMOS plugins (Gaskin & Lim, 2016). The plugins include the pattern matrix model builder (PMMB), master validity (MV), and model fit measures (MFM).

While using the PMMB plugin, the researcher, with the help of a statistician, copied the SPSS dimension reduction output of the EFA varimax rotated matrix and pasted it in into PMMB in SPSS AMOS and then ran it. This resulted in a structural model whose validity and model fit measures were tested using the MV and MFM plugins (Gaskin & Lim, 2016). If the model fit measures are not acceptable, a researcher has to use the recommendations from the output to improve the model fit. One way to improve the fit is to use the modification indices estimations. Each parameter that has a modification index greater than a specified threshold of 10 appears in the output. The modification index allowed the researcher to modify the model by linking variables with high covariance together. When linked, the discrepancy caused by the covariation will fall to a value less than 10. This resulted in an improved model fit. The process was repeated until the framework fit measures were within the cut off threshold as recommended by Hu and Bentler (1999:56). The final fitting frameworks are presented in chapter 4 together with their framework fit measures.

3.14.3 Structural equation modelling (SEM)

Structural equation modelling (SEM) is a model testing design which requires that all concepts relevant to the model be measured, and the relationships among these concepts examined.

A large heterogeneous sample is required (Grove *et al.*, 2015:221). According to Polit and Beck (2010:453), SEM proceeds in two phases. The first phase corresponds to a CFA to test the measurement model. Gaskin and Lim's (2016) procedure for CFA also includes SEM. The only difference for SEM is the modification index which focuses on regression weights and not covariance. This study used the CFA/SEM procedure because it provided a more comprehensive multivariate analysis by combining multiple regression, path analysis, factor analysis, time series analysis, and analysis of covariance in one procedure (Hair *et al.*, 2013:546). Iterations for CFA are more focused on the covariant relationships and modification indices used to improve the model, whereas the SEM yields information about the hypothesised causal parameters, which are path coefficients that are presented as beta weights (Polit & Beck, 2010:453). These coefficients indicate the expected amount of change in the latent endogenous variable that is caused by a change in the latent causal variable.

When there is evidence of an adequate fit of the data to the hypothesised measurement model, the theoretical causal model is tested by SEM (Polit & Beck, 2010:453). SEM programmes yield information on the significance of individual paths. The overall fit of the causal model to the research data can be tested by means of several statistics, such as the goodness of-fit index (GFI), and the adjusted goodness-of-fit index (AGFI). SEM thus takes into account the modelling of interactions, nonlinearities, correlated independents and measurement error.

3.15 Reliability and validation

Data screening was done to ensure that items with a low variance and a normal distribution were used for the multivariate analysis. Pallant (2013:184) states that the data set should contain at least five respondents for each item in the scale under evaluation. As a result, the research sample size of 241 only had a sampling adequacy of up to 48 items; the final flow diagram (Flow diagram 4.5) used 83 observed variables from the questionnaire. Therefore, the study followed Pallant (2013:180) and Gaskin's (2017) CFA/SEM procedure that entailed EFA, CFA and model fitting in four stages. Finally, the four fitted flow diagrams were combined to provide the final research framework model.

3.15.1 Exploratory factor analysis (EFA)

The study tested for reliability of the constructs using Cronbach's alpha, and exploratory factor analysis (EFA). The main survey data were assessed using Pallant's (2013:181) method for EFA analysis. Gaskin's (2017) method was used for the CFA/SEM analysis. The properties of the questionnaire items were assessed by exploring the dimensionality of the relevant variables and internal consistency of the scales.

The study used a validated structured instrument (Q-PDN). Brekelmans *et al.* (2015:235) developed the Q-PDN instrument for a different setting and they measured a different dependent variable. CFA was used to validate the instrument's use in this study. The analysis focused on two main issues in determining whether a particular data set was suitable for factor analysis; these were the sample size and the strength of the relationship among the variables (or items) (Pallant, 2013:182). Generally, there is need for a large enough sample for the estimates obtained in the sample survey to be reliable enough to meet the objectives of a study. Estimators with low variance tend to be more precise, by producing values that centre increasingly on the expected value. This usually occurs as the sample size (n) increases (Pallant, 2013:183).

The strength of the relationship among the variables (or items) was tested using the KMO test which must produce a value larger than 0.5. Pallant (2013:183) notes that the items within the scales should adequately correlate and should have a significant ($p < .05$) Bartlett's test of sphericity. The study results showed that all the necessary conditions were met and that it was appropriate to conduct an EFA. The study used the principal axis factoring, with varimax rotation. These methods simplify the interpretation of the factors by focusing on their shared variance, as well as limit their location within the factor space. This results in the smallest number of variables that can possibly load on a factor, with high loadings (Kline, 1994:34). Pallant's (2013:181) method also entails suppressing small coefficients of factors with loadings less than 0.30.

3.15.2 Confirmatory factor analysis (CFA)

Confirmatory factor analysis (CFA), as the name suggests, is used for validation purposes. The study adopted Gaskin and Lim's (2016) method because of the associated plugins, which make it easier to run iterations of possible models quicker. Gaskin's (2017) procedure involves using SPSS AMOS 23 and the associated Gaskin and Lim (2016) plugin. The plugin includes automated processes for building a model using SPSS EFA structural matrix, checking the validity of the model and model fit measures that allow for continuous iterative process. The plugin used in this analysis was:

- Pattern matrix model builder(PMMB)
- Master validity(MV)
- Model fit measures (MFM) (Gaskin & Lim, 2016).

3.16 Ethical consideration

The data collection process and the management of data were done according to the ethical principles as discussed in chapter 1, section 1.10. To ensure that ethical principles were adhered to and applied in this study, all professional nurses who participated in this study were

afforded a free and voluntary opportunity to participate. In addition the field worker explained the study purpose to each participant, and obtained informed consent from all before handed them the questionnaire. Some participants requested to read through the participant information leaflet, and they were accorded that opportunity. Those who refused to participate were thanked by the field worker for sharing their time, and for showing interest by listening to the study purpose and information.

The field worker made use of the nurses' change list for the period between May-June 2017. Copies of the questionnaire were handed to participants as indicated in the revised data collection schedule. This was done to ensure that participants had enough time to complete the questionnaire and that they were not pressured. To protect their identity and privacy, the completed questionnaires were returned in sealed envelopes, and were coded in numbers from 1-241.

3.17 Summary

This chapter explained the methodology that was utilised to conduct the study. The different steps in the research methodology were described. In addition, the criteria followed to test for validity and reliability for the research instrument were described. Results obtained from the pilot study and the changes made to the questionnaire were clearly outlined. The chapter concluded with a detailed discussion of the data analysis procedures and the ethical considerations, how the researcher ensured compliance and how the considerations were applied in this study. The next chapter covers data presentation and interpretation of results for the main study.

3.18 Conclusion

Polit and Beck (2010:74) indicate that quantitative research questions identify concepts under investigation by asking how the concepts may be related. The research methodology and processes followed in this study to describe the factors associated with participation in CPD activities leading to the professional growth of professional nurses in Namibia contributed to the body of evidence based knowledge.

CHAPTER 4

RESULTS

4.1 Introduction

In the previous chapter, the research methodology that was followed to obtain the data was described. This chapter provides data analysis and presentation of the study results. The chapter commences with data screening in preparation for subsequent quantitative analyses. Descriptive statistics and exploratory factor analysis (EFA) are presented together with reliability tests performed in relation to the overall measurement scales. The chapter underscores that the underlying dimensions of the measurement scales achieved an acceptable level of reliability for further analysis. The resulting solutions are then re-assessed with the use of confirmatory factor analysis (CFA) in SPSS AMOS version 23. Consequently, structural equation modelling (SEM) was used to test the measurement frameworks of the relationships between the constructs in the conceptual model and to further assess how the proposed study conceptual framework measurement model aligns with the conceptual framework developed from literature (Figure 1.3). Finally, the chapter summary links the findings to the research objectives and conclusions are drawn in the last section.

4.2 Presentation of results

In the following sections and subsections data are presented according to the questionnaire sections using tables, figures and flow diagrams. Thus, each individual section or part in the research questionnaire is presented and described. To further enhance the understanding of the research findings, each section is supported with explanations that contain the key finding.

4.2.1 Part 1: Demographic data

This section presents the demographic information which describes the study sample and includes questions related to the respondents' gender, age, work experience, unit currently working in, level of education, category of certification and position within the hospital.

4.2.1.1 Gender

The study consisted of n=23 males (9.5%), and n=218 females (90.5%). Table 4.1 shows the frequency of gender distribution.

Table 4.1: Frequency table reflecting gender distribution

Gender	Frequency	Percentage
Male	n=23	9.5%
Female	n=218	90.5%
Total=n	n=241	100%

4.2.1.2 Age in years

Table 4.2 presents the descriptive statistics of the respondents' age categories. The category represents the recoded age continuous variable. The respondents' ages ranged from 22-63 years: mean age was 40.92 years. The age categories were created in order to deal with any age outliers.

Table 4.2: Descriptive statistics of respondents' age

Age category	Frequency	Percentage
20-29 years	37	15.4%
30-39 years	70	29.0%
40-49 years	86	35.7%
50-59 years	43	17.8%
+60 years	5	2.1%
Total=n	n=241	100%

4.2.1.3 Work experience

The work experience categories are consistent with the respondents' age categories presented in Table 4.2 above. The range of years the respondents worked as professional nurses was between one and 40+ years: mean was 15.47 years of work experience.

Table 4.3 presents the frequency distribution of the work experience categories.

Table 4.3: Descriptive statistics of respondents' work experience

Years of experience	Frequency (n)	Percentage
1 - 5 years	40	16.6%
6-9 years	22	9.1%
10-19 years	100	41.5%
20-29 years	61	25.3%

30-39 years	17	7.1%
+40 years	1	.4%
Total= n	n=241	100%

Table 4.3 shows that 41.5% of the respondents' work experience ranged from 10 – 19 years, followed by 25.3% with 20-29 years' experience. The 1-9 years category (25.7%) was split into two (1-5 years and 6-9 years) in order to separate those who were still new to the profession. For the purpose of this study, those with 1-5 years' experience (16.6%) were considered new to the profession, followed by those with 6-9 years (9.1%). The assumption was that those still new, would not have grown in the profession compared to those with 30-39 years (7.1%) or those with more than 40 years' work experience. As such, the results show that approximately three quarters (74.3%) of the respondents had more than 10 years' experience. This implies that the respondents from Hospital A had enough experience to show that they have professionally grown in the nursing field.

4.2.1.4 On which unit do you currently work

Table 4.4 reflects an overview of the distribution of professional nurses who participated in the present study and the disciplines in which they work. To ensure that the ethical principles of confidentiality and anonymity were adhered to, no comparisons were made with professional nurses working in the various nursing disciplines.

Table 4.4: Descriptive statistics of hospital units in which respondents work

Unit currently working	Respondents (n)	Percentage
Surgery	23	9.5%
Medicine	14	5.8%
Intensive care	11	4.6%
Pediatrics	13	5.4%
Oncology	11	4.6%
Emergency	8	3.3%
Obstetric/gynecological	58	24.1%
Palliative care	6	2.5%
Psychiatric	43	17.8%

Out patient	10	4.1%
Ophthalmology	6	2.5%
Theatre	23	9.5%
CSSD	0	0.0%
Administration/management	15	6.2%
Total=N	N=241	100%

As evident in Table 4.4 the majority of respondents (24.1%) were from the obstetric/gynecological unit. This result was expected as this is a specialised section. It is the biggest section in Hospital A with four subsections (antenatal ward, labour ward, post-natal ward, and neonatal unit). The second highest number of respondents (17.8%) was from the psychiatric unit, which is also one of the biggest sections in Hospital A.

4.2.1.5 Level of education as a registered nurse

As evident in Table 4.5 below the majority of the respondents (38.2%/n=92) were in possession of a diploma in nursing n=92 (38.2%), followed by n=88 (36.5%) with a post-graduate diploma in nursing n=88 (36.5%), and n=35 (14.5%) with an honours degree in nursing science. Twenty-four (10%) of respondents had obtained a bachelor's of science in nursing, and two (0.8%) had obtained a masters' degree in nursing. Level of education can also be used as an indicator for professional growth in nurses (Badu-Nyarko, 2015:93). However, in this study it was not possible due to the bi-modal nature of the distribution. The results indicate that the level of education show a bimodal distribution with one peak at diploma in nursing (38.2%) and another one for post-graduate diploma in nursing (36.5%). This would suggest the existence of two different levels of education groups. As a result the level of education was deemed not to be an appropriate measure for the professional growth in nurses' variable because of the bimodal distribution.

Table 4.5: Descriptive statistics of respondents' level of education

Level of education	Respondent (n)	Percentage
Diploma in nursing	92	38.2%
Bachelor of science in nursing	24	10.0%
Honours degree in nursing science	35	14.5%

Post-graduate diploma	88	36.5%
Masters' degree in nursing	2	.8%
Total=N	N=241	100%

4.2.1.6 List your certification

The certification variable was a nominal scale variable with 16 different post-graduate certifications or qualifications as indicated in Part 1, question 1.6 in the questionnaire (Appendix 7). Respondents were asked to indicate the type of post-graduate certification or additional qualification that they have. For the purpose of this study, the researcher, with assistance of the statistician, opted to group the certification variables and reduce them into three ordinal categories of certification. The three categories were thus used as reflective indicators to measure professional growth in addition to the category of years of experience. The three categories were: no certification, general certification, and specialist certification. In this study the first category (no certification) represented professional nurses who had indicated that they had no additional nursing qualifications apart from their level of nursing education qualification outlined in Table 4.5 above. The general certification refers to professional nurses who are registered as professional nurses at any level of education and who indicated to have a post-graduate qualification in general nursing, paediatric nursing, surgical nursing and nursing education/management. Specialist certification refers to professional nurses who are at all levels of education and indicated to have obtained a post-graduate certification in the nursing specialised areas as indicated in Table 4.6 below. The data also indicated that a specialist could be diploma holders who have worked in the same unit for 10 years and more. According to the HPCNA's CPD directives for 2011 (Appendix 5), all registered health professionals are required to complete a series of accredited continuing education activities each year.

Table 4.6: Descriptive statistics of certification

Please list your certification	Category of certification			
	No certification	General	Specialist	Total
None	137			137
Intensive care nursing			7	7
Coronary care nursing			3	3
Accident and emergency nursing			4	4
Paediatric nursing		3		3
Paediatric intensive care nursing			1	1
Neonatal intensive care nursing			8	8
Oncology nursing			3	3

Obstetric nursing			16	16
General nursing		15		15
Surgical nursing		6		6
Renal nursing			1	1
Ophthalmology nursing			4	4
Mental health nursing			12	12
Operating room nursing			7	7
Nursing management/education		14		14
Total	137	38	66	241

Table 4.6 presents the descriptive statistics of the results for the certification categories of the respondents (nurses in Hospital A). The majority (n=137/56.8%) do not have any certification other than having attained their first diploma, degree or honours degree in nursing; n=38 (15.8%) have a general certification; and n=66 (27.4%) have a specialist certification.

As evident in Table 4.7 below most of the respondents that did not have a certification, either had an honours degree in nursing (97.1%) or a diploma in nursing (94.6%). Those with a bachelor's degree in nursing (66.7%) also had no certification. The post-graduate diploma respondents predominantly had a specialist certification (63.6%) and general (36.4%) certifications. Those with a masters' degree in nursing also had specialist (50%) and general (50%) certifications. This result ascertained the measurability of professional growth in the respondents through category of certification variable.

Table 4.7: Cross tabulation results for level of education and certification categories

Level of Education as a registered nurse	Category of Certification						Total	
	None		General		Specialist		Frequency	% within Level of education
	Frequency	% within Level of education	Frequency	% within Level of education	Frequency	% within Level of education		
Diploma in Nursing	87	94.6%	0	0.0%	5	5.4%	92	100.0%
Bachelor of science in Nursing	16	66.7%	4	16.7%	4	16.7%	24	100.0%
Honours degree in Nursing science	34	97.1%	1	2.9%	0	0.0%	35	100.0%
Post graduate diploma	0	0.0%	32	36.4%	56	63.6%	88	100.0%
Master degree in Nursing	0	0.0%	1	50.0%	1	50.0%	2	100.0%
Total	137	56.8%	38	15.8%	66	27.4%	241	100.0%

4.2.1.7 What is currently your main position within the hospital?

The respondents were asked to indicate their professional rank in Hospital A. This question assisted the researcher to determine the distribution of professional nurses (respondents) in the hospital. As evident in Figure 4.1, 82% of the respondents were in the entry position of a registered nurse, whilst 13% were in senior/leadership positions.

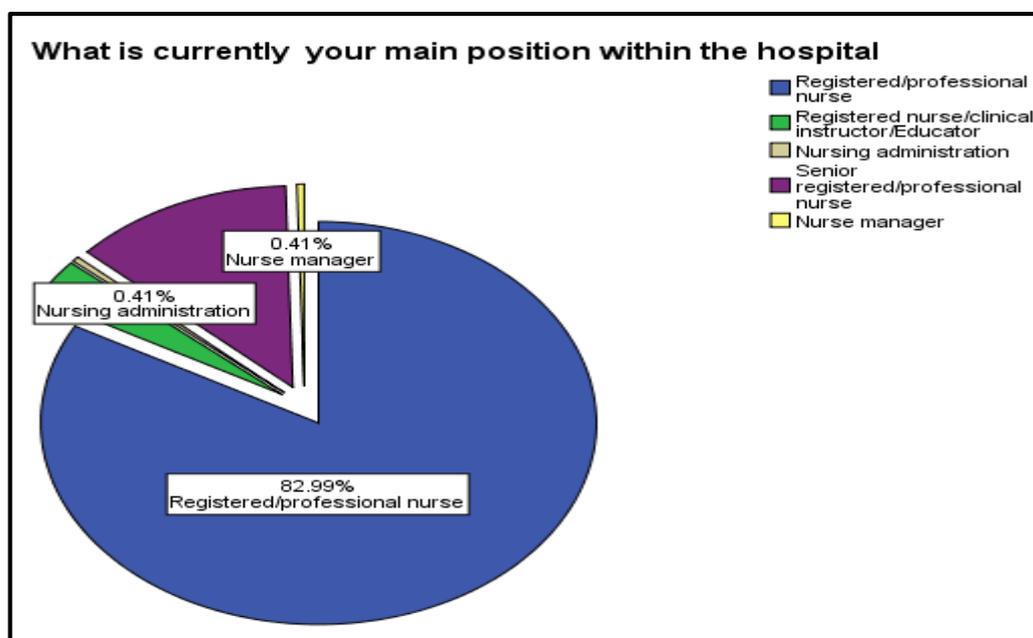


Figure 4.1: Main position within the hospital.

4.2.2 Part 2A: Effort-reward motivations

The effort-reward motivation is evident in Part 2A of the questionnaire. The items consisted of 16 questions regarding the reasons and motivations for nurses to participate in the professional development activities. The respondents were required to score the items in terms of: *mainly disagree*, *partly disagree*, *partly agree*, and *mainly agree*. For the purpose of this study, *mainly disagree* and *partly disagree* were combined to *disagree*; and *partly agree* and *mainly agree* were combined to *agree*.

❖ Exploratory factor analysis (EFA) of the effort reward motivations

Table 4.8 presents the results of the descriptive and reliability analysis carried out on the effort reward motivations to see if the observed variables loaded together as expected; were adequately correlated and met the reliability and validity criteria. The KMO (0.788) and Bartlett's test for sampling adequacy were significant. The communalities for each variable were sufficiently high (all above 0.300 except Part 2 A3). The communality results show that the chosen variables are adequately correlated for a factor analysis.

Table 4.8: EFA of the descriptive and reliability analysis results for Part 2A effort-reward motivations

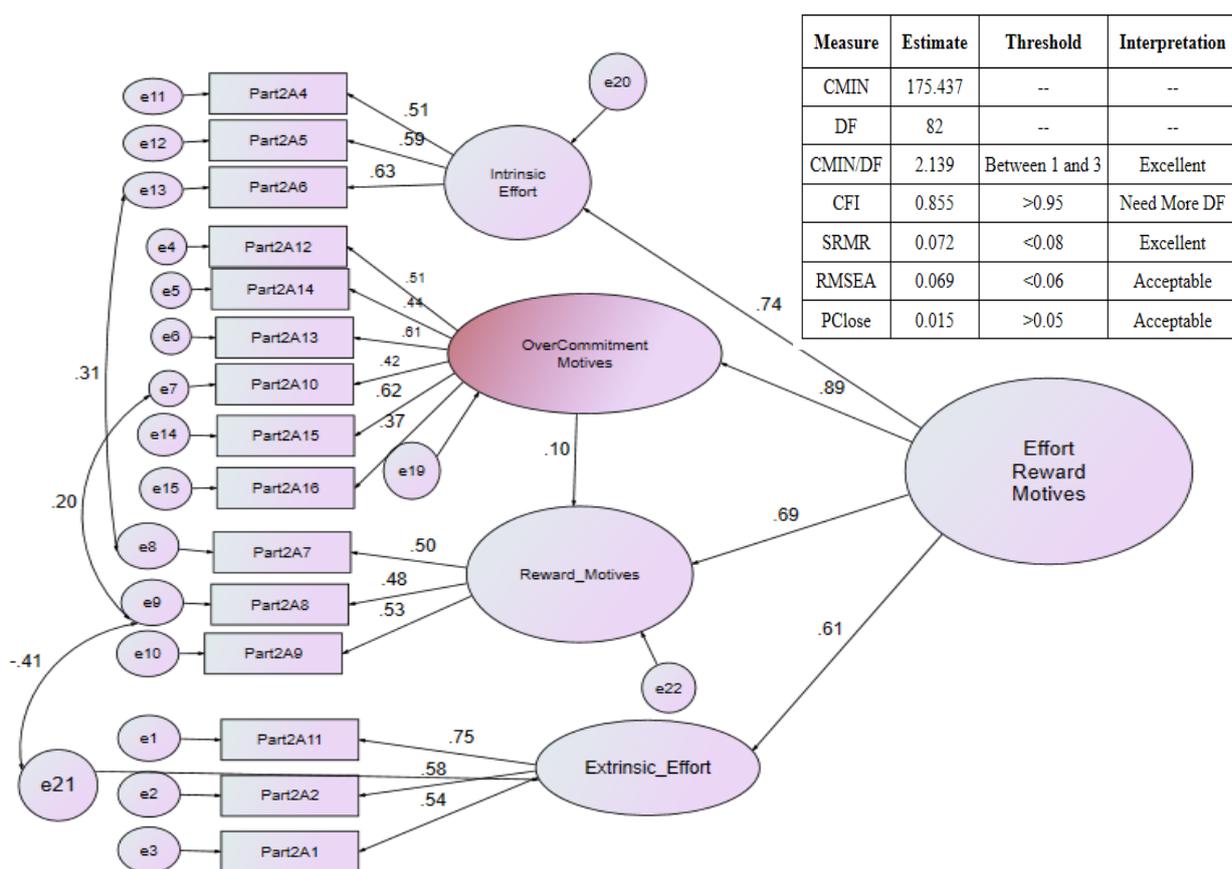
Factors	Codes	Statement	Descriptives				Reliability & Validity		
			Agree	Disagree	Skew	Kurtosis	Loadings	Communalities	Cronbach's Alpha if Item Deleted
Extrinsic effort	Part2A1	I take part in CPD activities in order to meet the requirements for registration in the future	60%	40%	-.269	-1.45	.506	.312	.766
	Part2A2	I take part in CPD activities in order that increase my chances of promotion	44%	56%	.215	-1.35	.605	.408	.761
	Part2A11	I take part in CPD activities to prove to my employer that i am professionally competent	61%	39%	-.319	-1.12	.721	.566	.749
	Part2A3	I take part in CPD because further professional development is important to me	95%	5%	-.548	-0.62		.222	.765
Intrinsic effort	Part2A4	I take part in CPD activities to increase my professional status	91%	9%	-1.356	1.80	.624	.422	.763
	Part2A5	I take part in CPD activities to improve my current qualifications	75%	25%	-.781	-0.49	.482	.415	.753
	Part2A6	I take part in CPD activities because i consider it important to increase the status of my profession	93%	7%	-1.286	1.69	.481	.456	.752
Reward_Motives	Part2A7	I take part in CPD activities to support my career	95%	5%	-1.198	1.31	.563	.393	.761
	Part2A8	I take part in CPD activities in order to carry out my work better	96%	4%	-1.361	1.95	.502	.366	.768
	Part2A9	I take part in CPD activities in order to meet the requirements of the organisation i work for	81%	19%	-.952	0.13	.445	.378	.759
Over Commitment Motives	Part2A10	I take part in CPD activities in order to increase the quality of the health care	96%	4%	-1.794	3.77	.363	.356	.762
	Part2A12	I take part in CPD activities because this is considered highly important in my professional development	93%	7%	-1.299	1.66	.616	.437	.759
	Part2A13	I take part in CPD activities in order to acheive a higher level of training	91%	9%	-1.207	1.43	.473	.392	.751
	Part2A14	I take part in CPD activities in order to make a positive contribution to nursing practice	97%	3%	-1.816	3.72	.525	.349	.764
	Part2A15	I take part in CPD activities to support my career potential/choice	83%	17%	-.765	0.54	.574	.534	.745
	Part2A16	I take part in CPD activities to improve my leadership abilities	56%	44%	-.200	-1.34	.494	.294	.768

Table 4.8 shows the Cronbach’s alpha, if item is deleted values which measured the reliability of all the 16 items in Part 2A scale. The Cronbach alpha values were all above the recommended 0.7 value. The results show communalities ranging from 0.222 to 0.566. The communality values imply that the variables share 0.222 to 0.566 of their variability. However, the study used a threshold of 0.3 to accept variables for further analysis, which saw part2A3 variable being dropped.

❖ **Confirmatory factor analysis (CFA) of the effort reward motivations**

Using CFA analysis in SPSS AMOS, the Effort-Reward Motivations (ERM) factors were fitted into a four-factor Effort-Reward motivation flow diagram. The flow diagram fit and flow diagram fit descriptive statistics for ERM are presented in Flow diagram 4.1 below.

Flow diagram 4.1: CFA of the effort reward motivation factor measurement



Flow diagram 4.1 presents the confirmatory factor analysis measurement flow diagram for the effort-reward motivations (ERM). It is rare that a flow diagram fits well at first. Therefore, the study used the model modification to obtain a better-fitting flow diagram. AMOS allows for the

use of modification indices to generate the expected reduction in the overall model fit chi-square for each possible path that can be added to the model.

The model fit descriptive measures show that a chi-square value of 175.437 with eighty-two degrees of freedom is significant at chi-square minimum divided by degrees of freedom (CMIN/DF) (17.437/82) value 2.139 (between 1 and 3). These finding suggests that the flow diagram fits the data excellently. The root mean square error of approximation (RMSEA) fit statistic with a value of 0.069 (between 0.08 and 0.06) is acceptable. Similarly, the standardized root mean residual (SRMR) of 0.072 (<0.08) is excellent. To solidify, the evidence PClose fit statistic was 0.015 (between 0.01 and 0.05). The measures also include the comparative fit index (CFI), which compares the absolute fit of the specified model to the absolute fit of the independence model. For this flow diagram, the CFI needs more degrees of freedom. The model fit descriptive statistics are provided through Hu and Bentler's (1999:33) cutoff criteria for fit indexes in covariance structure analysis, which forms the basis of Gaskin and Lim's (2016) SPSS AMOS plugin for model fit measures. Table 4.9 below presents the Gaskin and Lim's (2016) model fit cut off criteria for interpreting all the flow diagrams.

Table 4.9: Gaskin and Lim (2016) model fit cut off criteria

Measure	Terrible	Acceptable	Excellent
CMIN/DF	> 5	> 3	> 1
CFI	<0.90	<0.95	>0.95
SRMR	>0.10	>0.08	<0.08
RMSEA	>0.08	>0.06	<0.06
PClose	<0.01	<0.05	>0.05

4.2.3 Part 3B: Psychological empowerment importance factors

This section covers part 3B of the questionnaire related to psychological empowerment importance factors. The section analysed 23 questions regarding the issues, which were important to the nurses own professional development. The participants were required to score the issues in terms of: *not important at all*, *not important*, *important*. and *very important*. For the purpose of this study, *not important at all* and *not important* were combined into *not important*, and *important* and *very important* were combined into *important*. The EFA of the descriptive and reliability analysis results of psychological empowerment importance factors is presented in Table 4.10.

Table 4.10: EFA of the descriptive and reliability analysis results for Part 3B items: psychological empowerment importance factors

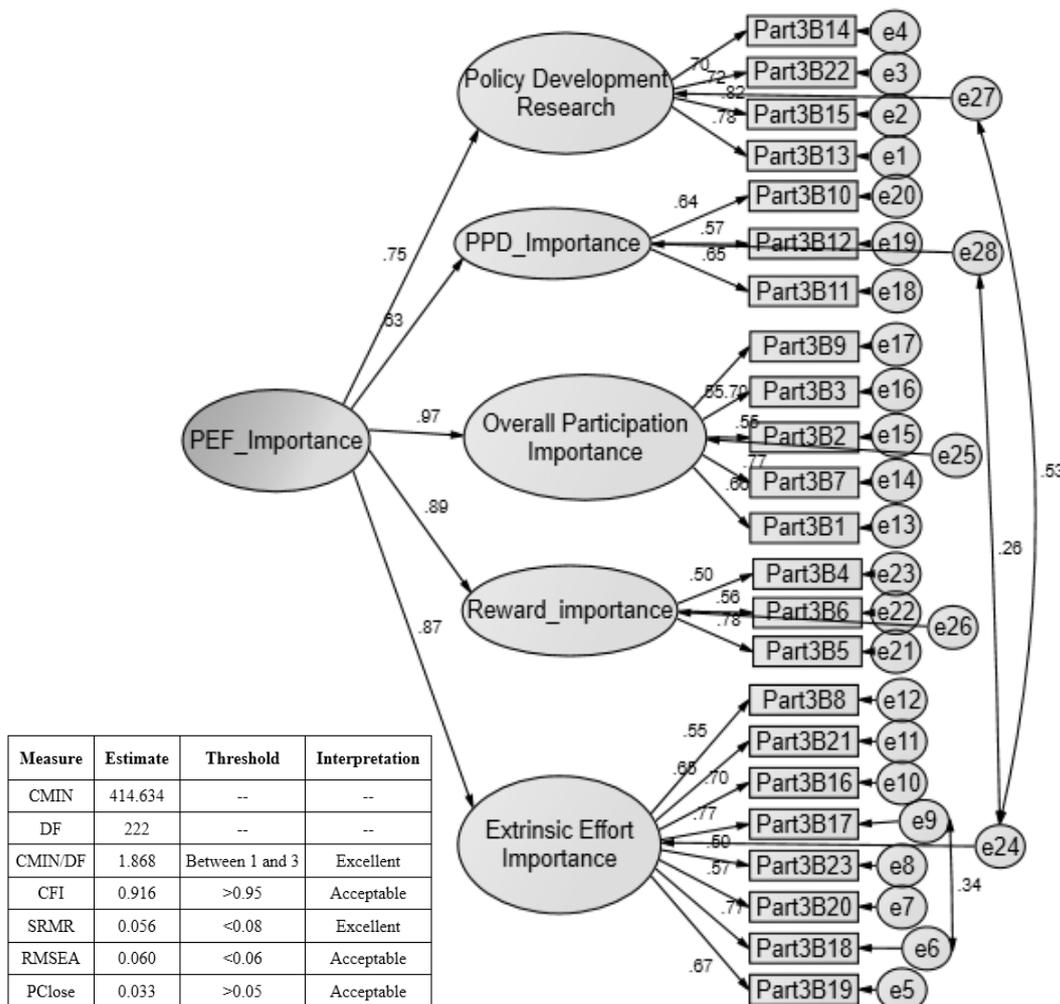
Factor	Codes	Statement	Descriptives				Reliability and Validity		
			Important	Not Important	Skew	Kurtosis	Communalities	Loadings	Cronbach's Alpha if Item Deleted
Importance of Overall Participation	Part3B1	Participation in policy development	74.7%	25.3%	-694	-.354	.539	.646	0.922
	Part3B2	Attending clinical practice meetings	91.3%	8.7%	-.592	-.189	.389	.549	0.924
	Part3B3	Training courses	97.1%	2.9%	-.460	.099	.368	.464	0.923
	Part3B7	Reviewing medical literature with regard to best practice	71.0%	29.0%	-.482	-.798	.607	.585	0.920
	Part3B8	Learning through practice	95.9%	4.1%	-.512	.084	.321		0.923
	Part3B9	Carrying out research	78.0%	22.0%	-.735	-.037	.482	.399	0.920
Importance of Participating in Reward Activities	Part3B4	Receiving feedback from colleagues regarding my performance	83.8%	16.2%	-.656	-.225	.300	.353	0.924
	Part3B5	Putting scientific research outcomes into the practice of my profession	84.2%	15.8%	-.885	.433	.697	.646	0.921
	Part3B6	Participating in feedback discussions	97.1%	2.9%	-.839	1.618	.333	.403	0.924
Importance of PPD	Part3B10	Actively participating in team discussions about team performance	96.7%	3.3%	-.263	.142	.373	.525	0.924
	Part3B11	Discussing with colleagues any developments that might have an adverse effect on professional practice	95.9%	4.1%	-.730	.809	.495	.653	0.924
	Part3B12	Following short courses (duration 2-8 hours)	95.0%	5.0%	-.983	1.621	.355	.536	0.925
Importance of Policy Development & Research	Part3B13	Writing articles for professional journals	43.6%	56.4%	.230	-.891	.713	.743	0.920
	Part3B14	Making sure that i keep up to date with policy development	83.4%	16.6%	-.739	.437	.521	.483	0.920
	Part3B15	Participating in recruitment and selection interviews with new members of staff	41.5%	58.5%	.232	-1.043	.683	.734	0.920
	Part3B22	Serving on the editorial board of a professional journal	34.9%	65.1%	.408	-.848	.550	.685	0.923
Importance of Extrinsic Efforts	Part3B16	Participating in reflection and or intervention meetings	83.8%	16.2%	-.643	.579	.509	.431	0.920
	Part3B17	Participating in internal projects	58.9%	41.1%	-.282	-.698	.697	.520	0.919
	Part3B18	Exchanging best practices or setting up projects with other institutions	62.2%	37.8%	-.287	-.571	.668	.549	0.919
	Part3B19	Informing my supervisor if i notice any developments at work that could have an adverse effect on professional practice	88.8%	11.2%	-.388	1.139	.501	.564	0.922
	Part3B20	Making sure that i keep up to date with professional developments	95.9%	4.1%	-.637	.770	.409	.540	0.923
	Part3B21	Reflect critical on practical situations	83.4%	16.6%	-.512	-.144	.417	.420	0.921
	Part3B23	Determining whether i performed well and whether i could perform better next time	89.6%	10.4%	-.790	1.305	.412	.529	0.922

Table 4.10 presents the results of the descriptive and reliability analysis results for psychological empowerment importance factors. The KMO (0.925) and Bartlett's test for sampling adequacy were significant; the communalities for each variable were sufficiently high (all above 0.350). The five-factor psychological empowerment importance factors (PEF importance) had a total variance explained of 63.93%, with all extracted factors having eigenvalues above 1.0 except one. In addition, the Cronbach alphas, if items were deleted, were all above 0.9.

❖ **CFA of the psychological empowerment factors**

Using CFA analysis in SPSS AMOS, the psychological empowerment importance factors were fitted into a five-factor psychological empowerment flow diagram. The flow diagram fit and flow diagram fit descriptive statistics for psychological empowerment importance factors are presented in Flow diagram 4.2 below.

Flow diagram 4.2: CFA of the psychological empowerment factor measurement



Flow diagram 4.2 shows that the PEF Importance measurement was acceptable and this is supported by the measurement flow diagram descriptive measures, which all fall within acceptable threshold. This finding suggests that PEF Importance flow diagram fits the data within the acceptable thresholds (Gaskin & Lim, 2016).

4.2.4 Part 4C: Structural empowerment conditions factors

This section covers Part 4C of the questionnaire related to structural empowerment conditions factors. It involved analysis of 21 questions on limiting conditions under which nurses realised their professional development. The respondents were required to score the activities in terms of: *mainly agree*, *partly agree*, *partly disagree*, and *mainly disagree*. For the purpose of this study, *mainly agree* and *partly agree* were combined into *agree*, and *partly disagree* and *mainly disagree* were combined into *disagree*. Table 4.11 presents the descriptive and reliability analysis results of the structural empowerment conditions factors.

Table 4.11: EFA of the descriptive and reliability analysis results for Part 4C: Structural Empowerment Conditions

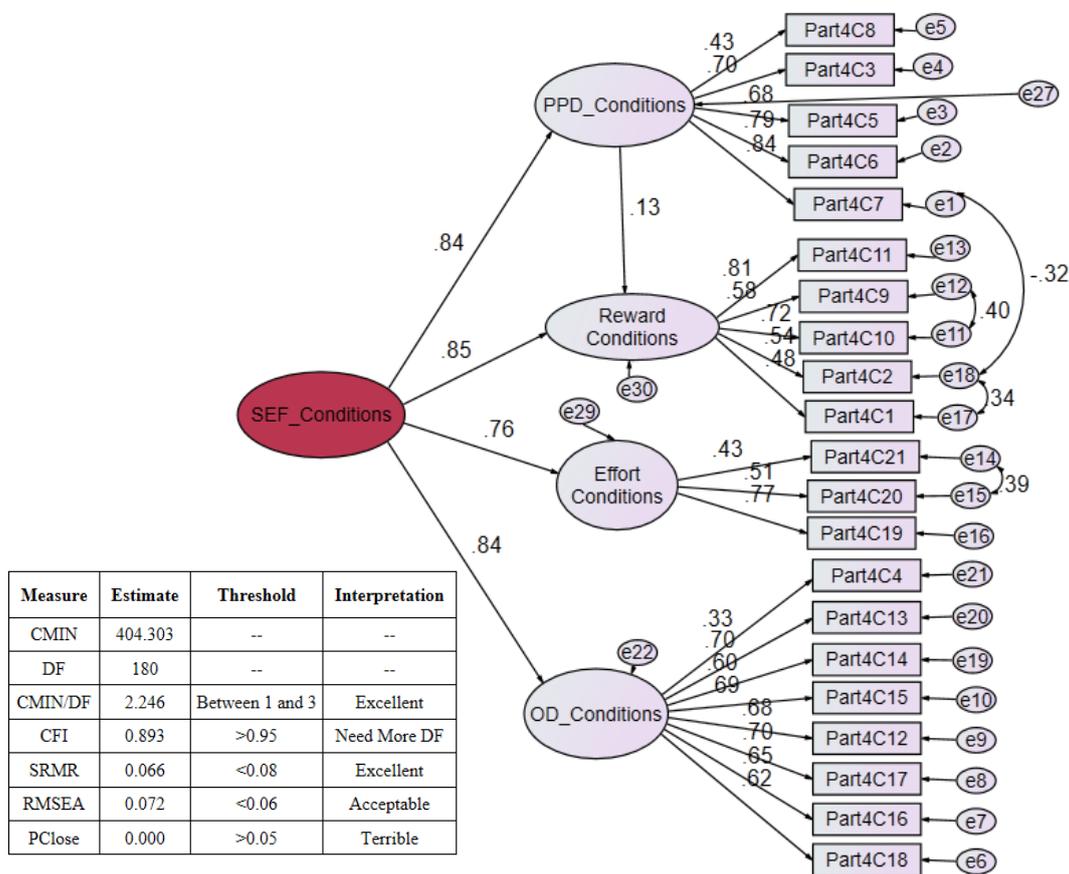
Factor	Codes	Statement	Descriptives				Reliability and Validity		
			Agree	Disagree	Skew	Kurtosis	Communalities	Loadings	Cronbach's Alpha if Item Deleted
Reward Conditions	Part4C1	I take part in CPD activities if the expenses are fully reimbursed by the employer	58.1%	41.9%	0.26	-1.62	0.56	.663	0.910
	Part4C2	I take part in CPD activities if there are career possibilities within my organisation	71.0%	29.0%	0.54	-0.44	0.55	.599	0.907
	Part4C9	I take part in CPD activities if the CPD activities result in a certificate	61.0%	39.0%	0.30	-1.04	0.54	.642	0.905
	Part4C10	I take part in CPD activities if i receive an annual appraisal	50.6%	49.4%	0.02	-1.32	0.69	.716	0.911
	Part4C11	I take part in CPD activities if my colleagues coach me	48.5%	51.5%	-0.02	-1.05	0.64	.523	0.907
Effort Conditions	Part4C4	I take part in CPD activities if i follow the CPD activities in my own time	79.7%	20.3%	0.82	0.17	0.35	.462	0.907
	Part4C13	I take part in CPD activities if i have more independence	75.5%	24.5%	0.75	-0.44	0.60	.498	0.909
	Part4C14	I take part in CPD activities if the CPD activities have a clear career perspective	80.5%	19.5%	0.93	0.01	0.50	.532	0.913
	Part4C19	I take part in CPD activities if i receive support from my supervisor	67.2%	32.8%	0.46	-0.72	0.45	.400	0.907
	Part4C20	I take part in CPD activities if i follow other CPD courses	76.3%	23.7%	0.71	-0.16	0.45	.579	0.906
	Part4C21	I take part in CPD activities if the CPD activities are not expensive	71.8%	28.2%	0.60	-0.56	0.73	.839	0.908
Organisational Development (OD) Conditions	Part4C12	I take part in CPD activities if taking part in CPD activities allows me to have a say in a ward/team policy	74.7%	25.3%	0.69	-0.38	0.60	.464	0.905
	Part4C15	I take part in CPD activities if my immediate supervisor coaches me	51.5%	48.5%	0.04	-1.15	0.55	.447	0.904
	Part4C16	I take part in the CPD activities if there is a clear reduction in workload	67.6%	32.4%	0.48	-0.77	0.50	.612	0.911
	Part4C17	I take part in CPD activities if i am appreciated from within my organisation for the work i do	75.1%	24.9%	0.72	-0.52	0.57	.605	0.907
	Part4C18	I take part in CPD activities if other positions are offered within my organisation	56.0%	44.0%	0.16	-1.25	0.51	.670	0.905
Personal Professional Development (PPD) Conditions	Part4C3	I take part in CPD activities if my immediate supervisor discuss my career possibilities with me	63.9%	36.1%	0.37	-0.89	0.54	.498	0.903
	Part4C5	I take part in CPD activities if the CPD activities are offered in a multidisciplinary context	59.3%	40.7%	0.24	-0.95	0.55	.641	0.907
	Part4C6	I take part in CPD activities if i receive career guidance	68.5%	31.5%	0.51	-0.92	0.65	.717	0.906
	Part4C7	I take part in CPD activities if suitable supplementary training courses are offered by my immediate supervisor	56.4%	43.6%	0.18	-1.21	0.71	.744	0.907
	Part4C8	I take part in CPD activities if my supervisor provides me with the necessary time	80.5%	19.5%	0.87	0.10	0.22	.325	0.904

In terms of the results in Table 4.11 the KMO (0.898) and Bartlett’s test for sampling adequacy were significant and the communalities for each variable were all sufficiently high. The Cronbach alphas if items were deleted were all above 0.9. The EFA extracted six factors with a total variance explained of 67.37%, with all extracted factors having eigenvalues above 1.0. Six of the extracted were reduced to four factors in order to improve the reliability of the results.

❖ **Confirmatory factor analysis of the structural empowerment conditions factor**

Using the CFA analysis in SPSS AMOS, the structural empowerment factors were fitted into a four-factor structural empowerment conditions factor flow diagram. The flow diagram fit and flow diagram descriptive statistics are presented in Flow diagram 4.3.

Flow diagram 4.3: CFA of the structural empowerment conditions factor measurement



In terms of Flow diagram 4.3 the SEF Conditions measurement flow diagram was acceptable and this is supported by the measurement flow diagram descriptive measures, which all fall within acceptable threshold. The PClose fit statistic was terrible but it did not affect the final framework.

4.2.5 Part 5D: Participation in CPD activities

This section covered Part 5D of the questionnaire items related to how nurses actively participated in professional development activities. This part analysed 23 questions related to how nurses actively performed CPD activities. The respondents were required to score the activities in terms of: *never*, *occasionally*, *quite often*, and *very often*. In this study, *never* and *occasionally* were combined into *never*, and *quite often* and *very often* were combined into *often*. Table 4.12 below presents the EFA of the descriptive and reliability results of the participation in CPD activities.

Table 4.12: EFA of the descriptive and reliability analysis results for Part 5D: participation in CPD activities

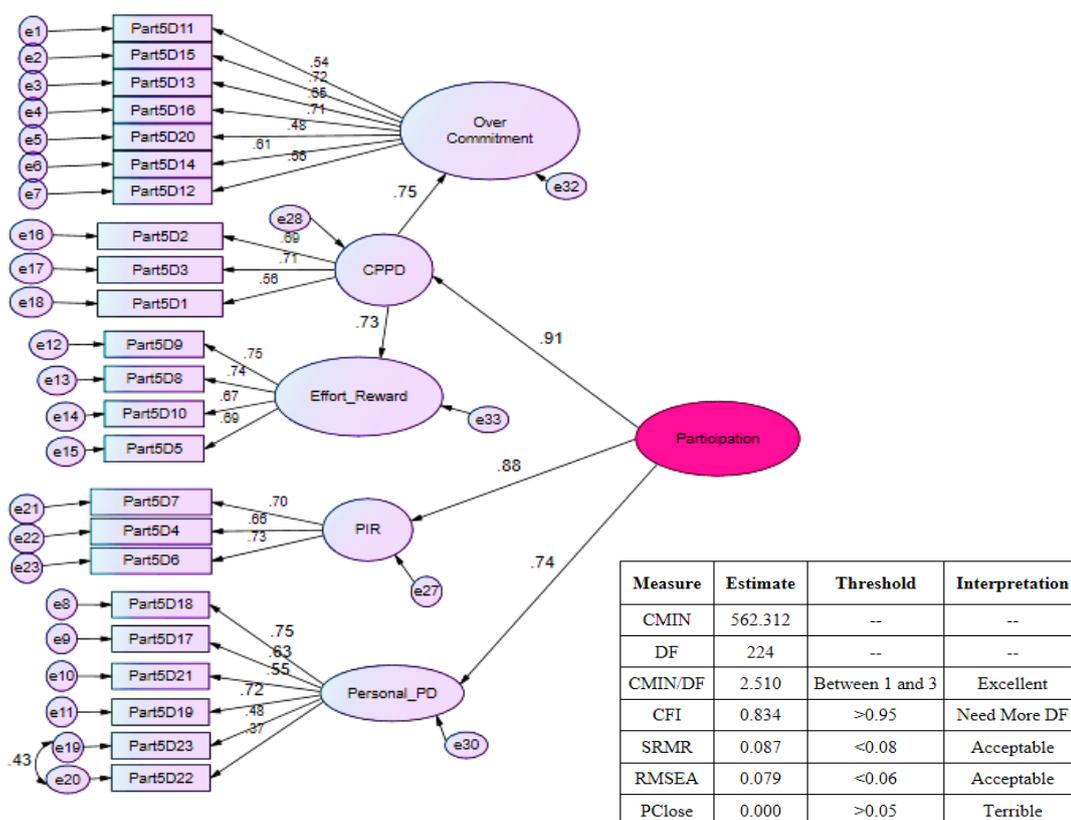
Factor	Codes	Statement	Descriptives				Reliability and Validity		
			Never	Often	Skew	Kurtosis	Loadings	Communalities	Cronbach's Alpha if Item Deleted
Clinical practice and policy development (CPPD)	Part5D1	I participate in policy development	81.3%	18.7%	1.03	0.15	.539	.489	.899
	Part5D2	I attend clinical practice meetings	60.6%	39.4%	0.47	-0.29	.653	.573	.897
	Part5D3	I follow training courses	53.5%	46.5%	0.34	-0.38	.577	.544	.896
Participate in Research (PIR)	Part5D4	I make use of scientific nursing outcomes in my professional practice	49.0%	51.0%	0.02	-0.86	.528	.593	.897
	Part5D6	I review medical literature with regard to best practices	62.2%	37.8%	0.32	-0.92	.471	.499	.895
	Part5D7	I perform research	80.5%	19.5%	0.92	0.07	.569	.566	.896
Effort-Reward	Part5D5	I participate in feedback discussions	33.6%	66.4%	-0.05	-0.64	.450	.486	.896
	Part5D8	I actively participate in team discussion about team performance	45.2%	54.8%	0.18	-0.87	.703	.608	.898
	Part5D9	I discuss with colleagues any developments that might have an adverse effect on professional practice	35.7%	64.3%	0.11	-0.87	.738	.635	.897
	Part5D10	I follow short courses	42.3%	57.7%	-0.04	-0.91	.603	.515	.898
Over Commitment	Part5D11	I write articles for professional journals	92.1%	7.9%	2.18	4.29	.677	.596	.901
	Part5D12	I make sure that i keep up to date with policy developments	61.8%	38.2%	0.31	-0.69	.406	.481	.896
	Part5D13	I participate in recruitment and selection interviews with new members of staff	91.7%	8.3%	2.28	4.56	.645	.487	.898
	Part5D14	I participate in reflection and or intervention meetings	73.0%	27.0%	0.56	-0.17	.423	.505	.897
	Part5D15	I participate in internal projects	83.0%	17.0%	0.94	0.27	.651	.549	.897
	Part5D16	I exchange best practices or set up projects with other institutions	82.2%	17.8%	0.91	0.09	.573	.512	.896
	Part5D20	I participate in the editing process of a professional journal	90.5%	9.5%	2.12	3.71	.539	.303	.902
Personal & Professional Development (PD)	Part5D17	I inform my supervisor if i notice any developemnts at work that could have an adverse effect on professional practice	50.2%	49.8%	0.34	-0.58	.576	.548	.897
	Part5D18	I make sure that i keep up to date with professional developments	35.3%	64.7%	-0.10	-0.88	.648	.542	.897
	Part5D19	I reflect critical on practical situations	47.7%	52.3%	0.07	-0.80	.550	.458	.897
	Part5D21	I determine whether i performed well and whether i could perform better next time	58.1%	41.9%	0.39	-0.53	.572	.398	.900
	Part5D22	I follow th CPD activities in my own time	49.8%	50.2%	0.19	-0.57	.640	.473	.901
	Part5D23	I take part in CPD activities at my own expense	42.3%	57.7%	-0.10	-0.87	.708	.608	.900

In terms of the results in Table 4.12 The KMO (0.886), and Bartlett’s test for sampling adequacy, were significant, and the communalities for each variable were sufficiently high (all above 0.30). The EFA extracted six factors with a total variance explained of 67.37%, with all extracted factors having eigenvalues above 1.0.

❖ **CFA of the participation in CPD activities measurement**

Using CFA analysis in SPSS AMOS, the participation in CPD activities were fitted into a five factor participation in CPD activities flow diagram. The flow diagram fit and flow diagram fit descriptive statistics are presented in Flow diagram 4.4 below.

Flow diagram 4.4: CFA of the participation in CPD activities measurement



Flow diagram 4.4 shows that the participation in CPD activities measurement was acceptable and this is supported by the measurement flow diagram descriptive measures, which all fall within acceptable threshold. However, the PClose fit statistic was terrible. The results imply that participation in clinical practices and policy development is associated with effort-reward, as well as over commitment issues.

4.2.6 Structural equation modelling (SEM): research measurement framework

The four fitted flow diagrams presented above were developed from the questionnaire instrument using CFA. The summary variables were thus computed from the four flow diagrams using SPSS AMOS version 23. The summary variables were then analysed using EFA. The four factors were extracted which resulted in the final research measurement framework as illustrated in Flow diagram 4.5 below. Table 4.13 shows how the individual summary variables were computed using the four fitted flow diagrams.

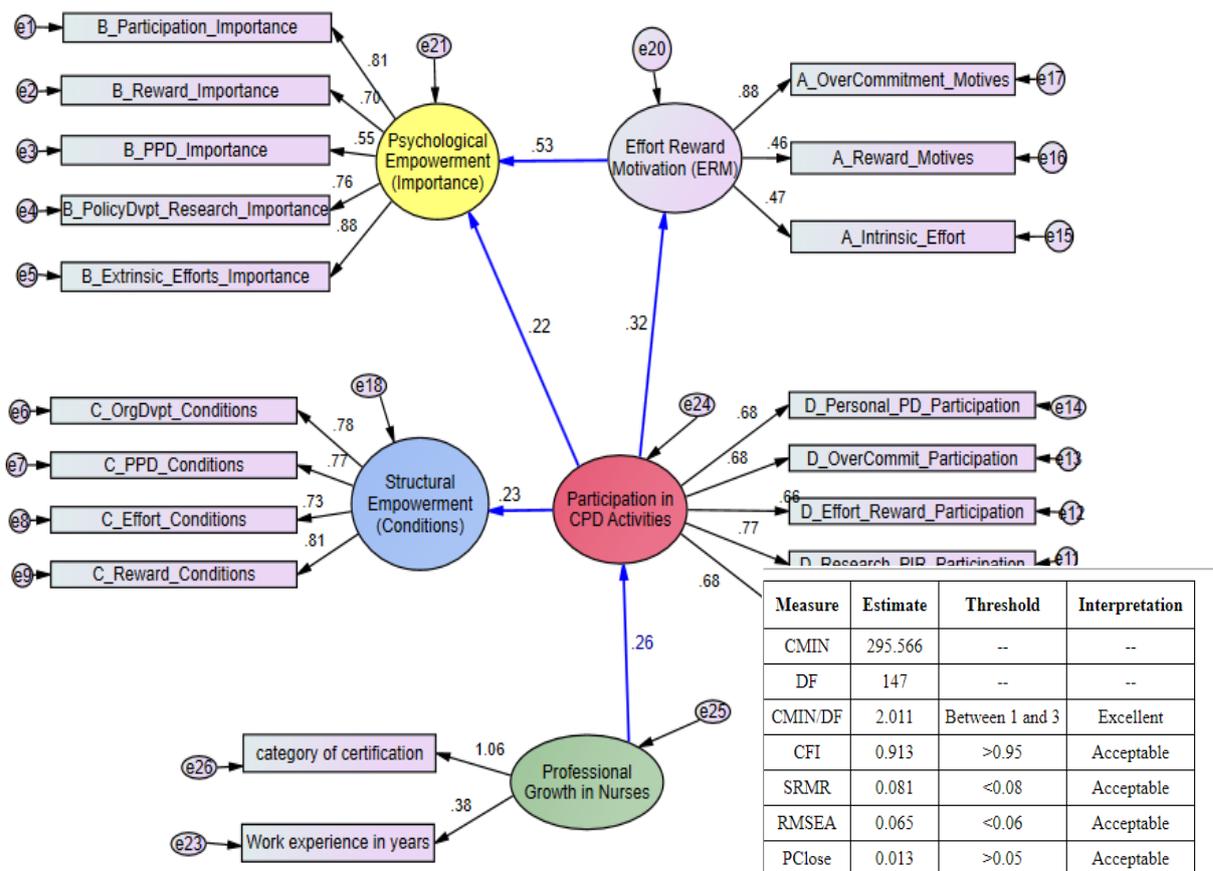
Table 4.13: Descriptive and reliability analysis results for research flow diagrams summary variables

Factors	Item Description	Mean	Std. Dev	Kurtosis	Communalities	Loadings	Cronbach's Alpha if Item Deleted
Effort-Reward Motivation (ERM)	A_Intrinsic_Effort=SUM(Part2A4, Part2A5,Part2A6)	9.98	1.82	.343	.386	.524	.791
	A_Reward_Motives=SUM(Part2A7,Part2A8,Part2A9)	10.32	1.51	.513	.296	.535	.787
	A_OverCommitment_Motives=SUM(Part2A10,Part2A12	19.95	2.75	-.108	.625	.666	.773
Psychological Empowerment (PEF_Importance)	B_Participation_Importance=SUM(Part3B1,Part3B2, Part3B3,Part3B7, Part3B8,Part3B9)	19.11	3.24	-.129	.666	.774	.766
	B_Reward_Importance=SUM(Part3B4,Part3B5,Part3B6	9.85	1.65	-.398	.517	.685	.781
	B_PPD_Importance=SUM(Part3B10,Part3B11,Part3B1	10.17	1.38	.185	.306	.462	.782
	B_PolicyDvpt_Research_Importance=SUM(Part3B13, Part3B14,Part3B15,Part3B22)	10.26	3.07	-.723	.601	.739	.768
	B_Extrinsic_Efforts_Importance=SUM(Part3B16, Part3B17,Part3B18,	21.17	3.81	-.353	.794	.869	.763
Structural Empowerment (SEF_Conditions)	A_Extrinsic_Effort=SUM(Part2A1,Part2A2,Part2A11)	7.70	2.60	-.991	.233	-.316	.798
	C_OrgDvpt_Conditions=SUM(Part4C12,Part4C15, Part4C16,Part4C17,Part4C18)	11.27	3.80	-.348	.629	.787	.781
	C_PPD_Conditions=SUM(Part4C3,Part4C5,Part4C6, Part4C7,Part4C8)	11.08	3.81	-.391	.573	.748	.783
	C_Effort_Conditions=SUM(Part4C4,Part4C13, Part4C14,Part4C19,Part4C20,Part4C21)	12.34	3.63	.129	.529	.724	.784
	C_Reward_Conditions=SUM(Part4C1,Part4C2,Part4C9,	11.85	3.95	-.741	.694	.803	.780
Participation in CPD Activities	D_CPPD_Participation=SUM(Part5D1,Part5D2,Part5D3	6.78	2.01	.680	.497	.690	.776
	D_Research_PIR_Participation=SUM(Part5D4,Part5D6,	6.72	2.30	-.386	.595	.709	.768
	D_Effort_Reward_Participation=SUM(Part5D5,Part5D8,	11.12	2.56	-.567	.513	.693	.778
	D_OverCommit_Participation=SUM(Part5D11,Part5D12,	12.13	3.93	2.284	.544	.710	.780
	D_Personal_PD_Participation=SUM(Part5D17,Part5D1	15.88	3.43	-.254	.475	.612	.765

Table 4.13 presents the results of the descriptive and reliability analysis for the research SEM framework. The KMO (0.83), and Bartlett’s test for sampling adequacy, were significant, and the communalities for each variable were sufficiently high (all above 0.30). The EFA extracted four factors that corresponded with the four fitted flow diagrams. The extrinsic effort summary variable was removed because it loaded on SEF conditions factor instead of ERM factor.

Flow diagram 4.5 presents the final research measurement framework. The professional growth of nurses (PGN) variable was also included in the final framework by combining the certification categories and experience categories. These demographic categories were used in this study to measure the extent to which an individual nurse has grown professionally. For instance, a nurse who has less than five years’ experience is most likely to have not professionally grown and might not have any post-graduate certification. However, if a nurse has more than 20 years’ experience, then to show personal professional growth he/she should at minimum have a general or specialist certification.

Flow diagram 4.5: Final research measurement framework of the study



Flow diagram 4.5 shows the final research measurement framework, or model, representing the factors associated with participation in CPD activities leading to professional growth of professional nurses after the data were analysed. The framework fit measures are all

significant, with an excellent CMIN/DF value 1.991 (between 1 and 3); with an acceptable RMSEA value of 0.07 (between 0.08 and 0.06); and acceptable measures for SRMR (0.080 <0.10), CFI (0.915>0.9) and PClose (0.016 <0.05).

The final measurement framework contradicts the conceptual framework in how the associated correlational pathways lead to professional growth in nurses. The study relied on statistical generalisation that used a 95% confidence interval to establish significant relationships. However, the result (Flow diagram 4.5) shows no significant relationships between psychological empowerment (PEF_importance) and structural empowerment (conditions). Whereas, the conceptual framework in chapter 1 (Figure 1.3) predicted a direct dependency relationship between structural empowerment (conditions) and psychological empowerment importance factors and effort-reward motivation in line with literature.

At the same time, the final measurement framework also contradicts the conceptual framework which illustrated over commitment as an independent major variable which had a direct relationship with psychological empowerment and participation in CPD activities (Kluska *et al.*, 2004:117). Results in this study however demonstrated that over commitment is not an independent major variable, but it is inherently linked to effort reward motivations and participation in CPD activities (see Flow diagram 4.5).

In addition, the final research measurement framework supports the conceptual framework's professional growth associations linked to the participation in CPD activities. Specifically, the strong positive relationships within psychological empowerment (PEF_importance), and ERM 0.53 beta weight. Polit and Beck (2012:453) note that these beta weights represent from SEM path coefficients that present information about hypothesised causal parameters. The results also show that ERM mediates and enhances the respondents' perceptions of the psychological Importance of participating in CPD activities. This in turn, positively increases the associated effect from 0.22 direct effects to a total mediated effect of 0.385. The PEF_importance has a direct positive effect of the respondents' participation in CPD activities of 0.22. On the other hand, structural empowerment has a direct moderate positive relationship with participation in CPD activities (0.23). Lastly, participation in CPD activities mediates all relationships affecting professional growth of nurses.

The next section presents the factors associated with participation in CPD activities leading to professional growth of professional nurses, which links the research findings to the conceptual propositions and research objectives.

4.2.7 Factors associated with participation in CPD activities leading to professional

growth of professional nurses

This section presents the results of the factors associated with participation in CPD activities leading to professional growth of professional nurses derived from the final measurement framework or model of the study (Flow diagram 4.5).

The study summarises the framework using standardised regression of statistically significant paths in the final research measurement framework or model paths (Flow diagram 4.5). A summary of the factors associated with participation in CPD activities in terms of PGN is presented in Table 4.14.

Table 4.14: Summary of the factors associated with participation in CPD activities leading to professional growth of professional nurses in Namibia

	Variable	PGN	Participation _CPD	ER Motives	SEF Conditions	PEF_ Importance
	Participation_CPD	0.256				
	ER Motives	0.081	0.318			
	SEF Conditions	0.059	0.232			
	PEF_Importance	0.099	0.385	0.531		
Professional Growth in Nurses (PGN)	cert.category	1.062				
	ExpCat	0.38				
Participation_CPD	D_Personal_PD_Participation	0.072	0.28			
	D_OverCommit_Participation	0.037	0.145			
	D_Effort_Reward_Participation	0.038	0.149			
	D_Research_PIR_Participation	0.173	0.676			
	D_CPPD_Participation	0.175	0.684			
ER Motives	A_OverCommitment_Motives	0.168	0.657	0.88		
	A_Reward_Motives	0.197	0.769	0.455		
	A_Intrinsic_Effort	0.175	0.684	0.469		
SEF Conditions	C_Reward_Conditions	0.048	0.187		0.809	
	C_Effort_Conditions	0.043	0.169		0.73	
	C_PPD_Conditions	0.046	0.178		0.77	
	C_OrgDvpt_Conditions	0.046	0.181		0.783	
PEF_Importance	B_Extrinsic_Efforts_Importance	0.087	0.339	0.467		0.879
	B_PolicyDvpt_Research_Importance	0.075	0.293	0.404		0.762
	B_PPD_Importance	0.054	0.211	0.291		0.549
	B_Reward_Importance	0.069	0.268	0.37		0.697
	B_Participation_Importance	0.08	0.314	0.432		0.814

Note: The bolded values represent direct effects, while numbers in regular font represent indirect effects.

Table 4.14 shows the total beta weight effects of the factors associated with participation in CPD activities leading to professional growth of professional nurses in Namibia. The results show both the direct and indirect linear regression effects of the relationships in the final measurement framework or model. For instance, the results show functional relationships between professional growth of nurses (PGN) with the nurses' certification levels (1.062), and work experience in years in clinical practice (0.38). This means that when nurses' certification level goes up by 1 standard deviation, then the nurses will grow professionally by 1.062 standard deviation. Additionally, the results show that 1 standard deviation moves in the level of work experience in years will result in a 0.38 standard deviation in PGN.

Table 4.14 also shows that all the factors associated with participation in CPD activities leading to professional growth of professional nurses have a positive impact ranging from 0.037 to 1.062. The factors are all mediated through participation in CPD activities. Therefore the study found that the main factors affecting professional growth were related to psychological empowerment (importance), effort-reward motivations, structural empowerment (conditions) and participation in CPD activities through three main pathways presented in Figure 4.2 below.

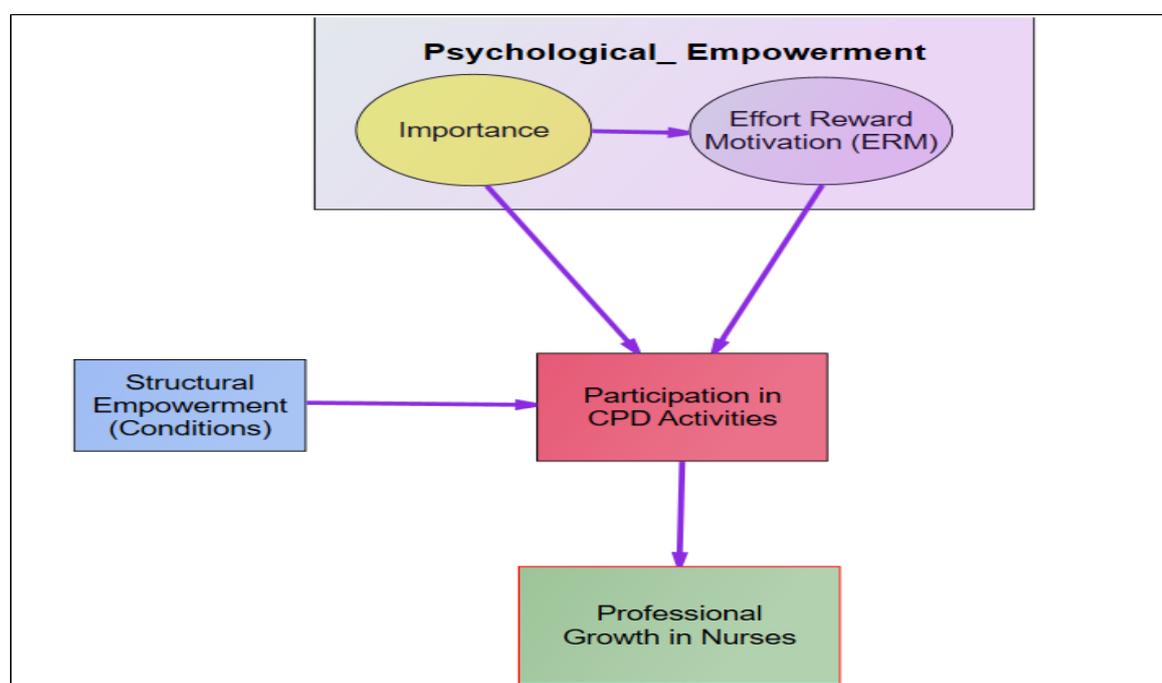


Figure 4.2: Final proposed framework: factors associated with participation in CPD activities leading to professional growth of professional nurses in Namibia.

Figure 4.2 presents three key pathways for the proposed framework for factors associated with how participation CPD activities lead to professional growth of professional nurses in Namibia. The pathways are as follows:

- SEF conditions (0.23) – participation in CPD (0.26)– PGN **(0.23×0.26) = (0.060)**
- PEF importance (0.22) – participation in CPD (0.26)– PGN **(0.22×0.26) = (0.057)**
- PEF importance (0.53) – ERM (0.32) – participation in CPD (0.26) – PGN **(0.53×0.32×0.26) = (0.044)** (refer to Table 4.14 and Flow diagram 4.5 for the values).

The structural empowerment pathway has a mediated association effect of 0.060, while the psychological empowerment has a mediated association effect of 0.101 (0.057 + 0.044). Additionally, the direct association between PGN and participation in CPD activities (0.26) is crucial to this research, as participation in CPD mediates all research propositions. In addition, the positive relationships between ERM with PEF importance (0.53); as well as the mediation effect of ERM (0.083) on PGN were also found to be essential to this study.

4.3 Summary

This chapter detailed the analysis and the results involved in the multi-stage procedure. First, data were examined and screened in order to prepare for subsequent quantitative analyses. Next, the descriptive statistics were presented and EFA and a reliability test were performed in relation to overall measurement scales. This ensured the underlying dimensions of the measurement scales, and achieved an acceptable level of reliability for further analysis. The resulting solutions were then re-assessed with the use of CFA. SEM was used to test the propositions regarding the relationships between the constructs in the conceptual framework with measurement framework from statistical analysis.

The multi-stage procedure was used to answer the research question and address the research objectives. Therefore, the study used a reductionist strategy that relied on EFA to reduce the questionnaire items to factors that aligned to the conceptual framework and research objectives. Section 4.2.2 to 4.2.5 detailed the results of the first stage of the procedure, which saw four CFA flow diagrams fitted and validated. This study used a validated structured instrument (Q-PDN) developed by Brekelmans *et al.* (2015:235) for a different setting and they measured a different dependent variable. As such, the analysis used CFA to validate the instrument's use in this study by operationalising the questionnaire to the ERM factors, psychological empowerment importance factors, structural empowerment condition factors, and participation in CPD activities factors. The study then created summary variables from these factors. Table 4.13 detailed the analysis, which ended up with SEM, to test the propositions regarding the relationships between the constructs in the conceptual framework

in chapter 1. SEM as model testing design required that all concepts relevant to the model be measured and the relationships among these concepts examined (Grove *et al.*, 2015:221).

In addition, the study followed the recommendations of Polit and Beck (2010:224) on causality inferences for empirical relationships between variables. They argue that it is risky to infer causal relationships in correlational research. Instead, they note that a descriptive correlational research should be used to describe relationships rather than to comprehend causal pathways. As such, this study, while using correlational research design, employed CFA/SEM model testing and the path analytics strategy that supports inferences of causality. This approach was guided by the research's quest to describe how factors associated with participation in CPD activities lead to professional growth of Namibian professional nurses working in a public national referral hospital. This quest was operationalised through the research objectives, which led to the proposition of a mediation framework on the factors associated with participation in CPD activities leading to professional growth of professional nurses.

4.4 Conclusion

Chapter 5 presents an in-depth discussion of the meaning of data findings of this study. The discussion includes comparing the findings to other research data. Recommendations for future research and limitations of this study are also discussed. Finally, conclusions in relation to the study objectives and propositions are discussed.

CHAPTER 5

DISCUSSION, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

5.1 Introduction

Chapter 1 laid the foundation and overview of this study. Chapter 2 covered review of literature about what is already known in terms of professional growth of professional nurses locally and international. Chapter 3 discussed the research methodology and design used to conduct this study. Chapter 4 covered analysis of data, findings were interpreted and the results were presented in tables, figures and flow diagrams.

In this chapter, the study findings are discussed in relation to the aim and objectives. Limitations of this study are outlined. The chapter concludes with a discussion on recommendations for future studies and contributions, dissemination of the findings, and the final concluding statements for the study.

5.2 Discussion

The aim of this study was to investigate how the factors associated with participation in continuous professional development activities lead to the professional growth of professional nurses' working in a public national referral hospital in Namibia.

In the following subsections the study findings, as outlined in chapter 4, are discussed in relation to the objectives which were set for the study based on the aim and as guided by the research question.

5.2.1 Demographic characteristics

5.2.1.1 Certification categories

In terms of the certification, this study re-coded the certification category after data were collected to obtain a reflective indicator for measuring professional growth. The certification results showed that 27% (see Table 4.6) of the professional nurses had a specialist certification. This result was expected by the researcher because the hospital is a public national referral hospital which offers specialised healthcare services. Therefore, professional nurses were likely to have obtained post-graduate qualifications in specialised areas. This study also found that the combination of general and specialist certification results showed that only 43% (see Table 4.6) of the respondents had an additional certification in either of the two (general or specialist). This finding is in keeping with the literature. Richards and Potgieter (2010:44) explain that institutional category factors such as lack of support from nurse managers or the inability to obtain leave or financial resources could be barriers prohibiting nurses' participation in continuing education and thus attributing to a low number of nurses

with additional certifications.

The results as illustrated in Table 4.6 also indicate that 57% of the professional nurses had no certification/additional qualification. This finding supports that of Witt (2011:227) who reported that despite an abundance of continuing education opportunities, the majority of nurses do not participate.

5.2.1.2 Experience categories

This study found that the majority of the professional nurses who took part in the study had 10-19 years of experience, followed by those with 20-29 years of experience (see Table 4.3). This means that older professional nurses have more years of experience thus they are more likely to be involved in participating in CPD activities. This finding was similar to that of McNeely, Shonka, Pardee and Nicol (2015:36) who explain that senior and experienced nurses were found to be actively involved in continuous professional education activities compared to new graduate nurses. In contrast Pool *et al.* (2015:947) found that in the first 10 years of clinical nursing there are new roles and tasks performed through participating in CPD activities thus contributing to the development of competence for young nurses. Pool *et al.* (2015:947) explain that the need for exhaustive learning disappears in the long run possibly because of nurses' engagement in nursing tasks in their early years of the nursing career.

5.2.1.3 Hospital unit

In terms of the units within the hospital, this study found that 24% (see Table 4.4) of respondents were from the obstetrics and gynaecology unit. This result was expected as the obstetrics and gynaecology consists of four subsections (antenatal unit, labour ward, post-natal unit, and neonatal unit) thus it is the biggest section in the hospital. Because obstetrics and gynaecology is a specialised section, it is required that the majority of staff must be professional nurses because of their level of training, knowledge and specialised skills in maternal and neonatal care (Ministry of Health and Social Services, 2007:2).

5.2.2 Objective 1: To describe the effort and reward factors associated with motivating nurses' participation in continuous professional development activities

As illustrated in the conceptual framework in Figure 1.3 in chapter 1, effort reward motivations were part of the psychological empowerment condition factors which Kluska *et al.* (2004:116) outline to be organisational structures which enable nurses to meet work demands. In their study, Kluska *et al.* (2004:116) indicate that staff nurses experienced effort reward imbalance when they had lack of resources which increased their workload and the amount of effort they exerted at work. Therefore, it was necessary to outline that Kluska *et al.* (2004) measured effort rewards imbalance using a 23 Likert scale questionnaire.

Whilst acknowledging the findings of Kluska *et al.* (2004:112), this study instead measured

the effort and reward factors which motivated nurses to participate in CPD activities to avoid the types of imbalances which are described by these authors (Kluska *et al.*,2004:126). As indicated in Table 4.8 and Flow diagram 4.1, the effort reward motivation had four factors which were extracted from 16 items measuring reasons and motivations for nurses' participation in professional development activities. These factors were: extrinsic effort, intrinsic effort, reward motives, and over commitment motives. However on the final framework (see Flow diagram 4.5), the extrinsic efforts were removed from the effort reward motivation factors because they loaded on the structural empowerment factor instead of the effort reward motivation factor. The aspects under the effort reward motivation were measured with Part 2A of the data collection instrument.

As illustrated in Flow diagram 4.5 (final research measurement framework) the study found that effort reward motivation had a relationship with psychological empowerment importance of (0.53 beta weight). In addition, this study also found that effort reward motivation mediates and enhances the effects of psychological empowerment importance on the nurses' participation in CPD activities which further increases by a total effect of 0.38 (see Table 4.14). The participation in CPD activities factor was the intermediary of the relationship between effort reward motivation and professional growth.

5.2.2.1 Reward motives

The study found that professional nurses indicated and agreed that they were motivated to take part in CPD activities in order to carry out their work better. Indeed, Beaudoin *et al.* (2014:178) indicate that taking part in professional growth and development activities help professional nurses to improve their confidence about their communication skills with regard to patient care and management. Similarly, Sykes and Temple (2012:208) maintain that patients directly benefit from lifelong learners who recognise the need to update their knowledge.

5.2.2.2 Intrinsic effort

In this factor, most of the professional nurses agreed with the items listed (see Table 4.8). The findings from the aspects in this factor indicated that professional nurses agreed that they were motivated to take part in CPD activities because it was considered important to increase the status of the profession. Indeed, in the patient charter of Namibia, patients expect to be treated by professional nurses who are skilful, knowledgeable and competent, and the nursing care should take place in a safe environment (Ministry of Health and Social services, 2016). Even more important, professional nurses also agreed that they take part in CPD activities to improve their current qualifications. McNeely *et al.* (2015:35) found similar results which demonstrated that the progressive effects resulting from additional qualifications include

increased productivity; few work related injuries and staff retention.

5.2.2.3 Over commitment motives

In this factor, most of the professional nurses agreed with the items listed (see Table 4.8). Professional nurses indicated that they would be motivated to over commit and take part in CPD activities because it is considered highly important in their professional development. This is in keeping with the literature. Pool *et al.* (2015:946) found in their study that professional development strategies assist nurses to keep up to date with latest knowledge and skills. In addition, professional development assists professional nurses to perform other roles within the work environments (Badu-Nyarko, 2015:85). Equally important, professional nurses indicated that they could be motivated to over commit and take part in CPD activities in order to make positive contribution to nursing practice. This result was comparable to Satoh *et al.* (2017:457) who found that occupational commitment is crucial for influencing nurses' work attitudes and outcomes which are issues important for professional development.

5.2.3 Objective 2: To determine the importance of psychological empowerment in encouraging nurses' participation in continuous professional development activities

This study found a positive relationship between psychological empowerment importance factors and nurses participation in CPD of (0.22 beta weight). As illustrated in Flow diagram 4.5 (final research measurement framework), this study found no significant relationship between psychological empowerment importance and structural empowerment conditions factor. These results were in contrast with (Kluska *et al.*, 2004:112; Knol & van Linge, 2009:355; Cicolini, *et al.*, 2014:855). They all found in their studies that psychological empowerment had a significant relationship with structural empowerment.

As indicated in Table 4.10 and Flow diagram 4.2, psychological empowerment importance factors extracted five factors from 23 items which measured how professional nurses rated the degree to which the listed items were important for their professional development. All items under the extracted factors had reliable Cronbach alphas of above 0.9 when items were to be deleted; the majority of the professional nurses found the listed items under the psychological empowerment to be important. The aspects and findings under the psychological empowerment were measured with Part 3B of the data collection instrument.

5.2.3.1 Importance of overall participation

The respondents indicated that this factor had aspects which were considered important towards nurses' professional development such as attending clinical practice meetings,

carrying out research and training courses. This is in keeping with the literature as Fogarty *et al.* (2014:15) explain that nurses who had opportunities to attend training activities were job satisfied and had no intentions of leaving their work places. Back-Pettersson *et al.* (2012:1109) also found that research and development is an effective way of stimulating nurses' lifelong learning through capacity building for conducting and applying nursing research in clinical practice.

5.2.3.2 Importance of participating in reward activities

For this factor, the study noted that the respondents indicated that issues such as receiving feedback from colleagues with regard to performance were important for their professional development. This finding is consistent with Fogarty *et al.* (2014:11) who found that nurses who have been longer in their workplaces received constructive feedback and were also recognised for a job well done and thus would value the importance of CPD.

In addition, putting scientific research outcomes into the practice of the profession was rated to be important by the respondents. This finding is similar to that of Sykes and Temple (2012:196). They found that professional growth and development was an important undertaking which is part of a professional career aimed at influencing nurses' daily practice through the transfer of knowledge.

5.2.3.3 Importance of personal and professional development

The study results in this factor, which measured the importance of personal and professional development to the professional development of nurses, included issues such as discussing with colleagues any developments that might have adverse impact on professional practice. This finding is in keeping with literature. Yang, Liu, Chen and Pan (2014:189) found that nurses who collaborated with other health professionals or who had autonomy to organisational problems felt highly empowered because they were involved in the decision-making processes. Similarly, shared governance has been identified to be important for individual professional nurses because it provides nurses with vital communication and decision-making infrastructures and it also help with improving job satisfaction (MacPhee *et al.*, 2011:159).

5.2.3.4 Importance of policy development and research

The study findings of aspects under this factor included professional nurses' ability to recognise the importance of keeping up to date with policy development. In accordance with Shariff (2015:9) nurses would be interested and motivated to take part in the process of policy development if they had been trained and empowered with knowledge and skills to understand their role in policy development. The majority of the respondents (56.4%) indicated that writing

articles for professional journals was not important to them. The researcher expected this finding because one of the problems leading to the conduct of this study was that professional nurses were not conducting research although research is part of their job description. Therefore, if nurses do not conduct research, then chances are that it would be highly unlikely for them to write articles for professional journals.

5.2.3.5 Importance of extrinsic efforts

Findings from this factor indicated that the respondents found that participation in CPD activities by critically reflecting on practical situations is important. This result is consistent with the findings for Altimier and Lasater (2014:34) who explain that learning from practice is important for professional nurses because it is a vital element of sustaining professional growth. On a different yet important note, Dube and Ducharme (2014:16) also demonstrate that reflective practice is a means of preventing the routines of patient care activities through looking at situations from different perspectives which may lead to the professional development of professional nurses.

5.2.4 Objective 3: To describe the structural conditions required for empowering nurses' participation in continuous professional development activities

This study found a strong positive relationship between structural empowerment condition factors and participation in CPD activities (see Flow diagram 4.5). This means that as the structural empowerment conditions improved, nurses were most likely to participate in professional development activities. The structural empowerment conditions factor extracted 4 factors from 21 items which measured the limiting conditions under which nurses CPD could be realised (see Table 4.11 and Flow diagram 4.3). All the items under the four factors, namely, reward conditions, effort conditions, personal and professional development conditions, and organisational conditions, had reliable Cronbach alpha values above 0.9 if items were to be deleted. The respondents mostly agreed with the items listed as indicated on Table 4.11. The aspects and findings under the structural empowerment were measured with Part 4C of the data collection instrument.

5.2.4.1 Reward conditions

The study found in the reward conditions that the respondents agreed that they would take part in CPD activities if they were coached by their colleagues, or if the healthcare organisations had career possibilities. This finding mirrors a study by Fletcher (2016:73) who find that career coaches emphasise and motivate nurses on the importance of continuous professional growth and development. Indeed, career coaches counsel and encourage nurses to pursue and participate in professional development activities. In addition, Coventry *et al.*

(2015:2715) clarify that healthcare organisations must promote and prioritise patient care through ensuring that nurses have access to CPD opportunities by giving them ample time to implement evidence based practice.

5.2.4.2 Effort conditions

Findings from this factor demonstrated how the respondents agreed that they would participate in CPD activities if they had more independence. Literature has established that it was not the sole responsibility of nurse managers to increase and improve the job satisfaction of nurses. Therefore, individual nurses must contribute to the development and sustainability of environments which are conducive for increasing job satisfaction levels (Hayes *et al.*, 2010:812). Moreover, Poell and Van der Krogt (2014:428) point out that nurses act strategically when it comes to their own individual professional development. This means that they select themes which are relevant to themselves and they then conduct learning activities around those themes as part of their individual efforts.

5.2.4.3 Personal and professional development conditions

This study established in this factor that the respondents agreed that they would participate in CPD activities if conditions such as necessary time were provided to them by the supervisor. This is in keeping with the opinion of Breklemans *et al.* (2016:14). They indicate that the availability of resources, time and having access to professional development are some of the conditions which encourage nurses to take part in professional growth and development activities. Similarly, Nsemo *et al.* (2013:333) explain that nurse managers must make flexible rosters which enable nurses to participate in continuing education activities outside their work location. Furthermore, nurses in Belgium indicated experiencing a supportive peer relationship in which their healthcare organisations supported and accorded them opportunities for learning and development which are conditions of structural empowerment (Van Bogaert *et al.*, 2016:11).

5.2.4.4 Organisational development conditions

The respondents agreed that they would participate in CPD activities if they could be allowed to have a say in team policy. These findings support those of Swift (2011:334) who established that healthcare organisations have adopted frameworks which accord professional nurses a professional autonomy and empowerment to enable them to contribute, practice and take part in the decision-making processes. Similarly, Wang *et al.* (2013:2896) agree that work environments which accorded nurses with empowerment opportunities such as availing study opportunities and collaboration with colleagues through information sharing are part of the structural empowerment conditions which lead to professional growth and development. In their study, Breklemans *et al.* (2016:15) also found that nurses consider the importance of

participating in organisational development activities because it is positively correlated with professional development.

5.2.5 Objective 4: To establish the associated factor relationships between professional growth in nurses and nurses' participation in continuous professional development activities

This study found participation in CPD activities factor to be the mediator of structural empowerment, psychological empowerment and effort reward motivations factors with professional growth. This means that nurses' participation in professional development activities had a direct relationship with professional growth of nurses of (0.2 beta weight). Part 5D of the data collection instrument measured the nurses' participation in CPD activities. The participation in CPD extracted six factors from the 23 items which measured how nurses actively performed the items listed. The six factors which were extracted were however reduced to five factors (personal and professional development factors were combined). Out of the five extracted factors, three were consistent with those established by Brekelmans *et al.* (2016:17) (clinical practice and policy development, participation in research, personal and professional development). As indicated in Table 4.12 and Flow diagram 4.4, all the items within the five extracted factors had reliable Cronbach alpha values above 0.8 if items were to be deleted. The respondents disagreed with some of the items listed under Part 5D. It was expected that they would disagree with aspects such as nurses writing articles for professional journals, although some indicated that they write articles. The majority did not participate in research which was one of the problems that this study set out to find an answer for. In addition, with aspects such as participation in the editing process of a professional journal, this result was expected because there were no journals in the hospital environment where the study was conducted in which nurses could participate in the editing process.

5.2.5.1 Clinical practice and policy development

The respondents indicated that they never actively participate in CPD activities such as participating in policy development (81.3%) (see Table 4.12). This finding is in keeping with the opinion of Richter *et al.* (2012:56). They explain that lack of nurses' involvement in policy development was related to a lack of communication and lack of information sharing. Therefore, there is a need to have strong management support to involve nurses in the policy development processes. On the other hand, Brekelmans *et al.* (2016:17) also state that in the Netherlands there was no evidence of nurses participating in organisational policy development at all levels within the hospital.

5.2.5.2 Participate in research

The findings in this factor demonstrated that the respondents do not actively perform research. The majority of respondents (80.5%), as shown in Table 4.12, indicated that they never perform research. However, in terms of participating and performing research, Back-Petterson *et al.* (2012:1109) maintain that research and development is indeed an effective way of stimulating nurses through capacity building for conducting and applying findings in clinical practice and thus leading to professional development. On the other hand, Brekelmans *et al.* (2016:17) found that in the Netherlands, participation in research on a daily practice by nurses is also not a common practice and that it may be an effort associated with other nursing job categories. Akerjordet *et al.* (2012:820) emphasise that the creation of organisational cultures which value research use and support nurses' participation in research activities is vital for the professional growth and development for nurses.

5.2.5.3 Effort reward

The findings illustrated in this factor that the respondents often actively perform CPD issues such as discussing with colleagues any developments which might have an adverse effect on professional practice. This is in accordance with Beaudoin *et al.* (2014:182) who demonstrate that permitting nurses to take part in decision-making and control over nursing practice indeed enables them to feel empowered and this empowerment results in nurses rendering safe and quality patient care which eventually leads to patient satisfaction.

Furthermore, part of the effort reward factor was also aspects of nurses following short courses. Awases *et al.* (2013:5) outline that job specific refresher courses help nurses to retain their knowledge and skills, thus ensuring professional competence, excellent patient care and eventually the professional growth of nurses.

5.2.5.4 Over commitment

In this factor, 73.0% of the respondents indicated that they never actively participate in reflective and intervention meetings. This study finding was however in contrast with that of Yfantis *et al.* (2010:193). They found in their study that engaging in the process of reflection accorded nurses an opportunity of taking control of their own professional learning, which may result in professional growth and development. Similar results were discussed by Altimier and Lasater (2014:34) demonstrating that reflective practice is a learning tool which could assist nurses to develop progression from a beginner nurse practitioner to a proficient and expert nurse practitioner.

5.2.5.5 Personal and professional development

The respondents indicated that they often actively performed CPD activities such as taking

part in CPD on their own expenses and or during their own time. Indeed, Witt (2011:227) points out that individual nurses must have a personal commitment in which continuing education was valued as part of a nurse's professional responsibility. Although in some instances, nurses could not perform CPD activities because they were not able to pay for courses (Richards & Potgieter, 2010:44). Nurses also need to often ensure that they keep up to date with professional developments. Indeed the HPCNA (2011:6) clearly stipulates that health professionals in Namibia are required to maintain constant commitment for lifelong learning in order to update and develop their knowledge and skills.

5.3 Limitations of the study

This study was conducted in a public national referral hospital where conditions were not the same as in other hospitals in Namibia. Therefore, this could limit generalisation of the research findings to professional nurses working in other healthcare facilities in Namibia. Furthermore, although the study used a previously validated data collection instrument, this was a self-reported questionnaire which only used Likert scale type of questions. Chances were that some respondents might have chosen to either agree or disagree with all the items and have the questionnaire completed without having taken time to read the statements carefully. This factor could have impacted the accuracy and the validity of the study findings.

Another limitation was that the relationship between the nurse's level of certification and professional growth of nurses was not statistically significant. However, if certification link were to be removed the model would not fit. Additionally, the beta weight value of 1.062 suggests that nurses' level of certification is dependent on professional growth of nurses. However, in this study professional growth was the dependent variable. As such, the study may have omitted other critical variables independent of professional growth of nurses but dependent on the level of certification. These can include barriers to CPD as mentioned in literature but not operationalised in this study.

5.4 Conclusions

In terms of the objectives set for this study, the major finding demonstrated that psychological empowerment importance factors, effort reward motivation factors, and structural empowerment condition factors, lead to professional growth of professional nurses in Namibia through participation in CPD activities. As established in the final research measurement framework (Flow diagram 4.5), participation in CPD activities intermediate the relationships between psychological empowerment importance factors and professional growth, structural empowerment conditions factor and professional growth and effort reward motivation factors and professional growth.

In addition, this study also concluded that professional growth of professional nurses in Namibia could be attained and measured through nurses' participation in CPD activities, nurses' years of experience, and post-graduate certification. In Table 4.14 of the standardised total regression effects of the variables in the final research framework, the results showed that post-graduate certification (1.06), work experience in years (0.38), and participation in CPD activities (0.26), directly affect professional growth of professional nurses in Namibia. These three direct effect relationships have the largest impact on the professional growth of professional nurses. The relationship between post-graduate certification and professional growth of nurses was not statistically significant. However, if certification link were to be removed the model would not fit. This further highlighted the importance of post-graduate certification to the professional growth of professional nurses in Namibia. This means that professional nurses are most likely to enrol for an additional qualification as their years of experience progress. McNeely *et al.* (2012:35) underscore this notion that professional nurses and employers value the measure of certification; as certification authenticates speciality knowledge and it also indicates nurses' professional growth.

5.5 Recommendations

According to Grove *et al.* (2015:356) researchers develop recommendations because they have advanced knowledge and experience which could be used in designing better studies in the future. In this section, recommendations are provided based on the study findings and suggestions for future researches have been made.

5.5.1 Recommendation 1: Nurse administrators to develop and maintain professional portfolios for professional nurses

Findings from this study indicated that certification is an important component for professional growth of professional nurses. In addition, it was outlined that individual professional nurses participate in CPD activities for different reasons. Therefore, it is recommended that nurse administrators should develop and maintain nurses' professional portfolios in order to keep track of staff members' professional skills (Casey & Egan, 2010:542; Lammintakanen & Kivinen, 2012:45).

5.5.2 Recommendation 2: Renewal or yearly registration

Findings from this study pointed out the importance and motives which professional nurses prefer in order to participate in CPD activities. Therefore the researcher recommends that it would be ideal if the nursing council of Namibia were able to introduce the mandatory system of yearly renewal where each registered practitioner has to provide proof of participation in CPD activities before registration renewal as implemented in other countries (Ross *et al.*,

2013:10; Chong *et al.*, 2011:43).

5.5.3 Recommendation 3: Rewards for experienced nurses at the workplace

The findings of this study point out that the years of experience of professional nurses is important for their professional growth. What is more, participation in professional development activities vary with age and with career stages; some professional nurses were motivated to participate in professional development activities because they would want to be rewarded for their efforts (Pool *et al.*, 2015:945). Therefore, the researcher recommends that hospital A should consider developing a system of rewarding long serving nurses and nurses who have demonstrated their interest in continuing education by acquiring post-graduate qualifications (McNeely *et al.*, 2015:41). This will not only motivate nurses to participate in CPD activities but awarding nurses for their years of experience and certification will also help retention of professional nurses and job satisfaction.

5.5.4 Recommendation 4: Further research

The researcher recommends that the newly proposed research measurement framework on the factors associated with how participation in professional development activities leads to the professional growth of professional nurses should be employed in future studies. For example, to be surveyed on all professional nurses in one cross sectional study in all healthcare settings in Namibia and to compare results. Moreover, a similar study with a large sample and using a combination of questionnaire professional development instrument(Q-PDN); work effectiveness questionnaire; Spreitzer's psychological empowerment scale and effort reward imbalance scales (Kluska *et al.*, 2004:123) should be conducted and results compared with findings of similar studies. It may also be ideal to conduct a study on the barriers which prevent professional nurses in Namibia from participating in CPD activities.

5.6 Dissemination

The researcher will submit the study findings to the Ministry of Health and Social Services research and ethics department as requested in this study's ethical permission letter. The researcher will further seek permission from the permanent secretary and the medical superintendent of the study setting in which the study was conducted to present the study findings to all the professional nurses. In addition, the study findings will also be presented during the commemoration of the annual nurses' day. The researcher will write articles from the study findings which will be submitted for publication in accredited and peer reviewed journals.

5.7 Conclusion

This study has added to the body of research. Certification and work experience play an important role toward professional growth. This study described the factors associated with

how participation in CPD activities leads to the professional growth of professional nurses and also presented the pathways in a form of a mediation research framework on the factors associated with participation in CPD activities leading to professional growth of professional nurses working in a public hospital in Namibia. Therefore, it is crucial that healthcare organisations, nurse managers, and individual nurses, recognise the importance of participation in professional growth and development activities. Specific emphasis should be on the importance of post-graduate certification so that nurses are motivated not to become routinised and avoid development of skill atrophy. This means that professional nurses must be encouraged and be allowed to apply to institutions of higher learning for postgraduate certification.

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APPENDICES

Appendix 1: Ethical approval from Stellenbosch HREC



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvenoot • your knowledge partner

Approval Notice

Response to Modifications- (New Application)

08-Mar-2017

Mbidi, Tekla TSN

Ethics Reference #: S16/10/223

Title: Factors associated with the professional growth of professional nurses working in a public hospital in Windhoek, Namibia

Dear Miss Tekla Mbidi,

The **Response to Modifications - (New Application)** received on **19-Jan-2017**, was reviewed by members of **Health Research Ethics Committee 1** via Expedited review procedures on **02-Mar-2017** and was approved.

Please note the following information about your approved research protocol: Protocol Approval Period: **08-Mar-2017 -07-Mar-2018**

Please remember to use your **protocol number (S16/10/223)** on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:

Please note a template of the progress report is obtainable on www.sun.ac.za/rds and should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Translation of the consent document to the language applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372

Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States

Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health).

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Helene Visser at City Health (Helene.Visser@capetown.gov.za Tel: +27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and documents please visit: www.sun.ac.za/rds

If you have any questions or need further assistance, please contact the HREC office at .

Included Documents:

Synopsis Mbidi.pdf

CV supervisor.pdf

20170123 MOD Application fom.pdf Gen Checklist T Mbidi.pdf

20170123 MOD Checklist Declaration supervisor.pdf

Inform consent Mbidi.pdf

CV student Mbidi.pdf

20170123 MOD HREC Mods letter.pdf

20170123 MOD Protocol

20170123 MOD Check list for proposal modification

20170123 MOD Informed Consent General

Proposal Mbidi.pdf

Participant consent.pdf

HREC Application T Mbidi.pdf

20170123 MOD Protocol Synopsis

20170123 MOD Cover letter for modification.docx

Declaration student.pdf

Sincerely,

Franklin Weber

HREC Coordinator

Health Research Ethics Committee 1

Appendix 2: Ethical permission from permanent secretary- MOHSS



REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2562
Fax: 061 – 222558
E-mail: hnangombe@gmail.com

OFFICE OF THE PERMANENT SECRETARY

Ref: 17/3/3

Enquiries: Ms. H. Nangombe

Date: 19 April 2017

Mrs. Tekla SN Mbidi
PO Box 81925
Olymbia
Windhoek

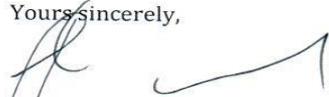
Dear Mrs. Mbidi

Re: Factors associated with the professional growth of professional nurses working in a public hospital in Windhoek-Namibia

1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
 - 3.1 The data to be collected must only be used for academic purpose;
 - 3.2 No other data should be collected other than the data stated in the proposal;
 - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

- 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
- 3.5 Preliminary findings to be submitted upon completion of the study;
- 3.6 Final report to be submitted upon completion of the study;
- 3.7 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely,



Andreas Mwoombola (Dr)
Permanent Secretary



"Health for All"

Appendix 3: Institutional permission- WCH



MINISTRY OF HEALTH AND SOCIAL SERVICES

Private Bag 13215 Windhoek Namibia	Harvey Street Windhoek Central Hospital	Tel. No: (061) 203 3024 Fax No: (061) 222886
Enquiries: Ms. S.Ipinge	Ref.17/3/3	Date: 20 April 2017

OFFICE OF THE MEDICAL SUPERINTENDENT

Ms.Tekla SN Mbidi
P.O.BOX 81925
0811222282
teklashiindi@gmail.com

Dear Mrs Tekla

RE: PERMISSION TO RESEARCH ON THE FACTORS ASSOCIATED WITH THE PROFESSIONAL GROWTH OF PROFESSIONAL NURSES WORKING IN A PUBLIC HOSPITAL WINDHOEK -NAMIBIA

This letter serves to inform you that permission has been granted for you to conduct a study on the above mentioned subject as you have requested and does not include any remuneration.

Thank you for your kind gesture.

Yours sincerely

.....
Dr.K.H.NAKANGOMBE
ACTING MEDICAL SUPERINTENDENT



Appendix 4: Permission to use questionnaire instrument

Permission granted to use Q-PDN by Brekelmans, Maassen, Poell and van Wijk, 2015 as described in the research articles titled “ The development and empirical validation of the Q-PDN: A questionnaire measuring continuing professional development of nurses. Original article can be found in Nurse Education Today 35 (2015) 232-238.

from: **G.A. Brekelmans** <g.brekelmans@erasmusmc.nl>

to: Tekla Mbidi <teklashiindi@gmail.com>

date: Sat, Aug 20, 2016 at 9:17 AM

subject: RE: Fwd:

mailed-by: erasmusmc.nl

encryption: Standard (TLS) [Learn more](#)

: Important mainly because of your interaction with messages in the conversation.

Dear Tekla,

I'm pleased that our article caught your attention. We think that research should be relevant for practice and I think the Q-PDN can be helpful. The questionnaire is available and I'm more than willing to cooperate. If needed you may modify the instrument. Will you mail me the final instrument so we can learn also. Just let me know what you need. Are you going to publish the results? And of course we really are very curious about the results. Is it possible to share these with us?

At this moment I'm away for a short holiday and will be back the 29e.

Looking forward hearing from you.

Kind regards

Gerard Brekelmans

Appendix 5: Health professions council of Namibia CPD directives (2011)

1. ROLES AND RESPONSIBILITIES

1.1 HEALTH PROFESSIONALS

The purpose of CPD is to assist health professionals to maintain and acquire new and updated levels of knowledge, skills and ethical attitudes that will be of measurable benefit in professional practice and to enhance and promote professional integrity. The beneficiary will ultimately be the patient/client. All registered health professionals are required to complete a series of accredited continuing education activities each year. The activities are clustered together to represent a hierarchy of learning. Health professionals may select activities at any level of learning that meet their particular needs and the demands of their practice environments.

Any health professional who registers for the first time as a health care professional will commence with his/her CPD programme immediately. Health administrators who are not in clinical practice are required to comply with CPD requirements, unless they are registered on a non-clinical register.

When health professionals who are actively practicing in Namibia attend an accredited professional or academic meeting or activity abroad it will be recognized for CPD purposes. The activity attended abroad should be accredited by the HPCNA CPD Committee in Namibia if not accredited/recognized for CEU equivalent in the country where it was held.

1.1.1 CONTINUING EDUCATION UNITS (CEUs)
--

Every registered health professional is required to engage in CPD and accumulate **30 CEUs** per 12 month period, of which at least 5 CEUs should be for ethics, human rights and medical law. Accrued CEUs for CPD activities will be valid for a period of 24 months from the date that the activity took place/ended. Thus health professionals should aim to accumulate a balance of 60 CEUs by their end of their second year of registration and thereafter "top up". The requirement for compliance is to reach and **MAINTAIN** a level of 60 CEUs (of which at least 10 CEUs should be for ethics, human rights and medical law) at all times

Health professionals who are registered in two professions from two Councils are required to obtain **30 CEUs per profession or 15 for supplementary professions.** Health professionals registered in more than one profession within the same Council should accrue 30 CEUs per profession.

Cross Recognition of CEUs: If a CPD activity has been accredited by the HPCNA CPD Committee for a specific Council all health care professionals may attend that activity **if it is relevant to their specific scope of practice**. Health professionals will therefore not need to apply for that activity to be re-accredited by their own Council in order to claim the CEUs accrued for attending that activity.

The number of CEUs to be accumulated by health professionals who are on the supplementary registers was determined by the relevant Councils.

MEDICAL AND DENTAL COUNCIL

Professionals	30 CEUs
Supplementary	15 CEUs

NURSING COUNCIL

Professionals	30 CEUs
Supplementary	15 CEUs

ALLIED HEALTH PROFESSIONS COUNCIL

Professionals	30 CEUs
Supplementary	15 CEUs

PHARMACY COUNCIL

Professionals	30 CEUs
Supplementary	15 CEUs

SOCIAL WORK AND PSYCHOLOGY COUNCIL

Professionals	30 CEUs
Supplementary	15 CEUs

Appendix 6: Participant information leaflet and consent forms

PARTICIPANT INFORMATION AND CONSENT FORMS: MAIN STUDY

Title of the study: Factors associated with how participation in continuous professional development activities leads to professional growth of professional nurses working in a public national referral hospital in Namibia.

Principal investigator: Tekla S. N. Mbidi

Address: Erf 975, Ondangaura str, Cimbebasia, Windhoek, Namibia

Contact number: + 264 8 11 22 22 82

You are being invited to take part in this research project. Kindly take some time to read the information presented here which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you understand what this research entails and how you could be involved. Please note that your participation is **entirely voluntary** and you are **free to decline** to participate. If you decide not to participate, you will not be penalised in any way or whatsoever. You are also free to withdraw from the study at any point. This study will be conducted according to the ethical guidelines and principles of the 2013 international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about? This study is aimed at describing the factors associated with the professional growth of professional nurses working in a specified public hospital in Namibia. The researcher is aware that all professional nurses are responsible for their individual professional growth. However, although it is the professional nurse's own responsibility to maintain their professional growth, it is important that there are opportunities within the health care institutions to assist professional nurses to engage and grow in the nursing career. Therefore, the researcher is interested in describing the factors associated with the professional growth of professional nurses. The study will be conducted in Namibia. The total population for this study will be all 342 professional nurses employed in the specified healthcare institution selected for the study.

Why have you been invited to participate? As a professional nurse employed in the selected health care institution for the study, you are eligible to partake in this study.

What will your responsibilities be? Each participant will be required to complete the supplied questionnaire by answering **ALL** the questions. The questionnaires will take you approximately 15-25 minutes to complete. Drop the completed questionnaire in the questionnaire box situated at the nurses' station.

Will you benefit from taking part in this research? The study findings will benefit you by knowing which available factors are associated with your professional growth and development. The results of the study and recommendations will be published and made available to the nursing fraternity on request.

Are there any risks involved in your taking part in this research? No risks have been identified. However, all information will be treated with confidentiality, anonymity and privacy.

If you do not agree to take part, what alternatives do you have? Participation in this study is voluntary; however, the researcher will appreciate your input as a professional nurse.

Will you be paid to take part in this study and are there any costs involved? No, you will not be paid to take part in the study. Participation is on a voluntary basis.

Is there anything else that you should know or do?

You can contact the Health Research Ethics Committee at Stellenbosch University on +27 21-938 9207 if you have any concerns or complaints that have not been adequately addressed by your study investigator.

Declaration by participant

By signing below I agree to take part in a research study titled: Factors associated with the professional growth of professional nurses working in a specified public hospital in Namibia. I declare that:

- I have read this information and consent form and it is written in a language with which I am fluent and comfortable.
- I had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been compelled to take part.
- I may choose not to continue participating in the study at any time and will not be penalised or prejudiced in any way.

Signed at (*place*) on (*date*) 2017.
Signature of participant

Declaration by investigator

I **Tekla Mbidi declare** that:

I explained the information in this document to

I encouraged him/her to ask questions and I took adequate time to answer the queries.

I am satisfied that he/she adequately understands all aspects of the research, as discussed above.

I did not use a translator

Signed at (*place*) On (*date*) 2017.

Signature of investigator.....

Appendix 7: Main study data collection instrument

QUESTIONNAIRE: MAIN STUDY

TITLE OF STUDY: FACTORS ASSOCIATED WITH HOW PARTICIPATION IN CONTINUOUS PROFESSIONAL DEVELOPMENT ACTIVITIES LEAD TO PROFESSIONAL GROWTH OF PROFESSIONAL NURSES WORKING IN A NATIONAL PUBLIC REFERRAL HOSPITAL IN NAMIBIA.

INSTRUCTIONS

Thank you that you will be participating in this study. Kindly read the following instructions and answer all the questions honestly. **Please do not leave any question unanswered.** On completion of the questionnaire, please **drop it in the provided box marked “questionnaire box” placed at the nurses’ station.** Your participation will highly be appreciated. Be informed that all information gathered will be treated anonymously and will be kept as confidential as possible. There is no right or wrong answers to this questionnaire. Your information will be of importance for the success of this study. **Do not record your name or any form of identification on this questionnaire.**

For any further enquiries, do not hesitate to contact the researcher on the following number;

Name: Ms. Tekla Mbidi

Contact number: +264 81 122 228 2

Or

The researcher’s supervisor: Mrs. A Damons (Stellenbosch University)

Email address: damonsa@sun.ac.za

Please answer all the questions by marking your choice with a cross (×)

E.g. Your gender

Male	×
Female	

The questionnaire will consist of ten (10) pages, and can be completed within 15-25 minutes.

Acknowledgements: The original data collection tool; Questionnaire Professional Development Nurses (Q-PDN) was developed and validated by Brekelmans, Maassen, Poel and van Wijk, (2015: 232-238). The researcher obtained permission to use the instrument within the Namibian context and make amendments where necessary.

CONTINUING PROFESSIONAL DEVELOPMENT OF NURSES (CPD)

Questionnaire Professional Development Nurses (Q-PDN)

PART 1 – DEMOGRAPHIC DATA

1.1 Gender:

- 1.1.1 Male
- 1.1.2 Female

1.2 Age:..... Years

1.3 Work experience:

How many years have you worked as a professional nurse?

..... Years

1.4 On which unit do you currently work? (Pick only one)

- 1.4.1 Surgery
- 1.4.2 Medicine
- 1.4.3 Intensive Care
- 1.4.4 Paediatrics
- 1.4.5 Oncology
- 1.4.6 Emergency
- 1.4.7 Obstetric/gynecological
- 1.4.8 Palliative care
- 1.4.9 Psychiatric
- 1.4.10 Out patient
- 1.4.11 Ophthalmology
- 1.4.12 Theatre

1.5 Level of education as a Registered nurse

- 1.5.1 Diploma in Nursing
- 1.5.2 Bachelor of Science in Nursing
- 1.5.3 Post graduate diploma
- 1.5.4 Honours degree in Nursing science
- 1.5.5 Master degree in nursing
- 1.5.6 Doctorate in Nursing
- 1.5.7 Other (Specify).....

1.6 Please list your certification/additional qualification

- 1.6.1 Intensive Care Nursing
- 1.6.2 Coronary Care Nursing
- 1.6.3 Accident and Emergency Nursing
- 1.6.4 Paediatric Nursing
- 1.6.5 Paediatric Intensive Care Nursing
- 1.6.6 Neonatal Intensive Care Nursing
- 1.6.7 Oncology Nursing

- 1.6.8 Obstetric Nursing
- 1.6.9 General Nursing
- 1.6.10 Surgical Nursing
- 1.6.11 Renal Nursing
- 1.6.12 Ophthalmology Nursing
- 1.6.13 Mental health Nursing
- 1.6.14 Operating room Nursing
- 1.6.15 Nursing management/education
- 1.6.16 None

1.7 What is currently your position within the hospital?

- 1.7.1 Registered/professional nurse
- 1.7.2 Registered nurse/ clinical instructor/educator
- 1.7.3 Senior registered/professional nurse
- 1.7.4 Nurse manager

PART 2 – Effort reward motivations related to reasons and motivations

2. The term Continuous Professional Development (CPD) refers to all activities which may contribute to your professional development. Below are a number of reasons and motivations for participating in CPD activities. Please indicate the extent to which you agree with each statement listed below with regard to motivations.

1. Mainly disagree
2. Partly disagree
3. Partly agree
4. Mainly agree

A:	Effort reward motivation: I take part in CPD activities:	1	2	3	4
1.	... in order to meet the requirements for registration in the future				
2.	... in order to increase my chances of promotion				
3.	... because further professional development is important to me				
4.	... to increase my professional status				
5.	... to improve my current qualifications				

6.	... because I consider it important to increase the status of my profession				
7.	... to support my career				
8.	... in order to carry out my work better				
9.	... in order to meet the requirements of the organisation I work for				
10.	... in order to increase the quality of healthcare				
11.	... to prove to my employer that I am professionally competent				
12.	... because this is considered highly important in my professional environment				
13.	... in order to achieve a higher level of training				
14.	... in order to make a positive contribution to nursing practice				
15.	... to support my career potential /choice				
16.	... to improve my leadership abilities				

Part 3: Several CPD activities are listed below. Please indicate the degree to which you consider the items listed below to be important to your own professional development.

1. = not important at all

2. = not important

3. = important

4. = very important

B:	Psychological empowerment - Importance: The following issues are important to my professional development...	1	2	3	4
1.	Participation in policy development				
2.	Attending clinical practice meetings				
3.	Training courses				
4.	Receiving feedback from colleagues regarding my performance				
5.	Putting scientific research outcomes into the practice of my profession				
6.	Participating in feedback discussions				
7.	Reviewing medical literature with regard to best practices				

8.	Learning through practice				
9.	Carrying out research				
10.	Actively participating in team discussions about team performance				
11.	Discussing with colleagues any developments that might have an adverse effect on professional practice				
12.	Following short courses (duration 2-8 hours)				
13.	Writing articles for professional journals				
14.	Making sure that I keep up to date with policy developments				
15.	Participating in recruitment and selection interviews with new members of staff				
16.	Participating in reflection and/or intervention meetings (getting together to talk about activities and growth in your ward and organization)				
17.	Participating in internal projects				
18.	Exchanging best practices or setting up projects with other institutions				
19.	Informing my supervisor if I notice any developments at work that could have an adverse effect on professional practice				
20.	Making sure that I keep up to date with professional developments				
21.	Reflect critical on practical situations				
22.	Serving on the editorial board of a professional journal				
23.	Determining whether I performed well and whether I could perform better next time				

Part 4: Below are several statements about the limiting conditions under which your own Continuing Professional Development (CPD) can best be realised. Please indicate the degree to which you agree or disagree with the statements in the list.

1. Mainly agree

2. Partly agree
3. Partly disagree
4. Mainly disagree

C:	Structural empowerment conditions factors: I take part in CPD activities...	1	2	3	4
1.	... if the expenses are fully reimbursed by the employer				
2.	... if there are career possibilities within my organisation				
3.	... if my immediate supervisor discusses my career possibilities with me				
4.	... if I follow the CPD activities in my own time				
5.	... if the CPD activities are offered in a multidisciplinary context (e.g. together with doctors)				
6.	... if I receive career guidance				
7.	... if suitable supplementary training courses are offered by my immediate supervisor				
8.	... if my supervisor provides me with the necessary time				
9.	... if the CPD activities result in a certificate				
10.	... if I receive an annual appraisal				
11.	... if my colleagues coach me				
12.	... if taking part in CPD activities allows me to have a say in ward/team policy				
13.	... if I have more independence				
14.	... if the CPD activities have a clear career perspective				
15.	... if my immediate supervisor coaches me				
16.	... if there is a clear reduction in workload				
17.	...if I am appreciated from within my organisation for the work I do				
18.	...if other positions are offered within my organisation				
19.	...if I receive support from my supervisor				
20.	...if I follow other CPD courses				

21.	...if the CPD activities are not expensive				
------------	--	--	--	--	--

Part 5: Several CPD activities are listed below. Please indicate how often you actively perform each of these activities.

1. Never
2. Occasionally
3. Quite often
4. Very often

D:	Participation in CPD: How actively do you perform the following activities?	1	2	3	4
1.	I participate in policy development				
2.	I attend clinical practice meetings				
3.	I follow training courses				
4.	I make use of scientific nursing outcomes in my professional practice				
5.	I participate in feedback discussions				
6.	I review medical literature with regard to best practices				
7.	I perform research				
8.	I actively participate in team discussions about team performance				
9.	I discuss with colleagues any developments that might have an adverse effect on professional practice				
10.	I follow short courses				
11.	I write articles for professional journals				
12.	I make sure that I keep up to date with policy developments				
13.	I participate in recruitment and selection interviews with new members of staff				
14.	I participate in reflection and/or intervention meetings				
15.	I participate in internal projects				
16.	I exchange best practices or set up projects with other institutions				
17.	I inform my supervisor if I notice any developments at work that could have an adverse effect on professional practice				
18.	I make sure that I keep up to date with professional developments				

19.	I reflect critical on practical situations				
20.	I participate in the editing process of a professional journal				
21.	I determine whether I performed well and whether I could perform better next time				
22.	I follow the CPD activities in my own time				
23.	I take part in CPD activities at my own expense				

Appendix 8: Pilot study data collection instrument

QUESTIONNAIRE: PILOT STUDY

TITLE OF STUDY: FACTORS ASSOCIATED WITH HOW PARTICIPATION IN CONTINUOUS PROFESSIONAL DEVELOPMENT ACTIVITIES LEAD TO THE PROFESSIONAL GROWTH OF PROFESSIONAL NURSES WORKING IN A NATIONAL PUBLIC REFERRAL HOSPITAL IN NAMIBIA.

INSTRUCTIONS

Thank you that you will be participating in this study. Kindly read the following instructions and answer all the questions as honestly and **please do not leave any question unanswered**. On completion of the questionnaire, please return it in the envelope attached. Your cooperation will highly be appreciated. Be informed that all information gathered will be treated as anonymous and will be kept as confidential as possible. There is no right or wrong answers to this questionnaire. Your information will be of importance for the success of this study. **Do not record your name or any form of identification on this questionnaire**. For any further enquiries, do not hesitate to contact the researcher on the following number;

Name: Ms. Tekla Mbidi

Contact number: +264 81 122 228 2

Or

The researcher's supervisor: Mrs. A Damons (Stellenbosch University)

Email address: damonsa@sun.ac.za

Please answer all the questions by marking your choice with a cross (×).

E.g. Your gender

Male	×
Female	

The questionnaire will consist of ten (10) pages is estimated to be completed within 20-30 minutes.

Kindly return the completed questionnaire in the provided envelope and drop it in the questionnaire box at the nurses' station.

Acknowledgements: The original data collection tool; Questionnaire Professional Development Nurses (Q-PDN) was developed and validated by Brekelmans, Maassen, Poel and van Wijk, (2015: 232-238). The researcher obtained permission to use the instrument within the Namibian context and make amendments where necessary.

CONTINUING PROFESSIONAL DEVELOPMENT OF NURSES (CPD)

Questionnaire Professional Development Nurses (Q-PDN)

PART 1 – DEMOGRAPHIC DATA

1.1 Gender:

- 1.1.1 Male
- 1.1.2 Female

1.2 Age:..... Years

1.3 Employment status:

- 1.3.1 Full time
- 1.3.2 Part time
- 1.3.3 Per diem/TAR
- 1.3.4 Shift rotation
 - Days, evening, nights
 - Day, evening
 - Straight days
 - Straight nights
- 1.3.5 Other (specify).....

1.4 Work experience:

How many years have you worked as a professional nurse?..... Years

1.5 On which unit do you currently work? (Pick only one)

- 1.5.1 Surgery
- 1.5.2 Medicine
- 1.5.3 Intensive Care
- 1.5.4 Paediatrics
- 1.5.5 Oncology
- 1.5.6 Emergency
- 1.5.7 Obstetric/gynecological
- 1.5.8 Palliative care
- 1.5.9 Psychiatric
- 1.5.10 Out patient

1.6 Level of education as a Registered nurse

- 1.6.1 Doctoral
- 1.6.2 Master degree in nursing
- 1.6.3 Bachelor of Science in Nursing (BSN)
- 1.6.4 Associate degree
- 1.6.5 Other

1.7 Please list your certification

- 1.7.1 Intensive Care Nursing
- 1.7.2 Coronary Care Nursing
- 1.7.3 Accident and Emergency Nursing
- 1.7.4 Paediatric Nursing
- 1.7.5 Paediatric Intensive Care Nursing
- 1.7.6 Neonatal Intensive Care Nursing
- 1.7.7 Oncology Nursing
- 1.7.8 Obstetric Nursing

1.8 What is currently your main position within the hospital?

- 1.8.1 Staff Nurse
- 1.8.2 Nurse leader
- 1.8.3 Nurse manager
- 1.8.4 Clinical nurse specialist
- 1.8.5 Nurse Practitioner
- 1.8.6 Nursing administration
- 1.8.7 Educator

PART 2 – Effort reward motivations related to reasons and motivations

2. The term Continuous Professional Development (CPD) refers to all activities which may contribute to your professional development. Below are a number of reasons and motivations for participating in CPD activities. Please indicate the extent to which you agree with each statement listed below with regard to motivations.

1. Mainly disagree
2. Partly disagree
3. Partly agree
4. Mainly agree

A:	Effort reward motivation: I take part in CPD activities:	1	2	3	4
1.	... in order to meet the requirements for registration in the future				
2.	... in order to increase my chances of promotion				
3.	... because further professional development is important to me				
4.	... to increase my professional status				
5.	... to improve my current qualifications				

6.	... because I consider it important to increase the status of my profession				
7.	... to support my career				
8.	... in order to carry out my work better				
9.	... in order to meet the requirements of the organisation I work for				
10.	... in order to increase the quality of healthcare				
11.	... to prove to my employer that I am professionally competent				
12.	... because this is considered highly important in my professional environment				
13.	... in order to achieve a higher level of training				
14.	... in order to make a positive contribution to nursing practice				
15.	... to support my career potential /choice				
16.	... to improve my leadership abilities				

Part 3: Several CPD activities are listed below. Please indicate the degree to which you consider the items listed below to be important to your own professional development.

1. = not important at all

2. = not important

3. = important

4. = very important

B:	Psychological empowerment-Importance: The following issues are important to my professional development...	1	2	3	4
1.	Participation in policy development				
2.	Attending clinical practice meetings				
3.	Training courses				
4.	Receiving feedback from colleagues regarding my performance				
5.	Putting scientific research outcomes into the practice of my profession				
6.	Participating in feedback discussions				
7.	Reviewing medical literature with regard to best practices				
8.	Learning through practice				
9.	Carrying out research				
10.	Actively participating in team discussions about team performance				
11.	Discussing with colleagues any developments that might have an adverse effect on professional practice				
12.	Following short courses (duration 2-8 hours)				
13.	Writing articles for professional journals				
14.	Making sure that I keep up to date with policy developments				
15.	Participating in recruitment and selection interviews with new members of staff				
16.	Participating in reflection and/or intervention meetings (getting together to talk about activities and growth in your ward and organization)				
17.	Participating in internal projects				

18.	Exchanging best practices or setting up projects with other institutions				
19.	Informing my supervisor if I notice any developments at work that could have an adverse effect on professional practice				
20.	Making sure that I keep up to date with professional developments				
21.	Reflect critical on practical situations				
22.	Serving on the editorial board of a professional journal				
23.	Determining whether I performed well and whether I could perform better next time				

Part 4: Below are several statements about the limiting conditions under which your own Continuing Professional Development (CPD) can best be realised. Please indicate the degree to which you agree or disagree with the statements in the list.

1. Mainly agree
2. Partly agree
3. Partly disagree
4. Mainly disagree

C:	Structural empowerment conditions factors: I take part in CPD activities...	1	2	3	4
1.	... if the expenses are fully reimbursed by the employer				
2.	... if there are career possibilities within my organisation				
3.	... if my immediate supervisor discusses my career possibilities with me				
4.	... if I follow the CPD activities in my own time				
5.	... if the CPD activities are offered in a multidisciplinary context (e.g. together with doctors)				
6.	... if I receive career guidance				
7.	... if suitable supplementary training courses are offered by my immediate supervisor				
8.	... if my supervisor provides me with the necessary time				
9.	... if the CPD activities result in a certificate				
10.	... if I receive an annual appraisal				
11.	... if my colleagues coach me				
12.	... if taking part in CPD activities allows me to have a say in ward/team policy				
13.	... if I have more independence				
14.	... if the CPD activities have a clear career perspective				
15.	... if my immediate supervisor coaches me				
16.	... if there is a clear reduction in workload				

17.	...if I am appreciated from within my organisation for the work I do				
18.	...if other positions are offered within my organisation				
19.	...if I receive support from my supervisor				
20.	...if I follow other CPD courses				
21.	...if the CPD activities are not expensive				

Part 5: Several CPD activities are listed below. Please indicate how often you actively perform each of these activities.

1. Never
2. Occasionally
3. Quite often
4. Very often

D:	Participation in CPD: How actively do you perform the following activities?	1	2	3	4
1.	I participate in policy development				
2.	I attend clinical practice meetings				
3.	I follow training courses				
4.	I make use of scientific nursing outcomes in my professional practice				
5.	I participate in feedback discussions				
6.	I review medical literature with regard to best practices				
7.	I perform research				
8.	I actively participate in team discussions about team performance				
9.	I discuss with colleagues any developments that might have an adverse effect on professional practice				
10.	I follow short courses				
11.	I write articles for professional journals				
12.	I make sure that I keep up to date with policy developments				
13.	I participate in recruitment and selection interviews with new members of staff				
14.	I participate in reflection and/or intervention meetings				
15.	I participate in internal projects				
16.	I exchange best practices or set up projects with other institutions				
17.	I inform my supervisor if I notice any developments at work that could have an adverse effect on professional practice				
18.	I make sure that I keep up to date with professional developments				

19.	I reflect critical on practical situations				
20.	I participate in the editing process of a professional journal				
21.	I determine whether I performed well and whether I could perform better next time				
22.	I follow the CPD activities in my own time				
23.	I take part in CPD activities at my own expense				

Appendix 9: Proof of assistance with data analysis

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19 August 2017

TO WHOM IT MAY CONCERN

RE: PROOF OF TECHNICAL CARE FOR THE THESIS TITLED “*FACTORS ASSOCIATED WITH HOW PARTICIPATION IN CONTINUOUS PROFESSIONAL DEVELOPMENT ACTIVITIES LEAD TO THE PROFESSIONAL GROWTH OF PROFESSIONAL NURSES WORKING IN A PUBLIC NATIONAL REFERRAL HOSPITAL IN NAMIBIA.*”

This letter serves to confirm that the undersigned,

Tawanda Cleopas Vera

Assisted with the technical care of the thesis on chapters related to Methodology, Analysis, Presentation and Interpretation of Data.

SIGNED



Tawanda Cleopas Vera

Data Science Consultant

Appendix 10: Proof of abstract translation



Lona's Language Services

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Afrikaans/English

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* Translations * Editing * Proof Reading
* Transcription of Historical Docs
* Transcription of Qualitative Research
* Preparation of Website Articles

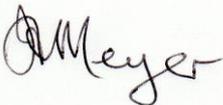
TO WHOM IT MAY CONCERN

This letter serves to confirm that the undersigned

ILLONA ALTHAEA MEYER

has translated the ABSTRACT into AFRIKAANS.

Signed



Ms IA Meyer

18 January 2018

FOR: MS TEKLA MBIDI

TITLE OF THESIS: FACTORS ASSOCIATED WITH PARTICIPATION IN CONTINUOUS PROFESSIONAL DEVELOPMENT ACTIVITIES LEADING TO PROFESSIONAL GROWTH OF PROFESSIONAL NURSES WORKING IN A PUBLIC NATIONAL REFERRAL HOSPITAL IN NAMIBIA

Appendix 11: Declaration by language editor post examination

MARLEO'S COMMUNICATION SERVICES

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4 February 2018

Confirmation of copy editing a thesis entitled

Factors associated with participation in continuous professional development activities leading to professional growth of professional nurses working in a public national referral hospital in Namibia

I, Leonie Munro of MarLeo's Communication Services, confirm that I copy edited the text of the above thesis.

Final proofreading of the thesis is the responsibility of Tekla Shipahu Natangwe Mbidi



MLC Munro