Gender differences in depression and condom use among sexually active Canadians

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J Affect Disord. 2015;174:511-5.

The final publication is available at http://dx.doi.org/10.1016/j.jad.2014.12.013

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ABSTRACT

Background: Given the gendered distribution depression, this paper aims at exploring the gender disparities in the effect of depression on condom use in last sexual intercourse in a nationally representative sample of sexually active Canadians.

Methods: Data in this study came from the Canadian Community Health Survey 2009-10 (n=124,188 aged ≥12 years). The analysis in this study was restricted to 7,238 respondents aged 15-49 years who had sexual intercourse in the 12-months preceding the survey. Multivariable logistic regression, stratified by gender, was used to estimate the effect of depression on condom use adjusting for potential confounders.

Results: Reported condom use was lower in females (46.9%) than in males (60.9%), while depression was more in females (13.5%) than in males (8.4%). Condom use was less among people with depression, in both males and females. However, condom use was far less frequent among females (41.2%) with depression than their male counterparts (58.1%). Depression was found to reduce the odds of condom use in last sexual intercourse both in males and females. However, the effect was statistically significant in females only (adjusted odds ratio: 0.81; 95% CI: 0.66-0.99).

Limitations: Cross-sectional data, and inability to capture socio-economic status and alcohol use rigorously are some of the limitations of this study.

Conclusions: Depression was found to reduce condom use significantly in females. Public health programs aimed at increasing condom use should address the issues of improving self-efficacy in condom negotiation skills in females, along with addressing mental health issues, especially depression, with a gender-sensitive perspective.

Key words: Depression; Condom use; High risk sexual behavior; Gender differences; Canada.

INTRODUCTION

In any given year, 1 in every 5 Canadians experiences a mental health disease, and the disease burden exerts an annual economic toll of over $50 billion (Smetanin *et al.*, 2011). Globally, depression is the leading cause of disability (Mood Disorders Society of Canada, 2009), and it is the 4th most common diagnosis for Canadians (Mood Disorders Society of Canada, 2009). Mental health illnesses have major impacts across the lifespan ranging from relationships to education, from productivity to overall quality of life (Health Canada, 2002). While about 8% of Canadians experience major depression at some point in their lives (Mood Disorders Society of Canada, 2009), women experience depression twice as much as men do (Health Canada, 2002).

Connections between psychological distress and risky behaviour in general have been demonstrated in earlier research (Stiffman *et al.*, 1992). Examples include the association between depression and illicit drug use (Deykin *et al.*, 1987; Kandel and Davies, 1982). and between high risk sexual behaviours and mental illness, specifically anxiety and depression (Smit *et al.*, 2006). With regard to risky sexual behaviour, consistent condom use has been identified as one of the most effective means, even more so than reducing the number of sexual partners, in preventing Sexually Transmitted Infections (STIs) including Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) (Holmes *et al.*, 2004; Rotermann, 2008). Epidemiological evidence suggests that there is gender disparity in condom use; females have been found to be significantly less likely to have reported using a condom in last sexual intercourse (Prata *et al.*, 2005).

Earlier studies that looked at the association between mental health and sexual risk behaviour often considered sexual risk behaviour as a combination of several such risk behaviours, e.g., unprotected sex, number of sexual partners, and sexually transmitted infection diagnosis (Lennon *et al.*, 2012; Stiffman *et al.*, 1992). Some studies looked at the association of depression and condom use, but only in specific sub-groups, e.g., STI clinic patients, HIV care clients, and adolescents (Brown *et al.*, 2006; Lehrer *et al.*, 2006; Lerand *et al.*, 2006; Rohde *et al.*, 2001; Testa and Steinberg, 2010; Wagner *et al.*, 2011; Zhan *et al.*, 2012). The only study involving a large representative Canadian sample used predictive modeling in identifying the correlates of condom use, with mood disorder as a covariate (Dhalla and Poole, 2009).

The conclusions from these studies are fairly inconsistent. Some studies reported a significant association, in both directions, while others, including the Canadian study, reported a null association. Moreover, in most of the cases, gender was not considered a priori an effect modifier. Theory suggests that coping styles are gendered, and this may contribute to differences in depression and delinquent behavior (Kort-Butler, 2009). For example, more depression in females has been attributed to avoidant coping[b], which interacts with stress, while increased delinquent behaviour in females has been explained by action coping[c] (Kort-Butler, 2009). Condom negotiation skills were also found to be poor among depressed women (Brawner *et al.*, 2012). Given the gendered distribution of both condom use and depression, this paper aims at exploring the gender disparities in the effect of depression on condom use in a nationally representative sample of the population of Canada.

METHODS

Study design

Data from the Canadian Community Health Survey (CCHS) 2009-10 were used for the purposes of this study. The CCHS is an ongoing, population-based cross-sectional survey administered by Statistics Canada that collects data about the health status of Canadians, determinants of their health status, and utilization of healthcare services. The CCHS adopts a multistage sampling strategy, and it is representative of approximately 98% of Canadians aged 12 years and older from 117 health regions across Canada. The survey did not include data on the residents of First Nations reserves, health care institutions, some remote areas and full-time members of the Canadian Forces. Further details of the methodology are reported by Statistics Canada (Statistics Canada, 2011b). The University of British Columbia policy no. 89 covers ethical approval for the use of the public-release survey data (The University of British Columbia Board of Governors, 2002).

[b] Characterized by cognitive avoidance and resignation.
[c] Characterized by making decisions without thinking too much about the consequences of each alternative.

Study sample

The 2009-10 CCHS included 124,188 respondents representing about 29 million Canadians. However, the sample in this study was restricted to respondents aged 15-49 years who had sexual intercourse in the 12 months preceding the survey, as the primary study outcome (condom use in last sexual intercourse) was only asked to this group of participants. Married/common-law respondents with one sexual partner were excluded as they were not asked this question. Respondents in this study sample came from select Canadian Provinces (Prince Edward Island, Quebec, Saskatchewan, Alberta, British Columbia), and Territories (Northwest Territories, and Nunavut) since the depression module was added to CCHS as an optional module in these Provinces and Territories. The final analysis included valid responses to all the covariates (discussed below) included in the multivariable model, and thus, the unweighted sample size became 7,238 [Male: 3,664; Female: 3,574] (Figure 1). The sample size in each of male and female groups had a 96% power to detect a 2% change in condom use in last sexual intercourse at a two-sided significance level of 0.05.

<< Figure 1 >>

Study variables

The main outcome of the study was self-reported condom use at last sexual intercourse (yes/no). The original survey question for this variable was: "Did you use a condom the last time you had sexual intercourse?" The primary explanatory variable was depression (yes/no). To measure depression, in the form of a depression scale, a set of 19 questions were included in the CCHS survey based on the works by Kessler and Mroczek (Statistics Canada, 2011a). These questions/items were taken from the Composite International Diagnostic Interview, which is representative of the definitions and criteria of Major Depressive Episodes (MDE) as outlined in both the Diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV), and the International Classification of Diseases, version 10 (ICD-10). Depression scale ranges from 0 to 8; the higher the score, the higher the probability of depression. A score of 5 or more was found to correspond to a 90% probability of a positive MDE diagnosis (Chen *et al.*, 2008). Therefore, a score of 0 (zero) was considered "no depression" while a score of 5 or above was considered "depression"; responses scoring between 1 and 4 were excluded from the primary analysis.

Potential confounders were identified based on the evidence in the peer-reviewed literature (Brown *et al.*, 2006; Dhalla and Poole, 2009; Hong *et al.*, 2007; Lehrer *et al.*, 2006; Mazzaferro *et al.*, 2006; Rohde *et al.*, 2001; Zhan *et al.*, 2012). These include age (in 5-year increments); race (white, visible minority); education (up to secondary, post-secondary graduation); marital status (married/common-law, widow/separated/divorced, single/never married); having a regular doctor (yes/no); type of drinker (former drinker [no drink in past 12 months], occasional drinker [less than once per month], regular drinker [at least once per month]); and ever had sexually transmitted infections (yes/no).

Data Analysis

Statistics Canada probability sampling weights were applied to all analyses (except for the unweighted sample distribution in table 1) to account for the unequal probability of selection (Statistics Canada, 2011b). Bivariable analysis was used to examine the relationship between the independent (including the primary explanatory) variables and the outcome variable (condom use in last sexual intercourse) by means of simple logistic regression. All the potential confounders were included in the Multivariable Logistic Regression (MLR) model irrespective of their statistical significance in the bivariable analysis (Sun *et al.*, 1996). The association was estimated in terms of adjusted odds ratio (AOR) with 95% confidence interval (CI). The MLR was checked for model fit and multicollinearity. To investigate the primary hypothesis of an interaction effect of gender on the relationship between depression and condom use, the multivariable model was stratified for males and females. All the tests were two-sided at the significance level of 0.05. Data were analyzed in SAS 9.0 software and STATA S/E 12.1 (StataCorp, 2011).

RESULTS

The sample had equal proportion of male (50.6%) and female (49.4) participants. Most of the participants were young (15-24 years), white, single/never married, educated beyond secondary level, and regular drinkers. About 11% of the respondents had a history of STI; more than one-third did not have a regular doctor (Table 1).

<<Table 1>>

Overall, 60.9% of male, and 46.9% of female participants, who had sexual intercourse in the 12 months preceding the survey, reported using a condom during last sexual intercourse. Depression was reported by 10.8% of the participants with a much higher prevalence in females (13.5%) than in males (8.4%). Condoms use was less among people with depression, in both males and females. However, females with depression used a condom far less often than their male counterparts (41.2% vs. 58.1%).

<<Table 2>>

Table 2 shows unadjusted and adjusted odds ratios (OR) with 95% confidence intervals (CI) of the effect of depression on condom use, stratified by gender. It shows that depression reduced the odds of condom use in last sexual intercourse both in males and females. However, the effect was statistically significant in females only. After adjusting for potential confounders (Table 2), depression was found to reduce the odds of condom use in females by 19% (adjusted odds ratio: 0.81; 95% CI: 0.66-0.99).

No anomalous influence of the confounders on the main effect was observed in the multivariable analysis. A sensitivity analysis (not shown) using depression as a continuous variable (instead of dichotomizing, as in the main analysis) also showed that depression was associated with a decrease in condom use, both in males and females. However, the effect was statistically significant in females only (OR: 0.96; 95% CI: 0.94, 0.99). This indicates a 4% decrease in the odds of condom use for every one unit increase in the depression scale in females, after adjusting for potential confounders.

DISCUSSION

This study found that, among the sexually active Canadians aged 15-49 years, condom use in last sexual intercourse was much lower in females than in males, while depression was much higher in females than in males. The results of this study also showed that the odds of condom use in last sexual intercourse were lower for those with depression compared with those without, both in males and females. However, the effect was statistically significant in females only.

The gendered distributions of condom use in last sexual intercourse, and of depression, found in this study are consistent with the findings of existing literature (Dhalla and Poole, 2009;

Health Canada, 2002; Prata *et al.*, 2005). The findings of the effect of depression on condom use in this study are consistent with those in most of the previous studies (Brawner *et al.*, 2012; Brown *et al.*, 2006; Hong *et al.*, 2007; Mazzaferro *et al.*, 2006; Rohde *et al.*, 2001; Wagner *et al.*, 2011; Zhan *et al.*, 2012). However, some other studies found a null association (Dhalla and Poole, 2009; Lerand *et al.*, 2006; Testa and Steinberg, 2010). The null finding in the study by Testa and Steinberg (2010) could be due to a different definition of the outcome (condom use). They defined condom use as the "proportion of time a condom was used during all sexual intercourse experiences" rather than condom use in last sexual intercourse (Testa and Steinberg, 2010). The null association in the study by Dhalla and Poole (2009) was described as counterintuitive (Dhalla and Poole, 2009), and could possibly be due to a different explanatory variable used. They used mood disorder instead of depression. The other study by Lerand *et al*. (2006), which also concluded with a null association, defined depression by only one question that asked about overall mood. Moreover, this question was not validated (Lerand *et al.*, 2006). A study by Smit *et al*. (2006) in Sub-Saharan Africa found that depression was associated with an increase in condom use. The authors marked this finding as 'unexpected' and pointed to some context-specific factors, e.g., trust between partners, fear of violence, and 'meanings attached to condom use in different sexual relationships' that might explain such an 'unexpected' result (Smit *et al.*, 2006).

The gender differences in the effect of depression on condom use in this study may be attributed to gendered coping styles (Kort-Butler, 2009). Previous studies identified avoidant coping as contributing factor for the higher rate of depression in females (Kort-Butler, 2009). Research also identified that depressed women had poor condom negotiation skills (Brawner *et al.*, 2012). This explains why depression was associated with a reduction in condom use among females. The null association in males may be attributed to some of the female factors, such as use of contraceptives by their female partners as referred to in earlier studies (Dhalla and Poole, 2009). However, further longitudinal studies with data on gender-specific covariates is recommended.

LIMITATIONS

Besides a number of methodological and statistical strengths, this study also has some limitations. For example, while this is a large population-based study, it may not be nationally

representative since the data on depression have only been collected from select Provinces and Territories. The socioeconomic status of the respondents could not be captured perfectly. An income variable could not be included in this study due to a large number of non-responses, and these non-responses might be from the highest and lowest income groups. Data on the amount of alcohol use could not be captured in the variable used to adjust for alcohol use. Illicit drug use could not be adjusted for in this study due to low number of respondents from select Provinces and Territories. Data collected on behavioral aspects (e.g. condom use) of the respondents were self-reported, and these are prone to social desirability. The temporality of the association cannot be ascertained due to the cross-sectional nature of the data. Considering at-risk population, data on condom use were collected from married/common-law individuals with more than 1 partner. However, it failed to capture data on those whose partners had multiple partners. Moreover, condom use in last sexual intercourse may not be considered equivalent to consistent condom use.

CONCLUSIONS

In conclusion, the results of this study showed reduced condom use, and higher depression, in females than their male counterparts. It also showed that depression significantly reduced the odds of condom use in last sexual intercourse among females. These findings have substantial implications in informing policy to reduce the burden of STIs/HIV. While improving self-efficacy in terms of condom negotiation skills is recommended for females in safer sex programs aimed at increasing condom use, mental health issues, especially depression, should also be addressed with a gender-sensitive perspective.

Author contributions: NI designed and conceptualized the study, analyzed the data and wrote the manuscript. CL assisted in analyzing the data, writing and revising the manuscript including important intellectual contributions.

Acknowledgement: The authors acknowledge the immense contribution of Dr Mieke Koehoorn for her continuous guidelines and suggestions, and of peers in critically reviewing the manuscripts. This study was not funded by any specific grants but NI acknowledges the support from the Canadian Institutes of Health Research through Vanier Canada Graduate Scholarship.

Conflict of Interests: The authors declare that they have no conflict of interests.

References

Brawner, B. M., Davis, Z. M., Fannin, E. F. & Alexander, K. A. 2012. Clinical Depression and Condom Use Attitudes and Beliefs Among African American Adolescent Females. *Journal of the Association of Nurses in AIDS Care,* 23**,** 184-194.

Brown, L. K., Tolou-Shams, M., Lescano, C., Houck, C., Zeidman, J., Pugatch, D., Lourie, K. J. & Project, S. S. G. 2006. Depressive symptoms as a predictor of sexual risk among African American adolescents and young adults. *Journal of Adolescent Health,* 39**,** 444.e1-8.

Chen, Y., Wu, J., Yi, Q., Huang, G. & Wong, T. 2008. Depression associated with sexually transmitted infection in Canada. *Sexually Transmitted Infections,* 84**,** 535-540.

Deykin, E. Y., Levy, J. C. & Wells, V. 1987. Adolescent depression, alcohol and drug abuse. *American Journal of Public Health,* 77**,** 178-182.

Dhalla, S. & Poole, G. 2009. Determinants of condom use: results of the Canadian community health survey 3.1. *Can J Public Health,* 100**,** 299-303.

Health Canada 2002. A Report on Mental Illnesses in Canada. *In:* STEWART, P., LIPS, T., LAKASKI, C. & UPSHALL, P. (eds.). Ottawa, Ontario: Health Canada.

Holmes, K. K., Levine, R. & Weaver, M. 2004. Effectiveness of condoms in preventing sexually transmitted infections. *Bulletin of the World Health Organization,* 82**,** 454-461.

Hong, Y., Li, X., Fang, X. & Zhao, R. 2007. Depressive symptoms and condom use with clients among female sex workers in China. *Sexual Health,* 4**,** 99-104.

Kandel, D. B. & Davies, M. 1982. Epidemiology of depressive mood in adolescents: an empirical study. *Archives of general psychiatry,* 39**,** 1205.

Kort-Butler, L. A. 2009. Coping styles and sex differences in depressive symptoms and delinquent behavior. *J Youth Adolesc,* 38**,** 122-136.

Lehrer, J. A., Shrier, L. A., Gortmaker, S. & Buka, S. 2006. Depressive symptoms as a longitudinal predictor of sexual risk behaviors among US middle and high school students. *Pediatrics,* 118**,** 189-200.

Lennon, C. A., Huedo-Medina, T. B., Gerwien, D. P. & Johnson, B. T. 2012. A role for depression in sexual risk reduction for women? A meta-analysis of HIV prevention trials with depression outcomes. *Social science & medicine,* 75**,** 688-698.

Lerand, S. J., Ireland, M. & Blum, R. W. 2006. Individual and environmental impacts on sexual health of Caribbean youth. *The Scientific World Journal,* 6**,** 707-717.

Mazzaferro, K. E., Murray, P. J., Ness, R. B., Bass, D. C., Tyus, N. & Cook, R. L. 2006. Depression, stress, and social support as predictors of high-risk sexual behaviors and STIs in young women. *Journal of Adolescent Health,* 39**,** 601-3.

Mood Disorders Society of Canada 2009. Quick facts on mental illness and addictions in Canada. 3rd Edition. 3rd ed. Guelph, Ontario: Mood Disorders Society of Canada.

Prata, N., Vahidnia, F. & Fraser, A. 2005. Gender and relationship differences in condom use among 15-24-year-olds in Angola. *Int Fam Plan Perspect***,** 192-199.

Rohde, P., Noell, J., Ochs, L. & Seeley, J. R. 2001. Depression, suicidal ideation and STD-related risk in homeless older adolescents. *Journal of Adolescence,* 24**,** 447-460.

Rotermann, M. 2008. Trends in teen sexual behaviour and condom use. *Health Reports,* 19**,** 53-57.

Smetanin, P., Stiff, D., Briante, C., Adair, C., Ahmad, S. & Khan, M. 2011. The life and economic impact of major mental illnesses in Canada: 2011 to 2041. New York: RiskAnalytica, on behalf of the Mental Health Commission of Canada.

Smit, J., Myer, L., Middelkoop, K., Seedat, S., Wood, R., Bekker, L.-G. & Stein, D. 2006. Mental health and sexual risk behaviours in a South African township: a community-based cross-sectional study. *Public Health,* 120**,** 534-542.

StataCorp 2011. Stata Statistical Software: Release 12. *College Station, TX: StataCorp LP*.

Statistics Canada 2011a. Derived Variable (DV) Specifications: Annual Component - Public Use Microdata File, 2009-2010: Canadian Community Health Survey (CCHS). Ottawa, Ontario: Statistics Canada.

Statistics Canada 2011b. User guide: 2010 and 2009-2010 Microdata files: Canadian Community Health Survey- Annual Component (CCHS). Ottawa, Ontario: Statistics Canada.

Stiffman, A., Doré, P., Earls, F. & Cunningham, R. 1992. The influence of mental health problems on AIDS-related risk behaviors in young adults. *Journal of nervous and mental disease,* 180**,** 314-320.

Sun, G.-W., Shook, T. L. & Kay, G. L. 1996. Inappropriate use of bivariable analysis to screen risk factors for use in multivariable analysis. *Journal of Clinical Epidemiology,* 49**,** 907-916.

Testa, C. R. & Steinberg, L. 2010. Depressive symptoms and health-related risk-taking in adolescence. *Suicide & Life-Threatening Behavior,* 40**,** 298-305.

The University of British Columbia Board of Governors 2002. Policy No. 89: Research Involving Human Participants. Vancouver, British Columbia: University of British Columbia.

Wagner, G. J., Holloway, I., Ghosh-Dastidar, B., Kityo, C. & Mugyenyi, P. 2011. Understanding the influence of depression on self-efficacy, work status and condom use among HIV clients in Uganda. *Journal of Psychosomatic Research,* 70**,** 440-8.

Zhan, W., Shaboltas, A. V., Skochilov, R. V., Kozlov, A. P., Krasnoselskikh, T. V. & Abdala, N. 2012. Depressive symptoms and unprotected sex in St. Petersburg, Russia. *Journal of Psychosomatic Research,* 72**,** 371-5.

Table 1: Investigating the Gender Differences in the Relationship between Depression and Condom Use: Description of Canadian Community Health Survey Sample (2009-2010).

	Total Study Sample (n=7,238)	Male (n=3,664)		Female (n=3,574)	
		Condom Use[a]		Condom Use[a]	
	n (%)[b]	Yes (%)[b]	No (%)[b]	Yes (%)[b]	No (%)[b]
Depression					
Yes	806 (10.8)	58.1	42.0	41.2	58.8
No	6,432 (89.2)	61.2	38.8	47.8	52.2
Age (years)					
15-19	1,354 (16.9)	79.0	21.0	67.5	32.5
20-24	1,526 (27.4)	64.8	35.2	52.6	47.4
25-29	1,179 (16.8)	60.3	39.7	46.6	53.4
30-34	895 (10.6)	52.7	47.3	47.3	52.8
35-39	712 (8.8)	49.0	51.0	38.0	62.0
40-44	757 (8.9)	51.0	49.0	24.5	75.5
45-49	815 (10.7)	47.5	52.5	28.7	71.3
Race/Ethnicity[c]					
White	6,227 (83.4)	58.7	41.3	45.2	54.8
Visible Minority	1,011 (16.6)	71.6	28.4	56.0	44.0
Education					
Up to secondary	1,926 (23.1)	59.9	40.1	45.7	54.3

Post-secondary graduation	5,312 (76.9)	61.3	38.7	47.3	52.7
Marital Status					
Married/Common-Law	229 (4.5)	65.7	34.3	21.2	78.8
Widow/Separated/ Divorced	1,138 (15.2)	51.7	48.3	24.1	75.9
Single/Never married	5,871 (80.3)	35.9	64.1	54.3	45.7
Has a regular doctor					
Yes	5,006 (64.9)	62.1	37.9	45.5	54.5
No	2,232 (35.1)	59.4	40.6	51.1	49.0
Type of drinker[d]					
Regular drinker	5,777 (82.0)	59.6	40.4	45.9	54.1
Occasional drinker	914 (11.2)	67.6	32.4	47.9	52.1
Former drinker	547 (6.8)	68.7	31.3	56.9	43.2
Ever had STIs					
Yes	785 (10.9)	45.3	54.7	45.5	54.5
No	6,453 (89.1)	62.3	37.7	47.2	52.8

[a] Condom use during last sexual intercourse among respondents aged 15-49 years who have had sexual intercourse 12 months preceding the survey. It does not include married/common-law respondents with one sexual partner.

[b] All the estimates are weighted.

[c] As categorized, and published, in the publicly available data.

[d] Regular drinker: drinks at least once per month; Occasional drinker: less than once per month; Former drinker: no drink in past 12 months.

Table 2: Unadjusted and Adjusted Logistic Regression Depicting the Relationship between Depression and Condom Use (Stratified by Gender) in Canadian Community Health Survey Sample (2009-2010).

	Male		Female	
	Condom Use[a] (Yes/No)		Condom Use[a] (Yes/No)	
	Unadjusted Odds Ratios (95% CI)[b]	Adjusted Odds Ratios (95% CI)[b]	Unadjusted Odds Ratios (95% CI)[b]	Adjusted Odds Ratios (95% CI)[b]
Depression				
No	1.0	1.0	1.0	1.0
Yes	0.88 (0.69, 1.11)	0.92 (0.72, 1.18)	0.76 (0.63, 0.93)[f]	0.81 (0.66, 0.99)[e]
Age (5 year increments)	0.81 (0.79, 0.84)[g]	0.84 (0.80, 0.87)[g]	0.77 (0.74, 0.80)[g]	0.84 (0.80, 0.87)[g]
Race/Ethnicity[c]				
White	1.0	1.0	1.0	1.0
Visible Minority	1.77 (1.47, 2.14)[g]	1.67 (1.37, 2.03)[g]	1.54 (1.29, 1.85)[g]	1.33 (1.10, 1.61)[f]
Education				
Post-secondary graduation	1.0[a]	1.0	1.0	1.0
Up to secondary	0.94 (0.81, 1.10)	0.97 (0.83, 1.14)	0.94 (0.80, 1.10)	0.89 (0.75, 1.05)
Marital Status				
Single/Never married	1.0	1.0	1.0	1.0
Married /Common-Law	0.29 (0.21, 0.40)[g]	0.36 (0.26, 0.50)[g]	0.23 (0.15, 0.34)[g]	0.26 (0.18, 0.40)[g]
Widow/ Separated/Divorced	0.52 (0.42, 0.64)	0.86 (0.67, 1.09)	0.27 (0.22, 0.32)[g]	0.44 (0.35, 0.55)[g]
Has a regular doctor				
No	1.0	1.0	1.0	1.0
Yes	1.12 (0.98, 1.29)	1.15 (1.00, 1.32)	0.80 (0.69, 0.93)[f]	0.84 (0.72, 0.98)[e]

Type of drinker[d]				
Regular drinker	1.0	1.0	1.0 [a]	1.0
Occasional drinker	1.41 (0.98, 2.05)	1.36 (1.06, 1.76)[e]	1.08 (0.89, 1.31)	1.11 (0.91, 1.36)
Former drinker	1.49 (0.99, 2.24)	1.59 (1.19, 2.14)[f]	1.55 (1.20, 2.01)[f]	1.77 (1.34, 2.34)[g]
Ever had STIs				
No	1.0	1.0	1.0	1.0
Yes	0.50 (0.40, 0.63)[g]	0.63 (0.49, 0.81)[g]	0.94 (0.77, 1.13)	1.11 (0.90, 1.36)

[a] Condom use during last sexual intercourse among respondents aged 15-49 years who have had sexual intercourse 12 months preceding the survey. It does not include married/common-law respondents with one sexual partner.

[b] CI: Confidence Interval.

[c] As categorized, and published, in the publicly available data.

[d] Regular drinker: drinks at least once per month; Occasional drinker: less than once per month; Former drinker: no drink in past 12 months.

[e] $p<0.05$; [f] $p<0.01$; [g] $p<0.001$

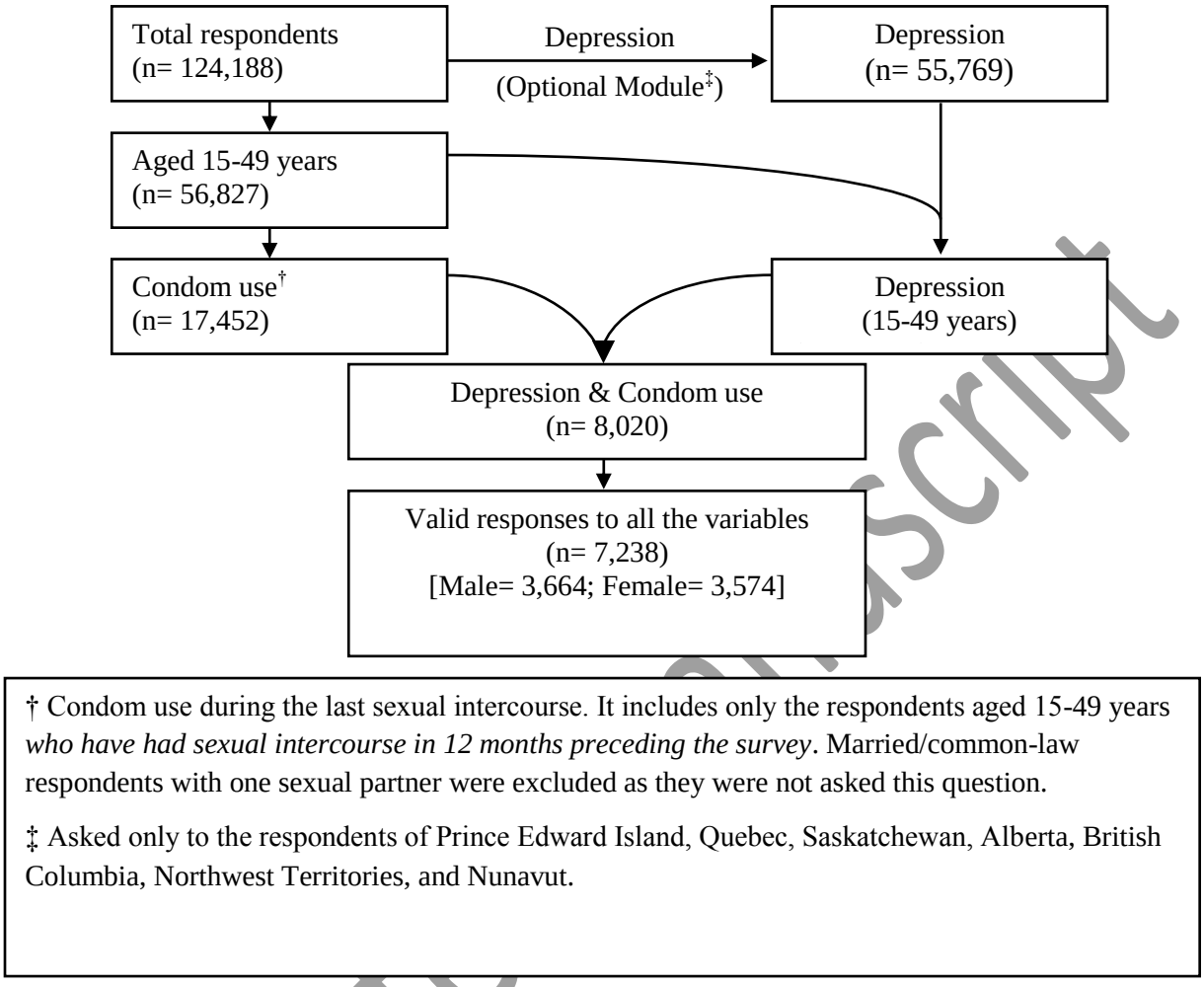

Figure 1: Flowchart showing the survey sample to analytic sample in the study of effect of depression on condom use among nationally representative sample of sexually active Canadians