Job satisfaction among public health nurses: a national survey

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Background Despite increasing interest in nurses' job satisfaction relatively few studies have investigated job satisfaction among public health nurses.
Aim To establish current level of job satisfaction among public health nurses and identify the main contributing variables/factors to job satisfaction among this population.
Design Quantitative descriptive design. A simple random sample of 1000 public health nurses was conducted yielding a response rate of 35.1% (n = 351). Data was collected using the Index of Work Satisfaction Questionnaire. Descriptive and inferential statistics were deployed.
Results Low levels of job satisfaction among public health nurses emerged. Professional status, interaction and autonomy contributed most to job satisfaction while pay and task-related activities contributed least. Age and tenure were the only biographic factors that correlated significantly with job satisfaction.
Conclusion Public health nurse managers/leaders need to find creative ways of improving the factors that contribute to job satisfaction and address robustly those factors that result in low job satisfaction.
Implications for nursing management The critical issue for public health nurse managers is to determine how job satisfaction can be improved. Greater collaboration and consultation between managers and public health nurses can be regarded as a useful way to begin this process, especially if contemporary nursing is to embrace a responsive approach within the profession.

Keywords: autonomy, job satisfaction, professional status, public health nurses, quantitative descriptive design

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Introduction

Research on job satisfaction continues to increase. A computer search undertaken on PsycINFO using the keywords 'job satisfaction' in 2004 produced 18 600 papers and dissertations while a similar search in 2010 yielded 27 458 documents. Evidence also suggests several correlates of job satisfaction. Notable among these are absenteeism and turnover (Cohen & Golan 2007, Jones 2008), productivity (Lin *et al.* 2009, Westover *et al.* 2009, Whitman *et al.* 2010), commitment to care (Baernholdt & Mark 2009) and emotional stress (Ruggiero 2005). Despite this growing interest, however, relatively few studies have explored job satisfaction among public health nurses (PHNs). Those that have indicate that the main

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stressors predictive of high levels of job dissatisfaction include demands of the job, lack of communication, changing working environment, and career development (Doncevic *et al.* 1998, Kolkman *et al.* 1998, Rout Rani 2000). Job dissatisfaction suggests a problem in either the job or the person and it is important that managers assess their organisations to identify the root of the problem.

Background

Job satisfaction

Job satisfaction is of interest to researchers as well as those working in organisations (Hong *et al.* 2005, Muchinsky 2006) because of the view that it has the ability to influence behaviour in the workplace (Schermerhorn 2001) and affect employee health (Faragher *et al.* 2005). Job satisfaction is defined by Muchinsky (2006) as 'the degree of pleasure an employee derives from his or her job'. Job satisfaction is different from morale because morale is a group response whereas job satisfaction is concerned with an individual response. Morale could be high within a group yet someone could be dissatisfied. The opposite could also be true (Muchinsky 1993). Job satisfaction can be explored either from a global perspective or a facet approach. The global perspective views job satisfaction as an overall feeling a person has about their job based on work experiences. The facet approach considers how people feel about different aspects of their job, such as pay, co-workers, the nature of work, and work or organisational conditions (Spector 2006) and allows a more thorough examination of job satisfaction. An employee can have different levels of satisfaction with different facets; she or he might be satisfied with the nature of the work and with co-workers while at the same time be dissatisfied with pay and conditions of work (Spector 2006). The literature proposes that several factors can contribute to job satisfaction (Ruggiero 2005) and that these can be categorized into three main groups: (1) factors associated with the work environment, (2) factors relating to certain attributes of the job and (3) factors specific to the individuals involved (Baron & Greenberg 1986).

Most studies of job satisfaction have investigated aspects of the job itself and the job environment. More recently, however, researchers have taken the view that personal characteristics (biographical factors) may also be important when examining job satisfaction. This perspective is particularly interesting given that research has demonstrated that employees with the same job and similar working conditions can have different levels of job satisfaction (Spector 2006). Research suggests several correlates of job satisfaction. These include productivity (Patterson *et al.* 2004, Whitman *et al.* 2010) absenteeism and turnover (Cohen & Golan 2007, Jones 2008) commitment to care (Baernholdt & Mark 2009), organisational commitment (Ingersoll *et al.* 2002) and biographical factors (Koustellos 2001, Manojlovich & Spence Laschinger 2002, Hayes *et al.* 2010, Spetz & Herrera 2010).

Job satisfaction among public health nurses

Job satisfaction, as indicated earlier, is a well-researched topic (Muchinsky 2006, Spector 2006) which makes any attempt to provide a synopsis of the literature extremely difficult. What this review offers is a summary of job satisfaction research in public health nursing. Unfortunately, there is no common global conceptualization of what constitutes public health nursing/community nursing. The specifics of the role can vary between countries and it appears that the remit varies along a continuum from generalist to specialist. The one common denominator is that the role is executed within primary care or community settings. Role confusion is underpinned by the multitude of role titles employed globally (Edgecombe 2001) and the reality is that the role of public health/community nurses frequently expands to fill a gap in the primary care/community service, be that, at the individual, family or community level (O'Sullivan 1995, Begley *et al.* 2004, Grumbach *et al.* 2004, Kemp *et al.* 2005, Nic Philibin *et al.* 2010).

Research would suggest that the Irish PHN is an all-purpose generalist community nurse who has a remit to provide care for persons from 'cradle to the grave' (O'Sullivan 1995, Begley *et al.* 2004, Nic Philibin *et al.* 2010). Public health nurses in Ireland are based in local health/primary care centres and are assigned to cover specific geographical areas. They are expected to engage with primary, secondary and tertiary health services to meet the needs of their clients in their area. In the United Kingdom, work normally carried out by a PHN in Ireland is carried out by a district nurse, community midwife and a Health Visitor. Although the role of the Irish PHN has been explored empirically (albeit sparsely) the literature search did not locate any research that explored job satisfaction among PHNs in Ireland. As a result, the international literature was reviewed to ascertain the sources of satisfaction/dissatisfaction among cohorts of nurses working within primary care/community settings.

Interestingly, it emerged that there are commonalities in both the sources of satisfaction/dissatisfaction in the different cohorts of public health/community nurses regardless of their role remit – generic or specialist. This literature is summarized in Tables 1 and 2.

In summary, the literature reviewed suggests that, on the whole, motivators or content factors are associated with job satisfaction while hygiene or context factors are linked to job dissatisfaction among PHNs.

Theoretical framework

Two-factor theory was used to guide this study (Herzberg *et al.* 1959). This theory proposes that certain factors are associated with job satisfaction and a different set of factors result in dissatisfaction. Factors that are associated with satisfaction were labelled motivators or content factors, while those that result in dissatisfaction are termed hygiene or context factors. Herzberg *et al.* (1959) then proposed the most controversial feature of the theory. They proposed that when a job offers content factors such as recognition and achievement the individual will be satisfied with work. However, when these factors are not present in a job the individual will not be dissatisfied but will feel indifferent because a different set of variables produce dissatisfaction. Conversely, when a job offers context factors such as a good salary or pleasant working conditions the individual will not be satisfied but instead feel indifferent about the job. However, when these context factors are not present the individual will experience dissatisfaction. Like all theories, two-factor theory has some weaknesses but authors such as Basset-Jones and Lloyd (2005) have argued that despite its weaknesses two-factor theory still has utility today, 50 years after it was developed. This theory was selected because (1) it has widespread use in several disciplines, including nursing and health care management; (2) a focus group of nurses in an earlier study

Table 1
Factors that enhance job satisfaction

Factors that enhance job satisfaction	*References*
1. Constituents of the job	Armstrong-Stassen and Cameron (2005), Best and Thurston (2006), Lucas *et al.* (2007), Stuart-Haycock *et al.* (2008), Storey *et al.* (2009)
2. Pride in the job	
3. Hands-on care	
4. Perceive job importance and professional status	
5. Job security	Lucas *et al.* (2007), Stuart-Haycock *et al.* (2008), Storey *et al.* (2009), Yamashita *et al.* (2009)
6. Interpersonal relationships with work colleagues and or clients/families	
7. Perceived autonomy	Flynn and Deatrick (2003), Cameron *et al.* (2004), Best and Thurston (2006)
8. Feedback on performance	Cameron *et al.* (2004)
9. Pay	Best and Thurston (2006)
10. Sufficient human and material resources to carry out the job	Evans (2002), Flynn and Deatrick (2003)
11. Good relationship with supervisors	Armstrong-Stassen and Cameron (2005), Yamashita *et al.* (2009)
12. Sense of achievement	Lucas *et al.* (2007)
13. Decision-making opportunities and supervisor/subordinate consultation in relation to job tasks	Campbell *et al.* (2004)

Table 2
Factors that cause job dissatisfaction

Factors that cause job dissatisfaction	*References*
1. Pay and benefits	Armstrong-Stassen and Cameron (2005), Lucas *et al.* (2007)
2. Lack of role clarity	Campbell *et al.* (2004)
3. Job mechanics	Lucas *et al.* (2007), Stuart-Haycock *et al.* (2008), Yamashita *et al.* (2009)
4. Removal from practical caring provision element of job	
5. Lack of time for client care	
6. Lack of recognition	Lucas *et al.* 2007,
7. Inadequate opportunities for promotion/career opportunities	Stuart-Haycock *et al.* (2008), Yamashita *et al.* (2009)
8. Organisation structures	Storey *et al.* (2009)
9. Communication practices	
10. Mechanism by which changes and innovations are implemented	

indicated a preference of two-factor theory for exploring job satisfaction (Curtis 2007); (3) the literature reported in this paper suggests that factors associated with higher levels of job satisfaction among public health nurses are similar to those described as motivators or intrinsic factors in two-factor theory.

Currently, public health nursing in Ireland is in a state of flux because of ongoing reconfiguration of the Irish health service, a significant reduction in resources (personnel, finance and materials) to deliver the service, the rapidly changing socio-demographic–health profile of patients/clients and the drive for specialism within the public health nursing service. It seems timely, therefore, to undertake a study to explore the job satisfaction of PHNs and to contribute to the literature by examining which facets of work enhance job satisfaction and which facets make the least contribution among this cohort of nurses.

Method

Research questions

The three research questions formulated were:

- What is PHNs current level of job satisfaction?
- What perceived and actual factors contribute to job satisfaction among PHNs?
- What relationships exist between demographic factors such as age, tenure, educational attainment, place of practice and job satisfaction?

Design

The study used a quantitative descriptive design. This design allowed the researchers to determine the current level of job satisfaction and the factors contributing to it within the sample. It also facilitated the analysis of variability in scores between different groups for a number of biographical variables (age, tenure, context of practice and educational attainments) and job satisfaction.

Sample

The sampling frame used was all PHNs ($n = 2414$) registered as active with the Irish national regulatory body (An Bord Altranais) in 2010. A sample size calculation revealed that 332 responses would be required in order to report the findings at the 95% confidence level, with a confidence interval of 5. In light of this, and acknowledging the historically low response rates to postal questionnaires a random sample of 1000 registered PHNs was made by the regulatory body for the researchers.

Inclusion and exclusion criteria

Public health nurses currently engaged in clinical practice were included in the study while those working in an academic or research capacity were excluded.

In order to enhance the response rate a number of strategies were deployed: a detailed information sheet about the purpose of the study and an ethical protocol explaining how participants' rights would be upheld was provided along with contact details of both researchers and a stamped addressed envelope for the return of the completed questionnaire. As the contact details of recipients were not known to the researchers and the regulatory body do not provide a facility for sending recipients reminders no follow up could be conducted. The response rate achieved was 35.1% ($n = 351$), which exceeded the desired number. The biographical details of the sample were varied across all of the requisite details (i.e. age, place of work, tenure and educational achievement). Hence, it is hypothesized that the sample was as representative of the wider PHN population as is attainable with the mode of sampling employed.

Data collection

Data was collected using a mailed questionnaire booklet containing a biographical questionnaire and the Index of Work Satisfaction (IWS) questionnaire, which was developed by Stamps (1997). Permission was granted to use the IWS. The biographical questionnaire sought data on participants' age group, place of practice, primary care team, number of PHNs in the health centre, size of population responsible for, health service executive area, length of time as PHN, registration details and education details. Only some of these biographical findings are presented here.

The IWS questionnaire is a two-part instrument designed to measure nurses' satisfaction with their work by analysing six components/variables of job satisfaction: pay, autonomy, task requirements, organisational policies, professional status and interaction. In Part A of the questionnaire, each of the six components of satisfaction is paired with one other component and the respondent selects which one of every pair is important to them. Part B uses a Likert-type scale of 44 items to measure the current level of job

satisfaction for each of the six components. This two-part design increases the flexibility of the questionnaire during analysis. As each of the six components/variables is a separate dimension or facet of job satisfaction, a score can be calculated for each. A seven-point scale ranging from strongly agree to strongly disagree is applied to each statement. For example, if a respondent is very satisfied with a positively worded statement 'strongly agree' would be selected (score of 7) but if the respondent was very dissatisfied then 'strongly disagree' would be selected (score of 1). Before analysis the scores for negatively worded statements are reversed. A score of 4 represents a neutral or undecided response. Items that are worded positively are given a maximum score of 7 for a 'strongly agree' response and items worded negatively are given a sore of 7 for a 'strongly disagree' response. The range of scores for each component/variable varies depending on the number of items that measure a component. For example, pay has six items so the range of scores is 6–42 (6×7) and professional status has seven items so the range of scores is 7–49 (7×7).

The results for current job satisfaction obtained from Part B can be rank-ordered and compared with rankings derived from Part A, which examines relative importance of the six components/variables to job satisfaction. This comparison helps to identify areas that require improvement or change (Stamps 1997). The IWS was selected because (1) it was designed specifically for nurses, (2) it is psychometrically robust and (3) it was used successfully by other researchers, including Curtis (2007), within an Irish context.

Pilot study

A total of 100 PHNs were sampled using the same mechanism of sampling used for the main study. No modifications were made to the actual process of sampling, data collection tool or process following the pilot study. However, minor changes were made to the participant information sheet to increase clarity.

Ethical considerations

An ethical protocol underpinned by the ethical principles of autonomy, non-maleficence, beneficence and justice was developed and adhered to by the researchers. Ethical approval to conduct this study was granted by the Ethics Review Committee of the university where one author works.

Analytic strategy

Data was analysed using PREDICTIVE ANALYTICS SOFTWARE (PASW) VERSION 17 (Kirkpatrick & Feeney 2010) and the procedures contained in the scoring manual for the IWS questionnaire. If a questionnaire had two or three incomplete items it was included in the study while those with larger amounts of missing data were excluded. Job satisfaction was analysed using descriptive statics, including means, standard deviations and *Z*-scores to calculate the component weighting coefficient (Part A of IWS). In order to ascertain any differences between the various groups of biographical factors and job satisfaction a series of ANOVAs were conducted.

Validity and reliability

Face and content validity were carried out using experts from public health nursing. Minor changes to the wording of some of the statements in the questionnaire were recommended in order to reflect the Irish primary care work context better. The validity of the IWS has been examined using factor analysis on several occasions over many years by the author of the tool. Results from a final validation study reported that a varimax rotation produced 12 factors that accounted for 62% of the variance (Stamps 1997).

The reliability of the six variables/factors or subscales of the IWS was measured using Cronbach's alpha coefficient, which is one of the most widely used statistics to measure internal consistency (Pallant 2007). The reliability scores for the six variables/components were pay ($\alpha = 0.883$), professional status ($\alpha = 0.600$), autonomy ($\alpha = 0.655$), organisational policies ($\alpha = 0.678$), task requirements ($\alpha = 0.646$) and interaction ($\alpha = 0.777$). These scores are similar to those reported in the literature (Ingersoll *et al.* 1997, Martin *et al.* 1997, Stamps 1997, Curtis 2007).

Results

Biographical factors

A larger number of respondents 35% ($n = 123$) were in the 36- to 45-year age-group with only 0.6% ($n = 2$) under 25 years old. In response to the statement length of time practising as a PHN the highest number, 121 (34.5%), were in the 1- to 5-year category and only 10 (2.9%) reported that they had been in practice for under 11 months. Of the total who completed this question ($n = 434$) 46.7% ($n = 160$)

reported that they were part of a primary care team while 53.3% ($n = 183$) reported the opposite. In the sample 28.2% ($n = 99$) reported having a primary degree and 8.6% ($n = 30$) had a Masters degree. The results indicate that 36% ($n = 124$) of respondents worked in rural health centres compared with 23.3% ($n = 82$) who were working in a health centre based in a city.

Research question 1: What is PHNs current level of job satisfaction?

To answer this question the results from Part A of the questionnaire were combined with the results from Part B. However, for clarity, the results will be presented for Part A and then Part B of the questionnaire. Table 3 presents the results for one of the 15 pairs of components of job satisfaction derived from Part A of the IWS. Here 61.5% ($n = 216$) of respondents felt that professional status was more important than organisational policies.

This type of analysis was computed for all paired components and the results are illustrated in Table 4. Next, a frequency matrix was constructed to record the frequency each component was selected as more important than another. For example, in Table 4, 105 in the pay column is the number of respondents who said pay was more important than autonomy while 240 in the autonomy column represents the number of respondents who stated that autonomy was more important than pay. This type of analysis was undertaken for all the paired components.

Having constructed the frequency matrix, the next stage in analysis was to calculate the percentage that each frequency represents and then construct a matrix of *Z*-values as per the scoring manual for the IWS (Stamps 2001). These values are necessary because they are needed to calculate the IWS score. The IWS score is obtained from both Parts A and B of the questionnaire and represents an overall summary of level of job satisfaction.

Part B of the IWS questionnaire measures current job satisfaction using a series of attitude statements that describe each of the six variables/factors. Scores for each of the six factors of job satisfaction were calculated using the instructions in the IWS scoring manual. Next, a total scale score was computed by adding the scores for the six variables/factors. This score was 182.62 (range 44–308) and gives an estimate of overall job satisfaction. The mean scale score was subsequently obtained by dividing the total scale score by 44, which is the total number of items in Part B of the questionnaire. The mean scale score was 4.15 (range 1–7) (Table 5).

An IWS score (which represents level of job satisfaction) of 12.62 (range 0.5–39.7) was obtained by combining the results from Parts A and B of the IWS. This score was subsequently interpreted using a table of quartiles as outlined in the scoring manual for the IWS (Stamps 2001). An IWS score of 12.62 falls within the second quartile and suggests a low level of job satisfaction among PHNs.

Table 3
Frequencies for first pair of variables/factors from Part A of the Index of Work Satisfaction

First pair	*Frequency*	*%*
Professional status or	216	61.5
Organisational policies	125	35.6
Missing	10	2.9
Total	351	100

Research question 2: What perceived and actual factors contribute to job satisfaction among PHNs?

To answer this question scores obtained from both parts A and B of the questionnaire were rank-ordered to ascertain if there was any dissonance between the factors perceived to be important to job satisfaction (Part A of IWS) and those that actually contributed to current job satisfaction (Part B of IWS). These findings are contained in Table 6 .

Table 6 demonstrates that the three variables/factors that respondents considered to be most important to their job satisfaction were autonomy, interaction and pay (first, second and third, respectively). Task requirements were regarded as least important to job satisfaction. The variables/factors that contributed most to current job satisfaction were professional status, interaction and autonomy (first, second and third, respectively). Task requirements and pay contributed least to job satisfaction (fifth and sixth, respectively).

Research question 3: What relationships exist between demographic factors such as age, tenure, educational attainment, place of practice and job satisfaction?

A one-way between-groups analysis of variance was conducted to explore the impact of age on job satisfaction. There was a statistically significant difference in the IWS scores at the $P < 0.05$ level of significance for the three age groups (group 1 <35 years; group 2

Table 4
Frequency matrix for the paired comparisons of variables/factors (Part A of the Index of Work Satisfaction)

	Most important					
	1	*2*	*3*	*4*	*5*	*6*
Least important	*Pay*	*Autonomy*	*Task requirements*	*Organisational policies*	*Professional status*	*Interaction*
Pay		240	167	136	174	177
Autonomy	105		68	144	96	156
Task Requirements	179	277		159	193	245
Organisational policies	209	201	186		216	233
Professional status	171	249	152	125		223
Interaction	167	189	100	112	122	

Table 5
Total scale score and mean score values from Part B of the Index of Work Satisfaction

Variable/factor	*Variable/factor scale score*	*Variable/factor mean score*
Pay	16.97	2.83
Autonomy	36.93	4.62
Task Requirements	17.67	2.94
Organisational Policies	24.59	3.51
Professional Status	36.83	5.26
Interaction	49.64	4.96
	Total scale score = 182.62	Mean scale score = 4.15

35–45 years; group 3 over 45 years): $F_{2,347} = 10.58$, $P = 0.000$. The effect size as measured by eta-squared was 0.6 which represents a medium effect size according to the criteria put forward by Cohen (1988). Post hoc comparisons using the Tukey HSD test indicated that the mean score for the over 45-year age-group (mean = 13.16, SD 2.08) was statistically different from both the under 35-year age-group ($P = 0.012$) and the 35- to 45-year age-group ($P = 0.000$), indicating that those in the older age group are significantly more satisfied than their younger colleagues. There was no significant difference between the under 35-year age-group and the 35- to 45-year age-group ($P = 0.574$). Similar analysis was conducted to ascertain if length of tenure had an impact on job satisfaction. There was a statistically significant difference in the IWS scores at the $P < 0.05$ level of significance for the three age groups: $F_{2,347} = 7.59$, $P = 0.001$. Those working as PHNs for over 10 years demonstrated a significantly higher level of job satisfaction compared to those with under 5 years experience ($P = 0.001$) and those with 6–10 years experience ($P = 0.006$). Again, there was no significant difference between those with under 5 years service and those with between 6 years and 10 years service ($P = 0.995$).

No statistically significant difference emerged in relation to job satisfaction and education attainment (group 1, those who belonged to the pre-diploma era in nursing; group 2, holders of nursing diploma; and group 3, those with a degree or higher qualification; $F_{2,347} = 0.831$, $P = 0.478$), place of practice (rural, town or city; ($F_{2,317} = 2.002$, $P = 0.137$) or if participants were part of a constituted primary care team (mean = 12.76, SD 2.19) or not (mean = 12.44, SD 2.03); $t_{343} = 1.409$, $P = 0.16$).

Table 6
Rank-ordered components from Parts A and B of the Index of Work Satisfaction (IWS)

Rankings of paired comparisons Part A IWS				*Rankings of current job satisfaction Part B IWS*			
Components	*Component weighting coefficient*	*Ranked-ordered components*		*Component*	*Component mean score*	*Ranked-ordered component*	
Pay	3.050	Autonomy	1st	Pay	2.83	Professional status	1st
Autonomy	3.557	Interaction	2nd	Autonomy	4.62	Interaction	2nd
Task requirements	2.800	Pay	3rd	Task requirements	2.94	Autonomy	3rd
Organisational policies	2.826	Professional Status	4th	Organisational policies	3.51	Organisational policies	4th
Professional status	3.007	Organisational Policies	5th	Professional status	5.26	Task requirements	5th
Interaction	3.360	Task Requirements	6th	Interaction	4.96	Pay	6th

Please note that component refers to variable/factor.

Discussion

Two-factor theory (Herzberg *et al.* 1959) was useful for guiding the study. The results showed that variables/factors that contributed to nurses' current job satisfaction were similar to those described as content factors in two-factor theory. The findings from this study are relevant and important to PHNs in Ireland as it is the first known study to examine job satisfaction among this cohort of nurses. It is also relevant to PHNs/community nurses internationally. The IWS score was 12.62 (obtained from calculations from both parts A and B of IWS), which falls within the lower end of the second quartile (guidelines designed for use with the IWS) and indicates low job satisfaction. The is similar to results obtained by Curtis (2007) who reported an IWS of 12.7 among nurses in Ireland but lower than that obtained by Wielenga *et al.* (2008) who reported IWS scores of 14.4 and 14.5 before and after an intervention among nurses in the Netherlands. Interestingly, a study by Cumbey and Alexander (1998) reported moderate levels of job satisfaction among public health nurses in Columbia, South Carolina, USA, and a study by Cole *et al.* (2010) found that PHNs working in rural settings in the USA were satisfied with their jobs. While some studies did not report an IWS score others, including Bjork *et al.* (2007), reported a total scale score of 198.5, which is higher than that reported in the present study (182.62). The total scale score can range from 44 to 308, with scores closer to 308 representing higher job satisfaction.

The findings also demonstrated that professional status (first), interaction (second), and autonomy (third) made the greatest contribution to respondents' current job satisfaction (mean scale scores of 5.26, 4.96, and 4.62, respectively (Table 5). The order of these findings are similar to those among nurses in Ireland (Curtis 2007) and staff nurses in Canada (Best & Thurston 2006) but slightly different from those reported by staff nurses working in an intensive care unit in the Netherlands (Wielenga *et al.* 2008). In Wielenga *et al.*'s (2008) study the three variables/factors that contributed most to job satisfaction were autonomy (first), professional status (second) and interaction (third). It is difficult to explain the rankings of these findings except to suggest that nurses working in different countries seem to place greater importance on certain variables/factors of job satisfaction. Both the present study and the one undertaken by Curtis (2007) were undertaken in Ireland while the studies by Wielenga *et al.* (2008) and Best and Thurston (2006) were completed in the Netherlands and Canada, respectively.

The findings further demonstrate that PHNs considered autonomy, interaction and pay (mean scores 3.557, 3.360, 3.050 to be the most important variables/factors to their job satisfaction. These findings are similar to those reported by Wielenga *et al.* (2008) and dissimilar to those reported by Curtis (2007) and Best and Thurston (2006) whose studies indicated that autonomy and pay were regarded as the two most important variables/factors of job satisfaction. Storey *et al.* (2009) who explored job satisfaction in primary care and the community also found that work relationships contributed in a positive manner to job satisfaction. Patient care and ongoing personal relationships with patients and families has also emerged as a source of job satisfaction for district nurses (Stuart-Haycock *et al.* 2008). When these findings are compared with those obtained from Part B of the questionnaire it becomes obvious that the variables/factors that nurses consider important to their job satisfaction are not necessarily the same as those that contribute the most to their current job satisfaction. In other words, what is considered to be important to job satisfaction does not necessarily make the greatest contribution to current job satisfaction. Pay, for example, was reported as the third most important variable/factor, yet it contributed the least to current job satisfaction. These differences between variables/factors that are important and those that actually contribute to current job satisfaction have been reported in other studies, including Best and Thurston (2006) Curtis (2007) and Wielenga *et al.* (2008). Once again, it is difficult to explain some of these findings. While it is evident that pay is important to PHNs' job satisfaction, research findings have demonstrated only small correlations between pay and job satisfaction (Gruneberg 1979, Judge *et al.* 2010). It is worth noting, however, that although pay makes a limited contribution to job satisfaction this does not mean that pay does not play a role in motivating employees (Judge *et al.* 2010).

Some variability in scores was found between the various groups of biographical factors and job satisfaction. Older nurses and those with longer tenure as a PHN reported a greater level of satisfaction. While older nurses working in the community (Storey *et al.* 2009) reported that their role had lived up to their expectations, further analysis of data revealed that they were less satisfied than their younger counterparts with other factors known to contribute to job satisfaction (e.g. career opportunities, style of supervision, participation in decision-making and organisational climate).

There is a dearth of literature on the effectiveness of interventions used in the workplace to enhance job satisfaction. For example, an empowerment-based educational programme introduced in Taiwan for public health nurses had an effect on psychological empowerment and job productivity but not on organisational empowerment or job satisfaction (Chang *et al.* 2008).

Limitations

Every study has limitations and it is important that these are addressed. The response rate (35.1%) in this study was low. However, it exceeded the number of participants required to report the findings at the 95% confidence level. Furthermore, several research texts suggest that a response rate of between 28 and 30% for a survey is very good (Denscombe 1998, Norwood 2010). It is recognized that researchers often use a variety of instruments to measure the variables they are exploring. This diverse use of instruments can mean that researchers may sometimes find it difficult to compare their findings with those from studies that used exactly the same instrument for data collection. To reduce the occurrence of this, findings from the present study were compared whenever possible with those from studies that used the IWS questionnaire for collecting data. Finally, it is important to note that job satisfaction may be influenced by a number of factors, including the personal characteristics of individuals, overall life satisfaction and other work environment/climate variables. However, the present study was designed specifically to investigate job satisfaction among public health nurses using the psychometrically robust IWS questionnaire which measures the six variables/factors reported here.

Conclusion

The findings from this national survey has made a contribution to current knowledge about job satisfaction among PHNs and has important implications for the design and delivery of work for this cohort. The study reported low levels of job satisfaction among public health nurses. This is somewhat disconcerting given that research suggests that 'employees with low levels of job satisfaction are most likely to experience emotional burnout, to have reduced levels of self-esteem, and to have raised levels of both anxiety and depression' (Faragher *et al.* 2005). Reassuringly, however, the top three factors that emerged as contributors to job satisfaction – professional status (first), interaction (second) and autonomy (third) are amenable to augmentation, and, if acted upon, could improve the job satisfaction among this cohort of nurses.

Implications for practice and research

Implications for practice

These findings have implications for practice and future research. This study found that professional status contributed most to PHNs' current job satisfaction. Such a satisfier could be under threat if the unique contribution of the PHN is not articulated and their role in patient/client care is not researched and disseminated as a matter of urgency. Unless both these issues are addressed the PHN in Ireland could become invisible in the emergent restructuring of primary care services and their role taken over by other health-care workers currently contributing to patient care in the community. Professional nursing managers/leaders of PHNs and associated professional bodies both nationally and internationally should visibly promote and support PHNs in conducting research into their practice in order to determine the dimensions of their role and its value to patient/client care. The autonomy of PHNs can be further enhanced by increasing the number of new specialisms within the discipline (e.g. child protection, wound management), building motivational features into the job and giving PHNs greater responsibility and authority for their individual practice. It is apparent from these findings that PHNs value the interpersonal opportunities that their work provides them with. However, with increasing workloads and decreasing resources it is quite likely that such a job satisfier could become diminished and under-valued if managers do not take steps to avert this.

Implications for research

Given the growing importance of job satisfaction within health-care organisations/agencies it is essential that further research endeavours on this topic continue. The present study used a quantitative descriptive design and data was collected using a postal survey. Further research using an alternative design, such as a sequential explanatory strategy would be useful as it would allow further explanation of quantitative findings through follow-up qualitative data collection (Creswell 2009). Research by Buerhaus *et al.* (2009) suggest that changes within the workplace can have a positive outcome for employees and

that continued assessment of job satisfaction and other variables is important. In addition, given the lack of research in this area, there is an urgent need to evaluate empirically the workplace interventions used for enhancing job satisfaction among public health nurses.

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