

**Wages and Educational Credentials:  
The Case of Registered Nurses in Canada**

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**Abstract:** The labour market for Registered Nurses represents an important area for research. Recent media reports discuss shortages in the supply of registered nurses in Canada and the United States and the aging population will only increase the demand for nursing services in the future. The purpose of this paper is to examine the determinants of earnings of baccalaureate nurses (BN) and hospital-based diploma nurses (RN) to see if there is a higher return to education in the BN program among Canadian nurses. This study builds on an existing literature which is mostly related to nurses in the United States. Significantly fewer studies have examined nursing in Canada and this research extends that. Using the 1996 Canadian Census Public Use Microdata File (PUMF) the determinants of nursing wages are estimated for men and women separately using a basic human capital model. This paper finds that there are systematic differences between immigrants, visible minorities and province of employment for both male and female nurses and this supports the existing literature.

## **Wages and Educational Credentials: The Case of Registered Nurses in Canada**

### **1. Introduction and Motivation**

The labour market for Registered Nurses<sup>1</sup> represents an important area for research. Recent media reports discuss shortages in the supply of registered nurses in both Canada and the United States and the aging population will only increase the demand for nursing services in the future<sup>2</sup>. The purpose of this paper is to examine the determinants of earnings of baccalaureate nurses (BN) and hospital-based diploma nurses (RN) to see if there is a higher wage premium paid to Canadian nurses who have graduated from the BN program. It is hypothesized that nurses who have a registered nurse designation and were trained in a hospital based program will earn less than nurses who have a bachelor's degree in nursing.

Canadian nurses have two main paths to human capital acquisition and these are the baccalaureate nurse and hospital-based diploma nurse. One of the reasons to examine this hypothesis is that there has been a push in recent years to eliminate hospital based RN training programs for nurses. According to the Canadian Nurses Association students preparing for a career in nursing in BC, Alberta, Saskatchewan, Ontario, Quebec, NWT and the Yukon currently have a choice of obtaining either a registered nurse diploma or a bachelor's degree. In all other provinces, students must obtain a bachelor's degree in nursing to begin a career in nursing. The provinces which currently

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<sup>1</sup> Registered nurses are those individuals who have successfully completed an approved program for professional nursing, have passed a written nurse registration examination, have demonstrated a competence in nursing and have demonstrated a competence in one or both of the official languages.

<sup>2</sup> Nursing services encompasses a variety of individuals, including registered nurses, licensed or registered practical nurses, nurses aides and nursing assistants to name a few. For the purposes of this paper I will use the term nurses and nursing to refer exclusively to registered nurses.

allow entry into the nursing labour market with a diploma will be changing this in the near future so that they also will require a bachelor's degree in nursing in order to enter the profession.

There are a variety of issues that need to be considered when one looks at the changing educational requirements that are facing those who wish to pursue a nursing career. There are two relevant differences between the two types of nursing educational training and these are employment and earnings. First, the type of training that each receives are quite different. The RN has a lot more "practical" experience working in a hospital or health care facility whereas a BN has a more broad based education which does not include as much hands on experience. In a four year BN program, nursing students will spend less time on a hospital ward or other health care facility working with patients than an RN student would have in a two-year program<sup>3</sup>. The second issue is that RNs are paid less than BNs as a starting salary. If RNs are being phased out this issue will also be phased out, but this trend will take many years to occur since the majority of nurses working today hold an RN designation and not a BN.

There are numerous advantages to studying the labour market for nurses. It is one of the largest occupations in Canada; it is one of the single largest occupations for which there are 'credentials' required for entry; nursing is a relatively homogeneous occupation; nursing is an occupation which has experienced substantial amounts of 'brain gain' and 'brain drain'; and it is a highly unionized occupation. By restricting my sample to nurses only, I gain a more homogeneous sample and this will allow me to examine the effects of educational credentials and wage determination in a specific, well defined labour market.

This paper will be structured as follows: Section 2 will provide a brief literature review of several papers that are related to the study I plan to undertake; Section 3 will introduce the model and the empirical specification that will be used; Section 4 will describe the data that will be utilized and also it will examine the summary statistics; Section 5 will present the regression results; and Section 6 will conclude with a discussion and implications.

## **2. Literature Review**

There have been numerous studies of the labour market for nursing and this literature is mostly based on data from the United States. There is not a lot work that has been done studying the labour market for Canadian nurses. There is a large Canadian labour economics literature relating to male/female earnings differentials as well as immigrant and native born earnings differentials. Also there is a large literature regarding unionization, privatization, contracting out of government services and associated reduction in wages resulting from these activities.

Spetz (2002) uses data from the National Sample Surveys of Registered Nurses to evaluate the determinants of earnings for three basic types of nursing education in the United States. She finds that registered nurses do not gain financially from obtaining a BN. Lehrer, White and Young (1991) examine the returns to education for three training programs for nurses in the United States. They conclude that a baccalaureate earns the highest returns to education and that the associated wage premium of this degree increases with experience. Botelho, Bland Jones and Kiker (1998) compare wage

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<sup>3</sup> Information regarding the typical training received by various nursing training programs was obtained through personal interviews and conversations with numerous nurses who have studied under both

profiles of registered nurses in the United States across three educational backgrounds. Their results suggest that the wage equations are sensitive to different specifications of labour market experience.

Schumacher (1997) examines the returns to education of nurses who obtain a baccalaureate and find that they earn a higher wage than those who have a diploma. Menemeyer and Gaumer (1983) examine whether higher credentials for a nurse command a premium in the marketplace in the United States. They also examine the private returns to see if a higher nursing education is a worthwhile investment for individuals. They find that there is no significant premium paid to nurses with higher educational credentials (with the exception of nurses who hold a master's degree). They conclude that neither employers nor most of the nursing profession will benefit from upgrading their education to a baccalaureate.

These studies show that there is no firm consensus as to whether obtaining a BN has a benefit for the earnings attained by nurses in the United States. This study will examine if there is conclusive evidence of increased earnings for nurses who obtain a BN in Canada.

### **3. The Model**

There are a variety of factors that contribute to the determination of wages that any particular individual attains. The basic model often used for wage determination is the human capital model. An individual's level of education constitutes a major factor that has an influence on the wages that are earned. It is expected that as education increases wages should also increase. This model suggests that individuals who invest in

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programs.

the accumulation of human capital through education and training should expect to attain higher lifetime earnings and will recover the costs incurred in the accumulation of their human capital. Education involves an initial expenditure which will later raise an individual's future productivity and revenues they can attain in the future. In terms of education, individuals incur both direct costs and indirect costs. The indirect costs include tuition, books, and other instructional expenses while the indirect costs or opportunity costs include income that is foregone because of the time devoted to schooling<sup>4</sup>. To compensate people for the expenses they incur, it is reasonable to expect that workers with better and higher levels of education should receive higher pay.

There are two aspects to consider for the choice of using a human capital model for this study. First, the human capital model is a model of individual educational choices and this can be used to help explain the choice between an RN and a BN. Typically the human capital model is used to examine individual educational choices, but in the case of nursing education in Canada this is not entirely the case. Policies are being designed to phase out the RN training program in favour of the BN program so there will no longer be a choice for individuals as to which of the two avenues to a nursing education to choose between<sup>5</sup>.

An implication of the human capital model is an equalization of returns across educational choices. If the BN program has higher returns and if individual choices are unconstrained, this should imply that people will go into this program until the return to

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<sup>4</sup> I will not be calculating the direct and indirect costs of the various nursing education programs in this paper as they will not be directly used in any of the calculations or models that I'm using. There is a potential that this can be incorporated into later research I plan to do on this topic.

<sup>5</sup> Individuals do have a choice in deciding whether to pursue a career as a registered nurse or some other health care provider such as a licensed practical nurse, nurse's aide, nurse practitioner or a physician but the focus of this study is strictly related to registered nurses.

that program falls. If however the returns to the program are already equalized then a higher return to the BN educational choice will not be observed.

Other factors may have an influence on the educational choice of nurses. Perhaps the RN/BN decision is more influenced by things like program availability and liquidity constraints. Historically the issue of program availability was more of an issue. In the past there were not as many programs available as there are currently and it was more difficult for many individuals to relocate from rural areas to study. Liquidity constraints are another issue that has had an influence on an individual's educational choice.

Individuals facing a larger liquidity constraint will likely opt for the RN program which is only two years in duration as opposed to the four year BN program. Individuals can't easily borrow against future earnings and this will be expected to have an effect on individual educational choices.

Secondly, the human capital model is an explanation of demand. Since demand for labour equals the marginal productivity of labour, the human capital model should be able to explain why some people are more productive than others. As an individual increases his or her human capital through an improvement in education this should result in an increase in productivity seen in this individual.

There are also other questions that need to be addressed for the human capital theory. The labour market for registered nurses is monopsonistic and it is highly unionized. What sorts of things happen when monopsonists and unions get together and set wages? There is also an issue of insiders and outsiders in the labour market for health care workers. Internal labour markets are a common issue that is seen in the market for nurses. Job openings are frequently available to those who are already within the

institution. Outside workers have a lesser opportunity to attain the jobs that are opening. Those who work in the institution are given the first opportunity to apply for new positions. In this case the wages will be higher since these individuals have experience in the institution that is being examined. Lower wages would be paid to those who are applying from external sources. Each of these issues can and will have an effect on the determination of wages paid to registered nurses.

### 3.1 Empirical Specification and Variables of Interest

The most commonly used empirical estimation for the human capital model is based on the functional form of the Mincer (1974) earnings equation:

$$\log w_i = \beta X_i + rS_i + \delta e_i + \gamma e_i^2 + u_i \quad (1)$$

where:

$w_i$  is a measure of total earnings for an individual  $i$ ,  
 $S_i$  represents the measure of the individual  $i$ 's schooling or educational attainment,

$e_i$  is a measure of experience and this is also entered as a quadratic term to capture the concavity of the typical earnings profile,

$X_i$  is a vector of other variables such as gender, marital status, province of residence and native language that are assumed to affect earnings, and

$u_i$  is a disturbance term which is assumed to be independent of  $X_i$  and  $s_i$ .

Total income refers to the total money income received by individuals 15 years of age and over during the calendar year 1995 and it includes all sources of income the individual earned.<sup>6</sup>

There are a variety of factors that contribute to the determination of wages that any particular individual attains. An individual's level of education is one factor that certainly influences the wages that are earned. It is expected that as education increases wages should also increase. Individuals who have a non-university certificate (or those who are an RN) are the reference group for this study. These individuals have taken their nursing training through a hospital training program or through a community college training program. The second category includes individuals who have attained other certification. This includes certification below a Bachelor degree, above a Bachelor degree, and other specialized certification. The final group includes those who have attained a Bachelor degree and these are categorized as a BN.

An individual's age and experience are also characteristics that are expected to be positively related to wages. For this study an individual's experience is derived. Each person's age minus the years of schooling they have minus six is used to obtain an individual's experience. Experience squared is also included in the regressions to capture the concavity of the typical earnings profile.

In this sample the individuals are categorized into three groups based on their marital status; divorced, legally separated or widowed, legally married or in a common

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<sup>6</sup> Total income includes the following: Wages and Salaries, Net Farm Self-employment Income, Net Non-farm Self-employment Income, Federal Child Tax Benefits, Old Age Security Pension and Guaranteed Income Supplement, Canada or Quebec Pension Plan Benefits, Benefits from Unemployment Insurance, Other Income from Government Sources, Dividends, Interest on Bonds, Deposits and Savings Certificates,

law relationship, and single. The individuals who are single are the reference group. Individuals are also categorized by whether they have dependent children at home or now. People who have no dependent children under the age of 18 living at home are the reference group and the alternate group includes those who have one or more dependent children under the age of 18 living at home.

Individuals who are Canadian born form the reference group from immigration status. Landed immigrants are those individuals who have immigrated to Canada from other parts of the world and were at the time of the Census landed immigrants or permanent residents. Non-permanent residents are those who are living in Canada on a temporary basis and include people who are on temporary work or student visas. These individuals form a very small portion of the sample and are included in the immigrant group. Another factor that may potentially have an effect on the wages that an individual earns is visible minority status. This sample has two groups: those who identify themselves as a visible minority and those who do not identify themselves as a visible minority. Those who are not a visible minority form the reference group.

One additional factor that is anticipated to have an effect on earnings is the native language spoken by individuals in the sample. Individuals who speak English as their mother tongue are the reference group. French speaking individuals make up the second group of people. The final group includes those who have any other languages as their mother tongue.

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and Other Investment Income, Retirement Pensions, Superannuation and Annuities, Including Those from RRSPs and RRIFs and Other Money Income.

#### **4. Data Description**

The *1996 Census Public Use Microdata File (PUMF) on Individuals* contains data based on a 2.8% sample of the population enumerated in the census. Individuals are asked to indicate what their major field of study or predominant discipline of training was in their highest level of post secondary education. This classification structure is grouped by major and minor categories. One such group is categorized as nursing and includes general nursing as well as other specialized nursing fields such as obstetrics, critical care, medical, surgical and geriatric nursing.

The highest degree, certificate or diploma obtained includes information about the basic type of training nurses have received. There are two categories that are of interest for the group of nurses being studied. The first group includes those who have obtained a non-university certificate or diploma. These individuals will include those who have had their training either through a hospital or community college based program. The other group of concern includes those who have obtained a bachelor's degree. This group includes those who are classified as BNs while those in the first group are classified as RNs.

The occupation listings in the 1996 Census PUMF refers to the kind of work individuals do. The 1991 Standard Occupational Classification (1991 SOC) is composed of ten broad occupational categories which are in turn further subdivided until there are 514 unit groups. The unit groups are classified on the basis of education or skills and the tasks and duties required for each occupation. The group that is of concern is that of "professional occupations in health, registered nurses and supervisors". This group

includes other health professionals but they should be ruled out by selecting nursing as the major field of study.

The industry listings refer to the general nature of the business where the individual works. The industry of concern for this study is Health and Social Services. This division includes hospitals, nursing homes, offices of health practitioners such as optometrists, denturists, and chiropractors), and other social services offices (such as child care services and social work).

As the first exercise in this study, two groups of individuals will be analyzed. The first group will include those who list nursing as their major field of study. The second group will include those who list nursing as their major field of study, whose occupational classification of health and other health professions and whose industry is health and social services. The latter group will capture those nurses who are working as nurses specifically in the health care field, while the former group will capture those nurses who are working in nursing professions and in other areas as well. For convenience I will call the group with nursing as their major field of study the wide group and the second group the narrow group. It can be anticipated that the narrow group are those who are actively working as nurses while the wide group may have a variety of workers in it. These individuals may have studied nursing in school but they may not be actively working as nurses and may be working in other related or unrelated areas. These individuals may also have left the nursing profession and could be working in other jobs or occupations.

The 1996 Census PUMF has 11,765 individuals who specify nursing as their major field of study. A number of these individuals record an income of zero so these

individuals are removed from the sample leaving 8,637 individuals. The sample further reduces to 7,304 when individuals over the age of 65, those who worked zero hours per week and those who worked zero weeks in 1995 are excluded. This group makes up the wide sample of nurses.

The individuals who list nursing as their major field of study are spread across a variety of occupations. The majority of them (4874 individuals or 66.73%) list their occupation as health professionals. This group includes nurses, physicians, dentists and other health care professionals but since the individuals selected list nursing as their major field of study this will eliminate most of the non-nurses in the group.

When the industry classification is examined there is different breakdown regarding where nurses are working. In this classification just over 80% work in health and social service and nearly 20% work in other industries such as education, government sectors and industries. Focusing on the individuals who list health and social services as their industry of employment, this will yield a sample size of 5949 individuals.

The narrow grouping of nurses will include those individuals who list nursing as their major field of study, list health professions as their occupation and list health and social services as their industry of employment. This sample size includes 4726 individuals.

As part the first exercise I plan to examine both the wide and narrow samples of nurses based on whether they are Canadian born or Canadian educated. This exercise will allow me to determine if foreign educational credentials have an effect on earnings of nurses in Canada. In this case I will examine three groups of nurses: the full sample, those who were born in Canada and those who received their nursing education in

Canada. For the purposes of the third group I will assume that individuals who immigrated to Canada after the age of 25 years will likely have attained their nursing education in their country of origin and will be considered to be foreign educated.

As a second exercise I plan to analyze both the wide and narrow sample of nurses by age groups. Both samples will be broken down into groups based on their age to examine how the wage equations vary across the various age groups. This exercise will allow me to see if there are significant differences between the nurses of different age groups. For this exercise I will only be considering the female sample as the number of male nurses is too small to be broken down into the various age groups.

In order to see if the individuals being examined are representative of the general population the PUMF sample will be compared with the actual numbers of nurses working in each province. These values can be seen in Tables 1-3. This information is from the Canadian Nurses Association and is for the year 1997<sup>7</sup>. In Table 1 the actual provincial nursing figures are shown and Table 2 shows the number of nurses in the sample selected from the 1996 Census PUMF. Table 3 shows the number of nurses in the sample from the 1996 Census PUMF as a percentage of the total number of nurses in each province. If this sample is truly representative of the true population the percentages should be close to 2.8%. These numbers are indicative of some problems with the male sample of nurses in the 1996 Census PUMF. Several of the figures are quite high and over represent the true number while others are quite low and under represent the true population. The female sample is quite consistent with the actual numbers of nurses employed in the general population. Some of the samples are a bit

low but still quite reasonable. This sample of nurses from the Census PUMF is not completely precise but it is fairly accurate and representative of the true nursing population in Canada.

#### **4.1 Summary Statistics**

The summary statistics for the female and male nursing samples are found in Tables 4 and 5 respectively. The first, third and fifth columns in each include the summary statistics for the narrow sample and the second, fourth and sixth columns include the summary statistics for the wide sample. The female nurses tend to earn less than the male nurses but they also work fewer hours per week and slightly fewer weeks per year compared to the male nurses. A larger portion of the men also work mostly full time. More men have a BN designation compared to the female sample and a larger percentage of the men have an RN designation. None of the men in these samples have additional certifications. In other respects the two samples are quite similar in their makeup.

The summary statistics for the female narrow and wide nursing samples broken down by age categories are found in Tables 6 and 7 respectively. The youngest group of nurses has the highest percentage of BN designations at 24% while the oldest group has the lowest percentage at 10%. These figures are fairly consistent across the different groups based on if they are Canadian born or Canadian educated.

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<sup>7</sup> Data for the breakdown actual numbers of nurses by gender was not readily available so data for 1997 was used instead. This does not correspond exactly with the 1996 Census but it will be close enough for a

## 5. The Regression Results

The results of the wage equation regressions using the natural logarithm of total income for the narrow sample of female nurses are shown in Table 8 and the results of the wage equation regressions using the natural logarithm of total income for the wide sample of female nurses are shown in Table 9. Many variables show signs that are expected but many of the explanatory variables are not statistically significant.

Table 8 shows that in the narrow sample the effect of having a BN is positive and statistically significant at the 10% level for the full sample of female nurses but it is not statistically significant for the female nurse samples that exclude immigrant and foreign educated nurses. In the full sample nurses with a BN earn 5% more than nurses with a RN designation. In this case it appears that being Canadian born or Canadian educated does not have a benefit compared to those who are not Canadian born or Canadian educated. Having another certification above the RN or BN designation is positive and statistically significant for all of the groups in this sample. In the full sample this is significant at the 10% level and significant at the 5% for the Canadian born and Canadian educated samples. Canadian born or Canadian educated nurses receive 6% and 5% higher earnings respectively while the full sample earns 4% higher earnings than a nurse with a RN designation.

Table 9 shows that the effect of having a BN is positive and statistically significant for the regressions for the females in each of the groups within the wide sample. Nurses in the wide sample who have a BN designation earn 9%-10% more than nurses with a RN designation. This effect is consistent regardless of which sample is being examined and being Canadian born or Canadian educated does not have a benefit

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rough approximation.

compared to those who are not Canadian born or Canadian educated. Having additional certification has a statistically significant positive effect on the earnings of the nurses in the wide sample. Canadian born or Canadian educated nurses receive 16% and 15% higher earnings respectively while the full sample earns 13% higher earnings than a nurse with a RN designation. This result appears significantly higher than what is seen in the narrow sample but this effect might be the result of training in areas not related to nursing.

The number of hours worked has a positive and statistically significant effect on earnings in most of the regressions as is expected. Working mostly full time has a positive and statistically significant effect in each case. Having dependent children at home does not have a statistically significant effect on earnings in any of the samples. Being married or in a common law relationship has a positive and statistically significant effect on natural logarithm of total earnings when compared to single females. Being divorced, separated or widowed also has a statistically significant effect on the natural logarithm of earnings for both samples.

In the narrow sample being a visible minority has a negative effect on earnings for the group of nurses who are Canadian educated and a positive effect on the other two groups, but is not statistically significant in any of the regressions. In the wide sample being a visible minority has a negative effect on earnings for each of the groups, but again this effect is not statistically significant. Being a landed immigrant also has a negative effect on earnings for both samples and this effect is statistically significant for both the wide and narrow samples. Having a mother tongue other than English or French has a positive effect on earnings but this is not statistically significant. Speaking French

has a statistically significant positive effect on wages for the wide group when province is not controlled for, but this is not statistically significant when the province of employment is controlled for.

The results of the wage equation regressions using the natural logarithm of total income for the narrow sample of male nurses are shown in Table 10 and the results of the wage equation regressions using the natural logarithm of total income for the wide sample of male nurses are shown in Table 11. Many variables show signs that are expected but many of the explanatory variables are not statistically significant.

The effect of having a BN is not statistically significant for any of the regressions for the male samples. In several cases the coefficient is negative. The number of hours worked has a positive and statistically significant effect on earnings in most of the regressions as is expected. Working mostly full time has a positive and statistically significant effect at the five percent level in almost each case. Having dependent children at home does not have a statistically significant effect on earnings. Being married or in a common law relationship has a positive and statistically significant effect on natural logarithm of total earnings when compared to single males, with the exception of the group that excludes immigrant nurses. Being divorced, separated or widowed does not have a statistically significant effect.

Being a visible minority has a negative and statistically significant effect on earnings for the full sample and the sample with immigrants excluded in the narrow sample and has a negative and statistically significant effect on earnings for the full sample and the sample with foreign educated nurses excluded in the wide sample. Having a mother tongue other than English or French has a positive effect on each of the

samples but this is not statistically significant. Speaking French has a statistically significant positive effect at the 10% level on wages for the narrow group when province is not controlled for, but this is not statistically significant when the province of employment is controlled for.

The results for the regressions involving the age breakdowns for the narrow sample are found in Tables 12-14 and results for the regressions involving the age breakdowns for the wide sample are found in Tables 15-17. In the narrow sample having a BN does not have a statistically significant effect in any of the cases except for the 45-54 year old group when province is not controlled for. The effect is seen to be negative in several cases for the group that are in the 55-65 year age group. Intuitively it makes sense for the oldest age group of nurses to have a negative or insignificant effect on earnings by attaining a BN. It is likely that these individuals will not upgrade their education significantly nor will they be willing to forgo their current earnings for potential higher earnings at a later date after completing a higher level of education. These nurses are already earning higher salaries likely due to greater levels of seniority and job experience. The trade-off between future earnings and the costs that will be incurred by obtaining a BN has more of a benefit for younger individuals who will potentially be in this labour market for numerous years.

In the wide full sample of nurses having a BN is positive and statistically significant for the two middle age brackets for each of the three samples. It is also seen that having another certification is positive and statistically significant for these two groups as well. Again, it would seem that investing in a higher education is beneficial for the middle age groups. The youngest individuals appear to not be receiving the benefit of

their human capital investment yet. The oldest group again likely does not invest in human capital improvements later in life since the benefits do not outweigh the cost of this investment.

Being a visible minority has a negative effect on earnings for the younger two age groups but this effect is positive and statistically significant at the 10% level for the older group. Being a visible minority is not statistically significant when immigrants and foreign educated nurses are excluded from the sample.

## **6. Discussion, Implications and Conclusion**

In general, the results of this study do not support the hypothesis that attaining a BN significantly increases the wages earned by nurses in Canada. This result coincides with the results of Spetz (2002) and Mennemeyer and Gaumer (1983). This study concludes that there is no convincing evidence of increased earnings for nurses in Canada who obtain a BN. This study does find that there are systematic differences between immigrants, visible minorities and province of employment for both male and female nurses. An obvious extension of this study involves examining nurses working in Canada who have foreign credentials. A future study will examine the wage differentials between a Canadian and a foreign nursing degree.

These results vary depending on the age group that is being examined. Older nurses earn higher salaries, but this is anticipated since they have a higher level of seniority and a greater level experience. Further research is needed to examine the various interaction effects that are likely playing an important role in the determination earnings for nurses in Canada. The interaction of education and experience is something

that needs to be examined as this will likely help to explain some of the variation in earnings of nurses.

Another issue that may be underlying the results found in this study relate to the fact that this industry is highly unionized and this will have an effect on the earnings of individuals regardless of their educational credentials. The differences seen in earnings of nurses across the various provinces are also highly influenced by union contracts and negotiations in each of the provinces. The high degree of unionization is something that needs to be examined, although the data in the Census does not allow for this type of study. Other sources of data could be investigated to see if this effect can be analyzed in greater detail.

Perhaps it is a case that increasing one's human capital does not improve their marginal productivity after all. If nurses are paid at the point where wages is equated with their marginal productivity one would expect to see that earnings of a BN should be greater than that of an RN if a BN has a higher marginal productivity. The results of this study seem to indicate that the increase in education does not have significant effects on wages in many cases and this implies that attaining a BN does not increase an individual's marginal productivity. If this is the case then potentially the push to have all nurses trained as BNs is not the optimal policy choice to make.

## BIBLIOGRAPHY

- Becker, Gary, Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. Columbia University Press, New York, 1975.
- Benham, Lee. “The Labor Market for Registered Nurses: A Three-Equation Model.” Journal of Economics and Business, Vol. 53, No.3, August 1971, pp.246-252.
- Botelho, Anabela, Cheryl Bland Jones and B.F. Kiker. “Nursing Wages and Educational Credentials: The Role of Work Experience and Selectivity Bias.” Economics of Education Review, Vol. 17, No. 3, 1998, pp. 297-306.
- Canadian Nursing Association. “Highlights of 2001 Nursing Statistics.”  
[http://www.cna-nurses.ca/\\_frames/resources/statsframe.htm](http://www.cna-nurses.ca/_frames/resources/statsframe.htm)
- Canadian Nursing Association. “Post-Basic RN Baccalaureate Programs in Nursing.”  
[http://www.cna-nurses.ca/\\_frames/careers/careersframe.htm](http://www.cna-nurses.ca/_frames/careers/careersframe.htm)
- Gunderson, Morley and W. Craig Riddell. Labour Market Economics: Theory, Evidence and Policy in Canada (Third Edition). Toronto: McGraw-Hill Ryerson, 1993.
- Holtmann, A.G. and Todd L. Idson. “Wage Determination of Registered Nurses in Proprietary and Nonprofit Nursing Homes.” The Journal of Human Resources, Vol. 26, No. 2, Spring 1991, pp.362-379.
- Krall, Lisi. “The Rise and Fall of Customary Wage Differentials among Nursing Personnel in US Hospitals: 1956-1985.” Cambridge Journal of Economics, 19, 1995, pp.405-419.
- Lehrer, E.L., White, W.D. and W.B. Young. “The Three Avenues to a Registered Nurse License: A Comparative Analysis.” The Journal of Human Resources, Vol. 26, No. 2, 1991, pp.262-279.

- Link, Charles R., “Labour Supply Behavior of Registered Nurses: Female Labor Supply in the Future.” Research in Labor Economics, Volume 13, 1992, pp. 287-320.
- Link, Charles R. and John H. Landon. “Market Structure, Nonpecuniary Factors and Professional Salaries: Registered Nurses.” Journal of Economics and Business, Vol. 28, No. 2, Winter 1976, pp.151-155.
- Mennemeyer, Stephen T. and Gary Gaumer. “Nursing Wages and the Value of Educational Credentials.” The Journal of Human Resources, Volume XVIII, Number 1, 1983, pp. 32-48.
- Mincer, J. Schooling, Experience and Earnings. Columbia University Press, New York. 1974.
- Nowak, Margaret J. and Alison C. Preston. “Can Human Capital Theory Explain Why Nurses are so Poorly Paid?” Australian Economic Papers, Volume 40, No. 2, June 2001, pp. 232-245.
- Sattinger, Michael. “Alternative Models of the Market for Registered Nurses”, Journal of Economics and Business, Vol. 28, No.1, Fall 1975, pp. 50-54.
- Schumacher, Edward J. “Relative Wages and the Returns to Education in the Labor Market for Registered Nurses”, Research in Labor Economics, Volume 16, 1997, pp. 149-176.
- Spetz, Joanne. “The Value of Education in a Licensed Profession: The Choice of Associate or Baccalaureate Degrees in Nursing.” Economics of Education Review, Volume 21, 2002, pp. 73-85.
- Trudeau, Richard. “Male Registered Nurses, 1995.” Statistics Canada Health Reports, Vol. 8, No. 2, Autumn 1996, pp. 21-27.

Vaillancourt, Francois. "The Private and Total Returns to Education in Canada, 1985."

Canadian Journal of Economics, Volume 28, No. 3, August 1995, pp.532-554.

Table 1: Number of RNs employed in nursing in 1997 (Canadian Nursing Association)

	Female	Male	Total (1996)
Canada	219,006	9,707	228,713
Newfoundland	5,047	163	5,210
PEI	1,263	18	1,281
Nova Scotia	8,397	190	8,587
New Brunswick	7,123	219	7,342
Quebec	54,309	4,851	59,160
Ontario	75,940	2,127	78,067
Manitoba	10,062	411	10,473
Saskatchewan	8,288	168	8,456
Alberta	20,767	471	21,238
BC	26,932	1,032	27,964
Yukon/NWT	878	57	935

Table 2: Number of RNs employed in nursing in the 1996 Census PUMF

	Female	Male	Total
Canada	5,166	218	5,384
Newfoundland	109	1	110
PEI	32	1	33
Nova Scotia	183	5	188
New Brunswick	202	4	206
Quebec	1,082	76	1,158
Ontario	1,902	58	1,960
Manitoba	234	18	252
Saskatchewan	233	3	236
Alberta	483	21	504
BC	683	31	714
Yukon/NWT	23	0	23

Table 3: PUMF Sample as a percent of actual nurses employed

	Female	Male	Total
Canada	2.34%	2.25%	2.25%
Newfoundland	2.16%	0.61%	2.11%
PEI	2.53%	5.56%	2.58%
Nova Scotia	2.13%	2.63%	2.19%
New Brunswick	2.84%	1.83%	2.81%
Quebec	1.99%	1.57%	1.96%
Ontario	2.50%	2.73%	2.51%
Manitoba	2.33%	4.38%	2.41%
Saskatchewan	2.81%	1.79%	2.79%
Alberta	2.33%	4.46%	2.37%
BC	2.54%	3.00%	2.55%
Yukon/NWT	2.62%	0.00%	2.46%

Table 4: Summary Statistics for the female nursing sample (first two columns are the full nursing sample, the middle two columns exclude all individuals who identify themselves as immigrants and the final two columns exclude all individuals who received their nursing training outside Canada)

	narrow	wide	narrow	wide	narrow	wide
Age	41.2050	41.8987	40.6809	41.4194	40.7446	41.4345
Experience	28.1694	28.9066	27.6554	28.4366	27.7124	28.4446
Hours worked per week	33.4947	33.4298	32.9888	32.9191	33.2750	33.2013
Weeks worked in 1995	47.3112	46.4999	47.2659	46.6140	47.3084	46.5692
Total Income	36961.61	34571.37	36510.00	34684.47	36754.72	34669.64
Non-university certificate	0.6941	0.6957	0.7009	0.7049	0.7001	0.7025
Other certification	0.1268	0.1348	0.1237	0.1289	0.1240	0.1300
University certificate	0.1791	0.1695	0.1754	0.1662	0.1759	0.1676
Visible minority	0.0914	0.1076	0.0073	0.0096	0.0487	0.0533
Not a visible minority	0.9086	0.8924	0.9927	0.9904	0.9513	0.9467
Mostly full-time	0.6170	0.6231	0.5964	0.6021	0.6073	0.6131
Mostly part-time	0.3830	0.3769	0.4036	0.3979	0.3927	0.3869
Canadian Born	0.8498	0.8925				
Landed Immigrant	0.1493	0.1075				
Non-permanent Resident	0.0009	0.0039				
Separated, divorced or widowed	0.1480	0.1496	0.1468	0.1493	0.1467	0.1489
Married or common-law	0.6798	0.6810	0.6801	0.6817	0.6819	0.6819
Single	0.1723	0.1695	0.1731	0.1690	0.1714	0.1692
No dependent children at home	0.2492	0.2653	0.2540	0.2706	0.2521	0.2695
Unmarried dependents at home	0.7508	0.7347	0.7460	0.7294	0.7479	0.7305
English	0.6778	0.6844	0.7141	0.7325	0.6930	0.7099
French	0.2153	0.1917	0.2482	0.2286	0.2286	0.2079
Other non-official languages	0.1069	0.1239	0.0377	0.0389	0.0783	0.0822
Newfoundland	0.0199	0.0172	0.0231	0.0200	0.0213	0.0188
Prince Edward Island	0.0060	0.0055	0.0068	0.0063	0.0064	0.0060
Nova Scotia	0.0362	0.0332	0.0413	0.0392	0.0388	0.0364
New Brunswick	0.0402	0.0312	0.0460	0.0368	0.0431	0.0342
Quebec	0.2107	0.1849	0.2269	0.2043	0.2135	0.1905
Ontario	0.3706	0.3996	0.3417	0.3693	0.3614	0.3883
Manitoba	0.0451	0.0461	0.0470	0.0491	0.0464	0.0476
Saskatchewan	0.0457	0.0442	0.0512	0.0499	0.0478	0.0465
Alberta	0.0925	0.0954	0.0975	0.0979	0.0947	0.0958
British Columbia	0.1290	0.1383	0.1149	0.1229	0.1221	0.1311
Yukon and NWT	0.0042	0.0045	0.0036	0.0042	0.0045	0.0049

Table 5: Summary Statistics for the male nursing sample (first two columns are the full nursing sample, the middle two columns exclude all individuals who identify themselves as immigrants and the final two columns exclude all individuals who received their nursing training outside Canada)

	narrow	wide	narrow	wide	narrow	wide
Age	37.9480	38.9734	37.1871	37.9923	37.0581	37.8305
Experience	24.8555	26.0237	24.1079	25.0728	23.9742	24.9017
Hours worked per week	36.8671	38.8846	36.4964	38.9655	36.8903	38.9797
Weeks worked in 1995	48.2139	47.0562	47.7842	47.4828	48.1677	47.2339
Total Income	39834.95	37019.78	38811.96	37152.19	39042.45	36692.75
Non-university certificate	0.7803	0.8077	0.7698	0.8161	0.7806	0.8203
University certificate	0.2197	0.1923	0.2302	0.1839	0.2194	0.1797
Other certification						
Visible minority	0.1471	0.1712	0.0221	0.0156	0.0724	0.0722
Not a visible minority	0.8529	0.8288	0.9779	0.9844	0.9276	0.9278
Mostly full-time	0.8324	0.8373	0.8201	0.8352	0.8323	0.8339
Mostly part-time	0.1676	0.1627	0.1799	0.1648	0.1677	0.1661
Canadian Born	0.8035	0.7219				
Landed Immigrant	0.1965	0.2249				
Non-permanent Resident						
Separated, divorced or widowed	0.1040	0.1095	0.1079	0.1188	0.1161	0.1186
Married or common-law	0.6590	0.6154	0.6187	0.5709	0.6194	0.5695
Single	0.2370	0.2751	0.2734	0.3103	0.2645	0.3119
No dependent children at home	0.2653	0.3040	0.2522	0.3173	0.2636	0.3219
Unmarried dependents at home	0.7347	0.6960	0.7478	0.6827	0.7364	0.6781
English	0.5491	0.5947	0.5612	0.6284	0.5548	0.6136
French	0.3353	0.2781	0.4101	0.3525	0.3677	0.3119
Other non-official languages	0.1156	0.1272	0.0288	0.0192	0.0774	0.0746
Newfoundland	0.0058	0.0089	0.0072	0.0115	0.0065	0.0102
Prince Edward Island	0.0058	0.0030	0.0072	0.0038	0.0065	0.0034
Nova Scotia	0.0231	0.0266	0.0288	0.0268	0.0258	0.0305
New Brunswick	0.0231	0.0237	0.0288	0.0307	0.0258	0.0271
Quebec	0.3353	0.2751	0.3741	0.3142	0.3548	0.2915
Ontario	0.2659	0.3195	0.2662	0.2912	0.2581	0.3017
Manitoba	0.0751	0.0740	0.0719	0.0805	0.0839	0.0814
Saskatchewan	0.0173	0.0296	0.0216	0.0383	0.0194	0.0339
Alberta	0.1040	0.1006	0.1079	0.1111	0.1097	0.1051
British Columbia	0.1445	0.1391	0.0863	0.0920	0.1097	0.1153
Yukon and NWT						

Table 6: Summary Statistics for narrow female nursing sample by age cohorts

	22-34 full sample	22-34 no foreign educated	22-34 no immigrants	35-44 full sample	35-44 no foreign educated	35-44 no immigrants
Age	29.4156	29.3666	29.3578	39.7368	39.7527	39.7476
Experience	16.3175	16.2735	16.2714	26.7068	26.7198	26.7245
Hours worked per week	33.1804	33.0745	32.8364	33.3288	33.1782	32.8273
Weeks worked in 1995	44.6958	44.6672	44.5706	48.2963	48.3828	48.4091
Total Income	31726.7	31727.1	31530.74	37688.9	37715.08	37539.7
Non-university certificate	0.6592	0.6655	0.6682	0.7307	0.7347	0.7336
Other certification	0.0956	0.0914	0.0864	0.0988	0.0988	0.0993
University certificate	0.2452	0.243	0.2454	0.1706	0.1666	0.1671
No dependent children at home	0.3929	0.3913	0.3916	0.1114	0.109	0.106
Unmarried dependents at home	0.6071	0.6087	0.6084	0.8886	0.891	0.894
Canadian Born	0.8944			0.8773		
Landed Immigrant	0.1056			0.1227		
Visible minority	0.0654	0.0572	0.0113	0.0717	0.0403	0.0063
Not a visible minority	0.9346	0.9428	0.9887	0.9283	0.9597	0.9937
Mostly full-time	0.5919	0.591	0.5753	0.5933	0.5875	0.5818
Mostly part-time	0.4081	0.409	0.4247	0.4067	0.4125	0.4182
Separated, divorced or widowed	0.0582	0.0576	0.0558	0.1485	0.1498	0.1469
Married or common-law	0.6209	0.6198	0.618	0.7221	0.725	0.7252
Single	0.3209	0.3226	0.3262	0.1294	0.1252	0.128
Newfoundland	0.0324	0.033	0.0362	0.0215	0.0226	0.0245
Prince Edward Island	0.0058	0.0059	0.0065	0.0049	0.0052	0.0056
Nova Scotia	0.0316	0.0322	0.0353	0.0393	0.0413	0.0413
New Brunswick	0.0515	0.0525	0.0567	0.0399	0.042	0.0448
Quebec	0.1937	0.1948	0.2045	0.2092	0.2156	0.2273
Ontario	0.3749	0.3717	0.3587	0.3571	0.348	0.3336
Manitoba	0.0499	0.05	0.0493	0.0479	0.0491	0.051
Saskatchewan	0.0457	0.0466	0.0502	0.0485	0.0504	0.0524
Alberta	0.0948	0.0965	0.0985	0.0975	0.0988	0.1014
British Columbia	0.1139	0.1109	0.0976	0.1313	0.124	0.1161
Yukon and NWT	0.0058	0.0059	0.0065	0.0031	0.0032	0.0021
English	0.7149	0.718	0.7398	0.6742	0.6862	0.7014
French	0.2012	0.2049	0.2221	0.2307	0.2421	0.2587
Other non-official languages	0.084	0.0771	0.0381	0.0951	0.0717	0.0399

Table 6: Summary Statistics for narrow female nursing sample by age cohorts  
(Continued)

	45-54 full sample	45-54 no foreign educated	45-54 no immigrants	55-65 full sample	55-65 no foreign education	55-65 no immigrants
Age	48.9835	48.9487	48.9641	57.8832	57.8806	57.8576
Experience	35.9914	35.9644	35.9845	44.8735	44.8985	44.8775
Hours worked per week	34.3111	34.0426	33.7592	32.5961	31.8478	31.7185
Weeks worked in 1995	48.5302	48.5696	48.5398	47.5304	47.5194	47.3278
Total Income	40479.8	40217.15	39851.96	39156.6	38929.14	38830.39
Non-university certificate	0.6787	0.6835	0.6854	0.6934	0.7104	0.7053
Other certification	0.1705	0.173	0.1767	0.1971	0.191	0.1954
University certificate	0.1508	0.1435	0.1379	0.1095	0.0985	0.0993
No dependent children at home	0.2186	0.2275	0.2357	0.5147	0.564	0.5848
Unmarried dependents at home	0.7814	0.7725	0.7643	0.4853	0.436	0.4152
Canadian Born	0.8091			0.7348		
Landed Immigrant	0.1909			0.2652		
Visible minority	0.1176	0.0524	0.0039	0.1646	0.0453	0.0101
Not a visible minority	0.8824	0.9476	0.9961	0.8354	0.9547	0.9899
Mostly full-time	0.6646	0.6504	0.6388	0.6496	0.6209	0.6093
Mostly part-time	0.3354	0.3496	0.3612	0.3504	0.3791	0.3907
Separated, divorced or widowed	0.1972	0.2052	0.2078	0.2603	0.2507	0.2682
Married or common-law	0.7023	0.7035	0.701	0.6277	0.6418	0.6325
Single	0.1005	0.0913	0.0913	0.1119	0.1075	0.0993
Newfoundland	0.0118	0.013	0.0136	0.0024	0.003	0.0033
Prince Edward Island	0.0071	0.0078	0.0087	0.0073	0.009	0.0066
Nova Scotia	0.0369	0.0409	0.0456	0.0365	0.0448	0.0497
New Brunswick	0.0322	0.0357	0.0388	0.0341	0.0418	0.0397
Quebec	0.2223	0.2252	0.2417	0.2238	0.2209	0.245
Ontario	0.3645	0.3574	0.3252	0.4282	0.4	0.3742
Manitoba	0.0424	0.0426	0.0427	0.0268	0.0328	0.0331
Saskatchewan	0.0471	0.0496	0.0544	0.0316	0.0358	0.0397
Alberta	0.0888	0.0887	0.0932	0.0803	0.0925	0.0927
British Columbia	0.1414	0.133	0.132	0.129	0.1194	0.1159
Yukon and NWT	0.0055	0.0061	0.0039			
English	0.652	0.673	0.7019	0.6642	0.7075	0.7285
French	0.2207	0.24	0.265	0.1752	0.206	0.2285
Other non-official languages	0.1273	0.087	0.033	0.1606	0.0866	0.043

Table 7: Summary Statistics for wide female nursing sample by age cohorts

	22-34 full sample	22-34 no foreign educated	22-34 no immigrants	35-44 full sample	35-44 no foreign educated	35-44 no immigrants
Age	29.1374	29.1346	39.8878	39.8661	39.8742	48.9989
Experience	16.0792	16.0812	26.9051	26.8829	26.903	36.0612
Hours worked per week	33.1764	32.7717	33.1662	33.2941	32.8792	34.1309
Weeks worked in 1995	43.7571	43.8966	47.8029	47.5573	47.8449	47.8632
Total Income	29241.5	29640.88	35937.07	35375.2	35817.26	37568.99
Non-university certificate	0.6659	0.6773	0.7343	0.7226	0.7345	0.6931
Other certification	0.0978	0.0854	0.1058	0.1105	0.1059	0.1679
University certificate	0.2364	0.2373	0.1599	0.1669	0.1596	0.1389
No dependent children at home	0.415	0.4102	0.1113	0.1142	0.1099	0.238
Unmarried dependents at home	0.585	0.5898	0.8887	0.8858	0.8901	0.762
Canadian Born	0.8644			0.8414		
Landed Immigrant	0.1356			0.1586		
Visible minority	0.0922	0.0141	0.0422	0.0972	0.007	0.0502
Not a visible minority	0.9078	0.9859	0.9578	0.9028	0.993	0.9498
Mostly full-time	0.5825	0.567	0.5985	0.6067	0.5912	0.6636
Mostly part-time	0.4175	0.433	0.4015	0.3933	0.4088	0.3364
Separated, divorced or widowed	0.0606	0.0569	0.1503	0.1473	0.1472	0.2001
Married or common-law	0.5903	0.5947	0.7302	0.7268	0.73	0.7221
Single	0.3491	0.3484	0.1194	0.1259	0.1228	0.0778
Newfoundland	0.0258	0.0291	0.0209	0.0192	0.0224	0.0129
Prince Edward Island	0.0048	0.0056	0.0064	0.0059	0.0065	0.0064
Nova Scotia	0.03	0.0347	0.0395	0.0364	0.0408	0.037
New Brunswick	0.039	0.0437	0.0354	0.0326	0.0378	0.0284
Quebec	0.186	0.2012	0.193	0.1845	0.2044	0.1899
Ontario	0.4109	0.3942	0.3647	0.3749	0.3511	0.3868
Manitoba	0.048	0.0472	0.054	0.0527	0.0567	0.0424
Saskatchewan	0.045	0.0486	0.0481	0.0452	0.0512	0.0483
Alberta	0.093	0.0951	0.1035	0.1063	0.1044	0.0933
British Columbia	0.1116	0.0937	0.1294	0.1377	0.1208	0.1491
Yukon and NWT	0.006	0.0069	0.005	0.0046	0.004	0.0054
English	0.7031	0.7418	0.708	0.6745	0.725	0.7055
French	0.1914	0.2186	0.2189	0.2021	0.2367	0.2114
Other non-official languages	0.1056	0.0396	0.0731	0.1234	0.0383	0.0832

Table 7: Summary Statistics for wide female nursing sample by age cohorts (Continued)

	45-54 full sample	45-54 no foreign educated	45-54 no immigrants	55-65 full sample	55-65 no foreign education	55-65 no immigrants
Age	49.0158	48.9989	49.0042	58.1397	58.1575	58.1407
Experience	36.0694	36.0612	36.0724	45.1384	45.1591	45.1426
Hours worked per week	34.551	34.1309	33.965	31.9301	31.3601	31.0675
Weeks worked in 1995	47.7573	47.8632	47.9366	46.5904	46.3936	46.319
Total Income	37638.9	37568.99	37601.33	36690.1	36816.85	36960.32
Non-university certificate	0.6869	0.6931	0.6946	0.6945	0.6935	0.6923
Other certification	0.1699	0.1679	0.1702	0.2041	0.2077	0.2101
University certificate	0.1431	0.1389	0.1352	0.1014	0.0988	0.0976
No dependent children at home	0.2288	0.238	0.2474	0.5445	0.5835	0.594
Unmarried dependents at home	0.7712	0.762	0.7526	0.4555	0.4165	0.406
Canadian Born	0.7932			0.7301		
Landed Immigrant	0.2068			0.2699		
Visible minority	0.1217	0.0502	0.0061	0.1366	0.0372	0.0152
Not a visible minority	0.8783	0.9498	0.9939	0.8634	0.9628	0.9848
Mostly full-time	0.6774	0.6636	0.656	0.6397	0.6181	0.6023
Mostly part-time	0.3226	0.3364	0.344	0.3603	0.3819	0.3977
Separated, divorced or widowed	0.1939	0.2001	0.2052	0.2425	0.2362	0.2439
Married or common-law	0.719	0.7221	0.7176	0.6616	0.67	0.666
Single	0.0871	0.0778	0.0772	0.0959	0.0938	0.0901
Newfoundland	0.0115	0.0129	0.0133	0.0068	0.0084	0.0075
Prince Edward Island	0.0057	0.0064	0.0072	0.0055	0.0067	0.0056
Nova Scotia	0.033	0.037	0.0404	0.0329	0.0402	0.045
New Brunswick	0.0254	0.0284	0.0314	0.0274	0.0335	0.0338
Quebec	0.1848	0.1899	0.2064	0.174	0.1742	0.1914
Ontario	0.4011	0.3868	0.3555	0.4411	0.4238	0.4053
Manitoba	0.0412	0.0424	0.0435	0.0356	0.0419	0.045
Saskatchewan	0.045	0.0483	0.0537	0.037	0.0385	0.0375
Alberta	0.0919	0.0933	0.0972	0.0808	0.0888	0.0901
British Columbia	0.1556	0.1491	0.1479	0.1589	0.1441	0.1388
Yukon and NWT	0.0048	0.0054	0.0036			
English	0.6769	0.7055	0.7302	0.6973	0.7337	0.7505
French	0.1929	0.2114	0.2348	0.1479	0.1759	0.197
Other non-official languages	0.1302	0.0832	0.035	0.1548	0.0905	0.0525

Table 8: Female nursing sample Narrow (t-statistics in parenthesis)

	Full Sample	Full Sample	Canadian Born	Canadian Born	Canadian Educated	Canadian Educated
Constant	8.9705 (114.4840)	8.9180 (113.8990)	8.9928 (108.6260)	8.9453 (108.0330)	8.9968 (112.1010)	8.9468 (111.5380)
Hours per week	0.0066 (7.0610)	0.0066 (7.0060)	0.0062 (6.1080)	0.0061 (6.0090)	0.0063 (6.5120)	0.0063 (6.4600)
BN	0.0524 (1.8440)	0.0508 (1.7880)	0.0462 (1.5100)	0.0448 (1.4630)	0.0376 (1.2720)	0.0372 (1.2560)
Other Certification	0.0448 (1.8010)	0.0422 (1.6960)	0.0643 (2.4360)	0.0623 (2.3560)	0.0525 (2.0430)	0.0499 (1.9430)
Full-time	0.3977 (18.0310)	0.3969 (17.9290)	0.4051 (17.3290)	0.4041 (17.2260)	0.3976 (17.5390)	0.3963 (17.4190)
Experience	0.0594 (9.9300)	0.0593 (9.8850)	0.0572 (8.8970)	0.0567 (8.7900)	0.0582 (9.3520)	0.0580 (9.2850)
Experience squared	-0.0009 (-8.4430)	-0.0009 (-8.3540)	-0.0008 (-7.3180)	-0.0008 (-7.1810)	-0.0008 (-7.8010)	-0.0008 (-7.6870)
Dependent children	0.0022 (0.0900)	-0.0033 (-0.1360)	0.0181 (0.7020)	0.0143 (0.5510)	0.0061 (0.2420)	0.0009 (0.0370)
Visible minority	0.0054 (0.1190)	0.0085 (0.1880)	0.1055 (0.9490)	0.1093 (0.9790)	-0.0350 (-0.7350)	-0.0154 (-0.3230)
Immigrant	-0.082 (-2.189)	-0.056 (-1.510)				
Separated, divorced or widowed	0.173 (3.998)	0.174 (4.010)	0.155 (3.377)	0.1576 (3.4250)	0.1620 (3.6480)	0.1636 (3.6670)
Married or common-law	0.082 (2.409)	0.076 (2.247)	0.073 (2.030)	0.0684 (1.9050)	0.0719 (2.0690)	0.0662 (1.9030)
French	0.021 (0.513)	0.014 (0.588)	0.022 (0.489)	0.0123 (0.5270)	0.0099 (0.2300)	0.0092 (0.3950)
Other language	0.033 (0.917)	0.039 (1.068)	0.042 (0.800)	0.0546 (1.0500)	0.0021 (0.0550)	0.0174 (0.4510)
Newfoundland	-0.181 (-2.763)		-0.151 (-2.336)		-0.181 (-2.769)	
PEI	-0.106 (-0.878)		-0.098 (-0.812)		-0.106 (-0.885)	
Nova Scotia	-0.248 (-5.075)		-0.257 (-5.254)		-0.249 (-5.100)	
New Brunswick	-0.186 (-3.845)		-0.190 (-3.895)		-0.184 (-3.802)	
Quebec	-0.059 (-1.434)		-0.063 (-1.342)		-0.051 (-1.131)	
Manitoba	-0.061 (-1.375)		-0.067 (-1.452)		-0.059 (-1.308)	
Saskatchewan	-0.081 (-1.877)		-0.081 (-1.844)		-0.082 (-1.881)	
Alberta	-0.133 (-3.979)		-0.124 (-3.566)		-0.125 (-3.685)	
British Columbia	-0.039 (-1.328)		-0.047 (-1.429)		-0.044 (-1.429)	
Yukon and NWT	0.434 (2.667)		0.408 (2.224)		0.423 (2.609)	
Adjusted R2	0.223	0.213	0.234	0.224	0.224	0.214
N	3898	3898	3319	3319	3654	3654

Table 9: Female nursing sample wide (t-statistics in parenthesis)

	Full Sample	Full Sample	Canadian Born	Canadian Born	Canadian Educated	Canadian Educated
Constant	8.6416 (121.0510)	8.6107 (121.0190)	8.6095 (112.0770)	8.5821 (112.0720)	8.5999 (116.9550)	8.5705 (117.0160)
Hours per week	0.0075 (8.7880)	0.0075 (8.8290)	0.0078 (8.2680)	0.0078 (8.2890)	0.0076 (8.4870)	0.0076 (8.5460)
BN	0.1045 (3.8480)	0.0990 (3.6500)	0.1091 (3.6100)	0.1040 (3.4530)	0.0972 (3.3940)	0.0930 (3.2560)
Other Certification	0.1294 (5.1870)	0.1285 (5.1520)	0.1597 (5.8840)	0.1588 (5.8560)	0.1468 (5.6460)	0.1459 (5.6190)
Full-time	0.4248 (19.6390)	0.4253 (19.6610)	0.4155 (17.6940)	0.4161 (17.7250)	0.4099 (18.2630)	0.4093 (18.2410)
Experience	0.0626 (11.2530)	0.0619 (11.1470)	0.0633 (10.3420)	0.0624 (10.2180)	0.0661 (11.3130)	0.0655 (11.2450)
Experience squared	-0.0009 (-9.7260)	-0.0009 (-9.5750)	-0.0009 (-8.9490)	-0.0009 (-8.7940)	-0.0010 (-9.9280)	-0.0010 (-9.8210)
Dependent children	0.0171 (0.7300)	0.0134 (0.5730)	0.0090 (0.3510)	0.0068 (0.2650)	0.0048 (0.1950)	0.0017 (0.0710)
Visible minority	-0.0555 (-1.3610)	-0.0518 (-1.2680)	-0.0777 (-0.7910)	-0.0777 (-0.7900)	-0.0877 (-1.9020)	-0.0724 (-1.5750)
Immigrant	-0.1126 (-3.3700)	-0.0938 (-2.8170)				
Separated, divorced or widowed	0.2556 (5.8940)	0.2591 (5.9710)	0.2765 (5.8440)	0.2804 (5.9300)	0.2672 (5.9180)	0.2708 (5.9990)
Married or common-law	0.1549 (4.5060)	0.1518 (4.4280)	0.1834 (4.9140)	0.1811 (4.8720)	0.1719 (4.8180)	0.1693 (4.7640)
French	0.0423 (1.0590)	0.0603 (2.5430)	0.0497 (1.1360)	0.0638 (2.6710)	0.0463 (1.0990)	0.0632 (2.6650)
Other language	0.0000 (0.0010)	0.0011 (0.0310)	0.0334 (0.6490)	0.0376 (0.7330)	0.0122 (0.3230)	0.0207 (0.5520)
Newfoundland	-0.1797 (-2.5930)		-0.1417 (-2.0140)		-0.1769 (-2.5640)	
PEI	-0.0642 (-0.5310)		-0.0502 (-0.4070)		-0.0638 (-0.5310)	
Nova Scotia	-0.1855 (-3.7100)		-0.1897 (-3.7560)		-0.1805 (-3.6250)	
New Brunswick	-0.0805 (-1.5340)		-0.0870 (-1.6280)		-0.0806 (-1.5360)	
Quebec	-0.0191 (-0.4640)		-0.0220 (-0.4700)		-0.0157 (-0.3530)	
Manitoba	-0.0997 (-2.3070)		-0.1125 (-2.4470)		-0.0982 (-2.2160)	
Saskatchewan	-0.0412 (-0.9600)		-0.0312 (-0.7050)		-0.0342 (-0.7830)	
Alberta	-0.1128 (-3.5510)		-0.1009 (-2.9460)		-0.0868 (-2.6400)	
British Columbia	-0.0099 (-0.3530)		-0.0136 (-0.4230)		-0.0139 (-0.4670)	
Yukon and NWT	0.3094 (2.0740)		0.3011 (1.7860)		0.2840 (1.9150)	
Adjusted R2	0.2030	0.1993	0.2139	0.2104	0.2049	0.2018
N	5942	5942	4901	4901	5447	5447

Table 10: Male nursing sample narrow (t-statistics in parenthesis)

	Full Sample	Full Sample	Canadian Born	Canadian Born	Canadian Educated	Canadian Educated
Constant	8.8409 (28.5820)	8.8959 (30.9820)	8.9997 (22.3150)	8.9641 (24.7900)	8.9585 (25.8780)	8.9772 (28.1680)
Hours per week	0.0118 (2.5330)	0.0100 (2.3010)	0.0103 (1.8160)	0.0095 (1.8260)	0.0121 (2.3700)	0.0110 (2.3110)
BN	0.0457 (0.4630)	0.0080 (0.0890)	-0.0054 (-0.0450)	-0.0534 (-0.5070)	-0.0161 (-0.1470)	-0.0513 (-0.5130)
Other Certification						
Full-time	0.2617 (2.2330)	0.3001 (2.6710)	0.2697 (1.8530)	0.3050 (2.2050)	0.2340 (1.7390)	0.2790 (2.1550)
Experience	0.0352 (1.4220)	0.0371 (1.5920)	0.0266 (0.8280)	0.0341 (1.1700)	0.0242 (0.8570)	0.0300 (1.1470)
Experience squared	-0.0005 (-1.0250)	-0.0005 (-1.2210)	-0.0003 (-0.4920)	-0.0005 (-0.8740)	-0.0003 (-0.4960)	-0.0004 (-0.8340)
Dependent children	0.1394 (1.3850)	0.1474 (1.5640)	0.2089 (1.6550)	0.2014 (1.7410)	0.1691 (1.4840)	0.1827 (1.7100)
Visible minority	-0.2815 (-2.0180)	-0.2831 (-2.0860)	-0.5773 (-2.0800)	-0.5840 (-2.1840)	-0.2360 (-1.4140)	-0.1860 (-1.1650)
Immigrant	0.1977 (1.3880)	0.2497 (1.8460)				
Separated, divorced or widowed	0.3369 (1.6560)	0.2924 (1.5180)	0.2489 (1.0800)	0.2214 (1.0300)	0.3273 (1.5210)	0.2886 (1.4200)
Married or common-law	0.3023 (2.5370)	0.2798 (2.4750)	0.2194 (1.5910)	0.2248 (1.7580)	0.2989 (2.3620)	0.2738 (2.2740)
French	0.0760 (0.4690)	0.1426 (1.6690)	-0.2058 (-0.7640)	0.1562 (1.6910)	-0.0426 (-0.2110)	0.1380 (1.5280)
Other language	0.2251 (1.6770)	0.2246 (1.7200)	0.3279 (1.1250)	0.3478 (1.2760)	0.1786 (1.0490)	0.2388 (1.4860)
Newfoundland	0.0449 (0.1020)		0.0242 (0.0520)		0.0416 (0.0910)	
PEI	-0.3443 (-0.6950)		-0.0329 (-0.0570)		-0.2422 (-0.4520)	
Nova Scotia	0.1341 (0.5010)		0.1008 (0.3470)		0.1187 (0.4250)	
New Brunswick	-0.0851 (-0.3070)		0.1249 (0.3890)		0.0068 (0.0230)	
Quebec	0.1076 (0.6790)		0.4219 (1.5760)		0.2600 (1.3010)	
Manitoba	0.0802 (0.5110)		0.0178 (0.0900)		0.1606 (0.9390)	
Saskatchewan	0.0799 (0.2540)		0.0781 (0.2330)		0.0933 (0.2850)	
Alberta	-0.1206 (-0.9190)		-0.0302 (-0.1950)		-0.0607 (-0.4190)	
British Columbia	0.1013 (0.8180)		0.1152 (0.6410)		0.1926 (1.2540)	
Yukon and NWT						
Adjusted R2	0.3225	0.3464	0.3014	0.3344	0.3001	0.3196
N	145	145	113	113	127	127

Table 11: Male nursing sample wide (t-statistics in parenthesis)

	Full Sample	Full Sample	Canadian Born	Canadian Born	Canadian Educated	Canadian Educated
Constant	8.7476 (36.6150)	8.7850 (37.2280)	8.4762 (31.2220)	8.5583 (32.4210)	8.5515 (34.1880)	8.6036 (34.9260)
Hours per week	0.0056 (1.7310)	0.0040 (1.2660)	0.0064 (1.8590)	0.0050 (1.4730)	0.0070 (2.1280)	0.0057 (1.7710)
BN	0.0160 (0.1670)	-0.0061 (-0.0650)	0.1024 (0.9540)	0.0544 (0.5240)	0.0347 (0.3390)	0.0075 (0.0750)
Other Certification						
Full-time	0.4827 (4.4830)	0.5292 (4.9260)	0.5068 (4.1970)	0.5613 (4.6660)	0.4594 (4.0440)	0.5072 (4.4840)
Experience	0.0438 (2.3440)	0.0430 (2.2980)	0.0664 (3.0390)	0.0627 (2.8990)	0.0602 (2.9810)	0.0592 (2.9390)
Experience squared	-0.0006 (-1.7940)	-0.0006 (-1.8220)	-0.0010 (-2.6290)	-0.0010 (-2.5920)	-0.0009 (-2.5750)	-0.0010 (-2.6200)
Dependent children	0.1307 (1.4730)	0.1289 (1.4720)	0.1248 (1.2280)	0.1075 (1.0880)	0.1012 (1.0580)	0.0920 (0.9800)
Visible minority	-0.4323 (-3.0520)	-0.4550 (-3.2230)	-0.4613 (-1.4980)	-0.5235 (-1.6920)	-0.3840 (-2.3470)	-0.3687 (-2.2770)
Immigrant	0.1816 (1.2920)	0.2301 (1.6810)				
Separated, divorced or widowed	0.2682 (1.4590)	0.3049 (1.7110)	0.2048 (1.0940)	0.2503 (1.3910)	0.2950 (1.6400)	0.3375 (1.9440)
Married or common-law	0.2724 (2.4320)	0.2661 (2.3970)	0.2092 (1.8160)	0.2096 (1.8480)	0.2880 (2.5890)	0.2865 (2.6140)
French	0.2035 (1.4690)	0.1546 (1.8550)	-0.0467 (-0.2660)	0.1568 (1.9110)	0.1031 (0.6670)	0.1520 (1.8550)
Other language	0.1046 (0.8180)	0.0859 (0.6720)	0.4936 (1.7830)	0.4950 (1.7950)	0.2123 (1.3370)	0.2119 (1.3450)
Newfoundland	-0.6819 (-2.1010)		-0.6292 (-2.0110)		-0.6343 (-2.0050)	
PEI	-0.4358 (-0.7600)		-0.0791 (-0.1410)		-0.2507 (-0.4460)	
Nova Scotia	0.1466 (0.6270)		0.1397 (0.5610)		0.1790 (0.7810)	
New Brunswick	-0.0596 (-0.2490)		0.0855 (0.3620)		0.0071 (0.0300)	
Quebec	-0.0595 (-0.4400)		0.2188 (1.2300)		0.0666 (0.4290)	
Manitoba	0.0338 (0.2490)		-0.0501 (-0.3390)		0.0421 (0.3050)	
Saskatchewan	0.3311 (1.5030)		0.3778 (1.7760)		0.3533 (1.6480)	
Alberta	-0.2498 (-2.0090)		-0.2098 (-1.5730)		-0.1979 (-1.5360)	
British Columbia	0.0615 (0.5430)		0.0058 (0.0390)		0.0778 (0.6040)	
Yukon and NWT						
Adjusted R2	0.3017	0.2892	0.3453	0.3312	0.3325	0.3229
N	269	269	205	205	230	230

Table 12: OLS Regression results for the narrow Female Sample by age cohorts (t-statistics in parenthesis)

	22-34	22-34	35-44	35-44	45-54	45-54	55-65	55-65
Constant	6.8329 (14.875)	6.7866 (14.888)	7.1300 (7.081)	7.0969 (6.982)	8.3639 (3.353)	8.8074 (3.520)	11.1306 (1.051)	9.6475 (0.924)
Hours per week	0.0015 (0.751)	0.0019 (0.931)	0.0084 (6.320)	0.0083 (6.208)	0.0102 (5.939)	0.0103 (5.919)	0.0063 (1.516)	0.0045 (1.094)
BN	0.0230 (0.320)	0.0098 (0.138)	0.0389 (0.880)	0.0284 (0.641)	0.0761 (1.652)	0.0906 (1.971)	0.0690 (0.717)	0.0867 (0.910)
Other Certification	0.0438 (0.853)	0.0367 (0.724)	0.0377 (1.091)	0.0341 (0.978)	0.0771 (1.545)	0.0898 (1.797)	-0.0348 (-0.303)	-0.0672 (-0.593)
Full-time	0.4939 (10.086)	0.4910 (10.110)	0.3652 (11.987)	0.3659 (11.924)	0.3373 (8.084)	0.3330 (7.941)	0.3308 (3.377)	0.3739 (3.885)
Experience	0.3447 (5.817)	0.3439 (5.846)	0.2092 (2.745)	0.2057 (2.674)	0.0907 (0.658)	0.0630 (0.456)	-0.0645 (-0.139)	-0.0035 (-0.008)
Experience squared	-0.0096 (-5.261)	-0.0096 (-5.299)	-0.0036 (-2.553)	-0.0036 (-2.465)	-0.0013 (-0.683)	-0.0009 (-0.476)	0.0007 (0.138)	0.0001 (0.017)
Dependent children	-0.0099 (-0.185)	-0.0045 (-0.086)	-0.0401 (-0.939)	-0.0577 (-1.346)	0.0093 (0.222)	0.0024 (0.058)	0.0331 (0.438)	0.0133 (0.177)
Visible minority	0.1041 (0.928)	0.0944 (0.846)	-0.0504 (-0.728)	-0.0420 (-0.602)	0.0093 (0.119)	0.0210 (0.270)	-0.0444 (-0.339)	-0.0633 (-0.495)
Immigrant	-0.0836 (-0.905)	-0.0711 (-0.775)	-0.0384 (-0.713)	-0.0136 (-0.252)	-0.1389 (-2.122)	-0.1001 (-1.534)	-0.0760 (-0.633)	-0.0810 (-0.697)
Separated, divorced or widowed	0.3733 (3.243)	0.3729 (3.261)	0.0286 (0.470)	0.0362 (0.591)	0.0263 (0.262)	0.0439 (0.434)	0.5617 (2.290)	0.5399 (2.204)
Married or common-law	0.1150 (1.951)	0.1080 (1.853)	-0.0633 (-1.221)	-0.0649 (-1.245)	-0.0177 (-0.191)	-0.0162 (-0.174)	0.4039 (1.731)	0.3734 (1.606)
French	0.0871 (0.880)	0.0842 (1.555)	-0.0318 (-0.544)	-0.0270 (-0.858)	-0.0447 (-0.630)	0.0333 (0.785)	0.2341 (1.529)	0.0024 (0.023)
Other language	-0.0491 (-0.540)	-0.0409 (-0.460)	0.0291 (0.561)	0.0373 (0.715)	0.0787 (1.228)	0.0830 (1.289)	0.0846 (0.712)	0.1200 (1.060)
Newfoundland	-0.1491		-0.1365		-0.4223		-0.1279	

	(-1.243)		(-1.552)		(-2.769)		(-0.216)	
PEI	-0.1214		-0.1330		0.0683		-0.5703	
	(-0.449)		(-0.736)		(0.306)		(-1.628)	
Nova Scotia	-0.1394		-0.3059		-0.2312		-0.2311	
	(-1.143)		(-4.818)		(-2.452)		(-1.381)	
New Brunswick	-0.1289		-0.2365		-0.1644		-0.3406	
	(-1.301)		(-3.359)		(-1.769)		(-1.725)	
Quebec	-0.0507		-0.0590		0.0563		-0.2993	
	(-0.501)		(-0.954)		(0.783)		(-2.208)	
Manitoba	0.0081		-0.1258		-0.0485		0.0271	
	(0.082)		(-2.060)		(-0.599)		(0.128)	
Saskatchewan	-0.0425		-0.1061		-0.0821		-0.0762	
	(-0.432)		(-1.780)		(-1.068)		(-0.408)	
Alberta	-0.1230		-0.1771		-0.1027		-0.0206	
	(-1.640)		(-3.990)		(-1.625)		(-0.137)	
British Columbia	-0.1295		-0.0500		0.0220		-0.0178	
	(-1.809)		(-1.244)		(0.422)		(-0.164)	
Yukon and NWT	0.3765		-0.0458		0.6323			
	(0.984)		(-0.136)		(3.048)			
Adjusted R <sup>2</sup>	0.1925	0.1934	0.2504	0.2332	0.1860	0.1707	0.1143	0.1100
N	1029	1029	1463	1463	1093	1093	305	305

Table 13: Narrow nursing sample with no foreign educated nurses (t-statistics in parenthesis)

	22-34	22-34	35-44	35-44	45-54	45-54	55-65	55-65
Constant	6.8403 (14.795)	6.8033 (14.829)	7.1250 (6.859)	7.1582 (6.825)	8.9530 (3.484)	9.3569 (3.627)	12.9970 (1.253)	10.0781 (0.987)
Hours per week	0.0016 (0.782)	0.0020 (0.954)	0.0086 (6.174)	0.0085 (6.067)	0.0094 (5.174)	0.0095 (5.153)	0.0059 (1.439)	0.0044 (1.097)
BN	0.0115 (0.156)	-0.0005 (-0.007)	0.0406 (0.888)	0.0299 (0.652)	0.0683 (1.423)	0.0821 (1.714)	-0.0319 (-0.323)	-0.0160 (-0.164)
Other Certification	0.0558 (1.076)	0.0475 (0.928)	0.0381 (1.062)	0.0347 (0.960)	0.0671 (1.274)	0.0772 (1.466)	0.0927 (0.770)	0.0625 (0.523)
Full-time	0.4847 (9.848)	0.4826 (9.884)	0.3607 (11.398)	0.3604 (11.303)	0.3367 (7.731)	0.3326 (7.603)	0.3073 (3.240)	0.3514 (3.756)
Experience	0.3425 (5.729)	0.3408 (5.744)	0.2104 (2.676)	0.2018 (2.542)	0.0586 (0.412)	0.0332 (0.233)	-0.1282 (-0.282)	-0.0065 (-0.015)
Experience squared	-0.0095 (-5.138)	-0.0094 (-5.162)	-0.0037 (-2.502)	-0.0035 (-2.349)	-0.0008 (-0.428)	-0.0005 (-0.243)	0.0014 (0.292)	0.0002 (0.038)
Dependent children	-0.0137 (-0.254)	-0.0089 (-0.166)	-0.0444 (-1.003)	-0.0620 (-1.393)	0.0090 (0.209)	0.0025 (0.058)	0.0365 (0.489)	0.0194 (0.261)
Visible minority	0.0154 (0.152)	0.0120 (0.120)	-0.1053 (-1.462)	-0.0844 (-1.162)	-0.0643 (-0.744)	-0.0290 (-0.335)	0.2233 (1.279)	0.1842 (1.087)
Separated, divorced or widowed	0.3926 (3.373)	0.3944 (3.412)	0.0343 (0.542)	0.0416 (0.654)	0.0109 (0.101)	0.0291 (0.266)	0.0666 (0.276)	0.0535 (0.221)
Married or common-law	0.1070 (1.800)	0.1006 (1.712)	-0.0597 (-1.106)	-0.0632 (-1.165)	-0.0276 (-0.272)	-0.0237 (-0.232)	-0.0899 (-0.398)	-0.1183 (-0.524)
French	0.0796 (0.789)	0.0809 (1.492)	-0.0516 (-0.853)	-0.0298 (-0.939)	-0.0224 (-0.293)	0.0335 (0.782)	0.2280 (1.388)	-0.0130 (-0.132)
Other language	-0.0390 (-0.431)	-0.0283 (-0.320)	0.0446 (0.801)	0.0593 (1.057)	-0.0231 (-0.331)	-0.0032 (-0.045)	-0.0036 (-0.027)	0.0350 (0.286)
Newfoundland	-0.1438 (-1.198)		-0.1379 (-1.558)		-0.4254 (-2.794)		-0.1019 (-0.192)	
PEI	-0.1148		-0.1388		0.0809		-0.5676	

	(-0.424)		(-0.763)		(0.364)		(-1.791)	
Nova Scotia	-0.1359		-0.3092		-0.2218		-0.2162	
	(-1.114)		(-4.822)		(-2.356)		(-1.432)	
New Brunswick	-0.1288		-0.2308		-0.1623		-0.4296	
	(-1.295)		(-3.238)		(-1.742)		(-2.369)	
Quebec	-0.0437		-0.0386		0.0344		-0.3041	
	(-0.421)		(-0.597)		(0.430)		(-1.899)	
Manitoba	0.0199		-0.1394		-0.0360		0.0743	
	(0.200)		(-2.233)		(-0.428)		(0.379)	
Saskatchewan	-0.0431		-0.1122		-0.0799		-0.0321	
	(-0.438)		(-1.851)		(-1.018)		(-0.181)	
Alberta	-0.1267		-0.1729		-0.0787		-0.0539	
	(-1.684)		(-3.802)		(-1.203)		(-0.371)	
British Columbia	-0.1255		-0.0518		0.0180		0.0004	
	(-1.709)		(-1.224)		(0.323)		(0.003)	
Yukon and NWT	0.3814		-0.0472		0.6083			
	(0.996)		(-0.139)		(2.941)			
Adjusted R <sup>2</sup>	0.1930	0.1940	0.2490	0.2312	0.1773	0.1626	0.1520	0.1398
N	1010	1010	1395	1395	993	993	248	248

Table 14: Narrow nursing Sample with no immigrants (t-statistics in parenthesis)

	22-34	22-34	35-44	35-44	45-54	45-54	55-65	55-65
Constant	6.8245 (14.024)	6.7926 (14.078)	6.9089 (6.346)	6.9611 (6.329)	9.6593 (4.039)	9.9723 (4.158)	9.0833 (0.766)	5.7001 (0.491)
Hours per week	0.0011 (0.483)	0.0016 (0.724)	0.0084 (5.608)	0.0081 (5.350)	0.0098 (5.783)	0.0098 (5.747)	0.0049 (1.114)	0.0042 (0.972)
BN	0.0330 (0.409)	0.0198 (0.249)	0.0561 (1.166)	0.0429 (0.888)	0.0686 (1.540)	0.0832 (1.873)	-0.0429 (-0.399)	-0.0290 (-0.274)
Other Certification	0.0503 (0.912)	0.0444 (0.814)	0.0489 (1.302)	0.0506 (1.335)	0.1089 (2.204)	0.1103 (2.229)	0.1037 (0.774)	0.0889 (0.671)
Full-time	0.4922 (9.324)	0.4864 (9.311)	0.3762 (11.295)	0.3775 (11.238)	0.3374 (8.429)	0.3352 (8.342)	0.2908 (2.775)	0.3332 (3.209)
Experience	0.3485 (5.537)	0.3458 (5.540)	0.2241 (2.725)	0.2141 (2.577)	0.0106 (0.080)	-0.0096 (-0.073)	0.0472 (0.091)	0.1871 (0.367)
Experience squared	-0.0097 (-4.989)	-0.0096 (-5.007)	-0.0039 (-2.546)	-0.0037 (-2.383)	-0.0001 (-0.065)	0.0002 (0.094)	-0.0005 (-0.081)	-0.0019 (-0.343)
Dependent children	-0.0055 (-0.095)	-0.0008 (-0.013)	-0.0435 (-0.928)	-0.0654 (-1.386)	0.0403 (1.016)	0.0383 (0.967)	0.0489 (0.587)	0.0312 (0.381)
Visible minority	0.1595 (0.762)	0.1142 (0.551)	0.2168 (1.174)	0.1865 (1.002)	-0.1106 (-0.464)	-0.0993 (-0.414)	0.1274 (0.370)	0.1464 (0.430)
Separated, divorced or widowed	0.3939 (3.152)	0.3977 (3.201)	0.0471 (0.709)	0.0597 (0.894)	0.0325 (0.313)	0.0539 (0.516)	-0.0173 (-0.062)	-0.0157 (-0.056)
Married or common-law	0.0898 (1.424)	0.0839 (1.349)	-0.0421 (-0.742)	-0.0398 (-0.697)	0.0177 (0.182)	0.0249 (0.254)	-0.1789 (-0.674)	-0.1801 (-0.681)
French	0.0274 (0.251)	0.0748 (1.339)	-0.0130 (-0.202)	-0.0194 (-0.597)	-0.0080 (-0.114)	0.0321 (0.843)	0.2269 (1.309)	-0.0083 (-0.080)
Other language	-0.0481 (-0.392)	-0.0164 (-0.137)	0.0205 (0.291)	0.0391 (0.551)	0.1241 (1.305)	0.1238 (1.312)	0.0660 (0.295)	0.1394 (0.715)
Newfoundland	-0.1469 (-1.200)		-0.1410 (-1.575)		-0.2632 (-1.889)		-0.0843 (-0.151)	
PEI	-0.1186		-0.1360		0.0861		-0.6900	

	(-0.431)		(-0.741)		(0.440)		(-1.736)	
Nova Scotia	-0.1366		-0.3363		-0.2146		-0.2052	
	(-1.098)		(-4.977)		(-2.573)		(-1.293)	
New Brunswick	-0.1103		-0.2476		-0.1689		-0.4212	
	(-1.070)		(-3.370)		(-2.023)		(-2.016)	
Quebec	0.0065		-0.0783		0.0207		-0.2868	
	(0.057)		(-1.124)		(0.276)		(-1.692)	
Manitoba	0.0465		-0.1561		-0.0554		0.0492	
	(0.435)		(-2.412)		(-0.706)		(0.211)	
Saskatchewan	-0.0391		-0.1164		-0.0765		-0.0182	
	(-0.384)		(-1.859)		(-1.086)		(-0.097)	
Alberta	-0.1293		-0.1759		-0.0615		-0.0149	
	(-1.618)		(-3.686)		(-1.031)		(-0.088)	
British Columbia	-0.1644		-0.0581		0.0327		0.0831	
	(-2.024)		(-1.268)		(0.619)		(0.631)	
Yukon and NWT	0.3836		-0.0668		0.6921			
	(0.986)		(-0.196)		(2.893)			
Adjusted R <sup>2</sup>	0.1859	0.1860	0.2524	0.2331	0.2237	0.2095	0.1271	0.1198
N	920	920	1283	1283	886	886	222	222

Table 15: OLS Regression results for the wide Female Sample by age cohorts (t-statistics in parenthesis)

	22-34	22-34	35-44	35-44	45-54	45-54	55-65	55-65
Constant	6.6890 (16.657)	6.6216 (16.573)	7.6584 (6.887)	7.5947 (6.800)	7.5669 (3.291)	7.6296 (3.306)	10.3426 (1.257)	11.9985 (1.463)
Hours per week	0.0025 (1.405)	0.0029 (1.655)	0.0103 (7.646)	0.0101 (7.465)	0.0103 (6.872)	0.0104 (6.890)	0.0007 (0.250)	0.0000 (-0.012)
BN	-0.0004 (-0.006)	-0.0066 (-0.099)	0.1128 (2.435)	0.0931 (2.013)	0.1554 (3.628)	0.1709 (3.989)	0.1067 (1.324)	0.1039 (1.300)
Other Certification	0.0517 (1.050)	0.0508 (1.041)	0.1126 (2.946)	0.1066 (2.780)	0.2106 (4.511)	0.2215 (4.727)	0.1182 (1.092)	0.1028 (0.959)
Full-time	0.5015 (11.134)	0.5002 (11.164)	0.3860 (11.560)	0.3922 (11.736)	0.3397 (8.667)	0.3390 (8.613)	0.5006 (6.192)	0.5143 (6.405)
Experience	0.3348 (6.353)	0.3385 (6.448)	0.1560 (1.857)	0.1558 (1.847)	0.1209 (0.953)	0.1166 (0.917)	-0.0353 (-0.098)	-0.1079 (-0.302)
Experience squared	-0.0091 (-5.534)	-0.0092 (-5.613)	-0.0028 (-1.793)	-0.0028 (-1.775)	-0.0017 (-0.954)	-0.0016 (-0.920)	0.0004 (0.107)	0.0012 (0.310)
Dependent children	-0.0020 (-0.040)	-0.0123 (-0.248)	-0.0127 (-0.276)	-0.0213 (-0.461)	-0.0060 (-0.158)	-0.0098 (-0.255)	0.0208 (0.317)	0.0147 (0.224)
Visible minority	-0.0739 (-0.765)	-0.0641 (-0.666)	-0.2022 (-2.939)	-0.2010 (-2.910)	-0.0025 (-0.036)	0.0077 (0.112)	0.2007 (1.838)	0.2149 (1.978)
Immigrant	-0.1255 (-1.522)	-0.1182 (-1.438)	-0.0319 (-0.576)	-0.0058 (-0.105)	-0.1402 (-2.514)	-0.1264 (-2.281)	-0.2527 (-2.841)	-0.2602 (-2.999)
Separated, divorced or widowed	0.4279 (3.984)	0.4278 (4.007)	0.0897 (1.317)	0.1000 (1.465)	0.0258 (0.254)	0.0404 (0.397)	0.6390 (2.425)	0.6072 (2.301)
Married or common-law	0.1428 (2.624)	0.1405 (2.616)	-0.0133 (-0.225)	-0.0135 (-0.230)	-0.0240 (-0.254)	-0.0190 (-0.200)	0.3582 (1.426)	0.3397 (1.351)
French	0.0414 (0.462)	0.0547 (1.056)	0.0507 (0.796)	0.0536 (1.493)	-0.0468 (-0.667)	0.0995 (2.401)	0.2610 (2.023)	0.0560 (0.585)
Other language	-0.1091 (-1.344)	-0.1078 (-1.350)	-0.0233 (-0.421)	-0.0219 (-0.396)	0.0679 (1.168)	0.0790 (1.358)	0.0994 (1.021)	0.0842 (0.879)
Newfoundland	-0.0887 (-0.699)		-0.0505 (-0.488)		-0.4901 (-3.385)		-0.3234 (-1.029)	

PEI	-0.0851 (-0.308)	-0.1929 (-1.097)	0.1525 (0.656)	-0.1893 (-0.539)				
Nova Scotia	-0.1466 (-1.242)	-0.2286 (-3.157)	-0.1528 (-1.699)	-0.1273 (-0.778)				
New Brunswick	-0.0214 (-0.208)	-0.1829 (-2.190)	-0.0360 (-0.366)	-0.1920 (-1.063)				
Quebec	-0.0153 (-0.167)	-0.0577 (-0.858)	0.1668 (2.311)	-0.3063 (-2.579)				
Manitoba	-0.0641 (-0.687)	-0.1821 (-2.870)	0.0009 (0.011)	-0.2720 (-1.646)				
Saskatchewan	-0.0526 (-0.563)	-0.1239 (-1.866)	0.0726 (0.978)	-0.0509 (-0.340)				
Alberta	-0.1168 (-1.643)	-0.1813 (-3.883)	-0.0671 (-1.189)	0.1203 (0.986)				
British Columbia	0.0174 (0.256)	-0.0108 (-0.250)	0.0116 (0.249)	-0.1050 (-1.185)				
Yukon and NWT	0.6100 (1.860)	-0.3196 (-1.240)	0.6037 (2.900)					
Adjusted R <sup>2</sup>	0.2146	0.2154	0.1886	0.1800	0.1638	0.1535	0.1470	0.1405
N	1397	1397	2144	2144	1811	1811	548	548

Table 16: Wide nursing sample with no foreign educated nurses (t-statistics in parenthesis)

	22-34	22-34	35-44	35-44	45-54	45-54	55-65	55-65
Constant	6.5315 (16.330)	6.4653 (16.245)	7.0690 (6.235)	7.0652 (6.206)	7.2184 (3.000)	7.3183 (3.034)	11.9956 (1.391)	12.9304 (1.504)
Hours per week	0.0019 (1.048)	0.0024 (1.347)	0.0104 (7.399)	0.0102 (7.233)	0.0109 (6.604)	0.0110 (6.673)	0.0022 (0.703)	0.0018 (0.584)
BN	-0.0142 (-0.206)	-0.0186 (-0.273)	0.1414 (2.932)	0.1248 (2.591)	0.1448 (3.151)	0.1595 (3.473)	0.0173 (0.198)	0.0012 (0.014)
Other Certification	0.0524 (1.065)	0.0502 (1.032)	0.1524 (3.826)	0.1484 (3.715)	0.2130 (4.237)	0.2219 (4.398)	0.2103 (1.752)	0.2011 (1.691)
Full-time	0.4825 (10.770)	0.4805 (10.776)	0.3821 (11.082)	0.3860 (11.180)	0.3138 (7.492)	0.3119 (7.430)	0.4186 (4.788)	0.4311 (4.961)
Experience	0.3581 (6.803)	0.3613 (6.894)	0.1984 (2.318)	0.1937 (2.253)	0.1422 (1.071)	0.1363 (1.025)	-0.0890 (-0.237)	-0.1329 (-0.355)
Experience squared	-0.0098 (-5.957)	-0.0099 (-6.036)	-0.0036 (-2.255)	-0.0035 (-2.178)	-0.0020 (-1.082)	-0.0019 (-1.041)	0.0010 (0.253)	0.0015 (0.375)
Dependent children	-0.0121 (-0.242)	-0.0212 (-0.426)	-0.0126 (-0.265)	-0.0176 (-0.369)	-0.0231 (-0.572)	-0.0274 (-0.678)	0.0123 (0.173)	0.0055 (0.078)
Visible minority	-0.1029 (-1.187)	-0.0925 (-1.076)	-0.1210 (-1.555)	-0.0974 (-1.250)	-0.0809 (-0.965)	-0.0661 (-0.789)	0.2822 (1.617)	0.3193 (1.848)
Separated, divorced or widowed	0.4517 (4.172)	0.4521 (4.207)	0.1050 (1.485)	0.1114 (1.572)	0.0068 (0.059)	0.0226 (0.197)	0.1506 (0.542)	0.1373 (0.494)
Married or common-law	0.1524 (2.799)	0.1527 (2.842)	0.0062 (0.102)	0.0003 (0.005)	-0.0435 (-0.404)	-0.0359 (-0.332)	-0.1339 (-0.514)	-0.1318 (-0.506)
French	0.0633 (0.704)	0.0574 (1.123)	0.0055 (0.083)	0.0461 (1.299)	-0.0142 (-0.186)	0.1147 (2.704)	0.3342 (2.353)	0.0685 (0.724)
Other language	-0.0725 (-0.899)	-0.0692 (-0.872)	0.0671 (1.122)	0.0764 (1.276)	0.0286 (0.431)	0.0436 (0.657)	-0.0565 (-0.477)	-0.0683 (-0.592)
Newfoundland	-0.0853 (-0.682)		-0.0522 (-0.511)		-0.4843 (-3.311)		-0.3266 (-1.066)	
PEI	-0.0828		-0.1917		0.1694		-0.1971	

	(-0.304)		(-1.105)		(0.723)		(-0.575)	
Nova Scotia	-0.1429		-0.2320		-0.1381		-0.1086	
	(-1.228)		(-3.238)		(-1.519)		(-0.682)	
New Brunswick	-0.0322		-0.1646		-0.0273		-0.2389	
	(-0.317)		(-1.981)		(-0.274)		(-1.348)	
Quebec	-0.0390		-0.0090		0.1529		-0.3891	
	(-0.422)		(-0.128)		(1.896)		(-2.672)	
Manitoba	-0.0300		-0.2138		0.0146		-0.2089	
	(-0.319)		(-3.308)		(0.178)		(-1.288)	
Saskatchewan	-0.0396		-0.1317		0.0818		-0.0238	
	(-0.423)		(-1.985)		(1.071)		(-0.148)	
Alberta	-0.1223		-0.1487		-0.0308		0.0921	
	(-1.720)		(-3.069)		(-0.519)		(0.729)	
British Columbia	-0.0004		-0.0233		0.0100		-0.1017	
	(0.005)		(-0.514)		(0.196)		(-1.012)	
Yukon and NWT	0.6178		-0.3359		0.5744			
	(1.910)		(-1.321)		(2.736)			
Adjusted R <sup>2</sup>	0.2165	0.2173	0.1952	0.1866	0.1584	0.1494	0.1354	0.1291
N	1355	1355	1984	1984	1623	1623	446	446

Table 17: Wide nursing sample with no immigrants (t-statistics in parenthesis)

	22-34	22-34	35-44	35-44	45-54	45-54	55-65	55-65
Constant	6.544 *** (15.463)	6.465 *** (15.368)	6.605 *** (5.478)	6.603 *** (5.456)	6.213 ** (2.553)	6.182 ** (2.539)	7.878 (0.862)	7.915 (0.871)
Hours per week	0.002 (1.247)	0.003 (1.630)	0.009 *** (6.384)	0.009 *** (6.167)	0.011 *** (6.808)	0.011 *** (6.833)	0.004 (1.124)	0.003 (1.040)
BN	0.022 (0.284)	0.013 (0.172)	0.156 *** (3.021)	0.137 *** (2.655)	0.139 *** (2.988)	0.151 *** (3.243)	0.027 (0.309)	0.032 (0.357)
Other Certification	0.053 (1.008)	0.052 (1.001)	0.162 *** (3.809)	0.160 *** (3.763)	0.243 *** (4.745)	0.247 *** (4.808)	0.204 * (1.657)	0.216 * (1.772)
Full-time	0.476 *** (9.953)	0.473 *** (9.948)	0.401 *** (10.880)	0.407 *** (11.016)	0.318 *** (7.535)	0.319 *** (7.577)	0.419 *** (4.651)	0.423 *** (4.725)
Experience	0.358 *** (6.442)	0.362 *** (6.547)	0.232 ** (2.551)	0.227 ** (2.492)	0.190 (1.420)	0.191 (1.427)	0.092 (0.230)	0.087 (0.219)
Experience squared	-0.010 *** (-5.702)	-0.010 *** (-5.802)	-0.004 ** (-2.494)	-0.004 ** (-2.425)	-0.003 (-1.410)	-0.003 (-1.421)	-0.001 (-0.221)	-0.001 (-0.204)
Dependent children	-0.012 (-0.219)	-0.019 (-0.368)	-0.003 (-0.062)	-0.012 (-0.229)	-0.011 (-0.283)	-0.012 (-0.301)	0.016 (0.223)	0.0003 (0.004)
Visible minority	-0.014 (-0.082)	-0.019 (-0.111)	-0.033 (-0.172)	-0.042 (-0.218)	0.006 (0.030)	-0.019 (-0.090)	0.048 (0.176)	0.130 (0.483)
Separated, divorced or widowed	0.476 *** (4.063)	0.478 *** (4.117)	0.123 (1.639)	0.131 * (1.748)	0.065 (0.548)	0.083 (0.696)	0.139 (0.474)	0.122 (0.416)
Married or common-law	0.150 *** (2.585)	0.152 *** (2.659)	0.025 (0.386)	0.022 (0.339)	0.018 (0.157)	0.028 (0.248)	-0.109 (-0.394)	-0.135 (-0.489)
French	0.044 (0.458)	0.055 (1.045)	0.023 (0.328)	0.056 (1.513)	0.014 (0.188)	0.112 *** (2.724)	0.208 (1.473)	0.043 (0.457)
Other language	-0.106 (-0.961)	-0.095 (-0.878)	0.026 (0.327)	0.027 (0.343)	0.087 (0.917)	0.101 (1.074)	0.089 (0.516)	0.027 (0.164)
Newfoundland	-0.086 (-0.668)		-0.031 (-0.296)		-0.345 ** (-2.355)		-0.512 (-1.526)	
PEI	-0.080 (-0.291)		-0.142 (-0.769)		0.153 (0.684)		-0.298 (-0.774)	
Nova Scotia	-0.145 (-1.226)		-0.245 *** (-3.240)		-0.145 (-1.636)		-0.146 (-0.930)	
New Brunswick	-0.019 (-0.179)		-0.162 * (-1.862)		-0.051 (-0.528)		-0.232 (-1.257)	
Quebec	-0.024 (-0.239)		-0.019 (-0.250)		0.110 (1.338)		-0.268 (-1.836)	
Manitoba	0.006 (0.061)		-0.225 *** (-3.318)		-0.014 (-0.163)		-0.301 * (-1.794)	
Saskatchewan	-0.009 (-0.099)		-0.132 * (-1.913)		0.072 (0.973)		-0.048 (-0.286)	

Alberta	-0.135 *		-0.148 ***		-0.044		0.002	
	(-1.806)		(-2.854)		(-0.743)		(0.011)	
British Columbia	-0.040		-0.012		0.012		-0.068	
	(-0.529)		(-0.233)		(0.219)		(-0.628)	
Yukon and NWT	0.604 *		-0.308		0.667 ***			
	(1.846)		(-1.083)		(2.587)			
Adjusted R <sup>2</sup>	0.208	0.209	0.192	0.183	0.178	0.172	0.139	0.137
N	1221	1221	1810	1810	1436	1436	396	396