

**Supplemental Table 1** - Frequency (and percent) of respondent characteristics overall and by presence or absence of sleep deficiency with p-value for test of no association with sleep deficiency. Significant p-values are bolded.

Sleep Deficiency Bivariates		Overall Sample (N=1516 ) No. (%) or Mean (SD)	Sleep Deficiency (N=896) No. (%) or Mean (SD)	No Sleep Deficiency (N=620) No. (%) or Mean (SD)	p <sup>1</sup>
Any Pain	No	399 (26.3%)	206 (23.0%)	193 (31.1%)	<b>0.0004</b>
	Yes	1117 (73.7%)	690 (77.0%)	427 (68.9%)	
Work Interference	No	1017 (67.4%)	557 (62.4%)	460 (74.6%)	<b>&lt;0.0001</b>
	Yes	492 (32.6%)	335 (37.6%)	157 (25.4%)	
Functional Limitation	No	1250 (82.5%)	700 (78.1%)	550 (88.7%)	<b>&lt;0.0001</b>
	Yes	266 (17.5%)	196 (21.9%)	70 (11.3%)	
Race	Hispanic	64 (4.3%)	35 (4.0%)	29 (4.8%)	0.8932
	White	1184 (79.3%)	703 (79.6%)	481 (78.9%)	
	Black	157 (10.5%)	92 (10.4%)	65 (10.7%)	
	Mixed Race/Other	88 (5.9%)	53 (6.0%)	35 (5.7%)	
Sex	Male	142 (9.5%)	81 (9.1%)	61 (9.9%)	0.6013
	Female	1359 (90.5%)	806 (90.9%)	553 (90.1%)	
Age (years)		41.4 (± 11.69)	41.9 (± 11.48)	40.5 (± 11.95)	<b>0.0269</b>
BMI (kg/m <sup>2</sup> )		26.3 (± 5.28)	26.6 (± 5.48)	25.9 (± 4.95)	<b>0.0119</b>
Psychological Distress		2.5 (± 3.34)	3.0 (± 3.67)	1.9 (± 2.66)	<b>&lt;0.0001</b>
Unit Category	ER	84 (5.5%)	54 (6.0%)	30 (4.8%)	0.2418
	OR	152 (10.0%)	94 (10.5%)	58 (9.4%)	
	Adult Med/Surg	519 (34.2%)	300 (33.5%)	219 (35.3%)	
	Adult ICU	191 (12.6%)	120 (13.4%)	71 (11.5%)	
	Stepdown	81 (5.3%)	46 (5.1%)	35 (5.6%)	
	Ped Med/Surg	20 (1.3%)	12 (1.3%)	8 (1.3%)	
	Ped ICU/NICU	63 (4.2%)	37 (4.1%)	26 (4.2%)	
	Psychiatry	20 (1.3%)	9 (1.0%)	11 (1.8%)	
	OB-Postpartum	127 (8.4%)	77 (8.6%)	50 (8.1%)	
	Float Pool	64 (4.2%)	35 (3.9%)	29 (4.7%)	
	Amb only/Consult/Educ	157 (10.4%)	98 (10.9%)	59 (9.5%)	
	Orthopedics	38 (2.5%)	14 (1.6%)	24 (3.9%)	
Hours Worked	<30 hours	339 (22.5%)	183 (20.5%)	156 (25.3%)	<b>0.0474</b>
	30-34 hours	182 (12.1%)	116 (13.0%)	66 (10.7%)	
	35-39 hours	435 (28.8%)	252 (28.2%)	183 (29.7%)	
	40-44 hours	489 (32.4%)	296 (33.1%)	193 (31.3%)	
	>44 hours	65 (4.3%)	46 (5.2%)	19 (3.1%)	
Occupation	Staff Nurse	1067 (70.7%)	610 (68.3%)	457 (74.1%)	<b>0.0159</b>
	Patient Care Associate	116 (7.7%)	67 (7.5%)	49 (7.9%)	
	Other	327 (21.7%)	216 (24.2%)	111 (18.0%)	
Nightwork	0-6 hrs/month	867 (57.2%)	523 (58.4%)	344 (55.5%)	0.269
	6-72 hrs/month	397 (26.2%)	221 (24.7%)	176 (28.4%)	
	>72 hrs/month	252 (16.6%)	152 (17.0%)	100 (16.1%)	
Coworker Support		8.0 (± 1.49)	7.9 (± 1.49)	8.1 (± 1.48)	<b>0.0033</b>
Supervisor Support		10.7 (± 2.98)	10.4 (± 3.01)	11.0 (± 2.91)	<b>0.0002</b>
Job Demands		35.9 (± 5.19)	36.2 (± 5.17)	35.5 (± 5.18)	<b>0.0081</b>

<sup>1</sup> p-values for continuous variables were based on t-tests; p-values for categorical variables were based on Chi-Square tests

**Supplemental Table 2.** Multivariable association of sleep deficiency and other respondent characteristics with Pain, Work Interference and Functional Limitations: Odds ratios, 95% confidence intervals and p-values. Significant p-values are bolded. Variables significant across all three sleep variables are also bolded and include sleep deficiency, psychological distress, and job demands.

Sleep Deficiency Models	Any Pain		Work Interference		Functional Limitation	
	Odds Ratio (95% CI)	p	Odds Ratio (95% CI)	p	Odds Ratio (95% CI)	p
<b>Sleep Deficiency (Yes vs. No)</b>	1.36 (1.03-1.79)	<b>0.030</b>	1.63 (1.25-2.13)	<b>&lt;.001</b>	1.90 (1.33-2.72)	<b>0.001</b>
Race (vs. Hispanic)	-	0.111	-	0.540	-	0.746
<i>White</i>	1.07 (0.52-2.23)	-	0.61 (0.31-1.21)	-	1.29 (0.46-3.66)	-
<i>Black</i>	0.58 (0.26-1.31)	-	0.59 (0.26-1.30)	-	1.69 (0.55-5.23)	-
<i>Mixed Race/Other</i>	0.94 (0.38-2.33)	-	0.65 (0.27-1.53)	-	1.56 (0.45-5.43)	-
Sex (Female vs. Male)	1.45 (0.94-2.25)	0.097	1.56 (0.98-2.50)	0.062	0.89 (0.52-1.55)	0.685
Age (years)	1.00 (0.99-1.02)	0.543	1.02 (1.00-1.03)	<b>0.014</b>	1.05 (1.03-1.07)	<b>&lt;.0001</b>
BMI (kg/m <sup>2</sup> )	1.03 (1.00-1.05)	0.077	1.03 (1.00-1.05)	<b>0.020</b>	1.07 (1.04-1.10)	<b>&lt;.0001</b>
<b>Psychological Distress</b>	1.06 (1.01-1.12)	<b>0.011</b>	1.10 (1.06-1.14)	<b>&lt;.0001</b>	1.12 (1.07-1.17)	<b>&lt;.0001</b>
Hours Worked (< 30 hours)	-	0.336	-	0.373	-	0.065
<i>30-34 hours</i>	1.17 (0.72-1.93)	-	0.81 (0.51-1.28)	-	1.01 (0.56-1.81)	-
<i>35-39 hours</i>	1.05 (0.72-1.53)	-	0.92 (0.65-1.30)	-	1.24 (0.78-1.97)	-
<i>40-44 hours</i>	1.47 (0.99-2.20)	-	0.93 (0.64-1.34)	-	1.10 (0.68-1.77)	-
<i>&gt;44 hours</i>	1.07 (0.53-2.18)	-	0.46 (0.21-1.00)	-	0.25 (0.08-0.73)	-
Occupation (vs. Staff Nurse)	-	<b>0.003</b>	-	0.138	-	0.958
<i>Patient Care Associate</i>	0.80 (0.44-1.47)	-	1.26 (0.69-2.32)	-	1.10 (0.50-2.40)	-
<i>Other</i>	0.52 (0.36-0.76)	-	0.73 (0.50-1.07)	-	0.97 (0.62-1.53)	-
Nightwork (vs. 0-6 hrs/month)	-	0.503	-	0.253	-	0.637
<i>6-72 hrs/month</i>	1.19 (0.82-1.72)	-	1.33 (0.95-1.86)	-	1.20 (0.77-1.89)	-
<i>&gt;72 hrs/month</i>	0.93 (0.62-1.40)	-	1.08 (0.74-1.58)	-	0.96 (0.58-1.58)	-
<b>Job Demands</b>	1.06 (1.03-1.09)	<b>&lt;.001</b>	1.06 (1.03-1.09)	<b>&lt;.0001</b>	1.05 (1.01-1.08)	<b>0.010</b>
Coworker Support	1.01 (0.91-1.13)	0.819	0.96 (0.87-1.07)	0.471	0.85 (0.75-0.96)	<b>0.010</b>
Supervisor Support	0.96 (0.91-1.01)	0.123	0.95 (0.90-1.00)	<b>0.034</b>	0.97 (0.91-1.04)	0.377