

Table 1: Characteristics of working pregnant women based on job strain and major depressive symptoms (N=3765)

	Total	N (%)			Major depressive symptoms
	%	No high strain n=2767 (75.6%)	High strain n=893 (24.4 %)	P	CES-D ≥ 23 % [unadjusted OR (95% CI)] n=361
Mental health					
Major depressive symptoms (n=3681)					
CES-D ≥ 23[95% CI]	9.8 [8.7-10.8%]	220 (8.1 [7.1-9.1%])	129 (14.7 [12.5-17.2%])	<0.0001	—
Sociodemographic variables					
Age group (years) (n=3763)					
< 25 years	17.2	454 (16.4)	172 (19.3)	0.032	15.8 [1 (Reference)]
25-34 years	64.1	1774 (64.2)	576 (64.5)		8.5 [0.49 (0.38-0.64) ***]
≥ 35 years	18.7	537(19.4)	145 (16.2)		8.7 [0.50 (0.36-0.71) ***]
Country of birth (n=3763)					
Canada	76.0	2146 (77.6)	665 (74.6)	0.062	8.9 [1 (Reference)]
Other countries	24.0	620 (22.4)	227 (25.4)		12.7 [1.48 (1.16-1.88) **]
Parity (n=3757)					
Primiparous,	64.1	1771(64.1)	574 (64.5)	0.840	9.19 [1 (Reference)]
Multiparous	35.9	991 (35.9)	316 (35.5)		10.9 [1.22 (0.97-1.52)]
Single-parent family (n=3751)					
No	92.1	2576 (93.2)	797 (89.2)	<0.0001	8.3 [1 (Reference)]
Yes	7.9	189 (6.8)	96 (10.8)		27.4 [4.20 (3.15-5.60) ***]
Level of education (n=3765)					
Partial high-school	10.8	270 (9.8)	108 (12.1)	<0.0001	22.1 [1 (Reference)]
Partial college	16.4	410 (14.8)	193 (21.6)		13.4 [0.54 (0.39-0.75) ***]
College completed/Partial University	31.8	844 (30.5)	322 (36.1)		9.1 [0.35 (0.25-0.48) ***]
University degree	41.0	1243 (44.9)	270 (30.2)		5.6 [0.20 (0.15-0.28) ***]
Annual household income (n=3765)					
<\$15,000	6.1	150 (5.4)	67 (7.5)	<0.0001	25.3 [1 (Reference)]
≥\$15,000at <\$30,000	12.7	320 (11.6)	140 (15.7)		15.0 [0.51 (0.35-0.76) **]
≥\$30,000at <\$50,000	21.9	589 (21.3)	214 (24.0)		10.3 [0.33 (0.23-0.49) ***]
≥\$50,000at<\$80,000	27.9	799 (28.9)	238 (26.7)		5.7 [0.17 (0.11-0.26) ***]
≥\$80,000	22.4	686 (24.8)	147 (16.4)		4.9 [0.15 (0.09-0.23) ***]
Non déclaré	8.9	223 (8.0)	87 (9.7)		16.2 [0.57 (0.37-0.86) **]
Occupation type					
Skill type (n=3760)					
Management occupations	6.3	193 (7.0)	35 (3.9)	<0.0001	4.4 [1 (Reference)]
Business, finance and administration occupations	26.2	695 (25.2)	266 (29.8)		9.5 [2.30 (1.18-4.50)*]
Natural and applied sciences and related occupations	5.9	175 (6.3)	40 (4.5)		6.8 [1.61 (0.70-3.66)]
Health occupations	13.0	303 (11.0)	176 (19.7)		6.7 [1.56 (0.75-3.23)]
Occupations in social sciences, Education, government service and religion	16.3	538 (19.5)	63 (7.1)		5.2 [1.20 (0.58-2.50)]
Occupations in Art, culture, recreation and sport	5.5	166 (6.0)	34 (3.8)		7.5 [1.77 (0.77-4.04)]
Sales and services occupations	21.4	559 (20.2)	217 (24.3)		15.4 [3.99 (2.05-7.74)***]
Trades, transport and equipment operators and related occupations/ Occupations unique to Primary industry	1.5	39 (1.4)	13 (1.5)		16.7 [4.38 (1.68-11.39) **]
Occupations unique to Processing, manufacturing and utilities	4.1	94 (3.4)	49 (5.5)		23.6 [6.78 (3.24-14.19)***]
Skill level (n=3760)					
Management/Professional	35.5	1072 (38.8)	236 (26.4)	<0.0001	5.8 [1 (Reference)]
Technical	24.9	697 (25.2)	215 (24.1)		8.6 [1.54 (1.11-2.14)*]
Intermediate	30.9	769 (27.8)	356 (39.9)		12.1 [2.26 (1.68-3.03) ***]
Elemental	8.7	224 (8.1)	86 (9.6)		21.2 [4.39 (3.08-6.27) ***]
Work characteristics					
Night or rotating shift (n=3762)					
No	84.5	2367 (85.6)	720 (80.6)	<0.0001	9.3 [1 (Reference)]
Yes	15.5	397 (14.4)	173 (19.4)		12.9 [1.44 (1.09-1.90)***]
Standing position with or without moving around (n=3679)					
< 4 hours/day	52.7	1463 (54.2)	425 (48.5)	0.003	8.2 [1 (Reference)]
≥ 4 hours/day	47.3	1234 (45.8)	452 (51.5)		11.9 [1.51 (1.21-1.89) ***]

		Total	N (%)			Major depressive symptoms CES-D ≥ 23 % [unadjusted OR (95% CI)] n=361
		%	No high strain n=2767 (75.6%)	High strain n=893 (24.4 %)	P	
Lifting loads> 10 kg or 20 lbs (n=3750)						
	No	64.7	1815 (65.8)	545 (61.2)	0.013	8.5 [1 (Reference)]
	Yes	35.3	942 (34.2)	345 (38.8)		12.3 [1.52 (1.22-1.89) ***]
Number of hours per week (n=3765)						
	<40 hours	61.0	1712 (61.9)	524 (58.7)	0.089	9.2 [1 (Reference)]
	≥ 40 hours	39.0	1055 (38.1)	369 (41.3)		10.7 [1.18 (0.95-1.47)]
Psychosocial work demands						
High demand (n=3707)						
	No	51.9	1902 (68.7)	0	<0.0001	8.9 [1 (Reference)]
	Yes	48.1	865 (31.3)	893 (100.0)		10.6 [1.20 (0.97-1.50)]
Low control (n=3698)						
	No	43.5	1594 (57.6)	0	<0.0001	5.7 [1 (Reference)]
	Yes	56.5	1173 (42.4)	893 (100.0)		12.9 [2.44 (1.90-3.13) ***]
Low social support (Karasek's scale) (n=3588)						
	No	47.3	1394 (52.7)	265 (30.9)	<0.0001	6.6 [1 (Reference)]
	Yes	52.7	1250 (47.3)	592 (69.1)		12.6 [2.04 (1.61-2.59) ***]
Job strain combination (n=3660)						
	Low strain	20.0	729 (26.3)	0	<0.0001	4.9 [1 (Reference)]
	Passive	32.0	1173 (42.4)	0		11.4 [2.49 (1.70-3.67) ***]
	Active	23.6	865 (31.3)	0		6.2 [1.28 (0.82-1.99)]
	High strain	24.4	0	893 (100.0)		14.7 [3.34 (2.27-4.92) ***]
Iso-strain combination (n=3501)						
	No high strain/high support	39.8	1394 (52.7)	0	<0.0001	5.9 [1 (Reference)]
	No high strain /low support	35.7	1250 (47.3)	0		10.3 [1.82 (1.36-2.43) ***]
	High strain/high support	7.6	0	265 (30.9)		9.6 [1.68 (1.05-2.69)*]
	High strain/low support	16.9	0	592 (69.1)		17.0 [3.25 (2.38-4.45) ***]
Cumulative index for occupational risk factors (n=2726)						
	1-2Risk factors	88.5	1682 (94.4)	661 (75.9)	<0.0001	9.9 [1 (Reference)]
	3-4 Risk factors	11.5	99 (5.6)	210 (24.1)		19.3 [2.17 (1.58-2.97) ***]
Lifestyle habits						
Stressful life events (n=3731)						
	None	24.7	695 (25.2)	204 (23.2)	0.007	4.8 [1 (Reference)]
	One or two	52.0	1448 (52.6)	434 (49.4)		8.2 [1.79 (1.26-2.54) **]
	More than two	23.3	610 (22.2)	240 (27.3)		18.7 [4.61 (3.24-6.55) ***]
Reported a lack of money(n=3744)						
	No	76.2	2154 (78.2)	636 (71.9)	<0.0001	7.6 [1 (Reference)]
	Yes	23.8	601 (21.8)	248 (28.1)		16.7 [2.42 (1.93-3.03) ***]
Social support outside work (n=3765)						
	Present	90.7	2547 (92.0)	775 (86.8)	<0.0001	7.2 [1 (Reference)]
	Absent	9.3	220 (8.0)	118 (13.2)		35.4 [7.05 (5.44-9.12) ***]
Marital Strain (n=3750)						
	No marital strain	30.7	883 (32.0)	239 (26.9)	<0.0001	3.7 [1 (Reference)]
	Low or moderate marital strain	40.6	1161 (42.0)	322 (36.3)		5.8 [1.59 (1.09-2.32)*]
	High marital strain	25.0	639 (23.1)	275 (31.0)		19.7 [6.32 (4.46-8.95)***]
	No partner	3.7	78 (2.9)	51 (5.8)		37.1 [15.23 (9.53-24.34)***]
Smoking during pregnancy (n=3736)						
	Non-smoker	86.0	2370 (86.4)	752 (84.7)	0.201	8.5 [1 (Reference)]
	Occasionally/Regularly	14.0	373 (13.6)	136 (15.3)		17.6 [2.28 (1.76-2.96) ***]
Alcohol consumption during pregnancy(n=3763)						
	No alcohol	43.4	1198 (43.3)	387 (43.3)	0.698	9.8 [1 (Reference)]
	≤ 2 times/month	50.0	1385 (50.1)	453 (50.8)		10.1[1.03 (0.82-1.29)]
	Several times/week	6.5	183 (6.6)	52 (5.8)		8.4 [0.84 (0.52-1.37)]
Chronic health problem (n=3765)						
	None	85.4	2380 (86.0)	746 (83.5)	0.068	8.8 [1 (Reference)]
	At least one	14.6	387 (14.0)	147 (16.5)		15.5 [1.88 (1.44-2.45) ***]

* p<0.01; ** p<0.001; ***p<0.0001

Table 2: Associations between “demand-control”, “demand-control-support”, individual’s dimensions of Karasek’s models and CES-D score ≥ 23

Psychosocial work demands dimensions	Model 1	Model 2	Model 3
	Unadjusted OR (95% CI)	Adjusted OR (95% CI)	Adjusted OR (95% CI)
“Job strain” model			
Low strain (Ref.)	1.00	1.00	1.00
Passive	2.49 (1.70-3.67) ***	1.77 (1.18-2.65) **	1.30 (0.83-2.02)
Active	1.28 (0.82-1.99)	1.32 (0.84-2.07)	1.33 (0.82-2.15)
High strain	3.34 (2.27-4.92) ***	2.57 (1.72-3.86) ***	1.68 (1.08-2.62) *
“Iso-strain” model			
No high strain/high support (Ref.)	1.00	1.00	1.00
No high strain /low support	1.82 (1.36-2.43) ***	1.67 (1.24-2.25) **	1.43 (1.03-1.97) *
High strain/high support	1.68 (1.05-2.69) *	1.48 (0.91-2.40)	1.14 (0.66-1.97)
High strain/low support	3.25 (2.38-4.45) ***	2.69 (1.95-3.72) ***	1.85 (1.29-2.65) **
Individual dimensions of Karasek’s scale			
High demand	1.24 (0.99-1.57)	1.33 (1.05-1.69) *	1.26 (0.96-1.64)
Low control	2.30 (1.76-2.99) ***	1.68 (1.25-2.26) ***	1.14 (0.82-1.59)
Low support	1.69 (1.32-2.17) ***	1.64 (1.27-2.11) ***	1.46 (1.10-1.93) **

Model 1: Unadjusted for psychosocial work demands dimensions

Model 2: Adjusted for Model 1 variables + NOC classification: skill type + occupational characteristics

Model 3: Adjusted for Model 2 variables + sociodemographic, socioeconomic, lifestyle habit and stressor variables

*p<0.01; ** p<0.001; ***p<0.0001

Table 3: Interaction between “high strain” and high social support at work and CES-D score ≥ 23

Variables		Models		
		Model 1 Unadjusted OR (95% CI)	Model 2 Adjusted OR (95% CI)	Model 3 Adjusted OR (95% CI)
Dimensions of Karasek's scale				
	High strain	1.78 (1.34-2.37) ***	1.61 (1.20-2.15) **	1.29 (0.93-1.80)
	High support at work	0.54 (0.41-0.73) ***	0.59 (0.44-0.80) **	0.69 (0.50-0.96) *
	High strain X High support at work	0.94 (0.54-1.63)	0.91 (0.52-1.61)	0.88 (0.46-1.66)
	P-value for the 2 way-interactions	0.840	0.769	0.698
Occupational characteristics				
Skill type				
	Management (Ref.)		1.00	1.00
	Business, finance and administration		2.23 (1.09-4.55) *	1.99 (0.92-4.30)
	Natural and applied sciences and related occupations		1.62 (0.67-3.90)	1.81 (0.68-4.79)
	Health occupations		1.27 (0.58-2.75)	1.53 (0.66-3.54)
	Occupations in social sciences, Education, government service and religion		1.26 (0.58-2.75)	1.54 (0.66-3.56)
	Occupations in Art, culture, recreation and sport		1.91 (0.80-4.56)	2.23 (0.87-5.69)
	Sales and services occupations		3.61 (1.79-7.30) ***	2.79 (1.29-6.01) **
	Trades, transport and equipment operators and related occupations/ Occupations unique to Primary industry		3.44 (1.19-9.87) *	2.65 (0.82-8.56)
	Occupations unique to Processing, manufacturing and utilities		6.12 (2.78-13.46) ***	3.33 (1.38-8.06) **
Work characteristics				
Night or rotating shift (Yes)			1.44(1.07-1.96) *	1.17 (0.83-1.64)
Lifting loads> 10 kg or 20 lbs (Yes)			1.41 (1.12-1.79) **	1.37 (1.05-1.78) *
Sociodemographic variables				
Age group (years)				
	< 25 years (Ref.)			1.00
	25-34 years			0.95 (0.68-1.33)
	≥ 35 years			0.89 (0.57-1.39)
Single-parent family (Yes)				1.45 (0.87-2.42)
Level of education				
	Partial high school (Ref.)			1.00
	Partial college			0.66 (0.44-1.00)
	College completed/Partial University			0.60 (0.40-0.91) *
	University degree			0.45 (0.28-0.72) **
Socioeconomic, lifestyle habit and stressor variables				
Reported lack of money (Yes)				1.20 (0.90-1.59)
Stressful life events				
	None (Ref.)			1.00
	One or two			1.47 (0.98-2.18)
	More than two			2.54 (1.68-3.85) ***
Lack of social support outside work (Yes)				4.05 (2.96-5.56) ***
Marital Strain				
	No marital strain			1.00
	Low or moderate marital strain			1.26 (0.83-1.92)
	High marital strain			3.65 (2.46-5.42) ***
	No partner			4.76 (2.31-9.82) ***
Chronic health problem				
	None (Ref.)			1.00
	At least one			1.50(1.09-2.05) *
Model results				
-2 log likelihood		2127.21	2032.39	1651.53
Model Chi-square		55.75	137.7	471.05
	Degree of freedom	3	13	27
	P-value	<0.0001	<0.0001	<0.0001
ROC curve				
	Area under the curve (95% CI)	0.615 (0.583-0.647)	0.681 (0.650-0.711)	0.827 (0.803-0.851)
	P-value	<0.0001	<0.0001	<0.0001

Model 1: Unadjusted for psychosocial work demands dimensions

Model 2: Adjusted for Model 1 variables+ NOC classification: skill type + occupational characteristics

Model 3: Adjusted for Model 2 variables + sociodemographic, socioeconomic, lifestyle habit and stressor variables

*p<0.01; ** p<0.001; ***p<0.0001