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Silvia A. Nelson  
*Southern Cross University*

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# **Affective commitment of generational cohorts of Brazilian nurses**

Silvia A Nelson  
Southern Cross University  
Gold Coast, Australia.  
Email: [silvia.nelson@scu.edu.au](mailto:silvia.nelson@scu.edu.au)

## **Abstract**

**Purpose** – The purpose of this paper is to use generational cohort and professionalism theories as the framework to examine the interaction between supervisor-subordinate relationships, work-family conflict, discretionary power and affective commitment at the work-life interface for Northeast Brazilian public sector professional nurses.

**Design/methodology/approach** – Quantitative data were collected from 550 public hospital nurses in North-Eastern Brazil. Path and multivariate analysis were used to test the hypotheses.

**Findings** – The findings demonstrate that the impact of the independent variables on affective commitment was statistically significant but low. The impact of NPM factors such as contracting out and multiple job-holding was a major influence on affective commitment and work-life interface across generational cohorts. The analysis revealed significant differences between generational cohorts and suggested that affective commitment may well be enhanced by improving the quality of the work-life interface and consequently, the wellbeing of nurses.

**Research limitations/implications** – This study is confined to the Northeast of Brazil and confined to public sector hospitals. The self-reporting techniques used in this study to gather information may be open to common method bias.

**Originality/value** – The contribution of this research includes the provision of new information about the working context of professional nurses in Brazil, which is a fast growing BRICS economy where the issues surrounding the practice of nursing and nurse management are not well studied to date (i.e. NPM impact on nurse environment). North-eastern Brazilian managers need to be more aware of generational differences and their impact on levels of affective commitment and the quality of the work-life interface and wellbeing.

**Keywords:** Affective commitment, Leader-member exchange, Work-family conflict, Discretionary power, Generational cohorts, Nursing management, Public sector, Brazil, Nursing

Brazil is a fast-growing BRICS (Brazil, Russia, India, China and South Africa) economy, where, outside their profession, very little is known about the work conditions of many groups of employees, particularly nurses. Brazil has a younger median age population (29 years – Brazilian Institute of Geography and Statistics (IBGE), 2011) than most Organisation for Economic Co-operation and Development (OECD) countries (USA 37.2 – United States Census Bureau (USCB), 2010, for example), although there are significant differences between the northeast of Brazil (where this study was undertaken) where the baby boomer (BB) population is only 9 per cent compared to the southeast of Brazil, where the BB population is 17.1 per cent (IBGE, 2011).

In many OECD countries the public healthcare environment has been affected by management reforms, such as the New Public Management (NPM) reform, empowering public sector managers with increased managerial control and increasing standardisation of service delivery (Adcroft and Willis, 2005). Such reforms have affected the organisational culture of a number of professions, including nursing and the resultant outcomes have often included increased workloads and a negative impact on the relationship between supervisors and subordinates (Farr-Wharton et al., 2011), as well as nurses' perceptions of their discretionary power (Bolton, 2005). These are changes which are likely to reduce levels of affective commitment to the organisation and may also be linked to negative impacts on the work-life interface and nurse well-being. The major influence of NPM on nursing professionals' lives in the northeast of Brazil has been the introduction and expansion of the contract employment system in both the public and private hospital sectors. For example, in the major teaching hospital (Hospital Universitario da Universidade Federal do Maranhao (HUUFMA)) in the northeastern state of Maranhao, the number of permanent nursing staff

decreased by 5.7 per cent, between 2004 and 2009, and the number of contract nursing staff increased 247.4 per cent (HUUFMA, 2009).

In the developed nations of the world, such as in Australia and in other OECD countries (OECD, 2007), a major issue for nursing management is the shortage of nurses. In Brazil, however, in contrast, there is a clear surplus of trained professional nurses and professional nurse technicians. In the 1990s the Federal Government recognised a situation of growing shortages of trained nurses and nearly 380,000 nursing professional jobs were created between 1998 and 2001 (Ministry of Health, 2003). The number of school places for undergraduate nursing in Brazil increased from 20,000 in 2000 to 70,400 in 2004 (Ministry of Health, 2006). In 2009, 40,873 people graduated to become registered nurses (Ministry of Education, 2010). Between 2000 and 2010, based on data from the Federal Council of Nursing (Conselho Federal de Enfermagem (COFEN)), the number of registered nurses rose from 23,468 to 287,119. However, over that period, the number of nurse technicians rose from 17,573 to 625,862 and the number of nurse assistants rose from 92,946 to 533,422 (COFEN, 2011). Clearly the weight in the professional nursing classifications moved downwards dramatically over that period. The consequence of this change, driven by NPM cost-cutting processes (contracting out), has resulted in a growing supervisory overload for registered nurses, and a concomitant decrease in the standard of nursing professionalisation applied at the bed side, which now, more often than not, is provided by nurse technicians, rather than registered nurses.

The major (and continuing) expansion of nurse training and the consequent surplus of trained nurses at entry levels have important implications for nurse management, working conditions, nurse well-being and affective commitment. The oversupply of registered nurses and nurses technicians is a major determinant of work conditions and pay in the northeast of Brazil. Although no reliable hard data on multi-jobbing is currently available, especially in

the state of Maranhao, evidence from other states of Brazil suggest that a significant number of Brazilian nurses hold two or more jobs in order to achieve a living wage. For example, a study conducted with 543 registered nurses from ten major states of Brazil, not including the northeast state of Maranhao, 55.5 per cent of these nurses, from all generational cohorts, are the main providers for their immediate and extended families and 40.8 per cent had two or more jobs (Varella, 2006). However, the undesirable outcome of multi-job holding is tiredness and stressed nurses, decreased levels of patient care and decreased levels of nurse well-being. Multi-job holding may also lead to decreased levels of affective commitment to the employing organisation.

This paper uses generational cohorts and professional theories as frameworks to examine the impact of nurse management practices on affective commitment to the organisation. Because professionalism is defined in terms of the individuals' attitudes and behaviours towards their professions (Boyt et al., 2001), an important question is whether the attitudes, beliefs, behaviours of nursing professionals are likely to differ across generational cohorts such as BB, Generation X (GenX) and Generation Y (GenY). Past research provides support for intergenerational differences among nurses (Palese et al., 2006; Santos and Cox, 2000; Stuenkel and Cohen, 2005).

The objective of the present research, therefore, is to explore the links between supervisor-subordinate relationships, work-family conflict (WFC), discretionary power and affective commitment of different generations for nursing professionals within public hospitals in the northeast of Brazil. The nature of the work-life interface and impacts on nurse well-being will be explored. The study focuses on northeastern Brazil, which provided a coherent sample for this research.

The primary research questions are:

***RQ1.** What are the linkages between supervisor-subordinate relationships, WFC, perceptions of discretionary power and affective commitment for northeast Brazilian nursing professionals across generational cohorts?*

***RQ2.** What are the similarities and differences between generational cohorts of northeast Brazilian nursing professionals in the quality of supervisor-subordinate relationships, their experience of WFC, their scope of discretionary power and their levels of affective commitment?*

This paper has three parts. The first part provides a review of the literature. The hypotheses emerge from this literature review. The second part describes the sample and research methods used to test the hypotheses. The third part reports the results from quantitative analysis of relevant data and the discussion involves pattern matching with relevant past research, leading to a set of conclusions concerning the hypotheses proposed and offering suggestions for future research.

## **BACKGROUND**

The assumption of this study is that good supervisor-subordinate relationships among Brazilian nurses across generational cohorts are likely to decrease their levels of WFC and increase the scope of their discretionary power, with a consequent enhancement of their level of affective commitment to the organisation. Professionalism and generational cohort theories are used as frameworks for this study.

### **Professionalism**

Professionalism can be defined in terms of the individuals' attitudes and behaviours towards their professions, which also involves appropriate work identity (Boyt et al., 2001). Basic characteristics of professionals include monopolised knowledge and expertise, entry and

training standards, a sense of autonomy and the ability to self-regulate their jobs, including ethical codes (Ferlie et al., 1996).

Brazil has three types of regulated nurses: registered nurse (RN) (university level), nursing technician (NT) (18-month diploma) and nursing assistant (one-year diploma). Federal nursing legislation sets the limits and conditions on nursing scope and practice. Since 1986, in accordance with Federal Law 7498, it is compulsory for regulated nurses not only to be legally qualified but also to be members of a Regional Council of Nursing. Therefore, all three categories of Brazilian regulated nurses can legally engage in nursing practice and are considered to be self-regulating professionals. The nursing scope and practice for nursing technicians and nursing assistants, however, is narrowed because the work they do needs to be supervised by a registered nurse and perhaps they are better considered as “para-professionals”.

The formation of professional associations is considered to be a significant mechanism reinforcing the values, beliefs and identity of professions (Evetts, 2003). For Brazilian nursing professionals, these cultural values and beliefs are determined by national professional bodies, such as the Federal Nursing Council. However, as professionalism is defined in terms of the individuals’ attitudes, values, beliefs and behaviours towards their professions (Boyt et al., 2001) it is likely that there are differences between generational cohorts of nursing professionals.

### **Supervisor-subordinate relationship**

Leader-member exchange (LMX) theory provides a set of ideas and insights for exploring the supervisor-subordinate relationship. At the heart of LMX is the insight that supervisors treat subordinates differently and that some subordinates are provided with varying levels of support and encouragement, information, trust and participation in decision making (Mueller

and Lee, 2002). Working under an NPM regime, or in stressful, changing work environments, supervisors or senior nursing professionals find difficulties in maintaining their traditional role in nurturing nurses under their control and are likely to suffer a noticeable and unwanted reduction in their role in passing on the specific beliefs, values and aspirations that belong to the nursing profession (Maynard-Moody and Mushero, 2003). Instead, they are likely to find themselves dealing with the workplace impacts of increased workloads, inflexible scheduling, increased work intensity and increased accountability, often in the form of higher levels of reporting, recording and analysis (Ackroyd et al., 2007).

The subsequent pressures on nurse supervisors (and consequently, the nurses in their charge) may lead to a general degradation of LMX in hospital workplaces, and such pressures may well create a ripple effect which ultimately negatively affects both nurses' well-being and patient care. However, the support of nurse supervisors plays a significant role in maintaining job satisfaction and well-being (including reducing stress and WFC) of the nurses for whom they have a professional responsibility. This support is likely to enhance affective commitment (Brunetto et al., 2011) and may be a key factor in the quality of nurse well-being and patient care. Previous research on nurses has demonstrated the link between the quality of LMX on WFC (Brunetto et al., 2010) and discretionary power and affective commitment (Farr-Wharton et al., 2011).

Because nurse supervisors treat subordinates differently, based on LMX theory, it is not clear if effective LMX relationships are likely to decrease WFC and enhance subordinates' levels of discretionary power and affective commitment across different generational cohorts. There is no research examining the extent to which the impact of LMX on WFC, levels of discretionary power and affective commitment varies among different generational cohorts for nursing professionals in the northeast of Brazil.



## **WFC**

WFC has been defined in terms of interrole conflict (Frone, 2003). Based on self-determination theory, the satisfaction of psychological needs by people in the workplace will result in striving to improve their opportunities for competence, relatedness and autonomy (Deci and Ryan, 2008). If these needs are frustrated in the workplace, psychological well-being may be reduced and it is likely to result in increased WFC and in turn, reduced level of affective commitment. Findings from a study with New Zealand managers demonstrate a negative relationship between WFC and autonomy (Roche and Haar, 2010). This suggests that, if a nurse is under stress and strain because of WFC, it is likely that he or she may experience lower scope for the use of discretionary power in the workplace and the outcome may well include a reduced level of affective commitment, with consequent detriment to his or her well-being. Past research has associated high levels of WFC with decreased autonomy (Roche and Haar, 2010) and decreased organisational commitment (Akintayo, 2010). Relatively few WFC studies have been conducted in Latin American countries, particularly in Brazil (Hill et al., 2004; Spector et al., 2004). The present study is one small contribution to understanding the dynamics of WFC in the northeast of Brazil, particularly for nursing professionals in the public sector. It is not yet clear whether this impact is different across generational cohorts.

## **Discretionary power**

Gollan (2005), in his discussion of discretionary power, refers to the degree to which employees have power to make decisions in the marketplace. Discretionary power in the context of nursing refers to the ability of nurses and nurse supervisors to make decisions about patient care, based on their professional expertise (Rafferty et al., 2007), as well as decisions about quality of working life for nurses and nurse teams. As professionals, nurses

need discretionary power to properly order patient care and support and Hupe and Hill (2007) argue that the more complex, critical and ambiguous the work environment, such as major surgery or life-threatening injury or illness, the greater the discretionary power required for effective performance.

Spreitzer (2007) identifies two forms of discretionary power – structured and psychological. The former refers to the degree to which organisation policies, processes and procedures facilitate employee performance. Psychological empowerment refers to “meaning” (or congruence of work and employees beliefs and values), “competence” (or employee self-efficacy), “self-determination” (or degree of autonomy) and “impact” (or employee beliefs about their impact or contribution). Discretionary power could be expected to be a primary factor in nurses’ level of job satisfaction and in turn, affective commitment, because of the strong professional elements of the role of nurses in deploying their knowledge for the good of their patients. Previous research has already demonstrated a relationship between nurses’ level of autonomy and organisational commitment (Laschinger et al., 2009). There is a lack of research exploring the impact of nurses’ level of autonomy on their levels of affective commitment to the organisation across generational cohorts for Brazilian nursing professionals in the northeast of Brazil.

Dependent variable: affective commitment

Allen and Meyer (1996, p. 252) defined affective commitment to the organisation as “a psychological link between the employee and his or her organisation that makes it less likely that the employee will voluntarily leave the organization”. It is expected that employees with strong affective commitment stay in the organisation because they “want to” based primarily on emotional attachment to the organisation (Meyer and Allen, 1997), and in the case of

nurses, to their patients. Thus, affective commitment is likely to increase the likelihood that employees will remain in the organisation.

Affective organisational commitment is considered a major determinant of organisational effectiveness and employee well-being, as high employee commitment has been related to increased motivation and job satisfaction, lower labour turnover and increased job performance (Addae et al., 2008) which in turn can lead to improved overall organisational performance. Previous research has demonstrated a relationship between organisational commitment and LMX (Farr-Wharton et al., 2011), WFC (Akintayo, 2010) and autonomy (Laschinger et al., 2009). Recent research suggests a positive relationship between employee-line manager relations and organisational commitment (Farndale et al., 2011). In other words, if staff feel satisfied with their work conditions and the way they are treated by their supervisors they are more likely to have lower levels of WFC, increased level of perceived autonomy and higher levels of affective commitment to the organisation and to provide a positive service experience for customers/patients (e.g. do the little bit extra that counts).

The hypothesis to test the interrelationships of these various components of workplace context (LMX, WFC, discretionary power and affective commitment) is:

*H1. There is a significant relationship between supervisor-subordinate relationships, WFC, discretionary power and the dependent variable of affective commitment for northeast Brazilian nursing professionals across generational cohorts.*

### **Generational cohorts**

A generational cohort is defined as a group of people who share similar birth years and similar cultural and historic events that have influenced their attitudes, values and work and career preferences (Palese et al., 2006). Currently in the workplace there are three major identifiable generational cohorts: “BBs”, born between 1946 and 1965; “GenX”, born

between 1966 and 1980; and “GenY”, born in the early 1980s (Bell and Narz, 2007). BBs tend to value promotion and position, have a strong work ethic, and are strongly represented among senior decision makers and company board (Bell and Narz, 2007). GenXs are better educated but tend to be less committed to organisational structure and prioritise their personal lives instead of their career, and are heavily represented among entrepreneurs, consultants and risk-takers (Arsenault, 2004). The third group, GenYs are mobile, technologically driven, career oriented, value diversity, tend to dislike hierarchy and may have difficulty relating to superiors, especially if they are older (Palese et al., 2006).

Each generational cohort generally brings to the workplace different expectations, aspirations, values and attitudes. There is some debate in the generational cohort literature as to whether there are significant “real” differences across generational cohorts. Past research has reported significant differences across generational cohorts within the nursing environment (Stuenkel and Cohen, 2005; Palese et al., 2006). For example, research with nurses indicated that BBs had significantly higher mean scores on their level of affective commitment to their hospitals compared to GenX and GenY (Brunetto et al., 2012; Keepnews et al., 2010). On the other hand, Davis et al. (2006) found that attitudes between BBs and GenX IT professionals are more homogenous than different in their level of affective commitment. Ferres et al. (2003), based on a study in an Australian company, found no significant differences between GenX and BBs regarding their beliefs about affective commitment. Clearly, more research is needed to validate differences across generational cohorts. However, there is limited empirical evidence to support generational differences within the Brazilian nursing environment, especially in the northeast in Brazil. The following hypothesis is proposed:

*H2. There are significant differences between generational cohorts of northeast Brazilian nursing professionals in the quality of supervisor-subordinate relationships,*

*their experience of WFC, their scope of discretionary power and their levels of affective commitment.*

## **METHODS**

### **Sample**

This study was undertaken in the public hospital-based environment, in the northeast of Brazil, in the state of Maranhao. The sample for this study included nurses from two medium-sized teaching hospitals, with 300 plus beds, in one instance catering for a wide range for admissions (hospital 1), and in the case of hospital 2, primarily obstetrics and gynaecology. The northeast Brazilian public sector nursing sample comprised 494 females (89 per cent). In terms of categories of nursing professionals, 23.6 per cent were registered nurses, 42 per cent was nurse technicians and 34.2 per cent was nurse assistants. In addition, 66 per cent had permanent jobs and 60.9 per cent had two or more jobs. In terms of age, 63 nursing professionals were <30 years old (GenY), 262 were between 30 and 45 years old (GenX), 205 were aged 45 and 66 years old (BB) and 20 nurses did not provide this information. Demographic information for the sample is shown in Table 1.

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Insert Table 1 about here  
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### **Procedure**

Quantitative data were obtained using a cross-sectional, survey-based design, from February to July 2011, in order to test the linkages between nursing professionals' satisfaction with supervisor-subordinate relationships, their experience of WFC, their perceptions of discretionary power and their levels of affective commitment. To gather data from nursing professionals, 1,005 anonymous surveys were distributed to the two hospitals and all nursing professionals including registered nurses, nurse technicians and nurse assistants were invited to participate. The response was 550 useable surveys – an overall response rate of 54.7 per

cent. Once all completed questionnaires were collected and analysed, the results were compared to past research, where possible and suitable to do so.

## **Measures**

A questionnaire was developed using parts of four validated instruments, using a six-point Likert-type scale ranging from 1 (strongly agree) to 6 (strongly disagree), as follows: “LMX” was measured using a four-item Mueller and Lee’s (2002) instrument to measure the satisfaction of nurses with the quality of the relationship with their supervisor. Cronbach’s coefficient alpha for the “LMX” instrument was 0.80. “WFC” was measured using a two-item Netemeyer et al.’s (1996) instrument. Cronbach’s coefficient alpha for the “WFC” instrument was 0.77. “Discretionary power” was measured using Spreitzer’s (1996) three-item measure of self-determination. Cronbach’s coefficient alpha for the “discretionary power” instrument was 0.72. “Affective commitment” was measured using Meyer and Allen’s (1991) five-item instrument to test nurses’ level of affective commitment to the organisation. Cronbach’s coefficient alpha for the “affective commitment” instrument was 0.82.

## **Data analysis**

Path analysis was used to test the “goodness of fit” of the proposed model and to test the relationship between nurses’ satisfaction with supervisor-subordinate relationships, their experience of WFC, their perceptions of discretionary power and level of affective commitment. Path analysis using an ordinary least squares (OLS) approach was used to test the first hypothesis. OLS is an explanation of variance and the overall R<sup>2</sup> measure identifies the “goodness of fit” overall for the proposed model (Blunch, 2008). A multivariate analysis of variance (MANOVA) test was used to examine the similarities and differences across

generational cohorts of Brazilian nurses. A significant difference in the means for supervisor-nurse relationships, WFC, discretionary power and affective commitment for Brazilian nurses is observed when the multivariate F value is significant.

### **Factor analysis**

An examination of the correlation matrix identified a considerable number of correlations exceeding .3, indicating the matrix was suitable for factoring. The Bartlett's test of sphericity was significant (Chi-square value = 2,759,62,  $p < .000$ , df 120) and the KMO measure of sampling adequacy was .770, greater than the .7 requirement. When principal axis factoring was undertaken to extract the variables, four factors had eigenvalues 41 and 59.11 per cent of the variance could be explained using these four factors, ensuring the validity of the variables. The factor transformation matrix suggests a relatively high correlation between the variables. All of these measures indicate that the data are suitable for a factor analysis (Coakes and Steed, 2011). The questions related to the four factors are listed on Table 2.

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Insert Table 2 about here  
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## **RESULTS**

The means, standard deviations, correlations and reliability for the variables in this study are reported in Table 3. Correlation coefficients show the strength of the linear relationships between supervisor-subordinate relationships, WFC, discretionary power and affective commitment, as well as for the demographic variables – “generational cohort” and “gender” (control variable). The reliability was tested via Cronbach's alpha scores. Coefficient alpha's were all acceptable because they were above the minimum requirement of 0.7 (Nunnally and Bernstein, 1994), ranging from 0.72 to 0.82.

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Insert Table 3 about here  
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## Hypothesis 1

Path analysis, using the OLS approach, was used to test the first hypothesis (**H<sub>1</sub>**: *There is a significant relationship between supervisor-subordinate relationships, work-family conflict, discretionary power and the dependent variable of affective commitment for Northeast Brazilian nursing professionals across generational cohorts*). The results support hypothesis 1. First, linear relationships between each of the variables were undertaken to test if these relationships were statistically significant. Pearson correlation coefficients (see in Figure 1) show the linear relationships that were statistically significant regarding the overall sample (all nursing professionals) and across generational cohorts. Then, the “goodness of fit” values ( $R^2$ ) regarding the overall sample and across generational cohorts were calculated as shown in Figure 1. The overall goodness of fit of the model ( $R^2 = .109-.04 = 10.8$ ) suggest that the independent variables (LMX, WFC and discretionary power-DP) together explained 10.86% of the variance of affective commitment for **all nursing professional** ( $F = 16.606, p < .001$ ) and all three variables were significant ( $\beta$  for LMX = .213,  $p < .001$ ;  $\beta$  for WFC = -.160,  $p < .05$ ;  $\beta$  for DC = .117,  $p < .05$ ). Following this procedure, the independent variables (LMX, WFC and DP) together explained 10.89% of the variance of affective commitment for **GenX nurses** ( $F = 7.837, p < .001$ ;  $\beta$  for LMX = .197,  $p < .001$ ;  $\beta$  for WFC = -.191,  $p < .001$ ;  $\beta$  for DP = .128,  $p < .05$ ). The independent variables (LMX, WFC and DP) together explained 12.46% for **BB nurses** ( $F = 7.146, p < .001$ ;  $\beta$  for LMX = .23,  $p < .001$ ;  $\beta$  for WFC = -.167,  $p < .05$ ;  $\beta$  for DP = .103 but not significant). The impact of the independent variables (LMX, WFC and DP) on affective commitment was not significant for GenY nurses (see Table 4).

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Insert Figure 1 about here  
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## Hypothesis 2

To address the second hypothesis ( $H_2$ : *There are significant differences between generational cohorts of Brazilian nursing professionals in the quality of supervisor-subordinate relationships, their perceptions of work-family conflict and discretionary power and levels of affective commitment*), a MANOVA test was undertaken. The findings indicate that there are significant differences across the Northeast Brazilian nursing cohorts in the means for nurses' satisfaction with supervisor-subordinate relationships, work-family conflict and discretionary power but not for affective commitment (see Table 5), given partial support for Hypothesis 2. The differences in the means for LMX, WFC, discretionary power and affective commitment are shown in Table 6. The means for nurses' satisfaction with supervisor-subordinate relationships are quite similar between BBs (4.69), GenX (4.72) and GenY nurses (4.57). The means for nurses' perceptions of work-family conflict suggest that BB nurses experience lower work-family conflict (2.62), compared to GenX (2.87) and Gen Y (2.96). The analysis of the means also demonstrate that BBs have higher discretionary power (3.71) compared to GenX (3.37) and GenX (3.26) nurses, although all 3 cohorts has quite low level of autonomy. In relation to affective commitment, GenY (4.96) had marginally higher level of affective commitment compared to BBs (4.89) and GenX (4.75) nurses, although affective commitment was not statistically significant.

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Insert Table 5 about here

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Insert Table 6 about here

## DISCUSSION

The general aim of this study was to explore the impact of supervisor-subordinate relationships, WFC and discretionary power on levels of affective commitment for northeast

Brazilian nursing professionals, across generational cohorts. The path analysis (see Figure 1) demonstrates a significant statistical linkage between the variables across generational cohorts, except for GenY nursing professionals. However, northeast Brazilian nurses' levels of satisfaction with supervisor-subordinate relationships, their perceptions of WFC and the availability of discretionary power provided an impact of only 10.8 per cent on affective commitment to the organisation. It seems that these variables may not be the most influential factors in improving levels of affective commitment to the hospital, particularly for, but not only, GenY nursing professionals. It may be that the high level of contract employment and multiple job holding are more influential factors in determining levels of affective commitment to the organisation and consequently, nurse well-being.

NPM changes entailing increasingly high levels of contracting for nurses appear to contribute to reduced levels of affective commitment and nurse well-being in the Brazilian context. The Brazilian employment database on information from the Federal Council of Nursing (COFEN, 2011), indicates a shift in employment towards contracting nurse technicians rather than registered nurses in order to reduce costs in the health system. Demographic information indicates that nearly 32 per cent of the sample of nursing professionals in this study is under contract.

The other major objective of this study was to explore any significant differences between generational cohorts of northeast Brazilian nursing professionals. The analysis disclosed significant differences for LMX, WFC and discretionary power between GenX, GenY and BBs. These findings are supported by past research examining intergenerational differences among nurses (Palese et al., 2006; Stuenkel and Cohen, 2005) in non-Brazilian contexts. However, the analysis also demonstrated that there was no significant difference in the means for affective commitment across generational cohorts. This result is partially supported by previous research (Ferres et al., 2003) that found no significant differences

between GenX and BBs regarding their beliefs about affective commitment. This may be related to the fact that the commitment of nursing professionals is more tilted to their occupation, as professionals tend to be strongly motivated about their jobs or career, and because the significance or meaning attached to the work they do has inherently high value for them (Van Maanen and Barley, 1984). Extensive research has already suggested that professionals are more committed to their occupation than to the organisation (e.g. Nelson, 2008).

An analysis of the means regarding the effectiveness of the supervisor-subordinate relationships suggests that BBs and GenX nursing professionals have slightly higher satisfaction compared to GenY nurses. It appears that nurse supervisors are treating subordinates differently, that only some subordinates are provided with support and encouragement, information, trust and participation in decision making (Mueller and Lee, 2002). However, while the mean scores for all three cohorts show only slight differences between generational cohorts (4.6, GenY; 4.7, GenX; and 4.7, BBs), BBs and GenX appear to be more homogeneous than different in their satisfaction with the relationships with their supervisors.

In reporting the differences between generational cohorts of Brazilian nursing professionals regarding their experience of WFC, BB nurses had lower levels of WFC (mean 2.62) compared to GenX and GenY nursing professionals (means 2.88 and 2.97) in this order. However, the mean scores suggest that the experience of WFC is quite high for all generational cohorts. Demographic information demonstrates that 44 per cent of northeast Brazilian nursing professionals work between 41 and 80 hours per week and more than 60 per cent hold two or more jobs. In addition, contract jobs are strongly associated with the low-wage system which forces nursing professionals to work more hours and have two or more jobs in order to attain a sustainable living wage.

In relation to discretionary power, GenY nurses have the lowest availability of discretionary power (compared to GenX and BB nurses) which is a reflection of lower levels of experience on the job. However, although the mean score for discretionary power was higher for BBs the mean score for all three cohorts were low suggesting that all cohorts have a low scope for autonomy in the workplace. Nurses would be normally expected to have high levels of on the job discretion because of their profession and training. The implementation of NPM-style reforms may have reduced the task discretion of many public sector employees, particularly nurses (Ackroyd et al., 2007).

This study has a number of limitations. First, this study is confined to the northeast of Brazil and cannot be taken as representative of the whole of Brazil. Second, this study is confined to public sector hospitals and therefore any significant differences between public and private sector nurse management are not described. In addition, the self-reporting techniques used in this study to gather information may be open to common method bias, which may influence the significance of relationships between variables. However, Spector (1994, p. 386) argues that self-reporting methodology is useful in providing trends that in turn provide an understanding about employees' feelings and perceptions, as long as the literature review and other evidence supports the inferences and interpretations made about the data. Although not a methodological limitation, the results and conclusions should be tested overtime by means of a longitudinal study.

## **CONCLUSION**

The findings of the present study suggest that low levels of affective commitment to the organisation within the northeast Brazilian public healthcare sector may well be enhanced by improving the quality of supervisor-subordinate relationships, decreasing levels of WFC and increasing the availability of professional discretionary power for all levels of professional/para-professional nurses across generational cohorts. Healthcare managers need

to be aware of generational cohort differences in beliefs, values and attitudes and also to review current healthcare management practices that have the effects of strengthening managerial control and reducing empowerment (Gollan, 2005).

The contribution of this current research includes the provision of new information about the similarities and differences in the links between supervisor-subordinate relationships, WFC, discretionary power and affective commitment of northeast Brazilian public service nurses across generational cohorts and the consequent impact on the work-life interface.

In specific terms, healthcare management in northeast Brazil might well find that commodification of nursing expertise, brought about by a combination of an over supply of nurses and increase levels of contracting out of nurses' jobs, accompanied by a low-wage structure, will need to be transformed into a cultivation of the existing and latent nursing professionalism. As the economy grows strongly, the middle-class demands on the health systems create "quality stresses" and nurses will push back against red tape and the negative side of NPM such as contracting out policies and low-wage structures. The elephant in the room for nurses in Brazil, particularly in the northeast of Brazil, is multiple employments with a high proportion of nurses having two or more jobs. In the long term, this situation will have a great impact on the work-life interface and nurse well-being. The short-term benefits of cost containment and the expansion of the hospital system, both public and private, may have given way to long-term deleterious impacts especially on nurses' well-being, WFC and reduced levels of affective commitment. Another likely outcome may be a reduction in the quality of patient care.

In summary, nurse managers at both the bureaucratic/management level and also on the wards need to work towards developing and implementing HR positive strategies, such as:

a) Retention/valuing of BB nurses expertise and commitment in terms of a changing role which re-professionalises the nurse supervisors role towards “mentor and role model”. A key ingredient for the future of nurses may be a changed role for nurse supervisors. Supervisors need to be educated and trained to enhance nurse well-being, whether contract or permanent nurses.

b) Surfacing and working through the powerful forces of WFC so that the family and cultural needs of nurses are recognised and provided for in terms of flexible personnel and employment practices.

c) Enabling the most effective use of nursing resources, including appropriate upgrading of positions and salaries to eliminate, over time, the current practice of multiple job-holding.

The short-term benefits of cost containment and the expansion of the hospital system, both public and private, may have given way to long-term deleterious impacts especially on nurses’ well-being, WFC and reduced levels of affective commitment. Another likely outcome may be a reduction in the quality of patient care. The future for professional nursing in northeast of Brazil is very promising, provided that healthcare management continues to develop policies and practices based on sound empirical research designed to discover the ways and means to optimise professional nursing management, practices and processes, with the short- and long-term aim of high quality patient care. This research should be replicated in other regions of Brazil, especially in the south/southeast. Useful insights should also issue from an extension of this study to private sector hospitals, which are becoming more prominent in the Brazilian health system. Finally a comparative study between Brazil and other developing countries, as well as OECD countries, would be fruitful.

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## Appendix One

Table 1: Demographics:

Variable		Nurses	%
<b>Categories of Nursing Professionals</b>	Registered Nurse	130	23.6%
	Nurse Technician	231	42%
	Nurse Assistant	188	34.2%
	Missing	1	.2%
	Total	550	
<b>Gender</b>	Male	55	10%
	Female	491	89.3%
	Missing	4	.7%
	Total	550	
<b>Age</b>	Less than 30 years	63	11.5%
	30–45 years	262	47.6%
	>45	205	37.3%
	Missing	20	3.6%
	Total	550	
<b>Type of Employment</b>	Permanent	363	66%
	Contract	174	31.6%
	Missing	13	2.4%
	Total	550	
<b>Hours per week</b>	20-40	306	55.6%
	41-80	242	44%
	>80	2	.4%
	Total	550	
<b>Number of Jobs</b>	One	215	39.1%
	Two or more	335	60.9%
	Total	550	

Table 2: Factor Analysis using Principal Axis Factoring as the extraction method and Varimax with Kaiser Normalization as the Rotation method

Variable	Factor 1	Factor 2	Factor 3	Factor 4
<b>Affective Commitment</b>				
I would be very happy to spend the rest of my career with this hospital	<b>.805</b>			
This hospital has a great deal of personal meaning for me	<b>.706</b>			
I enjoy discussing my hospital with people outside it	<b>.687</b>			
I feel a strong sense of belonging to this hospital	<b>.681</b>			
I feel strong ties with this hospital	<b>.637</b>			
<b>LMX</b>				
My supervisor is satisfied with my work		<b>.848</b>		
My supervisor understands my work problems and needs		<b>.736</b>		
My supervisor recognizes my potential		<b>.642</b>		
My supervisor is willing to use her/his power to help me solve work problems		<b>.507</b>		
<b>Discretionary Power</b>				
I decide how I do my job			<b>.816</b>	
I have opportunities for independence and freedom in how I do my job			<b>.639</b>	
I have a great deal of control over what happens in my ward			<b>.588</b>	
<b>WFC</b>				
The demands of my work interfere with my home and family life				<b>.808</b>
My job produces strain that makes it difficult to fulfil family duties				<b>.751</b>

Table 3. Means, Standard Deviations and Correlations, Cronbach's Alpha Reliability<sup>a</sup>

Variables	Means (SD)	1	2	3	4	5	6
Gender (control)		1					
Generat Cohort		.053	1				
LMX	4.557 (.89)	.022	.083	1	(.801)		
WFC	2.797 (1.19)	.058	-.113*	-.156**	1	(.774)	
Discretionary Power	3.488 (1.084)	.019	.146**	.233**	.057	1	(.724)
Affective Commitment	4.82 (.868)	.062	.029	.267**	-.183**	.159**	1 (.828)

\*\* . Correlation is significant at the 0.001 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

a N=550. Numbers in parentheses on the diagonal are the Cronbach's alpha coefficients of the composite scales.

Table 4: Hierarchical regression analysis of LMX, WFC and Discretionary Power on Affective Commitment (d.f. 1, 530)

Independent variables	Total sample Affective Commit (beta scores) Model 1	Total sample Affective Commit (beta scores) Model 2	Gen Y Affective Commit (beta scores) Model 1	Gen Y Affective Commit (beta scores) Model 2	Gen X Affective Commit (beta scores) Model 1	Gen X Affective Commit (beta scores) Model 2	BBs Affective Commit (beta scores) Model 1	BBs Affective Commit (beta scores) Model 2
Gender	.062	.064	.214	.25	-.007	.01	.061	.06
LMX		.213**		.236		.197**		.23**
WFC		-.160*		-.014		-.191*		-.167*
Discret Power		.117*		.108		.128*		.103
R <sup>2</sup>	.04%	10.9%	4.6%	11.2%	.01%	10.9%	.04%	12.5%
F score	2.123	16.606**	2.915	1.82	.011	7.837**	.768	7.146**

\*\* . Correlation is significant at the 0.001 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

Table 5: Test of Between-Subjects effects

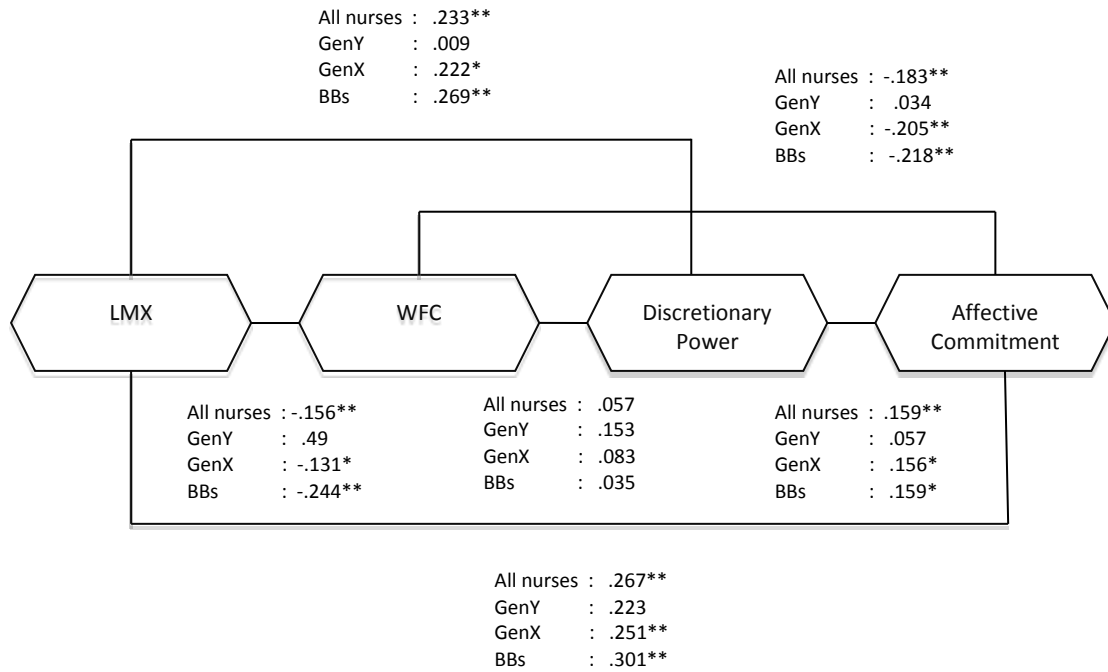
Source	Dependent Variable	F	Sig.
Corrected model	LMX	2.620	.05
	WFC	2.708	.04
	Discretionary power	4.961	.002
	Affective Commitment	1.759	.154
Intercept	LMX	5644.15	.000
	WFC	1270.58	.000
	Discretionary power	2176,47	.000
	Affective Commitment	6664,43	.000
Generational cohorts	LMX	2.620	.05
	WFC	2.708	.04
	Discretionary power	4.961	.002
	Affective Commitment	1.759	.154

Table 6: MANOVA: Differences in Means for Nurses across Generational Cohorts

Variables	GenY <sup>#</sup>		GenX <sup>##</sup>		BBs <sup>###</sup>	
	Mean <sup>a</sup>	SD	Mean <sup>a</sup>	SD	Mean <sup>a</sup>	SD
LMX	4.457	.88	4.472	.88	4.69	.89
WFC	2.968	1.15	2.879	1.23	2.62	1.11
Discretionary Power	3.269	1.26	3.37	1.05	3.71	1.02
Affective Commitment	4.96	.86	4.75	.86	4.89	.87

# BB N= 205 ## GenX N =262 , ###GenY N=63 \*\* Correlation is significant at the 0.001 level (2-tailed).  
 \* Correlation is significant at the 0.05 level (2-tailed). <sup>a</sup> Mean for four variables: 1 = Strongly Disagree, through to 6 = Strongly Agree

**Figure 1: Path analysis: Relationships between supervisor-subordinate relationships (LMX), work-family conflict (WFC), discretionary power and affective commitment.**



**Goodness of fit for all nurses  $R^2=10.8$**

**Goodness of fit for GenY nurses  $R^2=6.6$**

**Goodness of fit for GenX nurses  $R^2= 10.8$**

**Goodness of fit for BB nurses  $R^2= 12.5$**