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Job satisfaction, workplace stress, unhealthy lifestyle choices, and productivity among Canadian nurses: an empirical study



ORIGINAL
RESEARCH

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ABSTRACT

BACKGROUND: Nurses' occupational stress and job satisfaction can have an affect on lifestyle choices and productivity. **OBJECTIVES:** The objective of this study is to provide a detailed examination of the relationship between job satisfaction, job stress, unhealthy lifestyle choices, and productivity among Canadian nurses. **METHODS:** This study uses data from the confidential master data files of the 2005 National Survey of the Work and Health of Nurses (NSWHN). Ordinary least squares regressions and binary probit regression models were used to estimate the relationships between job satisfaction and job stress on productivity and unhealthy lifestyle choices. **RESULTS:** Workplace stress variables have a small effect on lifestyle choices. Job satisfaction has an effect on the probability of smoking, but not on drinking. Workplace stress and job satisfaction do not have statistically significant effects on productivity. **DISCUSSION:** The study found weak relationships among the work related stress variables and productivity. These findings can allow policy makers to consider efforts to reduce workplace stress which can be beneficial to productivity.

Keywords

Job satisfaction; Occupational stress; Working environment

INTRODUCTION

The major objective of this study is to provide a detailed examination of the relationships between job satisfaction, job stress, unhealthy lifestyle choices, and productivity. In particular, this research will address whether job satisfaction and work related stress among Canadian nurses prompt unhealthy lifestyle decisions, such as smoking, drinking, overeating and lack of exercise, among this occupational group. The second question this research will address is whether job satisfaction, workplace stress, and unhealthy lifestyle choices impact productivity.

This study may have numerous potentially important policy implications. Firstly, if we can understand the underlying causes, such as job stress and satisfaction, behind unhealthy decisions, we can start to work on changing these behaviors through public policy. Secondly, we will examine the relationship between productivity and unhealthy lifestyle choices. Unhealthy people are more likely to take sick days [1-4], which has a

major impact on productivity and patient care in medical facilities. Finally, a better understanding of the relationships among these variables has the potential to improve our ability to retain and recruit much needed nurses in Canada.

This study will also provide important information to a number of stakeholder groups, including nurses (and nursing unions), medical facility managers, and the general Canadian public. Nurses and nursing unions would be interested in this study as a justification to seek improved working conditions from management officials, especially if we can show that stress and satisfaction are closely related to the overall health and well being of nurses. Managers in hospitals and other health care facilities would be interested in this study from a retention and recruitment standpoint. Finally, there is an increased cost to the government and taxpayers in Canada if higher levels of stress are associated with increased unhealthy choices such as drinking, smoking and lack of exercise. These ac-

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tions can lead to higher health care costs to society when associated with adverse health outcomes such as diabetes, lung cancer, etc. Our main contribution is to examine the relationships between job satisfaction, workplace stress, unhealthy lifestyle decisions, and their overall impact on the productivity of Canadian nurses. Once we have a better understanding of these relationships, we can look at ways to improve health outcomes of nurses in Canada (better pay, fewer hours, greater staff to patient ratio, etc.).

LITERATURE REVIEW

Occupational stress can have serious consequences for nurses and for their patients. A strong relationship has been documented between workplace stress and job satisfaction [5-7]. Other studies identify the relationship between workplace stress, job satisfaction, and employment turnover [8,9], while additional studies examine the relationship between disease and health, job satisfaction, and stress [10-12].

Several studies look at some, but not all, aspects of this relationship among nurses. One study examines the relationship between job satisfaction and job stress [13] while another examines the relationship between lifestyle choices and social support [14]. A study by Halkos and Bousinakis [15] examines the effect of stress and satisfaction on productivity. A study by Anderson and Beck [16] examines the relationship between job satisfaction, job stress, and smoking. This study will extend these analyses and add to the literature by looking at the relationships between job satisfaction, job stress, and various unhealthy lifestyle choices as well as the relationships between job satisfaction, job stress, various unhealthy lifestyle choices, and productivity for a specific group of individuals.

METHOD

Data description

Data for this study come from the 2005 National Survey of the Work and Health of Nurses (NSWHN). The survey was conducted by Statistics Canada in partnership with the Canadian Institute for Health Information and Health Canada. The survey was administered to a nationally representative sample of licensed practical nurses (LPNs), registered nurses (RNs) and registered psychiatric nurses (RPNs) from across Canada. The 2005 NSWHN was designed to be representative of nurses who were registered and employed in nursing in Canada at the time of the interview. Data from the survey were weighted

to permit representative estimates of each of three nursing bodies, registered nurses, licensed practical nurses and registered psychiatric nurses, at the provincial level. The survey had an 80% response rate and nearly 19,000 Canadian nurses completed the survey. The survey asked questions about their earnings, their education and their experience as well as about the conditions in which they work, the difficulties they face in doing their jobs, and their physical and mental well-being. Questions were also asked about nurses' views of work stress, role overload, respect and quality of patient care. This survey includes a wealth of information about nurses and their work.

Access to confidential data is permissible by applying for access to use restricted data files. A proposal is submitted to the Social Sciences and Humanities Research Council, and once approval is received, secure access to detailed Statistics Canada data is made available at a Research Data Center at one of several Canadian universities. The Research Data Center program is part of a national university initiative to use Statistics Canada master files with a view to strengthening social research capacity and supporting social and economic policy analysis in Canada.

The outcome variables

There are five outcome variables of interest that address the two questions being asked in this study. The first three outcome variables measure unhealthy lifestyles and are body mass index, smoking, and drinking. The final two outcome variables measure productivity and are chronic illness and absences from work.

The three measurements of unhealthy lifestyles include one continuous dependent variable self reported body mass index (BMI). This measure gives some indication of health. A higher BMI might indicate less healthy lifestyle choices of overeating and insufficient exercise. The other two dependent variables are dichotomous variables. The first of these is a variable that indicates whether the individual consumes alcohol on a regular basis or whether the individual does not consume alcohol or is a former drinker. The second of these is a variable that indicates whether the individual is a regular smoker or whether the individual is a non-smoker or is a former smoker. Both smoking and drinking are frequently viewed as being unhealthy and will be used in this study as a measure of unhealthy lifestyle choices.

The two measures of productivity include one continuous and one dichotomous variable. The continuous variable is absences

from work and is measured in days. The second measure of productivity is the presence of a chronic health condition. In the survey, nurses were asked if they had a specific long-term condition that has lasted or is expected to last 6 months or more and that has been diagnosed by a health professional. The chronic conditions included the following: allergies, asthma, fibromyalgia, arthritis or rheumatism, back problems, high blood pressure, high cholesterol levels, migraine headaches, diabetes, heart disease, cancer, stomach or intestinal ulcers, sleep disorder (such as sleep apnea), bowel disorder (such as Crohn's disease or colitis), thyroid condition, chronic fatigue syndrome, multiple chemical sensitivities, and depression [17]. Chronic health conditions have been found to have a negative effect on worker productivity [1-3].

The independent variables

The independent variables include several dichotomous, categorical, and continuous variables that fit into demographic and work related groups. The demographic variables under consideration include one continuous variable (age), two dichotomous variables (gender and full time employment), and several categorical variables (income, marital status, education, occupational groupings, and place of employment).

Each of the independent variables is expected to have an effect on job satisfaction and workplace stress which in turn have an effect on lifestyle choices and productivity: demographic characteristics such as age, marital status and education [18-20], working situations such as job rank, work time [13,21-23]. 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 law relationship, and single. The individuals who are married are the reference group against whom those who are single or no longer married. The following educational levels are included: non-university certificate in nursing (the reference group), a registered nursing diploma, a Bachelors degree in nursing, and a higher degree. There are three nursing professions that are represented in this sample. These include the reference group of registered nurses (RNs), licensed practical nurses (LPNs), and registered psychiatric nurses (RPNs). The places of employment include hospitals (the reference group), long-term care facilities, community health facilities, and other places of employment.

Aside from the demographic variables there are numerous work stress and health variables of interest that might affect lifestyle

choices and productivity [24]. Occupational roles such as workload, personal responsibility, role conflict [25,26] and personal resources such as social support and rational coping [27,28] are factors that we can expect may have an effect on satisfaction and stress, and therefore unhealthy choices and productivity. An excellent feature of the data is that it includes numerous measures of workplace stress. One derived variable in the data set is Role Overload. To measure role overload, nurses were asked to react to five statements, each with a five-point scale ranging from "Strongly agree" to "Strongly disagree". This variable is derived from five questions that were asked. The statements include:

- «I often have to arrive early or stay late to get my work done».
- «I often have to work through my breaks to complete my assigned workload».
- «It often seems like I have too much work for one person to do».
- «I am given enough time to do what is expected of me in my job».
- «I have too much to do, to do everything well».

The responses to these questions were rescaled from 0 to 4 (instead of 1 to 5) and then inverted so that the higher scores represented responses that reflect higher work overloads. A total Role Overload Score was then calculated by summing the scores of the five items having a possible range of 0 to 20, where a higher score indicates more role overload.

The Nursing Work Index (NWI) developed by Aiken and Patrician [29] is a set of measures developed to study the nursing practice environment. A series of fifteen questions were asked of the nurses and each question involved a four-point likard scale ranging from "Strongly agree" to "Strongly disagree". The answers were rescaled for each question from 0 to 3 (instead of 1 to 4) and then inverted. The following four components were derived from these questions: Work Autonomy Score, Control over Practice Score, Nurse Physician Relationship Score, and Organizational Support Score. The score for each component was calculated by summing the value of each question within that component. The score range for each component varied according to the number of questions that made up the component. Higher scores indicate a more positive nursing environment.

The next group of variables are those related to work stress. Jobs that are hypothesized to be the most stressful are "high-strain" jobs [30] such as those that place high demands on the workers, but offer them few opportunities to use skills and make decisions. To measure the seven components of work

stress, nurses were asked to react to twelve statements, each with a five-point scale ranging from “Strongly agree” to “Strongly disagree”. The twelve questions were rescaled from 0 to 4 (instead of 1 to 5) and then the rescaled questions were inverted. Scores were calculated by summing the item scores for each component. The following components are the measures of work stress that are included: Decision Latitude: Skill Discretion Score, Decision Latitude: Decision Authority Score, Psychological Demands Score, Job Insecurity Score, Physical Exertion Score, Social Support Score, and Job Strain Score. The scoring algorithm was created so that higher scores indicated greater psychological demands, less decision authority, or less skill discretion. A higher score indicates less decision latitude and greater work stress. Higher scores also indicate greater job insecurity, greater physical exertion, and less social support.

Also included in the survey is a measure of respect and support. This measure is from Siegrist’s [31] effort-reward imbalance scale. The Effort-Reward Imbalance Score was calculated by summing the values from three questions asked in the survey. The answers were rescaled for each question from 0 to 3 (instead of 1 to 4) and then inverted. A higher score indicates a greater level of respect and support at work.

One final measure of workplace stress is Exposure to Risk or Infectious Disease. Dr. Michael S. Kerr of the Institute for Work and Health (IWH) and the University of Western Ontario (UWO) designed the scale that measures the perceived risk of an infectious disease outbreak due to exposure in the workplace. To measure this concern, nurses were asked to react to five statements, each with a four-point scale ranging from “Strongly agree” to “Strongly disagree.” The derived variable, Concern about infectious disease outbreak (score), was calculated by summing the values of the five questions. A higher score indicates a greater level of concern or perceived risk due to exposure at the workplace for the main nursing job.

There are also included in the survey two questions relating to nurses’ self-rated health; one question is the self-rated health description index (rates general health) and the second question is the self-rated mental health index (rates mental health).

One final question that could relate to an individual’s lifestyle choices and stress involves the person’s satisfaction with their job. Nurses are asked how satisfied they are with being a nurse and they can respond with “Very satisfied”, “Somewhat satisfied”, “Somewhat dissatisfied”, or “Very dissatisfied”.

The model

For the purpose of this paper two types of regression models will be used. In the case of the models where the dependent variable is a continuous variable (BMI and Days absent from work), ordinary least squares regression will be used. In the cases where the dependent variable is a dichotomous variable (the individual is a regular drinker, the individual is a regular smoker, and the presence of a chronic illness), a binary probit model will be used.

The statistical package STATA was used for this analysis.

FINDINGS

Summary statistics

Table I presents the summary statistics for the full sample of nurses. The values for the

	Everyone n = 13,167	Men n = 961	Women n = 12,206
Age	43.65	42.0941	43.7523
Male	0.0612		
Female	0.9388		
Married, common law	0.7458	0.7506	0.7455
Windowed, separated or divorced	0.1208	0.0706	0.1241
Single	0.1334	0.1789	0.1304
Certificate	0.0605	0.0693	0.0599
Registered nurse diploma	0.4934	0.4450	0.4965
Bachelor in nursing	0.2105	0.2092	0.2106
Other	0.2356	0.2766	0.2330
Hospital	0.6408	0.6707	0.6389
Long-term care facility	0.1677	0.1373	0.1697
Community health facility	0.0849	0.0765	0.0854
Other	0.1066	0.1155	0.1060
Full-time	0.5914	0.7950	0.5782
Regular alcohol consumption	0.8687	0.9009	0.8666
Regular smoker	0.1710	0.2036	0.1688
Absences from work (days)	14.3287	13.7795	14.3645
Self-rated general health	2.8983	2.9222	2.8967
Self-rated mental health	2.9590	2.9787	2.9577
Presence of chronic health condition	0.7271	0.6799	0.7302
Self reported body mass index (BMI)	25.4393	26.5847	25.3646
Very satisfied	0.5123	0.4467	0.5166
Somewhat satisfied	0.3953	0.4534	0.3915
Somewhat dissatisfied	0.0777	0.0856	0.0772
Very dissatisfied	0.0147	0.0143	0.0147

Table I. Summary statistics

dichotomous and categorical variables are given as a proportion of the sample, while the continuous variables are given in years. There were a total of 13,167 nurses that were kept in this study. Some individuals were omitted from the sample if they did not answer some of the questions, which reduces the sample being used from the total response. Nearly 94% of the sample is female and nearly 75% of the sample is married or in a common law relationship. Turning to the measures of lifestyle choices we can see that the average BMI is 25.4393, nearly 87% of the sample drinks alcohol on a regular basis, and 17% of the sample is a regular smoker. The average number of days absent from work is 14.3287 and nearly 73% of the sample has a chronic health condition.

When the sample is separated by gender we can see that there are some differences across the two genders. Nearly 80% of men work full time while only 58% of women work full time. Men are slightly younger (42 years for men versus 43.8 years for women). Turning to lifestyle choices there is some variation across the genders. A larger proportion of the men drink (90% of men versus nearly 87% of women) and slightly more men smoke (20% of men versus nearly 17% of women). 73% of women report a chronic illness while only 68% of men report the same. Finally, men and women both report being satisfied with being a nurse, but the distribution is more uneven among the women reporting being very satisfied or somewhat satisfied. 44.67% of men report being very satisfied and 45.34% report being somewhat satisfied while 51.66% of women report being very satisfied and 39.15% report being somewhat satisfied.

Unhealthy lifestyle choices

Table II presents the regression results that address the question of unhealthy choices. In each column the coefficients are reported and the robust standard error is reported in parenthesis. Significance for each variable is indicated with *** for 1%, ** for 5%, and * for 10% level of statistical significance. Column (a) reports the ordinary least squares regression results for the independent variable of BMI. Columns (b) and (c) report the binary probit results for smoking and drinking respectively. Rather than reporting the coefficients of the probit models, the regression results for the binary probit models report the discrete change in the probability of being a smoker or drinker for a variety of dummy variables that are expected to affect this probability. Similarly this method is also used for the probability of having a chronic illness in the productivity regression. This method of

reporting the coefficients is used to make the interpretation easier as compared to odds ratios that are traditionally reported in probit or logit regressions. In this case the reader can multiply the coefficient by 100 and interpret the coefficient as a percentage difference in the probability of being a smoker or drinker, as compared to the reference group for each of the dummy variable categories used in the analysis.

Looking at the work stress variables it can be seen that some of them have a small effect on the lifestyle choices. The only work stress variables that show a statistically significant effect on the probability of drinking are the nurse physician relationship score and the organizational support score, but they each have a very small effect. Several variables have a negative effect on the probability of smoking. For each of the variables that are statistically significant, it reduces the likelihood of smoking in the sample of nurses but again these effects are very small. As the work autonomy score increases BMI tends to increase as well. However, as role overload, the effort-reward imbalance score and exposure to risk increase, BMI decreases by a small amount.

Compared to a nurse who is very satisfied with being a nurse, someone who is somewhat satisfied has a higher BMI. Compared to an individual who is very satisfied with being a nurse, those who are somewhat satisfied or somewhat dissatisfied are 9.17% and 8.61% respectively, more likely to be a regular or occasional smoker. Job satisfaction has no statistically significant effect on drinking. Nurses who have higher self reported general health have lower BMIs, are less likely to smoke, and are more likely to drink. Nurses who report higher self reported mental health rankings are less likely to smoke. If a nurse is a regular drinker s/he is 1.3% more likely to also smoke and if a nurse is a regular smoker s/he is 2.58% more likely to also drink.

Productivity

Table III presents the regression results that address the question of productivity. Column (a) reports the binary probit results for the presence of a chronic health condition while column (b) reports the ordinary least squares regression results for the independent variable of days absent from work.

Nurses who have higher self reported general health are 10% less likely to have a chronic health condition and they have 7.5 fewer absences. Nurses who report higher self reported mental health rankings are 2.84% less likely to have a chronic health condition and they have 2.5 fewer absences. If a nurse is a

	OLS BMI (a)		Probit smoker (b)		Probit drinker (c)	
Self-rated general health	-0.9771***	(0.0924)	-0.0202***	(0.0066)	0.0310***	(0.0062)
Self-rated mental health	0.0037	(0.0923)	-0.0236***	(0.0070)	-0.0188***	(0.0066)
Regular alcohol consumption	-0.2549	(0.2128)	0.0131**	(0.0131)		
Regular smoker	-0.9119***	(0.1549)			0.0258**	(0.0104)
BMI			-0.0056***	(0.0018)	-0.0011	(0.0009)
Presence of chronic health condition	0.7233***	(0.1407)	-0.0114	(0.0123)	0.0189*	(0.0112)
Absences from work	0.0019	(0.0018)	-0.0001	(0.0001)	-0.0002	(0.0001)
Decision latitude: Skill Discretion Score	-0.0492	(0.0596)	-0.0109**	(0.0047)	0.0001	(0.0041)
Decision latitude: Decision Authority Score	-0.0763	(0.0639)	-0.0108**	(0.0051)	-0.0052	(0.0043)
Psychological Demands Score	0.0747	(0.1095)	-0.0072	(0.0085)	0.0067	(0.0071)
Job Insecurity Score	-0.0140	(0.0679)	-0.0010	(0.0048)	-0.0004	(0.0044)
Physical Exertion Score	0.0426	(0.0599)	0.0058	(0.0047)	0.0034	(0.0041)
Social Support Score	-0.0034	(0.0381)	0.0016	(0.0026)	-0.0009	(0.0024)
Job Strain Score	0.5842	(0.7186)	0.0429	(0.0549)	-0.0262	(0.0463)
Role Overload (1-20 scale)	-0.0490***	(0.0180)	0.00003	(0.0013)	0.0007	(0.0012)
Effort-Reward Imbalance Score	-0.0726*	(0.0457)	-0.0118***	(0.0034)	0.0029	(0.0032)
Exposure to Risk (Infectious Disease)	-0.0488***	(0.0184)	-0.0034**	(0.0014)	-0.0009	(0.0012)
Work Autonomy Score	0.0753**	(0.0464)	0.0023	(0.0035)	0.0032	(0.0031)
Control over Practice Score	-0.0266	(0.0389)	0.0048	(0.0030)	0.0028	(0.0026)
Nurse Physician Relationship Score	0.0658	(0.0521)	0.0046	(0.0040)	0.0065*	(0.0036)
Organizational Support Score	-0.0329	(0.0522)	-0.0073*	(0.0039)	-0.0063*	(0.0035)
Somewhat satisfied	0.6858*	(0.4807)	0.0917**	(0.0409)	0.0206	(0.0375)
Somewhat dissatisfied	0.2552	(0.4754)	0.0861**	(0.0442)	0.0397	(0.0356)
Very dissatisfied	0.1964	(0.5142)	0.0797	(0.0555)	0.0399	(0.0317)
Age	0.0365***	(0.0068)	-0.0012**	(0.0005)	-0.0017***	(0.0005)
Income groups	-0.0926**	(0.0475)	-0.0102***	(0.0032)	0.0191***	(0.0029)
Male	1.3927***	(0.2182)	0.0305	(0.0216)	0.0244	(0.0157)
Windowed, separated or divorced	-0.4278**	(0.1991)	0.0643***	(0.0179)	0.0454***	(0.0111)
Single	0.2198	(0.2453)	0.0436***	(0.0173)	-0.0043	(0.0148)
Long-term care facility	-0.1570	(0.1649)	0.0189*	(0.0128)	-0.0298***	(0.0121)
Community health facility	-0.0211	(0.2579)	0.0094	(0.0179)	0.0233*	(0.0139)
Other	-0.2786*	(0.1854)	0.0174	(0.0169)	0.0239*	(0.0126)
LPN	0.5812**	(0.2624)	0.1099***	(0.0223)	-0.0069	(0.0186)
RPN	0.4429**	(0.2625)	0.0996***	(0.0265)	0.0158	(0.0178)
Part-time	-0.4920***	(0.1387)	-0.0266**	(0.0103)	0.0037	(0.0093)
Registered nurse diploma	0.3641	(0.3017)	0.0634**	(0.0248)	0.0014	(0.0218)
Bachelor in nursing	-0.4293*	(0.3206)	-0.0194	(0.0255)	-0.0199	(0.0250)
Other	0.0172	(0.2444)	0.0373*	(0.0201)	-0.0092	(0.0167)
N	13167		13167		13167	
R2	0.0917		0.0660		0.0538	

Table II. OLS Regression results (robust standard errors in parenthesis). Significance indicated by *** for 1%, ** for 5% and * for 10%

(a) Ordinary Least Squares regression where the dependant variable is BMI

(b) Probit Regression. Dependent variable is $Y_i = 1$ if the individual is currently a regular smoker and $Y_i = 0$ otherwise

(c) Probit Regression. Dependent variable is $Y_i = 1$ if the individual is currently a regular drinker and $Y_i = 0$ otherwise

regular drinker s/he has 2.53 fewer absences. Nurses who have a chronic health problem have 4.74 more absences.

In general, the work stress variables do not have a statistically significant effect on productivity and job satisfaction does not have a

statistically significant effect on the productivity measures being used with the exception of nurses who are somewhat unsatisfied with being a nurse. Compared to a nurse who is very satisfied, nurses who are somewhat unsatisfied have 11 fewer absences from work.

	Probit chronic illness (a)		OLS sick days (b)	
Self-rated general health	-0.1016***	(0.0093)	-7.5399***	(0.8991)
Self-rated mental health	-0.0284***	(0.0089)	-2.5337***	(1.0376)
Regular smoker	-0.0219	(0.0173)	-1.2229	(1.3900)
Regular alcohol consumption	0.0282	(0.0195)	-2.5904*	(1.8754)
BMI	0.0071***	(0.0015)	0.1449	(0.1350)
Presence of chronic health condition			4.7395***	(0.8874)
Decision latitude: skill discretion score	-0.0043	(0.0063)	0.1806	(0.5556)
Decision latitude: decision authority score	-0.0034	(0.0071)	-0.1924	(0.5868)
Psychological demands score	0.0030	(0.0128)	0.7058	(0.9963)
Job insecurity score	0.0004	(0.0062)	-0.5742	(0.5319)
Physical exertion score	0.0091	(0.0057)	0.8503**	(0.4616)
Social support score	0.0089**	(0.0035)	-0.4057	(0.3512)
Job strain score	0.0662	(0.0865)	-3.3151	(6.4874)
Role overload (1-20 scale)	0.0041	(0.0017)	0.1108	(0.1283)
Effort-reward imbalance score	-0.0098**	(0.0045)	-1.6289***	(0.4315)
Exposure to risk (infectious disease)	0.0019	(0.0018)	-0.1487	(0.1467)
Work autonomy score	0.0041	(0.0045)	-0.3286	(0.3704)
Control over practice score	-0.0030	(0.0039)	-0.2463	(0.3260)
Nurse physician relationship score	-0.0006	(0.0052)	0.3983	(0.4523)
Organizational support score	0.0053	(0.0052)	0.2919	(0.4470)
Somewhat satisfied	0.0559	(0.0589)	-8.9017	(8.8232)
Somewhat dissatisfied	0.0552	(0.0569)	-11.4405*	(8.8922)
Very dissatisfied	0.0768	(0.0514)	-9.6174	(9.3020)
Age	0.0070***	(0.0007)	0.0269	(0.0537)
Income groups	-0.0023	(0.0041)	-1.4094***	(0.3727)
Male	-0.0455*	(0.0275)	-2.0097	(2.0136)
Windowed, separated or divorced	-0.0199	(0.0227)	0.1222	(1.8229)
Single	0.0295	(0.0195)	-0.0477	(1.8279)
Long-term care facility	-0.0043	(0.0163)	-2.4286**	(1.3431)
Community health facility	0.0014	(0.0215)	-1.7300	(1.8376)
Other	0.0129	(0.0194)	-2.5554**	(1.4287)
LPN	-0.0026	(0.0238)	0.1311	(2.3439)
RPN	-0.0283	(0.0273)	2.8384	(2.2560)
Part-time	-0.0012	(0.0132)	-2.3519**	(1.1659)
Registered nurse diploma	0.0139	(0.0302)	-1.5505	(3.5413)
Bachelor in nursing	0.0027	(0.0319)	-2.6969	(3.7161)
Other	0.0424*	(0.0229)	-1.5536	(2.7961)
N		13167		13167
R2		0.1139		0.0828

Table III. Productivity regressions (robust standard errors in parenthesis). Significance indicated by *** for 1%, ** for 5% and * for 10%

(a) Probit Regression. Dependent variable is $Y_i = 1$ if the individual has a chronic illness and $Y_i = 0$ otherwise

(b) Ordinary Least Squares regression where the dependant variable is sick days missed from work

Nurses working in long term care facilities, community health facilities and other work settings have fewer absences than those who work in hospitals. This is not statistically significant for those working in community care, but is for the other two. For each nurses working in those setting have around 2.5 days fewer absences.

DISCUSSION

In general, job satisfaction and workplace stress do not have many significant effects on lifestyle choices and productivity for this sample of Canadian nurses. This can be viewed as reassuring. There do not seem to be any strong correlations between unhealthy behaviours, such as drinking or

smoking, and workplace stress or job satisfaction. When there is a statistically significant effect it is very small. Similarly, workplace stress does not appear to have a significant effect on productivity for this sample. The one area where there is a relationship is within the lifestyle choices and health variables.

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