The characteristics of nurses in relation to their attitudes about career planning and development activities.

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Abstract

Introduction: The dilemma of nursing workforce capacity in coming years, as older nurses prepare to exit the workforce to retire, creates pressure on those that remain and makes retention of nurses a priority. Career planning and career development concepts characterise the factors that lie within the nurse's influence, or are within the influence of the employer/organization.

Aim: This study examines nurses' attitudes to activities that promote career progression as well as training and education in order to identify demographic characteristics of nurses that are the most as well as the least positive about career progression and training/education.

Method: This study undertakes secondary analysis of existing data, from the NZNO Employment Survey 2015, examining the data from nurses (n = 944) that responded to five questions about their attitude to career progression and training/education. Data were analysed using quantitative methods to describe and compare with nurses registered with the Nursing Council of New Zealand, and investigate the relationship between nurses' attitudes about career progression and training/education and their experiences of participating in some of those activities.

Results: A strong significant association was found between nurses who engage in career development activities and their positive attitude about career progression, in particular for nurses who had recent access to career planning (p = .001) and who had a performance appraisal in the last 12 months (p = .001). A similar association was found between nurses who engage in training/education activities and their positive attitude to training/education, in particular for nurses who access three or more professional development days per year and who receive a range of employer support for education (p = .001). The demographic characteristics of nurses who were the most and least positive were identified.

Discussion: When nurses are engaged in activities that promote career progression and training/education, they are more positive about career progression and training/education. This means that employers/organisations that prioritise facilitating nurses' access to these activities stand to benefit from nurses having a more positive attitude to career progression.

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1.1. Introduction and background to the study

Much concern has been expressed internationally and within New Zealand about the capacity of the nursing workforce to meet anticipated demand for health services in coming years (National Health and Hospitals Reform Commission (NHHRC), 2008; World Health Organisation, 2006). By 2035, it is projected that over 50% of New Zealand's present nursing workforce will retire (Nana, Stokes, Molano, & Dixon, 2013). The ageing population with increased health needs, and the diminishing workforce mean that the existing nurse to population ratio will not be sustained to the year 2020 unless solutions are found and implemented now.

People choose to become nurses for numerous reasons. "Prospective nurses are told that nurses will enjoy financial rewards, professional and career development, a flexible workplace and a 'dream Aussie lifestyle' " (Eley, Eley, & Rogers-Clark, 2010, p. 11). There can also be a range of reasons for nurses deciding to leave the profession. This means that alongside training more nurses, it is imperative to retain the nurses who will not be leaving due to retirement. Therefore it is important to understand what nurses find satisfying about their work, as well as what impedes their experiencing job satisfaction. The literature identifies three key areas that are important for organisations when looking at strategies for retaining nurses in the workforce - factors enhancing retention of nurses, barriers to nurses engaging in strategies that enhance retention, and the importance of career planning and career development.

This introduction will summarise what is known about the strategies enhancing retention of nurses, as well as barriers to nurses engaging in those strategies. The notions of career planning and career development will be introduced and also the objectives for this study of gaining understanding of whether career planning and development activities contribute to a positive engagement with the profession and increase retention. The study also seeks to determine whether there are any particular demographic groups that can be identified as being at greater risk of leaving the profession, and for whom more efforts could be made in order to improve their retention.

1.2. Factors enhancing retention of nurses

Previous research has shown that there are a number of factors that enhance the retention of nurses. These factors include the nurse having realistic expectations of the role, being able to manage the physical demands, balancing demands of work and life, having the opportunity to exercise autonomy at work and the provision of opportunities to develop practice and advance their career.

1.2.1. Realistic expectations of the role

Realistic expectations of graduates about the nursing role are an important factor in retention. Some expectations may be met through gaining satisfaction from providing effective patient care, or access to support and opportunities to progress one's career (Ingersoll, Olsan, Drew-Cates, DeVinney, & Davies, 2002). Expectations about how nursing can be perceived by medical colleagues or the general public, as well as the impact of working shifts can be less satisfying for new graduates (Cleary, Horsfall, Muthulakshmi, Happell, & Hunt, 2013). Shirey (2009) examined a developmental model for career planning at various stages. Through reflecting on personal characteristics or qualities of the nurse, Shirey found that the nurse having realistic expectations of the role was important. Price, McGillis Hall, Angus and Peter (2013) undertook an interpretive and narrative analysis of millennial nurses' careers thus far, and identified the importance of future nurses being engaged early when making decisions about their career choice. They propose that early engagement facilitates exploration of perceptions and understanding about what nursing involves, so that graduates' expectations are realistic and are therefore more likely to be met.

1.2.2. Formative role modeling

Andrew (2013) explored the concept from biology known as 'imprinting' in relation to the impact of early learning experiences on professional development throughout a nurse's career. Her findings identify the reinforcing impact of nurses enjoying the therapeutic relationship they develop with patients, with the outcome of this relationship making a difference for those in their care. Another factor described by Shirey (2009), in the overview of the developmental model that she

created, was the nurse's willingness to draw on colleagues' strengths to support their socialization into the nursing role. Constructive working relationships with other team members create an enabling environment that facilitates nurses' learning and acceptance.

1.2.3. Access to mentoring or coaching

It has been identified that newer practitioners having the support of an experienced mentor or coach is helpful. Paschke (2007) reported positive outcomes from a coaching programme designed to retain staff, while Harrison, Hauck and Hoffman (2014) analysed themes from interviews with nurses about why they continue to work in mental health nursing. They found that features of an enabling professional environment include the nurse feeling listened to (Paschke, 2007), and encouraged by others (Harrison et al., 2014). Supported in this way, the nurse experiences camaraderie amongst colleagues, and construes their early nursing experiences as being positive (Andrew, 2013). Moran, Duffield, Donoghue, Stasa and Blay (2011) authored a discursive paper about factors impacting on career progression. They find that a supportive work environment can include having access to a mentor, which is also supported by findings from Adeniran, Smith-Glasgow, Bhattacharya and Xu's (2013) descriptive survey of nurses and their experiences of being mentored.

1.2.4. Opportunities to experience varied practice areas

Andrew (2013) further notes the importance for a student or graduate nurse to experience working in a diverse range of practice areas, and being exposed to a variety of opportunities. The range of these early experiences may promote interest in an area of nursing the nurse had not previously worked in or considered, leading to openness to developing more experience in that area.

1.2.5. Supportive work environment

Kuykendall, Marshburn, Poston and Mears (2014) surveyed experienced nurses to assess their engagement in the workplace and identified a range of organizational factors that contribute to employee satisfaction and therefore nurse retention. These include the organisation's commitment of support, time and resources to

implement a range of interventions at the unit and organizational level to "retain, reenergize and engage experienced nurses" (Kuykendall et al., 2014, p. 550). One example of organizational commitment is the organisation "closing the feedback loop when suggestions are raised" (Kuykendall et al., 2014, p. 550) so that contributors perceive that their requests are acknowledged and considered, even if it is not possible for their idea to be implemented .

1.2.6. Opportunity to exercise nursing autonomy

The evaluation of a career planning and development programme undertaken by McGillis Hall, Waddell, Donner and Wheeler (2004) found that experienced nurses appreciate being enabled to exercise their professional autonomy through making choices about how they complete their nursing work .

1.2.7. Ability to manage physical demands of the role

On a practical level, the experiences of nurses managing the physical demands of the role were examined through an explorative descriptive study by Walker and Clendon (2012) involving focus groups and interviews of nurses aged over 50 years. They found that nurses nearing retirement age who were working at the bedside who are nearing retirement age report finding it harder to manage some of the physical demands of the role, including night shifts, or being required to be on their feet or be physically agile for hours on end, which was also an outcome of Tones, Pillay and Fraser's (2010) survey of private hospital nurses. Employers who are able to creatively accommodate these nurses' changing physical abilities will retain their expertise for longer.

1.2.8. Ability to balance demands of work with life

Another factor identified as important in retaining nurses in the workforce includes the provision of part-time positions that enables nurses to raise families with more flexibility than committing to full-time work (Moran et al., 2011). Moran and colleagues have also raised the provision of professional education in the workplace on topics relevant to practice as positively influencing not only staff satisfaction and retention but also the outcomes of patient care (Cleary, Horsfall, O'Hara, Jackson, & Hunt, 2011; Harrison et al., 2014; Moran et al., 2011), with

Cleary et al.'s research being a qualitative study of mental health nurses views about continuing professional development. Waddell and Sporing (2014) reflected on the experiences of nurses during childrearing years and called for supporting the ongoing education of nurses through this time to facilitate the nurses' longer term commitment to their careers.

1.2.9. Opportunities for career advancement

A further aspect noted as influencing nurse retention is that nurses seek opportunities to advance their careers. Chang, Chou and Cheng (2007) found this when they interviewed nurses about career needs at different stages of their careers. Nurses' interest in career advancement was also a theme of Paschke's (2007) review of a coaching programme designed to enhance nurse retention. Career advancement may involve organisations' development of career path maps or structures (Adeniran et al., 2013; Ekholm & Short, 2009), the provision of access to career planning (McGillis Hall et al., 2004), and organisations' creation of nursing career management policies (Philippou, 2014). For example, Eckholm and Short (2009) surveyed nurse educators following a merger of emergency services to identify the elements of a career pathway for Emergency Department nurses, while Philippou (2014) surveyed nurse employees and employers for their views about responsibilities for managing nurses careers.

1.2.10. Opportunities for practice development

The development of expanded practice roles, for example the creation of the Nurse Practitioner scope of practice (Nursing Council of New Zealand, 2012) and Clinical Nurse Specialist and Advanced Nurse Practitioner roles (MacLellan, 2007), is heralded as a means of increasing job satisfaction and extending opportunities for nurses to further develop their nursing practice. Friedrich, Prasun, Henderson and Taft (2011) note that where nurses are able to find a 'niche', to develop some expertise in a specialty area of practice, they feel they can improve patient outcomes by sharing their knowledge with others. When nurses experience job satisfaction, they are more likely to remain nursing.

The literature identifies numerous strategies for enhancing nurses' retention in the workforce, ranging from how students are prepared for the role, then new graduates' transition to practice is supported, through to the workplace enabling nurses' development and accommodating nurses' changing physical abilities and availability for work over time. Access to many of these strategies is governed by the employer/workplace. Difficulties that nurses' experience accessing these strategies risk jeopardizing their retention in the workforce, so it is important to identify and minimize these.

1.3. Barriers to nurses engaging in strategies that enhance retention

Whilst strategies for advancing nurses' careers seem numerous, so too are the potential barriers to nurses accessing or implementing them. These barriers include:

1.3.1. The prevailing economic climate

In times of economic downturn, the number of nursing positions may shrink, and/or incumbents may stay longer in existing positions, limiting opportunities for advancement by others (Cleary et al., 2013; Philippou, 2014). As a consequence to this, where newly graduated nurses have limited access to rotations through different clinical areas, options for gaining different experiences or expanding their interests are similarly reduced (Cleary et al., 2013).

1.3.2. Reduced opportunities for career advancement

In some environments, promotions may be made on seniority and not be based on merit or leadership qualities (Chiang-Hanisko, Ross, Boonyanurak, Ozawa, & Chiang, 2008; Cleary et al., 2013), a process which disadvantages talented younger nurses seeking to advance their careers. In such contexts, managers may also lack the skills or maturity to recognize or reward merit or leadership qualities in applicants for new positions (Cleary et al., 2013; Kuykendall et al., 2014; Tørstad & Bjørk, 2007). Toygar and Ergun (2012) report that over 97% of Turkish nurse managers in their study of Turkish nurse-managers' career goals and opportunities had not received training in career planning and development, which would surely limit those managers' facilitation of development

opportunities for the nurses reporting to them. In comparison, the New Zealand Health Workforce funding eligibility criteria requires applicants for postgraduate education courses to have undertaken career planning, at the very least with their manager as part of performance review, as well including informally discussing this with others who might be able to provide guidance (Health Workforce New Zealand, undated). Examples of the roles that these others might have include a professional leader/clinical supervisor, a clinical educator, a tutor from a tertiary institution, a mentor or a career development professional. It is assumed that staff working in these roles will have completed postgraduate education so will have either first-hand knowledge or access to information to support the applicant's career planning.

1.3.3. Limited opportunity to exercise nursing autonomy

Environments where there is low nursing autonomy, or there is medical oversight of nursing practice, such as is described as occurring in Japan, Taiwan, Thailand and Singapore (Chiang-Hanisko et al., 2008; Cleary et al., 2013), can limit career development of nurses. Settings where nursing has low professional status (Chiang-Hanisko et al., 2008) or where nurses experience interpersonal disrespect (Cleary et al., 2013) can limit career development too. These environments contribute to low professional morale, with little empowerment of nurses, resulting in poor attitudes about the value of extending their nursing career (Duffield, Baldwin, Roche, & Wise, 2013; Katsikitis et al., 2013).

1.3.4. Excessive workloads

This can include where nurses are overworked, through too few staff being rostered or long shift hours worked. A high patient:nurse ratio may be in place, and nurses may also have responsibility for completing non-nursing administrative tasks. In such cases, nurses become burnt out and are more likely to leave the profession (Adeniran et al., 2013; Cleary et al., 2013; Gould, Drey, & Berridge, 2007; Toygar & Ergun, 2012).

1.3.5. Available programmes not meeting nurses' needs

One strategy for career development is access to appropriate continuing education opportunities or professional development programmes that meet nurses' career development needs (Chang et al., 2007; Philippou, 2014; S. Robinson, Murrells, & Marsland, 1997). There is a risk that programmes that some organisations provide for groups of staff might not reflect individual nurses' changing needs as they progress through different stages of their career (Gould et al., 2007; Pool, Poell, & ten Cate, 2013; Tapping, Muir, & Marks-Maran, 2013) or that they may be confused with programmes that address low performance (Duffin, 2014). Some programmes may also not be perceived as relevant to nursing as a professional group.

1.3.6. Difficulty accessing professional development

In a competitive environment (for example, in an economic downturn), it can be hard for nurses to secure places on continuing education or professional development programmes (Cleary et al., 2013; Cleary et al., 2011; Gould et al., 2007). This can be even more difficult if nurses are older (Pool et al., 2013; Tones et al., 2010) or have adjusted their work schedule/hours during child rearing years (Waddell & Sporing, 2014). Managers may feel less inclined to invest in the professional development of nurses most likely to leave the workforce soonest, or whom are not working at full capacity. Further barriers may arise in the form of the programme being held at locations difficult for nurses to access, or scheduled on particular days of the week or at times of the day that limit nurses' participation (Cleary et al., 2011). Where professional development requires participation in projects, some nurses may not have access to resources to support this, for example access to desk space or a computer terminal (Duffield et al., 2013) or to online databases or other materials (McKinlay, Clendon, & O'Reilly, 2012).

1.3.7. Financial barriers to accessing professional development

If the nurse needs to pay to access the programme, the cost can prohibit their participation (Cleary et al., 2013; McKinlay et al., 2012). Furthermore, where government-funded programmes do exist to support access to postgraduate nursing study, the eligibility criteria may not apply to their chosen context. For

example for nurses pursuing development in primary care roles or settings, funding is often orientated to secondary care or long-term condition management (McKinlay et al., 2012).

1.3.8. Professional isolation

Nurses working in autonomous roles, for example in community-based services, may feel professionally isolated from peers and other forms of collegial support, so find it more difficult to entertain ideas of career progression (Duffin, 2014; McKinlay et al., 2012).

1.3.9. Lack of managerial support

Other nurses may expand their knowledge or learn new skills but be unable to implement their learning in their work environment due to lack of managerial support (Gould et al., 2007). This can result in nurses experiencing a sense of frustration and futility regarding knowledge acquisition, and patients not benefitting from the developments.

1.3.10. Mentoring by demographically dissimilar role models

Finally, one United States study noted that nurses who completed their nursing education outside the US faced significant disparities in their experience of being mentored to new positions, and of access to continuing education and career development opportunities than nurses who were educated in the US (Adeniran et al., 2013). The authors state that because these nurses' have demographically dissimilar role models as mentors, their "experience of discrimination, marginalization, and racism impedes career advancement" (p. 444). One of the reported impacts of this demographically dissimilar mentorship was the slower professional growth of the internationally educated nurses, who participated less in continuing education than nurses educated within the United States.

As with the review of strategies that enhance retention of nurses in the workforce, numerous barriers exist that can prevent nurses' access to or implementation of the strategies. Nurses who are unable to engage in strategies that enhance their retention in the workforce risk stagnating professionally or leaving their position

or the profession in frustration. The risk of nurses leaving the profession highlights the importance of career planning and career development to help address that.

1.4. The importance of career planning and career development

Many of the various factors outlined as enhancing retention can also be characterized either as factors that contribute to nurses' career planning or career development. In their descriptive survey of career planning and development practices for nurses in hospitals in Turkey, Sonmez and Yildirim define these terms (Sonmez & Yildirim, 2009). They identify **career planning** as "the process through which individuals evaluate the opportunities that exist at their institution, determine their career goals and take advantage of jobs, education and other developmental opportunities that will help them reach these goals" (p. 3461). In contrast with this individual focus of career planning, **career development** is defined as being "a formal, structured activity provided by an institution for the purpose of increasing individuals' awareness of factors that affect their career and advancement, their knowledge and capacity" (Sonmez & Yildirim, 2009, p. 3461). Whilst acknowledging that elsewhere in the literature, they sometimes appear to be used interchangeably (J. Green, Wyllie, & Jackson, 2013; Ky, George, & Chakrabarthy, 2014; Williams & Jordan, 2007), the terms 'career planning' and 'career development' will be used in this study as defined by Sonmez and Yildrim. Thus, we will construe career planning to be largely the factors within the influence of the individual employee, and career development to be facilitated through the workplace.

It is useful to construe the nurse retention strategies as elements of career planning and career development, in order to identify where the opportunity, and also the responsibility, for their implementation resides.

1.5. Study objectives

The literature indicates a link between nurses' engagement in career planning and career development activities and their retention in nursing, however little has been written about nurses' attitudes to career planning and development activities. This gap in knowledge of nurses attitudes means it is not known

whether nurses that hold more positive attitudes about career planning and development activities are less likely to leave the profession or if these nurses share demographic characteristics?

In light of the predicted shortage of nurses in the coming years, the objectives of this study are to:

1) Investigate any link between nurses' positive attitudes about career progression and training/education activities and nurses' experiences of participating in some of those activities, so that if such a link exists, promotion of those activities may enhance retention of nurses.
2) Determine whether there are demographic groups that are more positive about career progression and training/education than other groups.

This study will contribute to the understanding of whether career planning and development activities contribute to a positive engagement with the profession and increase retention. The study will also determine whether there are any particular demographic groups that can be identified as being at risk of leaving the profession, and for whom more activities could be provided in order to improve their retention.

1.6. Chapter conclusion

Chapter one has introduced the dilemma of nursing workforce capacity in coming years, as older nurses prepare to exit the workforce to retire, which creates pressure on those that remain and makes retention of other nurses a priority. In this chapter the factors that encourage retention as well as those that create barriers to retention were outlined. The concepts of career planning and career development were introduced, as a way of characterizing the factors as either those within the nurse's influence or those within the influence of the employer/organisation. In Chapter two, the literature related to career planning and career development will be reviewed and will be used to help assess possible ways of understanding the issue of nurse retention. Research questions will be identified in Chapter two. In the third chapter, the method and study design are discussed, alongside the processes undertaken to analyse the research questions.

The results of the study are presented in Chapter four, and Chapter five discusses the outcomes of the project and the study's relevance. The thesis is concluded with the final chapter's outline of key findings from this project, limitations of this study, implications for nurses, and indications for future research, and then with a list of references and Appendices.

2. Chapter Two: LITERATURE REVIEW

2.1. Introduction

In their position statement on career development in nursing, the International Council of Nurses (ICN) declares that "career development is a major contributing factor in the advancement of health systems and the nursing profession worldwide, and is directly linked to the maintenance of high quality care delivery" (International Council of Nurses, 1997, p. 1). Key to supporting and sustaining career development, the Council identifies the importance of flexible and connected education and career systems that facilitate nurses' mobility within and beyond the health care system. Such mobility enables nurses to progress to more advanced levels of practice, to move to different areas of nursing practice or to alternate roles that draw on nursing expertise in innovative ways.

The ICN states that the Council and National Nursing Associations have a significant role to play in creating systems and structures for promoting career development, and for balancing the interests of important stakeholders – including nurses and the public (International Council of Nurses, 1997). Interestingly, of all the 132 member countries in the ICN, searches of available websites yielded only five English-speaking countries with links or information about career development - 57 had no website; 39 had websites in languages other than English; 23 websites had no search function, and five had search functions in languages other than English. While the ICN promotes their Position Statement on career development in nursing (International Council of Nurses, 1997), because of limited English-language evidence of member associations articulating a shared commitment on career development, this restricts or limits access to potentially useful information for New Zealand when seeking global evidence of models of career development for nurses.

Within New Zealand, the government funding body, Health Workforce New Zealand (HWNZ), requires nurses who undertake postgraduate study funded by HWNZ to participate in career planning, to ensure that the needs of the workforce, the wider health sector and the trainee all align, as well as to promote some accountability of public funding. To achieve this, applicants for HWNZ funding are

required to discuss their completed career planning template with their academic supervisor or the career planning supervisor at their District Health Board (Health Workforce New Zealand, undated).

2.2. Search Strategy

Articles for this study were accessed by searching EBSCOhost, including CINAHL, Web of Science, PubMed, Cochrane, OVID and Scopus databases. The search terms were Nursing, Career and Development. The combined search terms yielded a list of over 600 articles, which was further reduced by eliminating articles not published in English or not published within the last 15 years. The remaining abstracts were reviewed to identify articles of greatest relevance to the topic, and a group of around 70 publications formed the basis for this review, all except two published between 2003 – 2015.

2.3. Nursing workforce and demographics

As previously stated, much concern has been expressed internationally and within New Zealand about the capacity of the nursing workforce to meet anticipated demand for health services in coming years (National Health and Hospitals Reform Commission (NHHRC), 2008; Nursing Council of New Zealand, 2013b; World Health Organisation, 2006). This is despite an increased number of education places offered to New Zealand nursing students (Holloway, 2015), and enhanced support for graduates to successfully transition to the workplace through programmes like the Nurse Entry to Practice (NEtP) programme in New Zealand (Haggerty, McEldowney, Wilson, & Holloway, 2009; McKinlay et al., 2012). Anticipation of higher demand on health care services in coming years has arisen from studies of population demographics as well as reflection on the characteristics of the nursing workforce (Organisation for Economic Co-operation and Development, 2006; Pool, Poell, Berings, & ten Cate, 2015). These concerns have combined to highlight the importance of both recruitment and retention of nurses within the profession.

An analysis of New Zealand's nursing workforce for the period 2010 to 2035 by Business and Economic Research Limited (BERL) was commissioned by the

Nursing Council of New Zealand in 2012. BERL analysed four different population change and workforce scenarios using economic modeling to anticipate the effects. The outcome of all the modeled scenarios was that New Zealand needs a proactive strategy for development of the nursing workforce to meet predicted demand. Identified barriers to meeting this demand revolve around supply factors – the size of student intakes is restricted through limited access to student placements and clinical training capacity. That makes a focus on the retention of existing nurses a very important part of the equation.

Career planning and development have been identified as factors that influence nurse retention (Cleary et al., 2013; Price, 2009; Sonmez & Yildirim, 2009). This literature review identifies a range of professional activities that promote career advancement, either as career planning or career development. It looks at factors influencing nurses' access to these activities, as well as how nurses' attitudes to career planning and career development have been measured.

2.4. Careers in nursing

A career has been defined as "a process of development of the employee through a path of experience and jobs in the organisation/ organisations" (Baruch & Rosenstein, 1992, p. 478). According to Price (2009), career development was first documented in literature in the US in the 1960s. Through the decades, careers have changed from being construed as rigid, hierarchical structures, where employees progress along a lineal path within one organization from an entry level position towards a limited range of senior opportunities, to now being seen as comprising many choices for different courses of advancement (Baruch, 2004).

In their study of career pathways in nursing, Robinson, Murrells and Marsland defined nurses' careers as 'the sequence of events and experiences concerning employment in the years after qualification, and the way these intersect with other life events' (1997, p. 603). Theories of nursing as a career choice have evolved from an emphasis on understanding the influential factors, to recognition of the "challenges, complexities and uncertainties of the 21st century workplace" (Price, 2009, p. 275) where the recruitment and retention of nurses are identified

priorities. The key stakeholders in analysing careers are the employee and the organization. Low, Bordia and Bordia (2016) acknowledge that both parties have different interests in relation to careers – the organization being focused on the match between their needs and the employee's qualifications; and the employee being primarily concerned with his or her own need fulfillment. This variance in interests or responsibilities is a theme that recurs as the literature around career development is examined.

2.5. Locus of responsibility for activities that advance careers of nurses.

Numerous authors attribute primary responsibility for career planning and development to the nurse (Cardillo, 2014; Chambers, 2009; J. Green et al., 2013; J. K. Green, 2013; Headley, 2006; Ky et al., 2014). In their study of factors influencing career preferences of nursing students, Ky, George and Chakrabarthy go so far as to state directly to their student audience that "if any of you believe someone else will be the custodian of your career development, then you are being very foolish. If you are waiting for someone else to move your career along, then sadly you will be waiting for a long time" (p. 73).

Other writers emphasise the responsibility of managers, employers and others for taking a leading role in developing nurses' careers (Adeniran et al., 2013; Bird & Kirshbaum, 2005; Chang et al., 2007; Narayanasamy & Penney, 2014; Pool et al., 2015; Sonmez & Yildirim, 2009; Tapping et al., 2013; Wong et al., 2013). This includes a call for creation of a workplace that encourages nurses' engagement in the evolving health care environment (Adeniran et al., 2013). From their study of factors influencing Taiwanese nurses' engagement and turnover intention, Chang, Chou and Cheng seek creation of a career development programme that is flexible enough to incorporate personalized career needs (2007).

Rungnoei, Areesophonpichet, Methakunavudhi and Halloran's (2011) study of Thai nursing students' views of self development and personal life, found that nursing education institutions had a primary role in guiding student nurses' career planning. Bird and Kirshbaum (2005) reviewed published frameworks of advancing clinical nursing practice and found that, with respect to nurses

progressing along career pathways, organizational support is required for nurses to access a varied range of postgraduate educational and development opportunities.

With regard to the role that nurse managers play in nurses' career development, Wong et al. analysed qualitative findings from a national study of Canadian nurses and identified the importance of nurse managers' "very active and intentional strategy for successful development and recruitment of nurses to leadership positions" (2013, p. 236). Narayanasamy and Penney's (2014) review of case studies of different coaching models encourages line managers to utilize coaching principles in ongoing support of nurses' learning, for the benefit of the individual nurses, the organization, and even the coaches themselves

A biographical study of strategies for continuing professional development among younger, middle-aged and older nurses by Pool, Poell, Berings and ten Cate (2015) identifies some explicit responsibilities of managers: creating an environment that encourages and supports learning by enabling the provision of learning activities in the ward environment; supplying documents/resources that enable self-directed learning; respecting the variation in career development needs of nurses at different stages; and facilitating access to learning opportunities by all staff, including those working part-time.

Tapping, Muir and Marks-Maran (2013) reviewed a career development scheme implemented in one National Health Service trust in London that involved each newly qualified nurse taking a structured approach to a series of reflections over time on their practice development, alongside feedback at the same intervals from a senior nurse about their perceptions of the nurse's progress and development, in order to inform action planning. They found that "newly qualified nurses … need opportunities to engage in career development in a planned and reflective way" (p. 103). They also stated that "organisations have a responsibility to enable their workforce to progress and develop, whether this development is in self-concept, multidirectional career paths or meeting the priority areas outlined by the chief nurses of the UK" (p. 103). Overall, there seems to be reasonable support in the

literature for leadership by organisations, employers and education institutions to support nurses' career development, especially for many elements that individual nurses have little control over.

Between these two perspectives on where responsibility should lie for career development of nurses, many studies also identify that the responsibility for development should be shared by both the individual nurse and others – the organization/employer or other stakeholders such as education institutions and nursing organisations (Chung & Allen Gfroerer, 2003; Katsikitis et al., 2013; McGillis Hall et al., 2004; Philippou, 2014; Takase, 2012; Toygar & Ergun, 2012). The position statement by the International Council of Nurses challenges national nurses associations in member countries to play a major role in supporting nurses' career development, through data collection/collation and negotiating the structure for reward and recognition, at the same time as tasking individual nurses with responsibility for planning and developing their careers through "continuous self-assessment and goal setting" (International Council of Nurses, 1997, p. 1).

2.5.1. Career planning activities undertaken by nurses

With respect to the definitions of career planning and development outlined earlier (Sonmez & Yildirim, 2009), we can view some of the following strategies for progressing nurses' careers identified from the literature as being either career planning (if initiated by the individual nurse) or career development (if administered/ supported/facilitated by the workplace). A review of data from a National Nursing Survey by Spence Laschinger et al. (2013) found a greater influence of personal factors for nurses achieving their career aspirations (deemed to include the nurse's demographic characteristics and details of their personal situation, as well as motivation in regard to leadership and their career) in comparison to situational factors (such as available leadership development opportunities, current work experiences, etc.). It must however be noted that the study only analysed data submitted by individual nurses. It is possible that in preparing their responses, the nurses showed less awareness of, or gave less emphasis to, situational factors that they were not in control of.

2.5.1.1. Development of personal skills and professional networks

Four senior nurses reflected on steps that had helped progress their careers, in a collection of reflections by Moore, Milton, Vardey and Graham (2014). They promote nurses' development of personal qualities and skills, including acceptance of others, openness to change, and advanced communication skills. They, alongside other authors, also promote the nurturing of extensive professional networks to yield a range of benefits including facilitating workplace resilience, increased capacity for research, access to supervision, and opportunities for learning about other areas of nursing and nursing in other settings/locations (Cleary et al., 2013; Jackson, Andrew, & Cleary, 2013; Jakubik, 2008; Moore et al., 2014). These growth activities can be undertaken by the individual nurse, or alternatively can be nurtured by a mentor within the organization, or be extended by participation in a development programme.

2.5.1.2. Preparation of a professional portfolio

The maintenance of a professional portfolio is considered to be a useful step for facilitating nurses' identification of their strengths and learning needs and having their key career information well organized and accessible (Shirey, 2009; Williams & Jordan, 2007). In New Zealand, to secure an Annual Practising Certificate, a professional portfolio of comprehensive evidence of competent nursing practice is required. Registered Nurses can elect to submit their portfolio to a registered Performance Development and Recognition Programme for assessment at one of three to four practice development levels (Nursing Council of New Zealand, 2013a). The objective is for registered nurses to progress through the levels, from competent to proficient then expert or further, to achieve recognition of practice progression.

2.5.1.3. Engaging in reflection on practice

Part of portfolio preparation includes documenting reflection on practice situations. Engaging in reflection on practice was highlighted as important by Tørstad and Bjørk (2007) in their exploratory study of nurse leaders' experiences with clinical ladders. Reflection can also be facilitated through the interpersonal

process of being supervised (Adeniran et al., 2013; Cleary et al., 2013; Paschke, 2007). Reflection is a useful tool for identifying areas for improvement in practice situations, and specific strategies to achieve that goal.

2.5.1.4. Use of career planning tools

Nurses may individually utilize specific tools to support their career planning – for example a Legacy Map tool (Hinds et al., 2015), or a Care Plan approach (Headley, 2006). The Care Plan approach draws parallels with nurses' care of patients, by the nurse identifying a gap in their own career situation, assessing the impact of that gap, planning a goal and implementing a strategy to address the situation, and evaluating the outcome of their efforts. The Legacy Map process requires nurses to consider what difference they would ultimately like to make for nursing, or be known for by others, and then supports the planning of strategies to achieve that outcome. Hinds et al. (2015) state that the Legacy Map can be used by individual nurses planning their own progress, or it can form part of an organization's approach to support career development. Headley (2006) promotes the Care Plan approach in the context of a nurse using their own initiative.

2.5.1.5. Engagement in continuing education

From their descriptive survey of career goals held by, and opportunities offered to, private hospital nurses, Toygar and Ergun state that nurse-initiated participation in continuing education is an important part of career planning (2012). This is in contrast to other authors who identify the need for continuing education to be provided by organisations/employers as part of nurses' career development (Adeniran, Bhattacharya, & Adeniran, 2012; Cleary et al., 2013; Sprinks, 2009). Katsikitis et al. (2013) surveyed 289 Australian nurses and midwives employed in public and private hospitals to explore their understanding, practice and anticipated needs for professional development. They noted the importance of managers facilitating nurses' access to continuing education that also focuses beyond extending skills and tasks for their current role. This is so that nurses acquire a broader knowledge and skill base that may support their professional advancement or innovation to address professional issues. Whether nurses can choose to readily participate in continuing education or not depends upon

education programmes being available that meet their specific learning needs, as well as other factors including the cost and accessibility.

2.5.1.6. Participation in a journal club

Another strategy is for nurses to participate in or establish a journal club to review research articles and consider implementation of research findings into clinical practice (Lachance, 2014; Nesbitt, 2013). Following their reviews of such clubs, the identified benefits of this strategy include extending skills for engaging in professional discussion and appraising research (Nesbitt, 2013), as well as creating a community of practice (Lachance, 2014), among others. Nurses who establish journal clubs through their own initiative are also developing their leadership skills.

2.5.1.7. Strategic employment goals

Shirey (2009) reflected on retrospective research by Citrin and Smith (2003) into the career progression of high-achieving individuals, and applied a developmental perspective to different stages of nursing careers in order to offer nurses some specific advice. Examples include encouraging the nurse to gain the professional endorsement of working for at least one 'recognisable organisation' in their early career phase, then seeking to attain a more responsible role whilst there. The rationale for this strategy is that differences between careers that appear quite small at the time can have an increasingly cumulative effect over the term of one's working life, and be advantageous to the employee.

2.5.1.8. Remaining flexible and open to opportunities

Numerous authors note the importance of focusing on career planning early in one's nursing career (Andrew, 2013; S. Robinson et al., 1997; Shirey, 2009), however while this is seen to be important, it is also advised that nurses remain open to unplanned opportunities that arise along the way (Moore et al., 2014; Shirey, 2009). It may be hard for nurses to find a balance between purposeful planning and being flexible however, since an accurate assessment of the opportunities presented will best be appreciated in hindsight.

2.5.2. Career development activities facilitated by others

Many other authors focus on the importance of workplace opportunities for supporting nurses' career development. These include coaching and transition programmes provided for new and existing staff, and the opportunity to participate in activities that develop leadership and clinical skills.

2.5.2.1. Organisational new graduate programmes

At the beginning of nurses' careers, employer schemes to support new graduates' transition to the role and workplace are identified as playing an important role in supporting the transition (Roberts & Kelly, 2007; Shirey, 2009; Tapping et al., 2013), including enabling a structured clinical rotation through a range of practice areas (Cleary et al., 2013). Other studies recognise the need for programmes to exist beyond this initial career stage, and vary according to nurses' developmental phases and needs (Chang et al., 2007; McKinlay et al., 2012; Sprinks, 2009). Waddell and Sporing (2014) are particularly concerned that nurses who are working part-time or taking parental leave during child-rearing years are extended the same career development opportunities as their colleagues, so that they remain engaged in nursing and that leadership potential is maximized.

2.5.2.2. Workplace coaching programmes

Some authors highlight the value to nurses of a workplace coaching programme (Narayanasamy & Penney, 2014; Paschke, 2007) or access to enhanced nursing leadership training (Cleary et al., 2013) to support their career development. Other authors support nurses' access to a Clinical Ladder programme (Donley & Flaherty, 2008; Ko & Yu, 2014) that can assist nurses to identify their desired goal and plan flexible strategies to achieve it.

2.5.2.3. Availability of senior nurse positions and opportunities for expanded practice

Increased availability of senior nurse/expanded practice positions for nurses to aspire to is sought by some (Duffield et al., 2013; MacLellan, 2007), as well as the development of post-registration curricula to support nurses working in specialty areas (Astin et al., 2015; Bird & Kirshbaum, 2005). The evolution of Knowledge

and Skills Frameworks in specialty areas is identified as providing further tools to assist nurses with articulating specialty practice and progressing their career development (Cleary et al., 2013). These frameworks describe the key common capabilities that nurses working within that specialty area need to apply in their practice (College of Child and Youth Nurses & Royal New Zealand Plunket Society, 2014). Whilst implementing these strategies requires the structural support of organisations - to provide access to post registration education and create the senior/expanded practice positions - the achievement of those activities would equip the senior nurses with the skills to create knowledge and skills frameworks for their colleagues' benefit.

2.5.2.4. Opportunities to participate in quality improvement projects

Johnson, Hong, Groth and Parker (2010) studied the relationship between learning and career development activities and outcomes for patients, nurses and the organization. Along with findings from Duffield, Baldwin, Roche and Wise's (2013) study of senior nurse interviews about creation of meaningful career development opportunities, Johnson et al. suggest that to support career development, organisations need to create opportunities for nurses to participate in quality improvement projects. These authors also call for organisations to provide nurses with opportunities to engage in evidence-based practice workshops, to help develop clinical standards, or to participate in the career development of others through provision of coaching or mentorship.

2.5.2.5. Organisational transparency about future opportunities

Analysis of Robinson, Murrells and Marsland's (1997) longitudinal study of a cohort of registered nurses reveals that the existence of organizational constraints (such as reduced opportunity for full-time employment throughout their work life, organizational structures becoming 'flatter' as attempts are made to reduce costs, or the increased possibility that nurses' jobs are changed) may be a factor in limiting some nurses' career development. To minimize the impact of this, Philippou (2014) encourages organisations to be transparent with nurses about their long term objectives in order to facilitate closer engagement and long term

commitment from their nursing staff. Nurses who are able to predict the opportunities that the organisation expects to arise, are better placed to participate in career development strategies.

2.6 Career advancement responsibilities and benefits

Reflecting on who reaps the benefits of nurses' career development, Roberts and Kelly's (2007) review of a career development pathway created in a community nursing context, recognizes that organizational career development systems benefit individual nurses, through increased personal and job satisfaction and enhanced motivation. At the same time, Sonmez and Yildrim (2009) note that supporting career development of nurses also benefits the organization as a whole through improved standards of nursing care, higher patient satisfaction levels, improved staff retention, and better alignment of position descriptions with performance appraisal tools. It seems that everyone is a winner when organisations support nurses' career development!

2.7. Measures of career planning and career development

The search of CINAHL, Scopus, Web of Science and Google Scholar databases about measuring career planning and career development yielded 72 documents. Many of those however were actually about studies marketing the profession of nursing to student nurses, or even to high school students. Other articles were about nurses' or other practitioners' experiences of professional development rather than the wider context of career planning and development. A number of studies relate to the career planning and/or development of existing nurses, and none measured nurses' attitudes in relation to career planning and development.

Since 2009, the New Zealand Nurses Organisation (NZNO) has conducted a biennial Employment Survey of members that has included questions about nurses' career planning and development. This survey was originally based on questions from the Royal College of Nursing (RCN) annual employment survey conducted since the 1980's. In addition to a wide range of other questions, the NZNO survey asks members to respond to questions about how recent the member's last performance appraisal/ development review was; whether the

member has a current personal Professional Development plan; if yes, whether their manager has been involved in drawing up the plan; whether the member has had access to a Performance Development and Recognition Programme (PDRP) Portfolio Review; whether the member has had recent access to career planning; the number of days spent on professional development in the last 12 months; the nature and extent of employer support for education; the type of educational opportunities taken by the member in the last 3 years to meet professional development requirements of the Nursing Council of New Zealand; and the nature of any significant barriers the member may experience, if any, in completion of professional development. Data from respondents to the NZNO Employment Survey 2015 may therefore be further analysed to quantify career planning and development activities.

2.8. Measures of nurses attitudes to career planning and development

There is little reference in the literature to research into nurses' attitudes about career planning and development. Section 8 of the 2013 Royal College of Nurses (RCN) Employment Survey contained some questions that touched on these concepts (about salary progression and about ability to take time off for training/education) (Royal College of Nursing, 2013). The NZNO survey has added to these, so that in 2015, responses to the five Likert-style questions yielded nurses' 'positivity' scores with regard to career progression, and also training and education (New Zealand Nurses Organisation, 2015a). In their discursive paper, Moran et al. cited Arthur, Khapova and Wilderon's definition of career progression as the 'accomplishment of desirable work-related outcomes at any point in a person's work experiences over time' (2011, p. 46) and equated it with the notion of success.

2.9. Summary of findings from the literature review

The literature identifies numerous ways that nurses can plan their careers, and ways that organisations can contribute to nurses' career development. However there are limited studies that comprehensively demonstrate how such strategies are implemented, and none were found that measure nurses' attitudes towards

their prospects of career progression and attitudes to training and education in relation to their participation in activities that promote career development.

2.10. Implications for current study

The gap identified in the literature means that little is known about nurses' attitudes about career planning and development. An opportunity arises from the recently completed NZNO 2015 Employment Survey (New Zealand Nurses Organisation, 2015a) to re-examine the raw data in order to better understand the extent to which nurses who feel more or less positive about career planning and development are engaged in career planning and development activities, and whether they share any demographic characteristics.

2.11. Research Assumptions and Hypotheses

The research question for this study is "What are the characteristics of nurses with the highest and lowest scores for positive attitudes about career progression and training and education"? The study will investigate the following assumptions and hypotheses that arise from an examination of the literature and review of the published findings of the 2015 NZNO Employment Survey (New Zealand Nurses Organisation, 2015a):

Assumption 1: Nurses who are positive about their prospects for career progression are likely to have:

- had a performance appraisal in the last 12 months
- a current personal development plan that their manager has been involved in drawing up
- had timely access to PDRP, and
- had recent access to career planning

Hypothesis 1: Nurses who engage in career development activities will be more positive about career progression than those whom do not.

Assumption 2: Nurses who are positive about training and education are likely to have:

- had more days of Professional development in the last 12 months

- received support from their employer to participate in education
- accessed education opportunities to meet NCNZ Professional development requirements
- identified fewer significant barriers to the completion of professional development

Hypothesis 2: Nurses who engage in training and education will be more positive about training and education than those whom do not.

Assumption 3: Nurses who are more positive about career progression and training and education will have different demographic characteristics, such as age, ethnicity, number of years working in the health sector, employer and field of practice, than nurses who are less positive.

Hypothesis 3: There will be differences in demographic characteristics between individuals and their attitudes/experiences of career progression and training and education.

2.12. Chapter conclusion

In this Chapter, the literature relating to nurses' career planning and career development activities has been reviewed. The literature suggests a link between nurses' engagement in career planning and career development and their retention in the nursing workforce. Through the NZNO Employment Survey 2015, nurses have been surveyed about their participation in many of these activities (New Zealand Nurses Organisation, 2015a). In that survey, nurses also indicated their attitudes about career progression, and training and education. Through secondary analysis of the survey data, an opportunity exists to better understand the extent to which nurses who feel more or less positive about career planning and development are engaged in career planning and development activities, and whether they share any demographic characteristics. The following chapter outlines the research methods and study design used for testing the assumptions in this study, including details of the participants, how the sample was estimated and obtained, the instrument used, how the original data was collected, how this data was obtained, managed and re-analysed, as well as ethical considerations.

3. Chapter Three: METHODOLOGY, METHODS AND STUDY DESIGN

3.1. Introduction

This chapter outlines the study design and research methods used to answer the research question "What are the characteristics of nurses with the highest and lowest scores for positive attitudes about career progression and training and education". The purpose of good research is "to address a single clear and explicit research question" (Kelley, Clark, Brown, & Sitzia, 2003, p. 261). The aim of this study was to identify characteristics of nurses in relation to their attitudes to career planning and career development activities. The method chosen to achieve this was through secondary analysis of existing data – utilizing results of the NZNO Employment Survey 2015. Nursing research is described as "systematic inquiry that uses disciplined methods to answer questions or solve problems" (Polit & Beck, 2008, p. 3). Quantitative surveys systematically collect detailed descriptions of variables through an approach utilizing control, the standardization of instruments, and numerical measurement according to Robinson (2002). This chapter describes the process followed to achieve robust research in answering the question.

3.2. Methodology

Developments in nursing research in recent decades have mirrored those in the social sciences by becoming mired in "paradigm wars", where advocates of various epistemological and ontological approaches promote their preferred perspective (Griffiths & Norman, 2012). Nursing research has traditionally been recognized as being predominantly qualitative whilst medical research has followed a largely quantitative paradigm (Schneider, Whitehead, LoBiondo-Wood, & Haber, 2013). While evidence hierarchies have recognized that quantitative studies generate stronger evidence than qualitative ones, Polit and Beck also propose that "paradigms should be viewed as lenses that help to sharpen our focus on a phenomenon of interest, not as blinders that limit intellectual curiousity" (2008, p. 17). Craig, Dieppe, Macintyre, Michie, Nazareth and Pettigrew (2013), and Evans (2003) note that different study designs suit different research questions, and that the focus should be on the most effective, appropriate and feasible method to address the issue. Thus, there may be nursing research questions where a

quantitative approach "better fits the perspective of clinical practice" (Evans, 2003, p. 83)

In planning a research approach, Tarling and Crofts (2002) distinguish between the concepts of methodology – the philosophical perspective adopted by the researcher that informs the subject and path that the project will take – and method, which defines the techniques used to collect the data. A research paradigm comprises the elements of epistemology, ontology and methodology (Houghton, Hunter, & Meskell, 2012).

Methodology defines the structure and approach for undertaking the study. Through choosing the research strategy of secondary analysis of existing data collected by survey, attempts will be made "to relate one variable to another or assess differences between variables, but … not determine causation" (LoBiondo-Wood & Haber, 2014, p. 203). Whereas a census seeks to collect data from all members of a population, a survey is a questionnaire where responses from a representative group can be numerically coded for statistical analysis (Gomm, 2009; Tarling & Crofts, 2002). This quantitative approach fits within what is known as the positivist paradigm. Key tenets of positivism include a focus on the objective and quantifiable, pursuing statistical analysis of measured, quantitative information, and an aim to achieve accurate generalisations of discrete, specific concepts (Polit & Beck, 2008). Through the secondary analysis of data previously obtained using a survey comprising closed questions (New Zealand Nurses Organisation, 2015a), this study illuminates some of the characteristics of New Zealand nurses at either end of the attitudinal spectrum about aspects of career planning and development.

Epistemology is defined as "the theory of knowledge" (Gomm, 2009) and concerns the relationship between the researcher and that being studied (Houghton et al., 2012; Polit & Beck, 2008), or how people come to have knowledge of the world (Tarling & Crofts, 2002), thereby influencing the choice of research question. In the positivist paradigm, the researcher remains separate from that being researched, and does not influence the findings. In this study, an objective approach is taken,

utilizing measurable data previously obtained from the population being studied. The researcher does not interact with the participants, but examines their responses to closed questions asked in the earlier survey, in order to answer the research question.

Ontology addresses beliefs about reality, or the theory of being (Polit & Beck, 2008) that informs the study, raising questions about "what is meant by 'existence'; what does exist and what is the nature of existential entities?" (Gomm, 2009, p. 114). Proponents of positivist approaches assume that nature is ordered and truth exists separately from human observance (Polit & Beck, 2008). In this study, truth is discoverable through the process of analyzing responses made by the population surveyed in order to answer the research question.

The NZNO Employment Survey 2015 (NZNO ES 2015) sought to describe key characteristics of New Zealand nurses, as well as various facets of their work experiences through the collection of empirical data. Nurses collect and analyse data in the course of their daily work. Ontologically, this study applies that same positivist process to reviewing the survey data that nurses have already shared in order to understand some underlying contributors to natural phenomena – in this case, nurses' differing attitudes to career planning and development activities.

Quantitative research requires the use of structured instruments (for example survey tools) to collect and analyse numerical empirical evidence about a phenomenon, according to an established plan and using statistical procedures (Polit & Beck, 2008). The NZNO ES 2015 asked predominantly closed questions in order to make generalisations about New Zealand nurses (New Zealand Nurses Organisation, 2015a). All the questions from the NZNO ES 2015 that relate to career planning and career development, as well as demographic information, are closed questions, enabling coding of responses into numeric form. Inferential statistics are used through a process of secondary analysis in order to draw more detailed conclusions about career planning and development attitudes of New Zealand nurses.

3.3. Design

This study is descriptive, by analyzing self-reported empirical data previously gained through a cross-sectional online survey of NZNO members. Cross-sectional surveys are conducted at a single point in time in order to describe the status of phenomena, or for describing relationships among them (Gomm, 2009; Polit & Beck, 2008). Whilst the NZNO Employment Survey has been conducted biennially since 2009, the secondary analysis of selected data from the most recent (2015) cross-sectional survey is the most appropriate approach to answer the research question because it reveals the most recently surveyed attitudes of nurses.

The original NZNO ES 2015 was conducted using Survey Monkey. This online process enabled the survey to be completed by a large number of participants over a relatively short period of time, at little cost. Nurses are often rostered to work shifts, and the Survey Monkey format facilitates ease of access (van Gelder, Bretveld, & Roeleveld, 2010).

Online surveys may be conducted in a number of ways. In the case of the NZNO ES 2015, participants were approached by email, inviting them to participate. This approach has numerous advantages – it can be time-efficient to send the survey or correspond with prospective participants; it is economical in terms of free or low-cost software, and costs increase minimally with respect to the scale of the project; participants can take however much time they require to complete it; and the software is relatively simple and convenient to use (Sue & Ritter, 2012). In online surveys, participants' privacy is also protected. This is an important consideration for encouraging people to "give more honest answers when faced with a computer screen than when faced with an interviewer" (Sue & Ritter, 2012, p. 53), thereby minimizing any tendency towards social desirability. The greater the accuracy of information collected, the closer the findings will reflect truth.

Disadvantages of online surveys can include coverage error, risks of software malfunction, and limited access to being online by some participants (Sue & Ritter, 2012). Coverage error arises when the population is not fully represented in the sample. In the case of the NZNO ES 2015, the online survey risked excluding NZNO

members who didn't register an email address on the membership database; those members whose email addresses were not current; those for whom English is not their first language, and whom therefore may not have felt confident participating in a survey; and those members whom might have given a work email address as part of their contact details, and whom may have been away from work during the time the survey was conducted. As far as software reliability went, the researchers conducting the NZNO ES 2015 reported that Survey Monkey proved reliable, cost-effective and convenient (Walker, 2015b). With regard to participants' access to the survey online, this was beyond the NZNO ES 2015 researchers' control. Some nurses report having difficulty finding time to access computers at work for anything other than data entry in specified programmes (BUPA nurses, 2016) and often cannot access their work email account when not at work. If these nurses had supplied their work email address for the NZNO database, then their opportunity to participate would be limited.

3.3.1. Secondary Analysis

This study utilizes secondary analysis of the existing data from the NZNO ES 2015. This approach enables a cost-efficient means of using data already collected in order to "provide a more nuanced assessment of the primary results from the original study" (Cheng & Phillips, 2014, p. 371). The NZNO ES 2015 examined a range of aspects of nurses' experience of employment, whereas the focus of this study is to identify characteristics of nurses in relation to their attitudes to career planning and development activities. Accordingly, selected questions from NZNO ES 2015 were identified that related to the focus of this study. The data from NZNO ES 2015 was reviewed to isolate the group of participants who had answered the selected questions. The responses of this sub-group were examined using descriptive statistical analysis as well as other statistical treatments in order to answer the research questions.

3.4. Survey tool

A social survey is defined as "a technique for gathering statistical information about the attributes, attitudes or actions of a population by administering standardized questions to some or all of its members" (Buckingham & Saunders,

2004, p. 13). In this study, the population whose views were of interest was the group of NZNO members who responded to the NZNO ES 2015 who were Registered or Enrolled Nurses. Buckingham and Saunders note that it is important to clearly identify the criteria for the population being studied, in order to accurately attribute survey findings to this group.

Survey tool design can incorporate a range of different features, many of which have been well researched for their effect on achieving research objectives – including the proposed length of the questionnaire (Beebe, Stoner, Anderson, & Williams, 2007; Jepson, Asch, Hershey, & Ubel, 2005); the appearance of the survey (font size) (Mallen, Dunn, Thomas, & Peat, 2008); use of any artwork or imagery (Fredrickson, Jones, Molgaard, & Carmann, 2005; Taylor et al., 2006); communication undertaken with the group whose views are sought, prior to distribution of the questionnaire (Byrne, Harrison, Young, Selby, & Solomon, 2007); the order that questions are listed (Drummond, Sharp, Carsin, Kelleher, & Comber, 2008; Dunn, Jordan, & Croft, 2003); the reading age that questions are constructed for (Fredrickson et al., 2005); the mode of questionnaire delivery (by hand, post or online) (Mond, Rodgers, Hay, Owen, & Beumont, 2004); whether and how respondents are offered (what) incentives to induce participation (Field et al., 2002; Fredrickson et al., 2005; Harris, Khoo, Young, Solomon, & Rae, 2008; Leung et al., 2004); and the impact of reminders to increase response rates (Dillman, 2000; Salim Silva, Smith, & Bammer, 2005).

The questions selected from the NZNO ES 2015 for secondary analysis in this study were written in a range of styles to elicit the data sought. For example, some questions contained positively or negatively worded statements requiring respondents to select one of four Likert-style options ('strongly agree', 'agree', 'disagree' and 'strongly disagree'). An example of a positively worded statement is "I am able to keep up with developments related to my job". An example of a negatively worded statement is "I am unable to take time off for training/education". By asking questions on the same topic in different ways, respondents have numerous opportunities to confirm their views. Care needs to be taken when coding responses in order to capture the intended direction of the

response. Some different questions asked respondents to select one of the range of options listed. Other questions asked respondents to select "all that apply" from the list of options, or "any that apply". Yet another question type required the respondent to write a number, to represent the number of years they have worked in the health sector. Therefore the range of question formats required use of a number of different analytic methods.

Because the NZNO ES 2015 survey was conducted online, aspects of participant completion were governed by programming rules. This meant that for questions requiring one response, only one response could be selected. Where a question was not fully completed, the participant was prompted to complete it before moving to the next screen, however could still choose to leave it blank. Participants had the option of returning to previous screens if they chose to review or amend their earlier responses. They could also choose to withdraw from the survey at any point up until they clicked 'submit' on the final screen. Whilst 1175 responses were returned (Walker, 2015a), that number included two surveys completed as part of piloting the tool so only data from the 1173 respondents was entered.

The NZNO ES 2015 was the fourth iteration of the NZNO Employment Survey, therefore contained almost identical questions in a similar presentation style to previous surveys (New Zealand Nurses Organisation, 2009, 2011, 2013). The first NZNO Employment Survey 2008/9 was based on the Royal College of Nursing's annual Employment survey that has been in use since the 1980's. In their report on the 2015 survey, NZNO researchers noted that "The attitudinal rating scales were identical to those used since 2008/9, allowing change over time to be tracked, and kept as similar as possible to the standardized RCN set to allow international comparisons." (New Zealand Nurses Organisation, 2015a, p. 8). The NZNO Employment Survey 2015 survey was expanded to include some additional questions on selected topics, unrelated to the focus of this study.

3.4.1. Questions selected for secondary analysis

The focus of this study was to examine nurses' attitudes towards career progression, and training and education, in relation to their participation in

various activities that contribute to career development. Therefore data collated in response to a subset of questions from the NZNO ES 2015 was analysed. The full NZNO ES 2015 questionnaire contained 90 questions plus an invitation for the respondent to write any other comments they chose, with regard to their experience of working as a nurse or about their employment or nursing career. From that original tool, the data from the following three sets of questions were selected for further examination in this study: 1) Questions 5, 8, 83, 89, 90 – this set comprised demographic questions about age, ethnicity, years of experience working in the health sector, employer and field of practice; 2) responses to five sub-questions within Q 57 – attitudinal statements, with focus on responses relating to career progression and training and education; and 3) Questions 58, 59, 60, 61, 62, 64, 65, 66 and 67 – questions relating to nurses' participation in career development activities and training and education activities. These questions can be found in Appendix A.

3.4.2. Data collection for secondary analysis

NZNO researchers agreed to share the full NZNO ES 2015 data set with this researcher for the purpose of completing secondary analysis. Part of this agreement included limiting use of the data to this study, and confirming how the findings would be reported. The full set of original NZNO ES 2015 survey data was supplied as a zipped Statistical Package for the Social Sciences (SPSS) file (IBM Corporation, 2015). The file contained no identifiable details, simply the already-coded responses to the NZNO ES 2015 survey questions by 1173 participants.

3.5. Method

3.5.1. Sample population selection

The population eligible for participation in the NZNO ES 2015 was all Registered and Enrolled Nurse members registered with the Nursing Council of New Zealand on the NZNO membership database at the time that study was undertaken in December 2014. The Registered Nurse and Enrolled Nurse members over the period including December 2014 numbered 37,044 according to NZNO documents (New Zealand Nurses Organisation, 2015b).

Registered and Enrolled Nurses who were current members of NZNO at December 2014 were eligible for inclusion in NZNO ES 2015. Because the method was a web-based survey, selection of participants was restricted to those members who had provided an email address to the NZNO database. Midwife members registered exclusively with the Midwifery Council of New Zealand were excluded from the sample, although dual-registered nurse/midwife members were eligible to be selected, and some were. There were no other exclusion criteria for selection. A computer generated random sample of 5000 potential participants was selected from this pool. Also, an invitation to take part was made to recipients of the NZNO e-newsletter via a link to the survey embedded in the monthly e-newsletter. This dual mode of participant recruitment means it was not possible for the NZNO researchers to calculate an exact response rate by the randomly selected potential participants. In their report, the NZNO researchers commented upon the timing of responses received in relation to when the email and the newsletter invitations were sent, which "indicate the email invitation was the main prompter to complete" (New Zealand Nurses Organisation, 2015a, p. 9).

When the NZNO member database was accessed and 5000 members' names were randomly selected, the prospective participants were emailed a personalized covering letter informing them about the study and inviting them to participate (see Appendix B). The email contained an electronic link to the questionnaire. Members who read about the survey in the monthly e-newsletter were given access to the same information, and an electronic link to the questionnaire was embedded in the e-newsletter to facilitate access. Prospective participants were also offered an incentive for the time they spent completing the survey, with the option of voluntarily entering into a ballot for a chance of winning $50. Prospective participants were assured that any contact details supplied to facilitate entry into the draw would be separated from all answers, so that participation was kept anonymous.

The sample population for this secondary analysis study was the respondents who answered the selected questions from NZNO ES 2015. Of this sample,

3.5.2. Method for secondary analysis

The lead researcher who conducted the NZNO ES 2015 was approached to grant permission for this secondary analysis of data for selected questions from the survey to be conducted. This was agreed and the file was supplied.

3.6. Ethics

It is important that ethical issues be identified prior to the undertaking of any research activity. Nurses conducting research are obliged to consider professional issues such as those outlined in the New Zealand Nurses Organisation Code of Ethics (New Zealand Nurses Organisation, 2010) as well as the requirements of the research institution overseeing the project (Massey University, 2015). The NZNO researchers conducting the NZNO ES 2015 gained ethical approval under expedited review from the New Zealand Multi-region Ethics Committee (MEC/08/30EXP). As part of this process, the researchers: sought voluntary participation by nurse members of NZNO (who were not human participants recruited in their capacity as consumers of health and disability support services, for example); provided sufficient information to enable participants to understand what they were consenting to participate in or to decline, without consequence; guaranteed participants' anonymity by not retaining any identifiable data; published only grouped data; and undertook to make the report available to participants following the project's conclusion. The NZNO ES 2015 researchers had also gained permission from their counterparts at the Royal College of Nurses in the United Kingdom who had developed their employment survey, to utilize many of the same questions for the biennial NZNO Employment Surveys.

It is important that prospective participants are given sufficient information about the research project in order to make an informed decision. The covering letter for NZNO ES 2015 supplied this information and also advised the recipient that their participation was optional, so that they understood that there would be no consequences to them personally if they chose to participate or not. It included advice that the member's completion of the survey and submission of answers at the conclusion of the survey would be taken as their implied consent to participate. It also advised that all survey results would be collated into one national report

and this would be made available to all members, including participants, on the NZNO website upon publication. The undertaking to provide anonymity to participants is important so that they can respond honestly without concern about being identified. The NZNO researchers did not have access to the member database. The NZNO administrator communicated with the randomly selected members on the researcher's behalf, sending email correspondence. The researchers did not know whether or not members participated in the online survey.

3.6.1. Ethical consideration for conducting secondary analysis

Research projects that consist of conducting secondary analysis of existing data raise few ethical considerations and are therefore usually assessed as low risk or eligible for expedited review. The application to the Research Information Management System at Massey University for this study was assessed as being low risk, so a notification letter was issued stating this (see Appendix C). For this study, the NZNO researchers also sought agreement from this researcher about how the data from the NZNO Employment Survey 2015 would be used (Walker, 19 October 2015). One ethical consideration is whether or not a conflict of interest exists. This researcher commenced employment with NZNO in mid-2015 as a Professional Nursing Advisor, however this researcher has not had any involvement with the NZNO Employment Survey 2015, therefore there is no risk of conflict of interest in this case.

3.7. Data analysis

For this current research, this data will be treated with descriptive statistical analysis. In addition, the particular hypothesis or variables will be statistically treated using chi-square and t-test method.

In the NZNO ES 2015 Report (New Zealand Nurses Organisation, 2015a), data was collated (added, and expressed as a percentage). It was depicted in table or graph form, or described in narrative form. The mean values were calculated for some responses, and these were also ranked (for example, table 12, p. 36). The data was often shown in comparison to responses received for previous NZNO employment

surveys, to any illustrate if any movement had occurred over time. For a limited number of demographic questions such as tables 1, 2 & 3 on pages 10-12, (New Zealand Nurses Organisation, 2015a), the responses were shown alongside data from the Nursing Council of New Zealand, as the basis for comparison to the whole population of New Zealand nurses.

The raw NZNO ES 2015 data was exported by NZNO researchers from Survey Monkey to Microsoft Excel. Collating the data in this form facilitated a process of review of the raw data. This enabled any errors in the data to be identified and corrected at the outset by the original researchers, rather than risk conducting incorrect analyses (Pallant, 2013). With this process already completed, the full set of data made available to this researcher was deemed to be complete and correct.

3.7.1. Descriptive statistics

The variables in quantitative data can be measured according to different classifications, based on how they relate to one another. The differences between these scales of measurement are important because "certain statistical procedures are appropriate for data collected on some scales but not on others" (Gravetter & Wallnau, 2005, p. 18). Different scales of measurement include: Nominal – where the scale comprises a set of categories (for example, ethnic identity, employer, field of practice); Ordinal – where the categories that make up the scale are named and ranked in order of magnitude (for example, the responses made to questions using a Likert scale such as 'Strongly Agree', 'Agree', 'Disagree', and 'Strongly Disagree'); Interval – where the categories form a series of intervals that are exactly the same size (for example the degrees in a temperature scale – Fahrenheit or Celsius); and Ratio – which is a form of Interval scale, but one where the value of zero equals none, therefore is absolute (for example, number of years working in the health sector) (Gravetter & Wallnau, 2005; McKenzie, 2013). The data received in response to the questions from the NZNO ES 2015 selected for secondary analysis in this study are classified according to Nominal, Ordinal and Ratio scales.

By measuring the 'central tendency' or average of data, it is possible to understand the 'typical' values of the numbers obtained (Tarling & Crofts, 2002, p. 160). The

average value describes the middle of the group and enables more meaningful comparison between different groups (Sullivan-Bolyai & Bova, 2014). However "no single measure will always produce a central representative value in every situation" (Gravetter & Wallnau, 2005, p. 53), and the relationships between the three different ways of measuring the central tendency are determined by the shape of the data's distribution.

3.7.2. Mean, median and mode

There are three kinds of indices of central tendency – mean, median and mode. The mean is commonly understood to be the average, and is defined as "the sum of all your scores, divided by how many scores you have" (McKenzie, 2013, p. 34). Calculations of the variance and standard deviation depict the how scores are dispersed around the mean. The median is the middle score, obtained by sorting the scores into a list order of value, and finding the middle one. The mode is useful to minimize the impact of extreme scores from either end of the scale. The mode is the most frequently occurring result. On its own, the mode does not indicate shape of the distribution of scores, but when provided alongside the other measures, it gives an indication of the shape of the distribution (LoBiondo-Wood & Haber, 2014). The mean is considered to be the best option for measuring interval- or ratio-level data. The mode is useful for measuring nominal data. Where data are distributed symmetrically, the mean, median and mode are the same value (LoBiondo-Wood & Haber, 2014). A histogram is useful for graphically depicting the distribution of a single continuous variable (Pallant, 2013) such as years of experience.

3.7.3. Inferential statistics

While descriptive statistics provide us with information about the sample, "inferential statistics … uses probability theory to extrapolate information from samples to populations" (McKenzie, 2013, p. 4) in order to test hypotheses about the population (LoBiondo-Wood & Haber, 2014). The null hypothesis is a statement that assumes there is no significant relationship between the variables of interest in the study. In statistics, the null hypothesis remains true unless

sufficient evidence of statistical significance is found that rejects it (McKenzie, 2013).

When the null hypothesis is rejected, this means that the groups being studied are different. It is possible for a researcher to reject a null hypothesis when it is actually true – this is known as a type I error. Conversely, it is possible for a null hypothesis to be accepted when it is actually false – known as a type II error. The researcher can only be sure that the null hypothesis is either true or false by collecting data from the whole population, however the risk of making a type I error can be reduced by setting the level of significance for the study before it begins (Sullivan-Bolyai & Bova, 2014). The level of significance is known as an alpha level, and is usually set at .05, which means that the null hypothesis has a chance of being rejected when it is actually true five times out of a hundred trials. The results of statistical significance testing are usually expressed in p values (for probability) (Gomm, 2009). The level of significance set for this study is .05.

An example of a null hypothesis in this study is that there will be no difference in demographic characteristics between individuals and their attitudes/ experiences of career progression and training and education. Confirming the null hypothesis would mean that there is no statistically significant difference in the age, ethnic identity, employer or field of practice (selected characteristics) of nurses and their levels of positivity about career progression and training and education. Rejection of the null hypothesis would mean that nurses with different levels of positivity about career progression and training and education have different demographic characteristics that are statistically significant.

Tests of significance may be either parametric or non-parametric. The difference between these tests depends on whether they estimate population parameters; their scale of measurement; and whether or not it can be assumed that the variable is normally distributed in the population, amongst other assumptions. Parametric tests estimate population parameters, involve measurements on at least an interval scale, and involve assumptions about variables. Non-parametric tests do not estimate parameters and are therefore applied when the variables have been

measured on a nominal or ordinal scale, or when the distribution of scores is non-normal, or when the sample size is small (LoBiondo-Wood & Haber, 2014; Polit & Beck, 2008).

Because parametric tests are more powerful than non-parametric tests, their use is preferred, however there is disagreement about whether or not parametric tests can be used appropriately if the assumptions for parametric tests are not met, when the sample size is large. For this study, the variables are being tested for evidence of differences between the means. Parametric tests can be used where the data is measured on an interval or ratio scale (for example in regards to the number of years the nurse has worked in the health sector). Non-parametric tests can be used where data is measured on a nominal scale (for example, in regards to extent of participation in professional development activities).

Parametric tests require that the variables be normally distributed in the population due to the sample being randomly generated. In the original NZNO ES 2015 study, the sample was obtained through a mix of random sampling and convenience sampling, and is large in size. A concept known as the 'central limit theorem' can be applied, which recognizes that "when samples are large, the theoretical distribution of sample *means* tends to follow a normal distribution – *even* if the variable itself is not normally distributed in the population" (Polit & Beck, 2008, p. 591). The sample for this secondary analysis was obtained from the NZNO ES 2015 respondents who answered all the applicable sub-questions eight, nine, 14, 15 and 16 in Q57. This group of 944 respondents means that it can be considered appropriate to use the parametric test in this situation.

3.7.4. Use of the T-test in this study

The t-test is one parametric test used in this study. The t-test is used to determine whether the means between two groups are more different than would be expected by chance (LoBiondo-Wood & Haber, 2014). The data being analysed from the NZNO ES 2015 makes this a cross-sectional study, because it is from a single episode of data collection. Accordingly, the applicable t-tests are the one-

sample t-test where there is only one group, or the independent-samples t-test, when the participants in each group are different people.

Pallant (2013) outlines that the IBM SPSS analysis (IBM Corporation, 2015) calculates a Levene's test to measure the equality of variances between the groups. Where the variances are noted to be unequal (i.e. the significant value is .05 or smaller), an alternate t-test is reported, which compensates for this fact. To allow for the t-test to be used, the number of years the nurse has worked in the health sector is dichotomized at the mean of 23.1 years.

3.7.5. Chi-square test

The chi-square (χ_2) test for independence is used to determine whether the proportions of cases of two categorical or ordinal variables occurring is different than what would be expected by chance (LoBiondo-Wood & Haber, 2014). Because of the categorical or ordinal units of measurement used, the basis for comparison is frequencies or proportions. Using IBM SPSS, a calculation called Yates' Correction for Continuity is also used in order to "compensate for what some writers feel is an overestimate of the chi-square value when used with a 2 by 2 table" (Pallant, 2013, p. 225). One calculation in this study involved a two by two table, and the rest involved tables with more than four cells, where the Yates correction for continuity was not required. The chi-square test for independence was used to compare frequencies of occurrence of responses about nurses' attitudes about career development activities, and training and education, with respect to responses regarding specific career planning and training/education activities.

3.8. Statistical methods

In order to examine associations between nurses' attitudes about career progression and their engagement in the career development activities surveyed in the NZNO ES 2015, an index of positivity about career progression was created. This index was then compared with responses to questions about career development activities, to determine the nature of any associations. This same process was used to create an index of positivity about training/education, for

comparison with nurses' responses to questions about training and education activities.

In order to create the indices, it was necessary to reduce the dataset to contain only those who had responded to the identified sub-questions in Question 57. The process to achieve this was to delete cases where respondents had not answered all five sub-questions that contributed to either index. This further reduced the dataset from 1173 to 944.

For each sub-question, the questionnaire required respondents to select one of four answers to the supplied statement – Strongly Agree/Agree/Disagree/ Strongly Disagree. In the original dataset, these had been coded so that "Strongly Agree" = 1; "Agree" = 2; "Disagree" = 3; and "Strongly Disagree" = 4. Interestingly, the numbers allocated to these responses in the original dataset meant that when respondents indicated agreement with positively worded statements, the number score was smaller than for indicating disagreement. This seemed counter-intuitive, therefore it was decided to have all the statements framed so that respondents' agreement with negative statements scored smaller numbers and their disagreement with those negative statements (a double negative, therefore positive) scored larger numbers.

Two of those sub-questions were worded positively (Questions 57/15 & 57/16) and therefore it was necessary to reverse code the positively worded questions. The variable that was being recoded was selected from the dataset then given a new name. For the new variable, the old values were changed to new values (one was changed to four, two was changed to three, three was changed to two, and four was changed to one) and the transformation was implemented. This process was not required for each of the three negatively worded sub-questions, resulting in data from all five attitudinal questions now being expressed positively. Therefore for all five sub-questions, responses of "Strongly Agree" = 4; "Agree" = 3; "Disagree" = 2; and "Strongly Disagree" = 1 all apply consistently, so that responses that have values of four and three show more positivity about the statement in question than responses with values of one and two.

Once this process was completed, it was possible to create the indices. For the career index, the responses to the sub-questions about career progression were transformed by averaging the responses to sub-questions 57/8 and 57/14 from each respondent in order to represent their positivity about career progression. Similarly, for the training/education index, the responses to the sub-questions about training and education were transformed by averaging the responses to sub-questions 57/9, 57/15 and 57/16 for each respondent, in order to represent their positivity about training/education. If this average score is high (three or more), then the respondent's attitudes about either topic are more positive than if the score is low (less than three).

Cross-tabulations using the chi-square test for independence were completed to measure associations between the career index and each of the career progression activities to address Hypothesis One. Cross-tabulations using the chi-square test for independence were completed to measure associations between the training/education index and four of the training/education activities to address Hypothesis 2. Further cross-tabulation calculations were completed to examine any associations between nurses who are positive about career progression, or training/education, and their demographic characteristics.

When completing the cross-tabulations using SPSS, the statistics options of chi-square and Phi and Cramer's V were selected. Within the options listed for cells, the observed counts were chosen, and the options to have percentages calculated for the rows, columns and totals were also chosen.

In interpreting the output from chi-square for independence, a number of factors need to be considered. One assumption is that at least 80% of the cells created through cross-tabulation should have frequencies of five or more (Pallant, 2013). In completing chi-square calculations to test Hypotheses One and Two, the cross-tabulations created tables where more than 20% of the cells had frequencies of less than five. This was addressed by collating index data (originally spread across between seven and ten different scores) into fewer relevant groups – for example

one group with responses of 3 or more, and another group with responses less than three. This process required the transformation of recoding both sets of index data (career progression index and training/education index) into the two new variables. The result was that, following cross-tabulation, for each of the calculations, there were no cells with the expected value of less than five. Meeting this assumption means that the *p* values of the chi-square test are more accurate.

Finally, the effect size for calculating chi-square for independence for a cross-tabulation of two by two requires calculation of a phi coefficient, or the reporting of Cramer's V for cross-tabulations larger than two by two, which takes into account the increased degrees of freedom.

3.9. Data quality

Reliability is achieved when research instruments "produce the same results from the same conditions each time they are used" (Buckingham & Saunders, 2004, p. 72) whereas validity is achieved when research instruments "measure what they are intended to measure" (Buckingham & Saunders, 2004, p. 72). Validity can be further defined by the concept of 'internal validity' – whether respondents' answers to different questions are consistent with each other, and 'external validity' – whether the attitudes they express actually predict the corresponding way that they behave (Buckingham & Saunders, 2004). This principle is tested by the use of some directional statements in Question 57 that frames the questions in more than one way to ensure that participant responses consistently convey the same meaning.

Buckingham and Saunders (2004) also state that the reliability of an instrument is increased when response options are limited to a small range of values and when respondents are self-completing the survey. They note that validity is not inherent to an instrument, and instead must be assessed in relation to the specific purpose and setting that it was originally intended for. It is also recognized that the appropriate use of questionnaires developed by others has huge advantages for enhancing the reliability and validity of a study (Buckingham & Saunders, 2004; Schilling, Kozak, Lundahl, & Dellavalle, 2006).

The repeated use of the same research instruments, in this case the NZNO ES 2015, and the fact that the tool was derived from the RCN Employment Survey that had been conducted with nurses for 25 years prior, lends validity and reliability to this study. Other factors that enhance the reliability of the study include the use of codes as response options for closed questions that a) make sense, b) are exhaustive of all response possibilities and c) are mutually exclusive (Buckingham & Saunders, 2004) including offering respondents limited options to select from (Cleopas, Kolly, & Perneger, 2006; Garratt, Helgeland, & Gulbrandsen, 2011). Such a set of response options includes the Likert-type scale that was used in the attitudinal questions scale. Likert scales are described by Hayes as a representing a bipolar continuum and are chosen because "they have a set of responses on which respondents can indicate opinions with a choice of intensities" (2008, p. 486).

3.10. Summary

This chapter has summarized the approach, design and method used in this study. The study was informed by a positivist paradigm where control is maintained by the researcher through the asking of closed questions in order that responses can be quantified. The study received ethical approval from the Massey University Research Information Management System with details provided in Appendix C. Access to data from a previously conducted NZNO Employee Survey 2015 was granted by the lead NZNO researcher, and shared using the IBM SPSS 23.0 format. Data was reviewed and analysed using IBM SPSS, with t-tests and chi-square analysis being the most commonly used statistical tests. The results of the analysis are presented in the next chapter.

4. Chapter Four: RESULTS

4.1 Introduction

The results of the data analysis are presented in this chapter after the data were accessed and processed as described in the previous chapter. This chapter reports: a) the demographic characteristics of the sample; b) the creation of indices representing nurses' positivity about career progression, and training/education; c) associations between nurses who engage in career development activities and their positivity about career progression; d) associations between nurses who engage in training/education activities and their positivity about training/education; and e) differences in demographic characteristics between individuals and their attitudes/experiences of career development and training/education.

The results in this chapter are reported in reference to the three research hypotheses outlined at the conclusion of Chapter Two. Each hypothesis will be presented in a box at the start of the section containing the relevant analysis, to limit the need to refer back to Chapter Two.

4.2 Description of sample

4.2.1 Respondents

The NZNO ES 2015 was completed by 1173 nurses. Of those, 944 completed all five sub-questions in Question 57 that indicate nurses' attitudes to career progression and training/education (sub-questions 8, 9, 14, 15 & 16), representing 80.5% of the original respondents. This 944-member subset of the original group of respondents to the NZNO ES 2015 forms the sample for this secondary analysis. Due to some of these respondents not completing all the other questions examined as part of this study, the sample size varies throughout each of the analyses undertaken. Of this group, 831 indicated their role, and 755 (90.9%) were RNs, and 38 (4.6%) were ENs, with a further 38 (4.6%) working in other roles.

4.2.2 Age of nurses

The respondents were asked to indicate their age across 11 categories – starting with those under 25 years, and then in 5-year bands until the final category of those 70 years or over. Of the possible 944 respondents, 920 (97.5%) responded.

Age of Respondents

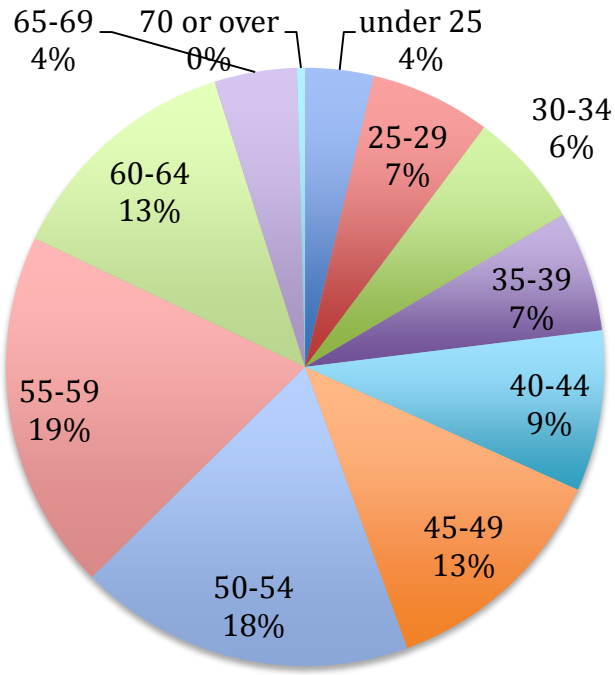

Figure 4.1 Age of respondents

The five most frequently occurring age bands were: 55-59 years (19.5%); then 50-54 years (18.2%); 60-64 years (13.0%) was next; then 45-49 years (12.7%); and next was 40-44 years (8.7%). These five groups made up 72.1% of all responses. In comparison, the five most frequently marked responses by the full group of 1173 respondents to the NZNO Employment Survey 2015 were the same age bands, in the same order, and comprised 71.7% of the 1007 respondents who replied.

4.2.3 Gender of nurses

Respondents were asked to identify their gender from options of male, female or other. No respondents selected other, and 97.1% of respondents indicated either female (94.3%) or male (5.7%).

4.2.4 Ethnicity of nurses

Respondents were offered a list of 15 options, including 'other', and asked to "pick all that apply", as well as to specify their ethnicity if they selected 'other'. The response structure enabled respondents to select multiple ethnicities if applicable. From the group of 944 respondents, 922 people chose at least one ethnicity and there were 1000 selections made by those 922 people for ethnicity in the survey. Please note that the denominator for calculating each of the following frequencies is 922. The total percentage of all ethnicities selected adds up to more than 100% because individuals can hold more than one ethnicity.

Table 4.1 Ethnicity of respondents

Ethnicity	Frequency	Percentage of actual respondents (n=922)
NZ European	695	75.4
Other European	92	10.0
Other	66	7.2
NZ Maori	60	6.5
South East Asian	21	2.3
Indian	19	2.1
Other Asian	17	1.8
Chinese	12	1.3
Samoan	7	0.8
Cook Island Maori	3	0.3
Fijian	3	0.3
Other Pacific	3	0.3
Tongan	1	0.1
Tokelauan	1	0.1
Nieuan	0	0
Total ethnicities selected	**1000**	**108.5**

The five most commonly selected ethnicities were New Zealand European (75.4%); Other European (10.0%); Other (7.2%); Maori (6.5%); and South East Asian (2.3%). The order of the five most frequently selected ethnicities for this group is the same order that was derived from data from the whole sample in the NZNO Employment Survey 2015.

4.2.5 Nurses' field of practice for main job

Twenty-five options were listed for nurses to choose from. From the group of 944 respondents, 847 (89.7%) answered this question.

Table 4.2 Field of Practice

	Frequency	Percent	Valid Percent	Cumulative Percent
Emergency & Trauma	53	5.6	6.3	6.3
Assessment & Rehabilitation	43	4.6	5.1	11.3
Child Health including neonatology	42	4.4	5.0	16.3
Continuing Care (elderly)	76	8.1	9.0	25.3
Cancer Nursing	14	1.5	1.7	26.9
District Nursing	26	2.8	3.1	30.0
Family Planning / Sexual Health	5	.5	.6	30.6
Intellectually Disabled	7	.7	.8	31.4
Intensive or Coronary Care / HDU	45	4.8	5.3	36.7
Mental Health/ Addictions	55	5.8	6.5	43.2
Medical	83	8.8	9.8	53.0
Nursing Administration / Management	19	2.0	2.2	55.3
Nursing Education	22	2.3	2.6	57.9
Infection Control	1	.1	.1	58.0
Professional Nursing Advice	4	.4	.5	58.4
Nursing Research	2	.2	.2	58.7
Obstetrics/ Maternity	17	1.8	2.0	60.7
Occupational Health	5	.5	.6	61.3
Palliative Care	25	2.6	3.0	64.2
Perioperative Care/ Theatre	53	5.6	6.3	70.5
Primary Health/ Practice nursing	121	12.8	14.3	84.8
Public Health	11	1.2	1.3	86.1
Prison Nursing	5	.5	.6	86.7
Surgical	72	7.6	8.5	95.2
Other - nursing	41	4.3	4.8	100.0
Total Respondents for question	847	89.7	100.0	
Missing Respondents	97	10.3		
Total	944	100.0		

The five most frequently selected fields of practice were: Primary health/Practice Nursing (14.3%); Medical Nursing (9.8%); Continuing Care (elderly) (9.0%); Surgical Nursing (8.5%); and Mental Health/Addictions Nursing (6.5%). These respondents comprised 48.1% of the respondents who answered the question.

4.2.6 Nurses' Employer for main job

Seventeen employer options were listed for nurses to choose from. Of the 944 respondents, 896 (94.9%) answered this question.

Table 4.3 Employer for main job

	Frequency	Percent	Valid Percent	Cumulative Percent
DHB- In patient	442	46.8	49.3	49.3
DHB- Community	104	11.0	11.6	60.9
Private surgical hospital	30	3.2	3.3	64.3
Accident and Medical Centre	9	1.0	1.0	65.3
Community Hospital (rural)	7	.7	.8	66.1
General Practitioner	66	7.0	7.4	73.4
Aged Care Provider	75	7.9	8.4	81.8
Nursing Agency	6	.6	.7	82.5
Self-Employed	3	.3	.3	82.8
Maori and Iwi health provider	10	1.1	1.1	83.9
Pacific health provider	1	.1	.1	84.0
Educational Institution	24	2.5	2.7	86.7
Government agency (MOH, ACC, prisons, etc.)	9	1.0	1.0	87.7
PHO provider	21	2.2	2.3	90.1
NGO provider	33	3.5	3.7	93.8
Other, non-nursing work	4	.4	.4	94.2
Other nursing work	52	5.5	5.8	100.0
Total Respondents to question	896	94.9	100.0	
Missing Respondents	48	5.1		
Total	944	100.0		

The five most frequently selected employers were: DHB Inpatient services (49.3%); DHB Community services (11.6%); Aged Care Providers (8.4%); General Practitioners (7.4%); and Other Nursing Work (5.8%), and comprised 82.5% of the respondents who answered the question.

4.2.7 Number of years working in the health sector

Respondents were asked to state approximately how many years they had worked in the health sector. A total of 907 respondents answered this question (96.1% of those eligible). Ten cut points were created so that the data was sorted and 'binned' into 10 groups of five years (10 groups of five-year increments ranging

from ‘no experience to four years’; ‘five-nine years’; ‘ten-14 years’, etc, to a final group of ‘50+ years’.

Number of years worked in the health sector

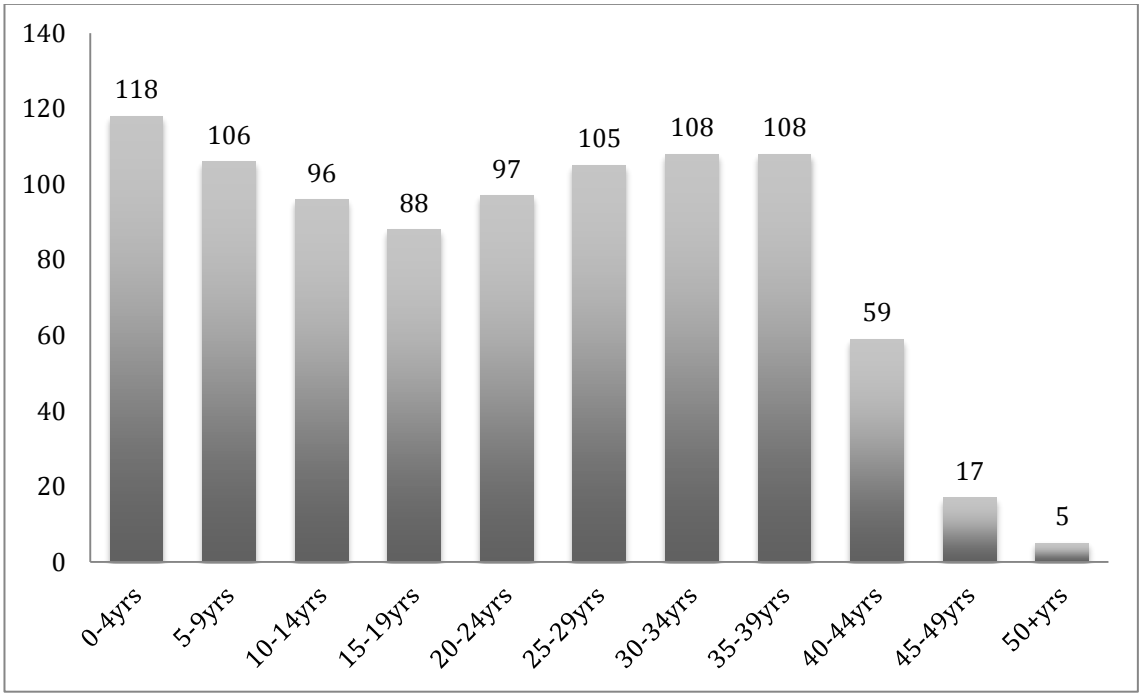

Figure 4.2 Number of years worked in health sector

Respondents’ years of health sector experience were spread relatively evenly across most of the groups, with less than 2.5% difference in the number of respondents with years experience in the sector for all the bands between 5 years and 40 years experience. A total of 13.0% respondents had less than 5 years experience, and a total of 9.0% respondents had more than 40 years experience (6.5% had 40-44 years; 1.9% had 45-49 years; 0.6% had 50+ years experience). The remainder (78.0%) was spread reasonably evenly across the 7 5-year groupings in between. The mean number of years of experience was 23.1 years.

To summarise the participant demographic characteristics, the majority were over 50 years of age, female, of New Zealand European ethnicity, and employed by DHB inpatient or community services. Nearly half of the respondents work in five fields of practice (primary health, aged care, medical nursing, surgical nursing and mental health/addictions nursing, and the mean number of years they have worked in the sector is 23.1 years.

4.3 Analysis of nurses' attitudes towards career progression and training/education

As previously stated in Chapter Three, five of the sub-questions asked as part of Question 57 of the NZNO Employment Survey 2015 were designed to elicit nurses' attitudes to career progression and to training and education.

Creating Indices for nurses' attitudes towards career progression and training/education.

As described in Chapter Three, an index of positivity was created about nurses' attitudes towards the statements about career progression in the two sub-questions (57/8; 57/14) by creating an average score for responses to both of the questions. The most positive responses to individual statements were given the value of four, and the least positive responses were given the value of one. Therefore the index indicates that respondents with the most positive career progression responses have the highest scores.

Table 4.4 Responses to applicable sub-questions within Q57 about nurses' positivity about career progression and training/education

Statements taken from Q 57 N = 944	1 strongly disagree	2 disagree	3 agree	4 strongly agree	Mean	SD
For Career Progression Index						
8. It will (not) be difficult to progress from my current salary	252 *26.7%*	492 *52.1%*	178 *18.9%*	22 *2.3%*	1.97	.74
14. Career prospects in nursing are becoming less (more) more attractive	103 *10.9%*	396 *41.9%*	365 *38.7%*	80 *8.5%*	2.45	.80
For Training/education Index						
9. I am able to take time off for training/education	79 *8.4%*	232 *24.6%*	529 *56.0%*	104 *11.0%*	2.70	.77
15. I am able to keep up with developments related to my job	21 *2.2%*	182 *19.3%*	643 *68.1%*	98 *10.4%*	2.87	.61
16. I have regular dialogue about my work with my manager	93 *9.9%*	279 *29.6%*	491 *52.0%*	81 *8.6%*	2.59	.78

Questions 8 and 14 were worded negatively in the original survey, so the scoring of values was reversed in order for answers to those questions to be consistent with the direction of the answers to the other positively worded questions (e.g. 4 ->1; 3 ->2; 2 ->3; 1 ->4).

Table 4.5 Career Progression Index, where the first column indicates the seven different index values calculated by averaging individuals' responses to the two sub-questions about career progression (57/8; 57/14).

Career index

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	61	6.5	6.5	6.5
	1.50	152	16.1	16.1	22.6
	2.00	271	28.7	28.7	51.3
	2.50	292	30.9	30.9	82.2
	3.00	137	14.5	14.5	96.7
	3.50	24	2.5	2.5	99.3
	4.00	7	.7	.7	100.0
	Total	944	100.0	100.0	

The mean career index positivity score was 2.2, the median was 2.0 and the mode was 2.5. The standard deviation was .61. For this analysis, career progression index scores with values of three or more are considered positive, because that value indicates the respondent agreeing with the sub-question statements.

A similar process to measuring nurses' positivity about career progression was completed to create an index of positivity about nurses' attitudes towards the statements about training and education in the three sub-questions (57/9; 57/15; 57/16).

Table 4.6 Training/education Index, where the first column indicates the ten different index values calculated by averaging individuals' responses to the three sub-questions about training/education (57/9; 57/15; 57/16).

Training/education index

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	5	.5	.5	.5
	1.33	9	1.0	1.0	1.5
	1.67	39	4.1	4.1	5.6
	2.00	87	9.2	9.2	14.8
	2.33	146	15.5	15.5	30.3
	2.67	226	23.9	23.9	54.2
	3.00	293	31.0	31.0	85.3
	3.33	78	8.3	8.3	93.5
	3.67	47	5.0	5.0	98.5
	4.00	14	1.5	1.5	100.0
	Total	944	100.0	100.0	

The mean training/education index positivity score was 2.7, the median was 2.7 and the mode was 3.0. The standard deviation was .53. As for the career progression index, respondents with the most positive training and education responses had the highest index scores. For this analysis, training/education index scores with values of three or more are considered positive, because that value indicates the respondent agreeing with the sub-question statements.

Next, both indices were depicted graphically as histograms, to illustrate their distribution by comparing their shape with a bell curve. This indicates whether the distribution of responses is consistent with those expected from a sufficient-sized sample that is representative of the whole population.

The shape of the career progression index histogram is similar to a bell curve, skewed slightly to the left/less positive end of the spectrum. It indicates that respondents may be less than positive in making their responses about career progression. The frequency (y axis) refers to the number of respondents that scored each index (x axis) from their responses to the two sub-questions in question 57 (57/8; 57/14).

Career Progression Index distribution

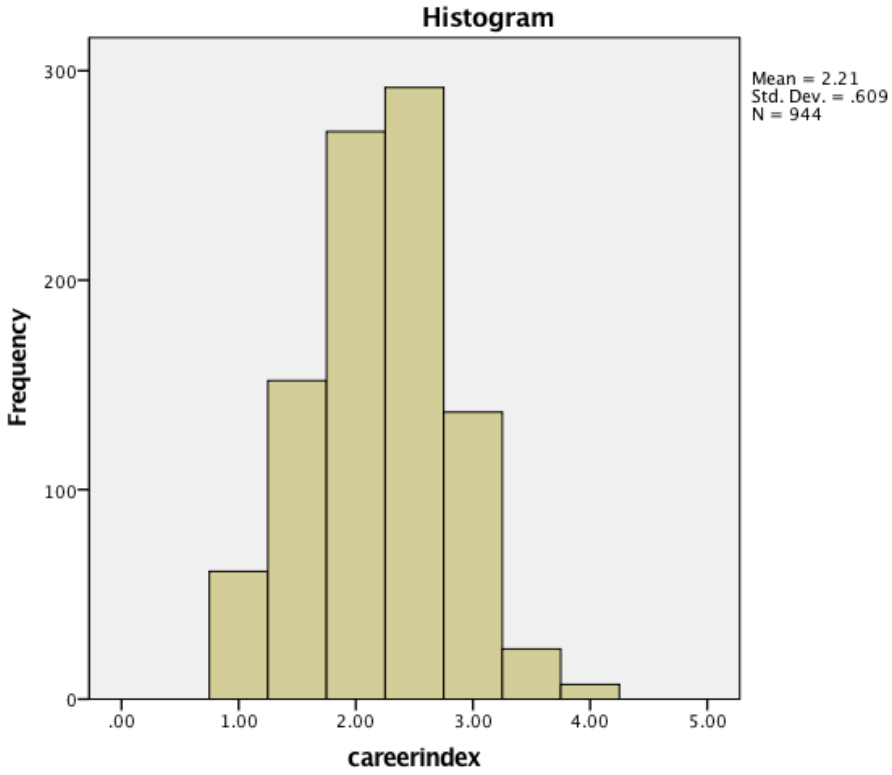

Figure 4.3 Career Progression Index distribution

Training/education Index distribution

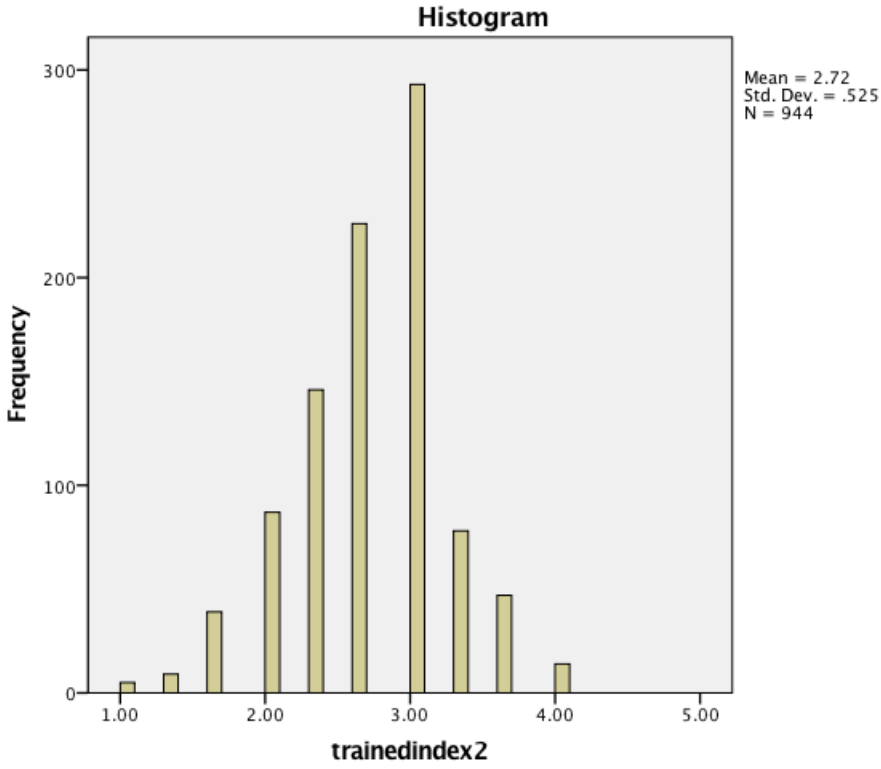

Figure 4.4 Training/education Index distribution

The shape of training/education index histogram is also similar to a bell-curve and therefore also consistent with the normal distribution of a continuous variable. The frequency (y axis) refers to the number of respondents who scored each index (x axis) from their responses to the three sub-questions in question 57 (57/9; 57/15; 57/16).

Hypothesis 1: ***Nurses who engage in career development activities will be more positive about career progression.***

4.4 Respondents' positivity about career progression and their engagement with career development activities

The index of respondents' attitudes towards career progression was obtained in section 4.3 by averaging responses to sub-questions 57/8 and 57/14. In order to establish whether an association exists between this index and selected workplace activities, the chi-square test for independence between variables was utilized. This test compares the demonstrated frequencies or proportions of cases that occur in each of the available categories achieved through cross-tabulation. It calculates values that would be expected if no association between the two variables being measured exists.

4.4.1 Relationship between respondents' positivity about career progression and when their last performance appraisal/development review was held.

The first of these calculations explored the relationship between the index of career progression, and when the nurse's last performance appraisal/development review was held.

In interpreting the output from chi-square for independence, a number of factors need to be considered (Pallant, 2013). One assumption is that at least 80% of the cells created through cross-tabulation should be expected to have frequencies of five or more. In this calculation, no cells have an expected count less than five, and

the minimum expected count is 14.24, therefore the assumption about chi-square is met.

The main value of interest is the Pearson Chi-Square value, which for this calculation is 16.86, with 3 degrees of freedom (df), and a significance level (*p* value) of .001. This value is much smaller than the alpha value of .05, therefore the result is significant for this calculation.

Finally, the effect size for this calculation (a cross-tabulation larger than 2x2) requires reporting of Cramer's V, which takes into account the degrees of freedom. For this calculation, (as for most of the others in this report) there were a minimum of four categories across either the rows or columns – two columns of recoded index values, and four rows of different options for when the last performance appraisal occurred. Having four categories across either the rows or columns means that the following values apply for comparing effect sizes: small=.06, medium=.17, large=.29 (Pallant, 2013). The Cramer's V for this analysis was .14, indicating that the effect size sits between a small and medium effect for this calculation.

Therefore it can be concluded that a Chi-Square test for independence [χ_2 (3, N = 916) = 16.86, *p* = .001], Cramer's V = .14 indicated a significant positive association between respondents' positivity about career progression and when their most recent performance appraisal or development review was held. The effect size is categorized as being a small to medium effect.

In considering the responses from cross-tabulation, 11.1% (102) of 916 respondents are positive about career progression (scoring 3 or more) and have had their most recent performance appraisal within the last 12 months.

The statistical power of calculations in research is the probability of correctly rejecting the null hypothesis, therefore avoiding making a Type II error. According to Mayers (2013), the accepted rate of avoiding making a Type II error is 0.80. The factors that contribute to a power calculation include: the calculated effect size; the

probability or significance level (α) which is usually set at .05; and the size of the sample (N). Mayers (2013) promotes the use of the G*Power programme to complete these calculations, which is accessible for free via the website www.psycho.uni-duesseldorf.de/abteillungen/aap/gpower3/ .

A statistical power analysis was performed post hoc based on data from this chi-square calculation that compared respondents' positivity about career progression and when their last performance appraisal/development review was held. The effect size of .14 was considered to be medium, using the criteria outlined above, and there were 3 degrees of freedom. With an alpha = .05 and N = 916, the power calculation with this effect size (GPower 3.1) is 0.95 for this comparison, which exceeds the required power of 0.80 and indicates the low likelihood of incorrectly rejecting the null hypothesis from this calculation.

4.4.2 Relationship between respondents' positivity about career progression and whether they have a current personal professional development plan or not.

The same process that was used in 4.4.1 was undertaken for determining whether a relationship exists between respondents' positivity about career progression and whether they have a current personal professional development plan or not. In this calculation, no cells have an expected count less than five, and the minimum expected count is 5.12, therefore the assumption about chi-square is met.

From the calculations, it can be concluded that the chi-square test for independence [χ_2 (3, N = 935) = 3.84, p = .279], Cramer's V = .06 indicated a non-significant association between positivity about career progression and whether the respondent holds a current personal professional development plan or not. The power analysis using data from this calculation yielded a power value of .31, which is lower than the required power of 0.80, and indicates a likelihood of incorrectly rejecting the null hypothesis from this calculation

In considering the responses from cross-tabulation, 10.0% (94) of 935 respondents are positive about career progression and have a current personal professional development plan.

4.4.3 Relationship between respondents' positivity about career progression and whether their manager/employer has been involved in drawing up their professional development plan or not.

A similar process to that used in 4.4.1 and 4.4.2 was undertaken to determine whether a relationship exists between respondents' positivity about career progression and whether their manager/employer has been involved in drawing up their professional development plan or not. In this calculation, no cells have an expected count less than five, and the minimum expected count is 6.79, therefore the assumption about chi-square is met.

From the calculations, it can be concluded that the chi-square test for independence [χ_2 (3, N = 817) = 8.86, p = .031], Cramer's V = .10 indicated a significant association between positivity about career progression and whether the respondent's manager has been involved in drawing up their personal professional development plan. The effect size is categorized as being a small to medium effect. The power analysis using data from this calculation yielded a power value of .66, which is lower than the required power of 0.80, and indicates a likelihood of incorrectly rejecting the null hypothesis from this calculation

In considering the responses from cross-tabulation, 8.8% (72) of 817 respondents are positive about career progression and have had their manager's/employer's involvement in drawing up their professional development plan.

4.4.4 Relationship between respondents' positivity about career progression and whether respondents' had had access to a PDRP portfolio review or not.

The same process used in 4.4.1-3 was conducted to determine whether a relationship exists between respondents' positivity about career progression and whether respondents' had had access to a PDRP portfolio review or not. In this

calculation, no cells have an expected count less than five, and the minimum expected count is 17.87, therefore the assumption about chi-square is met.

From the calculations, it can be concluded that the chi-square test for independence [χ_2 (4, N = 927) = 11.31, p = .023], Cramer's V = .11 indicated a significant positive association between respondents' career progression index and whether they had had access to a PDRP portfolio review or not. The effect size for this result was small-medium. The power analysis using data from this calculation yielded a power value of 0.81, which is higher than the required power of 0.80, and indicates the low likelihood of incorrectly rejecting the null hypothesis from this calculation.

In considering the responses from cross-tabulation, 7.8% (73) of the 927 respondents are positive about career progression and have had timely access to PDRP review, while 1.8% (17) of respondents are positive about career progression and have accessed PDRP but noted that timing of the review was an issue for them.

4.4.5 Relationship between respondents' positivity about career progression and whether they had had recent access to career planning or not.

A similar process was conducted to determine whether a relationship exists between respondents' positivity about career progression and whether they had had recent access to career planning or not. In this calculation, no cells have an expected count less than five, and the minimum expected count is 38.68, therefore the assumption about chi-square is met.

This calculation differed from those used in 4.4.1-4 where the effect size was calculated using the Cramer's V statistic. This calculation involved data in a (smaller) two by two table (two rows of 'yes' or 'no responses x two columns of recoded career index data as 'positive' or 'not positive' results). In such cases, the most commonly used statistic for determining effect sizes is the phi coefficient,

where a small effect is .10, a medium effect is .30, and a large effect is .50 (Pallant, 2013).

From the calculations, it can be concluded that the chi-square test for independence [χ_2 (1, N = 930) = 24.29, p = .001], phi = -.16 indicated a strongly significant association between positivity about career progression and whether the respondent had had recent access to career planning, with the effect size being small-medium. The power analysis using data from this calculation yielded a power value of 0.99, which is higher than the required power of 0.80, and indicates the low likelihood of incorrectly rejecting the null hypothesis from this calculation.

In considering the responses from cross-tabulation, only 6.8% (63) of respondents are positive about career progression and have had access to recent career planning, whilst 11.0% (102) of respondents are positive about career progression but have not had access to career planning.

4.4.6 Summary of Findings

In summary, for Hypothesis 1, analysis of data from respondents to the NZNO Employment Survey 2015 showed there is a strong significant positive association between nurses' positivity about career progression and a) whether they have had recent access to career planning (p = .001); also b) whether they have had a performance appraisal in the last 12 months (p = .001). There is also a significant positive association between nurses' positivity about career progression and whether they have had timely access to a PDRP programme (p = .023). There is no significant association between nurses' positivity about career progression and whether they have a current personal development plan (p = .279), however if they do have such a plan, there is a significant association between nurses' positivity about career progression and whether their manager has been involved in drawing up a current personal professional development plan (p = .031).

This shows that support for Hypothesis 1 exists in all proposed career development activities examined except for whether or not respondents have a current personal professional development plan.

Hypothesis 2: ***Nurses who engage in training and education will be more positive about training and education.***

4.5 Respondents' positivity about training/education and their engagement with training/education activities

The index of respondents' attitudes towards training/education was obtained in section 4.3 from averaging responses to sub-questions 57/9, 57/15 and 57/16. In order to establish whether an association exists between this index and selected workplace activities, the chi-square test for independence between variables was utilized. This test compares the demonstrated frequencies or proportions of cases that occur in each of the available categories achieved through cross-tabulation. It calculates values that would be expected if no association between the two variables being measured exists. The calculations for 4.5.1-4 were completed in the same way as those for 4.4.1-4.4.5 above.

4.5.1 Relationship between respondents' positivity about training/education and the number of days they spent on professional development in the last 12 months.

In this calculation, no cells have an expected count less than five, and the minimum expected count is 24.06, therefore the assumption about chi-square is met. Also, as for the calculations in 4.4.1-4 earlier, the effect size for this calculation requires reporting of Cramer's V, which takes into account the degrees of freedom which means that the following values apply for comparing effect sizes: small = .06, medium = .17, large = .29 (Pallant, 2013).

From the calculations, it can be concluded that the chi-square test for independence [χ_2 (4, N = 927) = 33.12, p = .001], Cramer's V = .19

indicated a strong positive association between respondents' positivity about training/education and the number of days they spent on professional development in the last 12 months, with the effect size being just on the large side of medium. The power analysis using data from this calculation yielded a power value of 0.99, which is higher than the required power of 0.80, and indicates the low likelihood of incorrectly rejecting the null hypothesis from this calculation.

In considering the responses from cross-tabulation, 36.8% (343) of respondents are positive about training/education and have had access to three or more days of professional development in the last 12 months, whilst just 9.3% (86) of respondents are positive about training/education and have had access to two days of professional development or less.

4.5.2 Relationship between respondents' positivity about training/education and the extent to which they had access to paid study leave support from their employer for education.

In this calculation, no cells have an expected count less than five, and the minimum expected count is 60.50, therefore the assumption about chi-square is met.

From the calculations, it can be concluded that the chi-square test for independence [χ_2 (3, N = 912) = 96.01, p = .001], Cramer's V = .32 indicated a strongly significant association between respondents' positivity about training/education and the extent to which they had access to paid study leave support from their employer for education. The size of the effect was large. The power analysis using data from this calculation yielded a power value of 1.0, which is higher than the required power of 0.80, and indicates the low likelihood of incorrectly rejecting the null hypothesis from this calculation.

In considering the responses from cross-tabulation, 34.5% (315) of the 912 respondents are positive about training/education and have had all or most of their study leave paid by their employer. In comparison, 3.7% (34) of the 912 respondents are positive about training/education and have had none of their study leave paid by their employer.

4.5.3 Relationship between respondents' positivity about training/education and the extent to which they had access to paid fees support from their employer for education.

In this calculation, no cells have an expected count less than five, and the minimum expected count is 72.68, therefore the assumption about chi-square is met.

From the calculations, it can be concluded that the chi-square test for independence [χ_2 (3, N = 835) = 75.61, p = .001], Cramer's V = .30 indicated a strongly significant association between respondents' positivity about training/education and the extent to which they had access to paid fees support from their employer for education, with the effect size being large. The power analysis using data from this calculation yielded a power value of 1.0, which is higher than the required power of 0.80, and indicates the low likelihood of incorrectly rejecting the null hypothesis from this calculation.

In considering the responses from cross-tabulation, 29.7% (247) of the 835 respondents are positive about training/education and have had all or most of their fees paid for their employer, while 7.9% (66) of the 835 respondents are positive about training/education and have had none of their fees paid for their employer,

4.5.4 Relationship between respondents' positivity about training/education and the extent to which they had access to payment of other costs support from their employer for education.

In this calculation, no cells have an expected count less than five, and the minimum expected count is 48.95, therefore the assumption about chi-square is met.

From the calculations, it can be reported that the chi-square test for independence [χ_2 (6, n = 716) = 67.04, p = .001], Cramer's V = .31 indicated a strongly significant positive association between respondents' positivity about training/education and the extent to which they had access to payment of other costs support from their employer for education, with the effect size being large. The power analysis using

data from this calculation yielded a power value of 0.99, which is higher than the required power of 0.80, and indicates the low likelihood of incorrectly rejecting the null hypothesis from this calculation.

In considering the responses from cross-tabulation, 20.2% (145) of the 716 respondents are positive about training/education and have had all or most of their other costs paid for by their employer, while 15.4% (110) of the 716 respondents are positive about training/education and have had none of their other costs paid for by their employer.

4.5.5 Different types of education opportunities that nurses have accessed for NCNZ professional development in the last three years

For question 66, nineteen options were listed for respondents to select all that applied for them. A total of 919 (97.4%) respondents selected at least one education option. The total number of options selected was 3130.

Table 4.7 Education opportunities that nurses have accessed for NCNZ professional development in the last three years:

Educational opportunity taken in last 3 years n = 919	a. No.	b. %	c. % with index ≥3
Nursing undergraduate papers	50	5.4	58.0
Nursing graduate papers (Level 700 NZQA, post registration)	79	8.6	46.8
Nursing post graduate certificate (L800 papers)	118	12.8	40.7
Nursing post graduate diploma (L800 papers)	67	7.3	50.7
Nursing masters	42	4.6	61.9
Nursing PhD/research	2	0.2	0.0
Interdisciplinary/postgrad papers/quals (L800)	12	1.3	58.3
Short courses	519	56.5	51.8
Seminars	454	49.4	49.8
Conferences	402	43.7	55.5
In-service education	780	84.9	47.1
Journal reading, formal framework (e.g. club)	145	15.8	51.0
Writing journal articles	26	2.8	84.6
Presentations to colleagues	330	35.9	56.4
Non-nursing undergraduate papers	17	1.8	47.1
Non-nursing graduate certificate	10	1.1	50.0
Non-nursing post graduate certificate	8	0.9	25.0
Non-nursing post graduate diploma	5	0.5	40.0
Non-nursing masters	4	0.4	50.0
other	60	6.5	53.3

- Column a indicates the number of respondents who had accessed this education activity
- Column b indicates the number of respondents as a percentage of eligible respondents
- Column c indicates the percentage of respondents accessing this activity that had a positivity index of three or more for training/education, where the denominator is the value in column a.

It is evident that the educational opportunities that the majority of nurses participate in are in-service education and short courses. Attending seminars and conferences is also popular. Nurses express positivity about training/education in 12 of the different educational opportunities where more than 50% of respondents scored an index of three or more. The eight different educational opportunities where fewer than 50% of participating nurses expressed positivity about training/education included three educational opportunities where there were less than ten respondents (Nursing PhD/research; also non-nursing post graduate certificate and diploma). The group also included those studying non-nursing post graduate nursing papers (700 Level) and non-nursing post graduate certificate

papers (800 Level); as well as those participating in seminars and in-service education; and undergraduate non-nursing papers. This means that most nurses in the process of completing post-registration or post graduate papers in nursing, interdisciplinary or non-nursing subjects are not positive about training/education, with just 172 nurses scoring three or more for positivity compared with 192 who scored less than three.

It was noted that a very high percentage (84.6%, n =22) of the 26 nurses who wrote journal articles scored a positivity index of three or more. A review was undertaken of the other educational opportunities that these 26 nurses also had engaged in over the last three years: ten (38.5%) had taken nursing, interdisciplinary or non-nursing graduate or postgraduate papers; 21 (80.8%) have taken short courses; 22 (84.6%) had participated in seminars; 25 (96.2%) have attended conferences; 19 (73.1%) had completed in-service education; 9 (34.6%) contributed to journal clubs that use a formal framework; and 21 (80.8%) delivered presentations to colleagues. The professional development activity group with the next greatest percentage of nurses with a positivity index of three or more was the group who completed a nursing Masters degree (61.9%). The average participation rate per professional development activity per nurse overall is 3.4 opportunities.

4.5.6 Significant barriers to completion of professional development

Nurses were asked to identify significant barriers to the completion of professional development (education/training). Fourteen options were listed for respondents to select any that applied to them. A total of 803 respondents identified at least one barrier to completing professional development. It is assumed that 141 respondents do not identify significant barriers to their completion of professional development.

Table 4.8 Significant barriers nurses identified to completion of professional development (training/education):

Significant barrier to completion of professional development (training/education) N = 944	a. No.	b. %	c. % with index ≥3
Difficulties attending in work time	419	44.4	32.7
Difficulties taking time off work, even in own time to attend education/training	290	30.7	27.2
Lack of support/encouragement by employer	183	19.4	8.7
Shift work patterns a factor	251	26.6	33.9
Part time hours of work a factor	119	12.6	39.5
Own motivation to complete	191	20.2	46.1
Reluctance to complete work related education/ training in own time	219	23.2	37.0
Cost to employer in fees	136	14.4	31.6
Cost to self in fees	355	37.6	33.5
Other time commitments	309	32.7	46.6
Time and distance to travel for education/ training	238	25.2	37.8
Lack of confidence about the IT skills needed	75	7.9	29.3
Access to computer based resources to complete assignments	41	4.3	34.1
Concern about own ability to complete assignments	116	12.3	37.1

- Column a indicates the number of respondents who had identified this barrier
- Column b indicates the number of respondents as a percentage of eligible respondents
- Column c indicates the percentage of respondents choosing this activity that had a positivity index of three or more, where the denominator is the value in column a.

The five most frequently identified barriers to completion of professional development (training/education) are: difficulties attending in work time (44.4%); cost to self in fees (37.6%); other time commitments (32.7%); difficulties taking time off work even in own time to attend education/training (30.7%); and shift work patterns a factor (26.6%).

The top five barriers indicated by the highest percentages of respondents with a positive training/education index (column c scoring three or more) formed a different list of barriers than the five most frequently identified barriers by the whole group (column b). Those respondents who had a positive training/education index (three or more) (column c) most frequently identified these barriers: other time commitments (46.6%); own motivation to complete

(46.1%); part time hours of work a factor (39.5%); time and distance to travel for education/training (37.8%); and concern about own ability to complete assignments (37.1%). Only the barrier 'other time commitments' was common to both groups.

4.5.7 Summary of Findings

In summary, for Hypothesis 2, the chi-square tests of independence of data from respondents to the NZNO ES 2015 shows that there are strong, significant positive associations between nurses' positivity about training/ education and a) the number of days of professional development they had in the last 12 months (p = .001); also whether they have received support for training/education from their employer in the form of b) paid study leave (p = .001); c) had course fees paid (p = .001); and d) had other costs paid by their employer (p = .001). These findings show strong statistically significant support for Hypothesis 2, suggesting that the more employer support that nurses receive for training/education, the more positive their attitudes are about accessing it.

Additional descriptive analysis showed over 97% of nurses engaged in one or more of the 20 training/education options listed. Further, 12 of those 20 activities had 50% or more of respondents scoring a positivity index for training/education of three or more, which further strengthens the findings for this hypothesis. While over 85% of respondents identified barriers to completing training/education, there were no identified barriers where more than 50% respondents who selected that barrier had a positivity index of three or more.

Hypothesis 3: ***There will be differences in demographic characteristics between individuals and their attitudes /experiences of career progression and of training and education.***

4.6 Respondents' positivity about career progression and their demographic characteristics.

Career index scores of three or more indicate positive attitudes to career progression, whilst those with scores of less than three indicate less-positive attitudes to career progression. In this section, the career index scores are compared in relation to the demographic characteristics of respondents, including age, ethnicity, fields of practice, employer, and years worked in the sector.

4.6.1 Career Index and age

Table 4.9 Respondents' positivity about career progression and age

Age of nurses	Total respondents for that age band	Respondents with Career Index score of 3 or more	Percentage of respondents for that age band with Career index score of 3 or more
Under 25 yrs	34	19	55.9
25-29 yrs	60	16	26.7
30-34 yrs	58	14	24.1
35-39 yrs	60	6	10.0
40-44 yrs	80	16	20.0
45-49 yrs	117	24	20.5
50-54 yrs	167	17	10.2
55-59 yrs	179	26	14.5
60-64 yrs	120	17	14.2
65-69 yrs	41	6	14.6
70 or over yrs	4*	1*	25.0
Total	920	162	17.6

(* indicates <10 respondents for that age band)

The higher percentages of nurses aged under 35 years with positivity scores of 3 or more shows that younger nurses were the most positive about career progression. The positivity of nurses about career progression generally declined with increasing age, except for the group aged 35-39 years (who are less positive than their older and younger peers) and those aged 70 years or over (scores are higher than might be expected for this group, especially given these nurses are

older than the age of receiving government superannuation, therefore are most likely to be at the end of their nursing careers). The result for the respondents aged 70 years or older is likely not representative of all nurses aged 70 years or older, due to the small number of respondents that age.

4.6.2 Career Index and ethnicity

Ethnicities of nurses with career index scores of three or more are listed here.

Table 4.10 Respondents' positivity about career progression and ethnicity

Ethnicity	Total respondents for that ethnicity	Respondents with Career Index score of 3 or more	Percentage of respondents for that ethnicity with Career index score of 3 or more
Samoan	7*	3*	42.9
Indian	19	7	36.8
Cook Island Maori	3*	1*	33.3
Fijian	3*	1*	33.3
South East Asian	21	5	23.8
Other Asian	17	4	23.5
Other European	92	19	20.7
NZ European	695	117	16.8
NZ Maori	60	10	16.7
Other	66	7	10.6
Chinese	12	1	8.3
Other Pacific	3*	0*	0
Tongan	1*	0*	0
Tokelauan	1*	0*	0
Total	1000	175	17.5

(* indicates <10 respondents for that ethnicity)

Respondents with a positivity index of three or more are listed in Table 4.10 in descending order of prevalence by ethnicity. The six ethnicities with the highest percentage of respondents with a career index of three or more were selected by a maximum of 70 respondents and equate to only 7% of the total ethnicities selected. Due to the small number of respondents selecting those ethnicities, it is not possible to draw generalizable conclusions from the data. The ethnicities selected by the majority of respondents come much further down the list of respondents with a career index of three or more (seventh to tenth most positive).

4.6.3 Career Index and field of practice

There was a large number (25) of field-of-practice options available for respondents to select from. All fields of practice are listed here in descending order of positive nurses as a percentage of respondents for each field of practice.

Table 4.11 Respondents' positivity about career progression and field of practice

Nurses' field of practice	Total respondents for that field of practice	Respondents in that field with Career Index score of 3 or more	Percentage of respondents for that field of practice with Career index score of 3 or more
Cancer nursing	14	4	28.6
Mental health/ addictions nursing	55	15	27.3
Public Health nursing	11	3	27.3
Professional Nursing Advice	4*	1*	25.0
Primary Health/ Practice nursing	121	30	24.8
Continuing care/ elderly nursing	76	18	23.7
Nursing Education	22	5	22.7
Medical nursing	83	17	20.5
Occupational Health nursing	5*	1*	20.0
Palliative care nursing	25	5	20.0
Other nursing fields	41	7	17.1
Perioperative care/ theatre nursing	53	9	17.0
Nursing Administration	19	3	15.8
Emergency/Trauma nursing	53	8	15.1
Surgical nursing	72	9	12.5
District Nursing	26	3	11.5
Intensive or coronary care/HDU	45	5	11.1
Child Health nursing including neonates	42	4	9.5
Assessment & Rehabilitation	43	3	7.0
Family Planning/ Sexual Health	5*	0*	0.0
Intellectually disabled nursing	7*	0*	0.0
Infection control	1*	0*	0.0
Nursing Research	2*	0*	0.0
Obstetric/Maternity nursing	17	0	0.0
Prison Nursing	5*	0*	0.0
Total	847	150	17.7

(* indicates <10 respondents in that field)

The fields of practice with the five highest percentages of respondents with a positivity index of three or more for career progression represent 35.3% of the 150 positive respondents. The same group represent just 6.3% of the 847 respondents who answered the questions.

4.6.4 Career Index and employer

There was a number of employer options available for respondents to select from. All employers are listed here in descending order of positive nurses as a percentage of respondents for each employer.

Table 4.12 Respondents' positivity about career progression and employer

Nurses' employer	Total respondents for that employer	Respondents for employer with Career Index score of 3 or more	Percentage of respondents for that employer with Career index score of 3 or more
Pacific health Provider	1*	1*	100
PHO provider	21	7	33.3
Accident& Medical Centre	9*	3*	33.3
Self-employed	3*	1*	33.3
Other nursing work	52	15	28.8
General Practitioner	66	16	24.2
Aged Care Provider	75	18	24.0
Education Institution	24	5	20.8
Private Surgical Hospital	30	6	20.0
DHB Inpatient	442	67	15.2
DHB Community	104	13	12.5
NGO provider	33	4	12.1
Government Agency	9*	1*	11.1
Maori/Iwi health provider	10	1	10.0
Community Hospital/ rural	7*	0*	0.0
Nursing Agency	6*	0*	0.0
Other non-nursing work	4*	0*	0.0
Total	896	158	17.6

(* indicates <10 respondents for that employer)

The employer groups with the five highest percentages of respondents with a positivity index of three or more for career progression, that had more than 10 nurses complete the questions reviewed here, represent 38.6% of the 158 positive respondents. The same group represents 6.8% of the 896 respondents who answered the questions.

4.6.5 Career Index and number of years worked in sector

Table 4.13 Respondents' positivity about career progression and number of years worked in sector

Number of years worked in the health sector	Total respondents for with that no. of years.	Respondents with Career Index score of 3 or more	Percentage of respondents for that number of years worked with Career index score of 3 or more
Less than 5 yrs	118	53	44.9
5-9 yrs	106	22	20.8
10-14 yrs	96	11	11.6
15-19 yrs	88	6	6.8
20-24 yrs	97	12	12.4
25-29 yrs	105	15	14.3
30-34 yrs	108	15	13.9
35-39 yrs	108	14	13.0
40-44 yrs	59	7	11.9
45-49 yrs	17	5	29.4
50 or more yrs	5	0*	0.0
Total	907	160	17.6

(* indicates <10 respondents for that band of years)

The bands of years experience in the sector with the five highest percentages of respondents with a positivity index of three or more for career progression, that had more than ten nurses complete the questions reviewed here, represent 74.4% of the 160 positive respondents. The same group represents 13.1% of the 907 respondents who answered this question.

4.7 Respondents' positivity about training/education and their demographic characteristics.

Training/education index scores of three or more indicate positive attitudes to training/education, whilst those with scores of less than three indicate less- or non-positive attitudes to training/education. In this section, the training/ education index scores are compared in relation to the demographic characteristics of respondents, including age, ethnicity, fields of practice, employer, and years worked in the sector.

4.7.1 Training Index and age

Table 4.14 Respondents' positivity about training/education and age

Age of nurses	Total respondents for that age band	Respondents with Training Index score of 3 or more	Percentage of respondents for that age band with Training index score of 3 or more
Under 25 yrs	34	16	47.1
25-29 yrs	60	26	43.3
30-34 yrs	58	23	39.7
35-39 yrs	60	23	38.3
40-44 yrs	80	38	47.5
45-49 yrs	117	52	44.4
50-54 yrs	167	79	47.3
55-59 yrs	179	84	46.9
60-64 yrs	120	60	50.0
65-69 yrs	41	22	53.7
70 or over yrs	4*	3*	75.0
Total	920	426	

(* indicates <10 respondents for that age band)

If the result for nurses over 70 years of age is discounted, due to small number (three) of respondents in that age band, the column indicating the percentage of respondents for each age band with a training index score of three or more, shows that the band of nurses between 65-69 years of age are likely to be the most positive about training and education. (The group of nurses aged 70 years or more was retained to facilitate comparison with data from the respondents from NZNO Employment Survey 2015.) Five bands with the highest percentages of respondents with training index score of three or more are not from consecutive age groups, except for those over 60 years. Those five bands with the nurses who are positive about training and education represent 50.5% of all the positive nurses, and 23.4% of all respondents for the applicable questions.

4.7.2 Training Index and ethnicity

Ethnicities of nurses who scored a positivity index of three or more about training/education are listed here.

Table 4.15 Respondents' positivity about training/education and ethnicity, where nurses identifying as that ethnicity scored a Training Index of three or more.

Ethnicity	Total respondents for that ethnicity	Respondents with Training Index score of 3 or more	Percentage of respondents for that ethnicity with Training Index score of 3 or more
Tokelauan	1*	1*	100.0
Samoan	7*	4*	50.0
NZ European	695	336	48.3
South East Asian	21	10	47.6
Indian	19	9	47.4
Other European	92	41	44.6
NZ Maori	60	25	41.7
Other	66	23	34.8
Fijian	3*	1*	33.3
Other Asian	17	5	29.4
Chinese	12	3	25.0
Cook Island Maori	3*	0*	0.0
Tongan	1*	0*	0.0
Other Pacific	3*	0*	0.0
Total	1000	458	

(* indicates <10 respondents for that ethnicity)

Respondents with a positivity index of three or more are listed above in descending order of prevalence by ethnicity. Due to the small number of Tokelauan and Samoan respondents, the data from those respondents may not be representative of nurses of that ethnicity and should be discounted. After discounting the five Tokelauan and Samoan nurses, the five most prevalent ethnicities selected by the respondents positive about training and education comprise 91.9% of the positive respondents, and 42.1% of all respondents for the applicable questions.

4.7.3 Training Index and field of practice

There were a large number (25) of field-of-practice options available for respondents to select from. All fields of practice are listed here in descending order of positive nurses as a percentage of respondents for each field of practice.

Table 4.16 Respondents' positivity about training/education and field of practice.

Nurses' field of practice	Total respondents for that field of practice	Respondents with Training Index score of 3 or more	Percentage of respondents for that field of practice with Training Index score of 3 or more
Nursing Research	2*	2*	100.0
Nursing Education	22	18	81.2
Palliative Care	25	18	72.0
Primary health/ Practice nursing	121	74	61.2
Occupational Health	5*	3*	60.0
Prison Nursing	5*	3*	60.0
Child health including neonatology	42	21	50.0
Cancer nursing	14	7	50.0
Professional Nursing Advice	4*	2*	50.0
Nursing Administration	19	9	47.4
Obstetrics/Maternity	17	8	47.1
Medical nursing	83	39	47.0
District nursing	26	12	46.2
Mental Health/ Addictions	55	24	43.6
Continuing care/ elderly nursing	76	33	43.4
Intensive or coronary care/HDU	45	19	42.2
Surgical nursing	72	29	40.3
Family Planning/ sexual health	5*	2*	40.0
Emergency & Trauma	53	21	39.6
Assessment & Rehabilitation	43	16	37.2
Public Health nursing	11	4	36.4
Other nursing	41	13	31.7
Perioperative care/ theatre	53	16	30.2
Intellectual Disability nursing	7*	2*	28.6
Infection Control	1*	0*	0.0
Total	847	395	

(* indicates <10 respondents for that field of nursing)

The fields of practice where there were more than ten respondents in that field, with the five highest percentages of respondents with a positivity index of three or more for training/education represent 34.9% of the 395 positive respondents. That same group of positive respondents represents 16.3% of the 847 respondents who answered the applicable questions.

4.7.4 Training Index and employer

There was a large (17) number of employer options available for respondents to select from. All employers are listed here in descending order of positive nurses as a percentage of respondents for each employer.

Table 4.17 Respondents' positivity about training/education and employer

Nurses' employer	Total respondents for that employer	Respondents with Training Index score of 3 or more	Percentage of respondents for that employer with Training Index score of 3 or more
Community Hospital/ Rural	7*	5*	71.4
Education Institution	24	17	70.8
Maori/Iwi Provider	10	7	70.0
Other nursing work	52	35	67.3
Government Agency	9*	6*	66.7
Self-employed	3*	2*	66.7
NGO Provider	33	21	63.6
General Practitioner	66	41	62.1
Accident & Medical centre	9*	5*	55.6
Private Surgical Hospital	30	15	50.0
DHB Community	104	50	48.1
PHO provider	21	9	42.9
Aged Care Provider	75	30	40.0
DHB Inpatient	442	171	38.7
Nursing Agency	6*	2*	33.3
Other non-nursing	4*	1*	25.0
Pacific Health provider	1*	0*	0.0
Total	896	417	

(* indicates <10 respondents for that employer)

The employer groups with the five highest percentages of respondents with a positivity index of three or more for training/education, that had more than ten nurses complete the questions reviewed here, represent 29.0% of the 158 positive respondents. That same group represents 13.5% of the 896 respondents who answered the questions.

4.7.5 Training Index and number of years worked in sector

Table 4.18 Respondents' positivity about training/education and number of years worked in the sector

Number of years worked in the health sector	Total respondents for that employer	Respondents with Training Index score of 3 or more	Percentage of respondents for that number of years worked with Training Index score of 3 or more
Less than 4 yrs	118	50	42.4
5-9 yrs	106	46	43.4
10-14 yrs	96	42	43.8
15-19 yrs	88	32	36.4
20-24 yrs	97	41	42.3
25-29 yrs	105	49	46.7
30-34 yrs	108	62	57.4
35-39 yrs	108	53	49.1
40-44 yrs	59	28	47.5
45-49 yrs	17	11	64.7
50 or more years	5*	3*	60.0
Total	907	417	

(* indicates <10 respondents for that band of years)

The bands of years experience in the sector with the five highest percentages of respondents with a positivity index of three or more for training/education, that had more than 10 nurses complete the questions reviewed here, represent 48.7% of the 417 positive respondents. The same group represents 22.4% of the 907 respondents who answered the questions. Those respondents most positive about training/education are in the bands with the most years of experience in the sector.

4.7.6 Summary of findings about respondents' positivity about career progression and training/education

The findings of the most positive and also least positive respondents for both indices across each of the demographic characteristics are listed here.

Table 4.19 Collation of analyses of different demographic categories for the top five groups with more than 10 respondents, where respondents had positivity scores of three or more for career progression and training/education indices. The lowest scoring groups in each category are also listed here.

Demo-graphic charact-eristic	Top 5 groups with more than 10 respondents with highest % of positive career index scores	Positive respond-ents / total for that group	Top 5 groups with more than 10 respondents with highest % of positive training/ education index scores	Positive respond-ents / total for that group
Age	**55.9%** Under 25 yrs	19/34	**53.7%** 65-69 yrs	22/41
	26.7% 25-29 yrs	16/60	**50.0%** 60-64 yrs	60/120
	24.1% 30-34 yrs	14/58	**47.5%** 40-44 yrs	38/80
	20.5% 45-49 yrs	24/117	**47.3%** 50-54 yrs	79/167
	20.0% 40-44 yrs	16/20	**47.1%** Under 25 yrs	16/34
	Lowest score		***Lowest score***	
	10.0% 35-39 yrs	6/60	**38.3%** 35-39 yrs	23/60
Ethnicity	**36.8%** Indian	7/19	**48.3%** NZ Euro	336/695
	23.8% SE Asian	5/21	**47.6%** SE Asian	10/21
	23.5% Other Asian	4/17	**47.4%** Indian	9/19
	20.7% Other Euro	19/92	**44.6%** Other Euro	41/92
	16.8% NZ European	117/695	**41.7%** NZ Maori	25/60
	Lowest score		***Lowest score***	
	8.3% Chinese	1/12	**25.0%** Chinese	3/12
Field of practice	Cancer nursing	4/14	Nursing Education	18/22
	Mental Health/ Addictions	15/55	Palliative care	18/25
	Public Health nursing	3/11	Primary Health/ practice nursing	74/121
	Primary Health/ practice nursing	30/121	Child health/ neonates	21/42
	Continuing Care (Elderly)	18/76	Cancer nursing	7/14
	Lowest score		***Lowest score***	
	Obstetrics/maternity	0/17	Perioperative care/ theatre	16/53
Employ-er	PHO Provider	7/21	Education Institution	17/24
	Other nursing work	15/52	Maori/Iwi Provider	7/10
	General Practitioner	16/66	Other nursing work	35/52
	Aged Care Provider	18/75	Non-Govt Org'n	21/33
	Education institution	5/24	General Practitioner	41/66
	Lowest score		***Lowest score***	
	Maori/Iwi Provider	1/10	DHB Inpatient	171/442
Number of years in sector	**44.9%** Less than 5 yrs	52/118	**64.7%** 45-49 yrs	11/17
	29.4% 45-49 yrs	5/17	**57.4%** 30-34 yrs	62/108
	20.8% 5-9 yrs	22/106	**49.1%** 35-39 yrs	53/108
	14.3% 25-29 yrs	15/105	**47.5%** 40-44 yrs	28/59
	13.9% 30-34 yrs	15/108	**46.7%** 25-29 yrs	49/105
	Lowest score		***Lowest score***	
	6.8% 15-19 yrs	6/88	**36.4%** 15-19 yrs	32/88

Overall, these findings indicate that, among respondents to the NZNO Employment Survey 2015, there is a higher likelihood for nurses feeling more positive about their career progression to be generally younger (aged under 30 years), of Indian, South East Asian or Other Asian ethnicity, and work in the fields of either Cancer nursing, Mental Health/Addictions nursing or Public Health nursing. Their employers are predominantly a PHO provider or 'Other nursing' employer, and they are most likely to have less than five years experience in the sector.

Among respondents to the NZNO Employment Survey 2015, there is a higher likelihood for nurses feeling more positive about training/education to be mostly at the end of their careers (aged over 60 years), and of NZ European, South East Asian or Indian ethnicity. They are working in the fields of nursing education, palliative care or primary health/practice nursing, and working for employers such as Educational Institutions, Maori/Iwi providers or other nursing employers.

Nurses working in the field of primary health/practice nursing, for General Practitioner employers are the largest group of nurses in the top five field of practice (121 nurses) and employer (66 nurses) groups for both positive career and training/education indices. This points to practice nurses being amongst the nurses who are more positive about career progression and training/education. Nurses working in the field of nursing education for Nursing Institution employers have the highest training/education index. Nurses working in the field of Continuing Care/Elderly nursing for Aged Care Provider employers are also identifiable in the top five career index rankings.

The nurses scoring least positive about both career progression and training/education are aged between 35-39 years and have worked in the sector for 15-19 years. Nurses of Chinese ethnicity are the least positive for both career progression and training/education. With respect to field of practice, nurses working in obstetrics/maternity nursing are least positive for career progression, while those working in perioperative nursing/theatre are least positive about accessing training/education. Nurses working for Maori/Iwi health service

employers were the least positive about career progression, and nurses working for DHB Inpatient services were the least positive about training/education. These findings show support for Hypothesis Three.

4.8 Summary of findings

Hypothesis 1: ***Nurses who engage in career development activities will be more positive about career progression.***

The greatest support for Hypothesis One arises from a strong significant positive association between nurses' positivity about career progression and whether they have had recent access to career planning, also whether they have had a performance appraisal in the last 12 months. Whilst little or no significance was found for any association between nurses' positivity and whether or not they have a current personal development plan, for those who do have such a plan, a significant association exists between nurses' positivity about career progression and whether they have had support from their manager in developing the plan. A significant association also exists between nurses' positivity about career progression and whether they have timely access to a PDRP programme. Overall, these findings show support for Hypothesis One.

Hypothesis 2: ***Nurses who engage in training and education will be more positive about training and education.***

In summary, for Hypothesis Two, the chi-square test of independence of data from respondents to the NZNO ES 2015 shows that there are strong significant associations between nurses' positivity about training/ education and a) the number of days of professional development they had in the last 12 months; also whether they have received support for training/education from their employer in the form of b) paid study leave; c) had course fees paid; and d) had other costs paid

by their employer. For each of these calculations, the effect size was medium or large. These findings show strong statistically significant support for Hypothesis Two.

Additional descriptive analysis supporting Hypothesis Two showed over 97% of nurses engaged in one or more of the 20 training/education options listed, with 12 of those 20 activities had more than 50% of respondents scoring a positivity index for training/education of three or more. Just over 85% of respondents identified barriers to completing training/education, however no barriers were identified where more than 50% respondents who selected that barrier had a positivity index of three or more.

Hypothesis 3: ***There will be differences in demographic characteristics between individuals and their attitudes /experiences of career progression and of training and education.***

Overall, the analysis found that, among respondents to the NZNO ES 2015, the nurses with the greatest likelihood to be positive about career progression are under 25 yrs, of Indian ethnicity, work in the field of cancer nursing for a PHO provider and have worked in the sector for less than five years.

Among respondents to the NZNO ES 2015, the nurses with the greatest likelihood to be positive about training/education are at retirement age, of New Zealand European ethnicity, work in the field of nursing education for an Education Institution, and have 45-49 years experience working in the sector.

Nurses working in the field of primary health/practice nursing, for General Practitioner employers are the largest group of nurses in the top five for both positive career and training/education indices. These findings show support for Hypothesis Three.

4.9 Chapter conclusion

This chapter has reported the demographic characteristics of the sample using indices representing nurses' positivity about career progression and training/education. Associations between nurses who engage in career development activities and their positivity about career progression are reported, as are associations between nurses who engage in training/education activities and their positivity about training/education. Finally, this chapter reported differences in demographic characteristics of nurses and their attitudes/experiences of career development and training/education. The chapter that follows provides a discussion of these findings.

5. Chapter Five: DISCUSSION

5.1. Introduction

The previous chapter reported findings from the analysis of data from the NZNO ES 2015 in relation to nurses' attitudes about career progression and training/education. This chapter discusses the study findings in relation to published research.

The NZNO ES 2015 was the fourth biennial survey of nurses by NZNO. The resulting report detailed findings from 1173 respondents to a wide range of questions (New Zealand Nurses Organisation, 2015a). This study differed by conducting secondary analysis of existing data – examining responses to selected questions about nurses' attitudes to career progression and training/education. This approach permitted an examination of the relationship between nurses' participation in career development and training/education activities and nurses' attitudes to career progression and training/education. It also provided the opportunity to identify the demographic characteristics of nurses who were positive or not about career progression and training/education, as part of gaining greater understanding of factors influencing nurse retention. This chapter will discuss the relationship between nurses' attitudes and activities promoting career progression and training/education as well as how this study sample compares with characteristics of nurses in New Zealand. The comparison of the study sample with nurses registered with the Nursing Council of New Zealand (NCNZ) will be considered first.

5.2. Comparing the study sample with nurses registered with the Nursing Council of New Zealand (NCNZ)

A report of the New Zealand nursing workforce for 2014-2015 (Nursing Council of New Zealand, 2015) provides the basis for comparison of characteristics of the 944 nurses whose responses were analysed for this study, as well as with the full group of respondents to the NZNO ES 2015. Whilst generally similar overall, the data for the NCNZ Registered Nurse (RN) workforce shows a higher proportion of nurses aged 25-29 years than the nurses whose data was included in this study, or who participated in the NZNO ES 2015.

The NCNZ-RN workforce data shows a higher proportion of total male nurses (8.6%) than the male nurses among the nurses whose data were included in this study (5.7%), or those who participated in the NZNO ES 2015 (5.6%). These differences may be due to the registration of more internationally qualified nurses (IQNs) who are more likely to be male and younger than New Zealand trained nurses, and compulsory inclusion of their data in the NCNZ RN workforce data, compared to voluntary membership in NZNO and optional participation in the NZNO ES 2015.

With respect to ethnicity, New Zealand European and Other European were the most frequently recorded responses for all three groups (this study, NZNO ES 2015, and the NCNZ RN workforce). New Zealand Maori was the fourth most frequently recorded response for all three groups as well. There was a higher frequency of Other ethnicity (third), also South East Asian (fourth), chosen by participants in this study and the wider NZNO ES 2015, compared to the NCNZ RN workforce data, where Filipino (third) and Indian (fourth) ethnicities were more frequently selected. The NCNZ RN workforce data shows Filipino and Indian nurses to be the second and third largest groups of internationally-qualified nurses (IQN) behind UK-trained nurses. For this study, and for the NZNO ES 2015, where respondents selected Other ethnicity, and then further specified their ethnicity, those further details were not re-categorised as appropriate among the existing choices, which could have substantially reduced the number in the Other category. It is not known if re-categorisation of responses of Other ethnicity that were then specified further was completed as part of analyzing the NCNZ-RN data.

The five most frequently selected fields of practice by respondents in this study are the same as those selected by the NCNZ-RN workforce, although in a different order. For both groups, primary health care/practice nursing has the largest proportion of nurses. The NCNZ-RNs selected Surgical nursing, Mental Health/Addictions, Continuing Care/Elderly and Medical nursing as the next most frequent fields of practice. The proportion of respondents in the top five fields of practice in this study were 48.1% of the whole group, however the proportion of

respondents in the top five fields of practice from NCNZ-RN workforce data is much lower, at 37.3% of the RN workforce.

Reviewing the NCNZ RN workforce data, it is evident that a significantly higher proportion of Filipino and Indian nurses (17.0% and 16.5% respectively) had not stated their field of practice, compared with New Zealand European nurses (6.3%), which would likely influence the percentage for the five most frequently chosen fields of practice. In contrast, the denominator for calculating the percentage for this study was all the eligible respondents who had selected a field of practice.

The five most frequently selected employers were the same, and in the same order, for this study as well as the NZNO ES 2015. The top four were the same from the data for NCNZ RNs, with their fifth most frequently selected employer being Private Hospitals, vs Other employer in both this study and the NZNO ES 2015. Given that the NCNZ RN workforce data is drawn from the pool of all registered nurses, and participants in the NZNO ES 2015 and this study are drawn from NZNO members (a subset of all registered nurses) the possibility exists that nurses working in private hospitals may be underrepresented among NZNO members, or at least among NZNO survey respondents.

The number of years worked in the sector is harder to compare with NCNZ RN workforce data, due to different cut points used for the five-year categories between the two main groups. This study grouped nurses in categories of 'less than five years' '5-9 yrs', etc. whereas the NCNZ RN workforce data grouped them 'less than 6 years' , '6-10 yrs' etc. The NCNZ RN workforce data was also reported in narrative form, and data for nurses who worked more than 15 years was grouped together. Regardless, the NCNZ RN workforce data indicated a higher proportion of nurses with fewer years' experience than did this study. This observation fits with the earlier observation of a larger number of younger nurses contributing to the NCNZ RN workforce data.

Overall, the nurses whose data was included in this study share similar characteristics to the NCNZ RN workforce data except for having fewer younger,

male, and Filipino and Indian nurses, with correspondingly fewer years of experience. The most frequently selected fields of practice and employers across the groups are generally similar. The respondents in this study are therefore a close representation of all registered nurses in New Zealand.

5.3. Nurses' positivity about career progression and training/education

5.3.1. Career progression

Attitudes are said to determine the success of any programme or plan (Altmann, 2011; Bahn, 2007; Joyce & Cowman, 2007). Altuntas and Baykal (2010) describe individual's demonstration of attitudes towards their profession, their manager and the organization they work for, as being based on the experiences they have in the workplace. Altmann also notes that nurses' attitudes are rarely evaluated despite finding them to be a significant contributor to their actions and outcomes in relation to professional development. The examination of nurses' attitudes towards career progression and training/education in this study represents an opportunity to understand this relationship better.

The Career Index in this study was created from responses to two sub-questions identifying nurses' attitudes to career progression. As reported in the previous chapter, the resulting values on the Career Index scale ranged from one to four, M = 2.21; SD = .61. The mean value for the Career Index is less than three, indicating that most of the 944 respondents are not positive about career progression. The distribution of responses is aligned to a bell curve, indicating that the responses can be considered as representative of a whole population, thereby affirming the significance of this finding.

Nurses were asked to consider specific activities that contribute to career development or progression and these were reviewed in relation to the career index. Nurses were asked about four career development workplace activities (with further clarification sought from respondents about manager involvement in creation of a current personal professional development plan, if they had one). The strongest associations between an activity and a positive Career Index score were in relation to recent access to career planning ($p = .001$, medium effect size), and

also whether nurses had had a performance appraisal in the last 12 months (p = .001, small-medium effect size).

The stronger associations for nurses' access to career planning and whether nurses had had a performance appraisal in the last 12 months may be linked to the fact that the process of performance appraisal usually includes the opportunity to review achievement of past goals, and revise these or set new ones. Through this process, nurses can identify their own goals, and may also have goals suggested to them by their appraiser. Nurses who had completed a performance appraisal potentially would have had the opportunity to set goals in relation to their career, as well as areas of their practice.

Mentors can fulfill the same role as appraisers in helping nurses identify career goals. Patel and colleagues (Patel, Laudanski, & Pandharipande, 2014) surveyed members of the Society of Critical Care Medicine (which includes nurses) and found that more than half the respondents lacked a career development mentor in their specialty area. The three career development areas that the members of the Society of Critical Care Medicine expressed the most interest in were 1) continuing education in their specialty area, 2) leadership development, and 3) research and scientific development. This unavailability of mentors would certainly limit the opportunity for nurses to develop their careers in these areas.

This study found a significant positive association between nurses participating in the range of voluntary Professional Development and Recognition Programmes (PDRP) available in New Zealand and their positivity about career progression (p = .023, small-medium effect size). Preparation of a professional portfolio provides an opportunity to reflect on one's practice as part of assembling evidence to show competence across the four practice domains (Nursing Council of New Zealand, 2005). The four practice domains are: Professional responsibility; Management of nursing care; Interpersonal relationships; and, Inter-professional health care and quality improvement. Nurses participating in a PDRP process are demonstrating a future orientation, since their names are then withdrawn for three years from the Nursing Council's list of nurses who are eligible for selection to show evidence of

competence upon application for their annual practicing certificate. Altmann (2011) has indicated that nurses with future orientations are more likely to be positive about change, which may include seeking change in the form of career progression.

Ingersoll and colleagues (Ingersoll et al., 2002) draw a link between nurses' satisfaction with their job and an attitude of positivity. They found that a high level of satisfaction is manifest as nurses' "willingness to encourage others to consider nursing as a career" (p. 252) as well as higher organizational commitment, marked by a short- (one-year) and long-term (five-year) career intent to remain at the same institution, and usually in the same position. This affirms the link between nurses' positive attitudes and retention of nurses in their current position, or in another position but with their current employer

Chappell and Willis (2013) acknowledge that career development activities can include facilitating access to training/education. They also identify that an outcome of accessing training/education can include pursuit of new career opportunities by the nurses themselves, or creation of staff development opportunities for those nurses who are members of the teams they lead. In this way, career development yields benefits to the individual nurses who engage in it, while also contributing to the development of the organization as a whole. Whilst the career change outcome is different to the career intent to stay in one's position short- or long-term, identified by Ingersoll et.al. (Ingersoll et al., 2002), it is evident that career development and training/education are inextricably linked. This idea echoes the findings of this study, where the age, length of work experience and ethnicity characteristics of nurses were similar when they shared either positive or negative attitudes to each of these activities.

5.3.2. Training/education

The Training Index was similarly created from responses to three questions identifying nurses' attitudes to career progression. As reported in the previous chapter, the resulting values on the career index scale ranged from one to four, M = 2.72; SD = .53. The training index values of three or more were also considered

positive, to indicate agreement with the statements. The mean value for the Training Index being less than three, indicated that most respondents were less than positive about training/education, however, for the same number of respondents, with data measured across the same scale, the Training Index mean is more than half a point higher than the mean for the Career Index. This suggests that respondents are relatively more positive about training/education than they are about career progression. The distribution of Training Index responses is also aligned to a bell curve, indicating that the responses can be considered as representative of a whole population, thereby affirming these notable findings.

Nurses were asked to consider specific activities that contribute to training/ education which were reviewed in relation to the Training Index. Nurses were asked about the number of days they had engaged in professional development in the past year, also the nature and extent of employer support for nurses' education (access to paid study leave, payment of fees, and/or payment of other costs). The study found strong positive significant associations between nurses' positivity about training/ education and a) the number of days of professional development they had in the last 12 months; also whether they have received support for training/education from their employer in the form of b) paid study leave; c) had course fees paid; and d) had other costs paid by their employer. For each of these analyses, the effect size was large or very large.

New Zealand nurses are required to collect evidence of participating in 60 hours of professional development activities/training/education over the previous three-year period, as part of demonstrating competence as a Health Practitioner (Nursing Council of New Zealand, 2015). They are also required to demonstrate the professional development value of some examples of this activity/training/ education through written reflections. In order to meet the minimum requirement, nurses need to participate in the equivalent of two and a half to three full days of professional development per year. It is unsurprising that nurses who accessed less than the minimum number of required days were less positive (only 34.4% of those nurses were positive) about training/ education than those who met or exceeded the requirement (50.7% of nurses who accessed more than the minimum

days were positive). To understand this further, it is useful to examine the perceived barriers to accessing training/education.

As noted in Chapter Four, the five most frequently identified barriers to completion of professional development (training/education) by all the nurses in this study are: difficulties attending in work time (44.4%); cost to self in fees (37.6%); other time commitments (32.7%); difficulties taking time off work even in own time to attend education/training (30.7%); and shift work patterns a factor (26.6%). Most of these factors refer to nurses' difficulties in finding time to participate in training/education – from being released from their nursing work (whether to attend in their own time or not, to working around their rostered shifts) to juggling the demands of their personal commitments outside of work. The nurses with a low Training/education Index score (less than three) marked each of those four perceived barriers between 53.4% and 72.8% of the time. This indicates that less positive nurses find it harder to make time to access training and education.

It is interesting that the majority of nurses completing nursing or non-nursing post graduate education were noted to be more negative (achieving a Training-education Index score of less than three) than positive (score of three or more) by the ratio of 192 to 172 nurses. Possible reasons for this could include that some students may feel more challenged by study while they are completing it than they might after the qualification has been awarded. At the time of completing the survey, nurses who were still, or had recently been, engaged in study may have experienced barriers to their participation, which influenced their attitude to training/education.

The nurses who had a high Training/education Index identified a mostly different top-five set of barriers than those that didn't. They too felt challenged by the pressure of other time commitments (46.6%), however the other barriers identified by this group included concern about their own motivation (46.1%); the challenge of part-time hours of work (39.5%); the time and distance required to travel for education (37.8%); and concern about their own ability to complete

assignments 37.1%). These concerns appear to be more personally focused than the top-five concerns held by nurses overall. It seems possible that nurses who are more positive about training-education are more concerned about career planning through being aware of their own limitations and resources, than nurses generally being concerned about their organisation's accommodation of their career development.

Where the workplace provided paid study leave support, nurses in this study reported a significant positive association between their positivity about training/education and the extent to which they had access to this paid study leave, with a large effect size. Therefore, even if nurses experience difficulties associated with attending training in work time (such as the availability of other nurses to cover their work), the difficulties appear to be outweighed by the benefit of not having to find time out of work to complete the training.

The other perceived top-five barrier identified by nurses in this study was the fee cost to oneself. Where nurses had identified this as a barrier, 66.5% of those with a low index score (less than three) had marked this option. This may reflect that nurses have limited ability to pay for training/education themselves, perhaps due to other financial commitments, or due to the high costs of attending conferences, seminars or short courses, or of enrolling in tertiary study.

Where the workplace covered the cost of fees, or covered other training/ education costs, nurses in this study showed a significant positive association between their positivity about training/education, and the extent to which their fees, or other costs, were covered by the employer, with a large effect size. The highest percentage of respondents in this study accessed in-service education (84.9%) that is provided by the employer at no cost to participants, and is often conducted in work time. The next most frequently attended training/education activities were short courses (56.5%), seminars (49.4%) and conferences (43.7%). After this, nurses making presentations to colleagues was the next most frequently marked activity (35.9%), which can be seen as an economical (for workplaces) return on investment where the nurses accessing the short courses/seminars/

conferences or other education subsequently consolidate their learning and share it with colleagues for just the cost of the facilitator's and participants' time taken to attend the presentation.

It was observed that nurses who wrote journal articles were highly likely to score three or more for training/education positivity (84.6% of these nurses were positive). It was also noted that these nurses were active participants in seven of the other professional development activities listed. This study cannot identify the nature of the relationship between the nurses' positivity about training/education and their engagement in journal writing and other activities, however these nurses appear to demonstrate considerable leadership. The 80.8% of them that give presentations to colleagues are actively leading their peers through that process. Through their active participation in the other professional development activities that are well attended by nurses, such as in-service education, seminars and short courses, the journal article-writing nurses are likely to be role modeling their positive attitude to training/education. Managers would do well to utilize these positive nurses as mentors or preceptors to new graduates or those seeking coaching.

5.4. Demographic characteristics of nurses and their positivity about career progression and training/education

This study found that there is a higher likelihood for nurses feeling more positive about career progression to be generally younger (aged under 30 years), of Indian, South East Asian or Other Asian ethnicity, and work in the fields of either Cancer nursing, Mental Health/Addictions nursing or Public Health nursing. Their employers are predominantly a PHO provider or 'other nursing' employer, and they are most likely to have less than five years' experience in the sector.

The earlier comparison of demographic characteristics of NZNO Employment Survey 2015 respondents with NCNZ RN workforce data showed that this study found a lower proportion of respondents who are aged under 30 years, and who are of Indian or Filipino ethnicity, with less than five years' experience working in the health sector. Yet, those are the characteristics of the nurses who achieved the

highest scores for career progression positivity. Whilst in this study the nurses of Indian and South East Asian ethnicities are relatively few in number, the NCNZ RN workforce data (Nursing Council of New Zealand, 2015) show that the single largest number of nurses of either ethnicity work in the field of Continuing Care (elderly), one of the five fields of practice with the most positive career index scores. This field of practice has struggled to be marketed as an attractive prospect to newly graduated NZ-trained nurses (Hendry & Prileszky, 2015). It is possible that newly registered IQNs are more readily appointed to vacancies in the Continuing Care (elderly) field. What is not known is whether their positive perceptions of career progression are from comparisons they have made with career prospects in their country of origin, or from comparisons with their prospects for progression now they are working in New Zealand.

With respect to the most numerous of the groups of nurses in this study scoring in the top five for career positivity, those are most likely to be aged 45-49 years, of NZ European ethnicity and working in the field of primary health/practice nursing for a PHO provider or general practitioner employer. From NCNZ RN workforce data (Nursing Council of New Zealand, 2015), the field of primary health/practice nursing employs the largest single group of nurses, and NZ European is the largest single ethnicity identified. When age bands of NCNZ nurses are reviewed by field of practice, those primary health/practice nurses aged 45-49 years are not the most numerous group – instead the groups aged 50-54 years and 55-59 years are more numerous. This may be reflected in the fact that the top five age groups of nurses who had positive career index scores are all aged under 50 years, so a positive Career Index may be less about the field the nurse works in, than how the nurse feels about their career. For nurses aged under 50 years, more of their career stretches ahead of them than for nurses aged over 50 years, and therefore they tend to be more optimistic about their future prospects.

It is worth noting that the age group of nurses with the lowest score for positivity about career progression is nurses aged 35-39 years. Nurses in this age group are predominantly female, and are in the middle of potential child-bearing years – especially if they have more than one child. While mothers remain the parent most

likely to be primary caregivers for pre-school-aged children (Moran et al., 2011), and the largest employer of nurses is DHB (acute/inpatient services) (Nursing Council of New Zealand, 2015), DHB inpatient work is most likely to involve rotating shift work, which can be challenging to manage childcare arrangements or children's transition to school around (Moran et al., 2011). Nurses whom have paused their career to raise children are required by NCNZ to meet the same minimum practice hours and professional development hours as practicing nurses in order to maintain their annual practicing certificate, or they face a competency assessment process on their return to nursing. It is understandable therefore that nurses aged 35-39 years may struggle to score as positively for career progression as nurses in all the other groups aged under fifty years.

Among respondents to the NZNO ES 2015, nurses are more likely to be positive about training/education when mostly at the end of their careers (aged over 60 years), and of NZ European, South East Asian or Indian ethnicity. They are working in the fields of nursing education, palliative care or primary health/practice nursing, and for employers such as Educational Institutions, Maori/Iwi providers or other nursing employers. Joyce and Cowman (2007) found that it is important that opportunities for training/education be shared equally between junior and senior staff, so that investments in professional development are not made simply with the group that is most positive about training/education when they are also likely to leave the workforce soonest through retirement.

Joyce and Cowan (2007) also found that nurses have different reasons at different stages in their careers for undertaking post-registration career development activities, therefore career development/progression conversations need to happen so that nurses are supported to select the most appropriate courses of training/education that take account of these different reasons. Motivation offered by nurses includes: to increase self-confidence; to obtain promotion or vertical progression; to improve clinical judgement and extend clinical role; and to increase job opportunities within nursing/health care resulting in horizontal movement (Altmann, 2011; Chappell & Willis, 2013).

Nurses working in the field of primary health/practice nursing, for General Practitioner employers are the largest group of nurses in the top five for both positive Career and Training/education Indices. Nurses working in the field of nursing education for nursing institution employers have the highest training/education index. Nurses working in the field of Continuing Care/Elderly nursing for Aged Care Provider employers are identifiable in the top five career index rankings.

Interestingly, this study found that the nurses with the lowest positivity scores for both career progression and training/education are those aged 35-39 years (as previously mentioned) and with 15-19 years experience in the sector. Assuming most nurses commenced training/education and qualified soon after completing secondary education, the low positivity of these nurses highlights the particular vulnerability of nurses aged 35-39. It is important that the more negative attitudes to training/education and career progression by this group of nurses are addressed, and barriers removed, to enhance their retention.

Whilst there were just 12 Chinese nurses in the sample whose responses were examined for this study (1.3% of all respondents), they are the least positive ethnic group for both indices. From the NCNZ-RN data (2015), more than 50% of Chinese nurses work for DHBs in acute practice areas, such as surgical, medical and peri-operative/theatre. This spread of fields of practice data for Chinese nurses is different than the fields of practice worked by the more positive-scoring nurses of Filipino and Indian ethnicities for both career progression and training/education. Further analysis is required to confirm whether the findings for Chinese nurses from this study are representative and, if so, to understand the reasons for Chinese nurses' low positivity in these areas. Overall, these findings show support for Hypothesis three.

Finally, Joyce and Cowman (2007) identify the outcomes of strategies that support career progression and training/education as including: nurses being more satisfied with their careers; nurses remaining in their positions, and in the nursing profession for longer; nurses contributing additional years of experience to the

workforce; and, improved workforce skill and quality. Therefore employers that support nurses' access to training and education, and facilitate nurses' career progression activities are more likely to retain a more stable, competent and satisfied workforce.

5.5. Limitations of this study

This study has a number of limitations that will be outlined here. The NZNO ES 2015 drew from a sample limited to NZNO members with current email addresses. The original strategy of random selection was augmented by the concurrent invitation being extended to a convenience sample, and the trigger for respondent engagement was not identified. This altered recruitment strategy risks nurses that are less engaged in professional issues not participating, and a bias towards those who are. Whilst the whole sample for this study was not randomly selected, the sample size was considered large enough to approximate a representative sample.

Some authors suggest that survey participants may submit to self-report bias, by answering questions so as to present a positive view of themselves (van de Mortel, 2008). However, the questions selected for this study were not about nurses' competence or about socially sensitive topics, so self-report bias is less likely to have occurred.

The recoding of Career Index and Training/education data into two groups - those who scored an index of positivity of three or more, and those whose index was less than three – was necessary for completing the chi-square calculations correctly. The chi-square calculations examined the relationship of the nurses' Career Index and Training/education Index data with various career progression and training/education activities. If the data had not been collated in this way, there would have been frequent violations of the assumption that at least 80% of the cells created through cross-tabulation should have frequencies of five or more which makes the *p* value of the chi-squared test inaccurate.

Finally, the decision to undertake secondary analysis of existing data means that the researcher is limited to using the supplied data. The questions have already

been designed and the sample obtained. Whilst this can be a positive feature of undertaking secondary analysis of existing data, the quality of the analysis is highly dependent upon the rigour with which the original data was collected. For example, in this study, there was no opportunity to clarify with respondents the definition of the term 'career planning' as they completed Question 62.

5.6. Chapter summary

This chapter has identified that nurses whose data was utilized for this study are generally representative of nurses registered with the NCNZ. Factors that appear to be related to nurses' scores for the career Index and Training Index have been listed. The characteristics of the nurses that have had the highest and lowest scores for the Career Index and Training Index have been described and possible explanations offered. References have been made to the literature concerning nurses' attitudes to career planning and development. A concluding chapter outlining key findings and implications follows.

Chapter 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This thesis asks the question "What are the characteristics of nurses with the highest and lowest scores for positive attitudes about career progression and training and education?" The question has not been asked before, and the answers were found by examining data collected as part of the NZNO ES 2015. The study builds on the NZNO ES 2015 findings through the creation of the Career Index and the Training Index, and cross-tabulation of selected activities identified as contributing to career progression and training/education.

6.2 Key findings and implications

Overall, the nurses in the NZNO ES 2015 who were included in this study are generally representative of nurses registered with the Nursing Council of New Zealand. Nurses in the study were mostly not positive about career progression or training/education, however they were more positive about training/education than about career progression. The nurses who are positive about career progression are more likely to have had a performance appraisal in the last 12 months, or had access to career planning. They are also more likely to be engaged in PDRP programmes. The nurses who are positive about training/education are more likely to have attended three or more days of professional development activities in the past year, as well as to have received employer support for paid study leave, and payment of fees or other costs.

The nurses who are positive about training/education are more likely to identify personally-focused barriers to completing professional development requirements than nurses generally, who are more likely to identify organizationally-focused barriers. A majority of nurses studying post graduate education papers have negative Training/education Index scores, which may be due to their experiences of barriers to completing this professional development. Nurses who write journal articles are highly positive and engaged in multiple training/education activities so offer leadership amongst their team.

The nurses with the highest Career Index scores are aged under 25 years and have been working in the sector for less than 5 years, whilst those with the highest Training Index scores are older and been working the longest. Those with the lowest scores for both Indices are aged 35-39 and been working 15-19 years. Nurses of Chinese ethnicity score the lowest for both Indices, while nurses of Indian and South East or Other Asian ethnicities score the highest for the Career Index. Nurses of NZ European ethnicity as well as Indian and South East Asian ethnicities score the highest for the Training Index. Nurses working in the field of Primary Health /Practice nursing for General Practitioners and PHO providers formed the largest group of nurses in the top five for both indices, Nurses working in Nursing education for Education Institutions were highest scoring for the Training Index. Nurses working with patients with cancer were highest scoring for the Career Index.

The implications of these findings are that nurses who are engaged in activities that promote career progression, such as annual performance appraisal, PDRP and career planning are more positive about career progression. Also, nurses who spend three or more days on professional development each year, and who receive support from their employer such as paid study leave, and payment of fees and other costs are more positive about training/education. This means that employers/organisations that prioritise facilitating nurses' access to these activities stand to benefit from nurses having a more positive attitude to career progression. According to Joyce and Cowman (2007), nurses who have a positive attitude about their careers will be retained in the profession for longer. When nurses do work for longer, they contribute the additional years of expertise earned from their experience, which extends the quality of the workforce.

6.3 Further research

Further research needs to be done to learn more about what activities would most effectively address the low Career and Training Indices of nurses aged 35-39 years, also the low Indices of nurses of Chinese ethnicity. More generally, it would be useful to quantify the cost of supporting nurses' career progression and training/education versus the benefit of their retention in the profession, and to

learn which specific activities are valued by which groups of nurses, so that career planning and development can be tailored to the individual circumstances of each nurse.

6.4 Conclusion

This study set out to identify the characteristics of nurses with the highest and lowest scores for positive attitudes about career progression and training/education. That aim has been accomplished through the secondary analysis of NZNO ES 2015 data and creation of Career and Training Indices.

Nurses are critically important members of the health workforce. The more satisfied that nurses are with how their career progresses, and the more that they continue to access training/education to ensure their knowledge and skills are based on best practice, the longer they will remain in the workforce. Nurse retention is an important part of current workforce planning to meet anticipated demands for health services.

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Appendix A

Questions from NZNO Employment Survey 2015 used in this study:

83. What is your age?

Under 25	25 - 29	30 - 34	35 - 39	40 - 44	45 – 49	50 – 54	55 – 59	60 – 64	65 – 69	70 or over

90. With which ethnic group or groups do you most closely identify? (Pick all that apply)

	NZ Maori
	NZ European
	Other European
	Samoan
	Cook Island Maori
	Tongan
	Niuean
	Tokelauan
	Fijian
	Other Pacific
	South East Asian
	Chinese
	Indian
	Other Asian (please specify in Other)
	Other (please Specify)

89. Approximately how many years in total have you worked in the health sector? (please enter years as numbers, e.g. 5, or 12) _____

5. Who is your employer for your *main* job?

	DHB Inpatient		Maori and Iwi Health Provider
	DHB Community		Pacific Health Provider
	Private Surgical Hospital		Education Institution
	Accident and Medical Centre		Government Agency (MOH, ACC)
	Community Hospital (Rural)		PHO provider
	General Practitioner		NGO provider
	Aged Care Provider		Other, nursing work
	Nursing Agency		Other, non-nursing work
	Self Employed		

57. There are no right or wrong answers, we are simply interested in your views

	Strongly Agree	Agree	Disagree	Strongly Disagree
8. It will be difficult to progress from my current salary				
9. I am unable to take time off for training/ education				
14. Career prospects in nursing are becoming less attractive				
15. I am able to keep up with developments related to my job				
16. I have regular dialogue about my work with my manager				

58. When was your last performance appraisal/development review?

	Within the last 12 months
	Within the last 2 years
	Within the last 5 years
	I have never had one
	Other (please specify)

59. Do you have a current personal Professional Development plan?

	Yes
	No
	Uncertain
	Not Applicable

60. If YES, has your manager/employer been involved in drawing up the plan?

	Yes
	No
	Uncertain
	Not Applicable

61. Have you had access to a PDRP Portfolio review?

	Yes, in a timely manner
	Yes, but the timing was an issue
	No, but I need one
	No. I don't need one
	I'm not sure

62. Have you had recent access to career planning?

	Yes
	No

64. How many days have you spent on professional development in the last 12 months?

	None
	1 – 2
	3 – 5
	5 – 10
	More than 10

65. Which of the following best describes any support from your employer for education?

	All	Most	Some	None
Paid study leave				
Fees				
Other costs				
Other (please specify)				

66. Which of the following educational opportunities have you taken in the last three years to meet the professional development requirements of the Nursing Council of New Zealand? (Pick all that apply)

	Nursing undergraduate papers
	Nursing graduate papers (level 700, post registration)
	Nursing post graduate certificate (level 800 papers)
	Nursing post graduate diploma (level 800 papers)
	Nursing masters
	Nursing PhD/ Research
	Interdisciplinary/ postgraduate papers/ qualifications (level 800 papers)
	Short courses
	Seminars
	Conferences
	In-service education
	Journal-reading within a formal framework (e.g. journal club)
	Writing journal articles
	Presentations to colleagues
	Non-nursing undergraduate papers
	Non-nursing graduate certificate
	Non-nursing post graduate certificate
	Non-nursing post graduate diploma
	Non-nursing masters
	Other (please specify)

67. Which of the following (if any) present significant barriers to completion of Professional Development? (Pick any that apply)

	Difficulties attending in work time
	Difficulties taking time off work even in own time to attend education/training
	Lack of support/encouragement by employer
	Shift work patterns a factor
	Part time hours of work a factor
	Own motivation to complete
	Reluctance to completing work-related education/training in own time
	Cost to employer in fees
	Cost to self in fees
	Other time commitments
	Time and distance to travel for education/training
	Lack of confidence about the information technology skills needed
	Access to computer based resources to complete assignments
	Concern about own ability to complete assignments

Appendix B

Message emailed to randomly selected NZNO members invited to participate in NZNO ES 2015 on 12 November 2014.

Dear

Our 4th annual biennial employment survey is now underway and we would like to invite you to take part in this important longitudinal research into nursing employment, careers and morale. You have been sent this personal invitation as part of a random sample of 4000 NZNO members. Some of you may have already seen an invitation in this week's NZNO e-newsletter. If you have already completed the survey, please ignore this message.

The 4th biennial survey builds on previous confidential surveys to capture changes to the employment settings, employment patterns, career / retirement intentions, continuing education opportunities, health, work experience and morale of New Zealand's nursing workforce.

The survey should take you around 20 minutes to complete, and in addition to helping your profession, (as a thank you for your time), you have a chance to win one of three $50 prizes as a reward for taking part.

Your contribution will help us to do more accurate nursing workforce planning, and strengthen the evidence to support NZNO's professional nursing advocacy role.

Once again, if you have already completed the survey, please ignore this message and do not do the survey again – we just need one of you!

Kind regards
Jill Clendon and Leonie Walker
NZNO Researchers

NEW ZEALAND NURSES ORGANISATION

Appendix C:
Massey University Research Information Management System Letter

Date: 15 May 2016

Dear Margaret Bigsby

Re: Ethics Notification - **4000016110 - The characteristics of nurses in relation to their attitudes about career planning and development activities.**

Thank you for your notification which you have assessed as Low Risk.

Your project has been recorded in our system which is reported in the Annual Report of the Massey University Human Ethics Committee.

The low risk notification for this project is valid for a maximum of three years.

If situations subsequently occur which cause you to reconsider your ethical analysis, please go to http://rims.massey.ac.nz and register the changes in order that they be assessed as safe to proceed.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:
"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director - Ethics, telephone 06 3569099 ext 86015, email humanethics@massey.ac.nz. "

Please note, if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to complete the application form again, answering "yes" to the publication question to provide more information for one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

Dr Brian Finch, Chair,
Human Ethics Chairs' Committee and Director (Research Ethics)