

**Supplementary Table S3.** Comparisons by age in the time courses of fatigue.

	Time					Main effect: Age		Main effect: Time		Interaction: Age × Time	
Variable: Mean (SD)	Before night shift <sup>c</sup>	Before napping	After napping	After night work	Morning in next day after night work	<i>F(df)</i>	<i>P</i> <sup>a</sup>	<i>F(df)</i>	<i>P</i> <sup>a</sup>	<i>F(df)</i>	<i>P</i> <sup>a</sup>
Drowsiness											
20s (n = 20)	12.4 (5.4)	15.1 (5.7) <sup>†</sup>	15.4 (5.4) <sup>†</sup>	16.2 (5.6) <sup>‡</sup>	11.3 (5.2)	3.35 (2, 17)	.060	28.76 (4, 236)	< .001	1.38 (8, 236)	.204
30s (n = 22)	10.2 (4.8)	14.4 (4.9) <sup>‡</sup>	16.1 (5.6) <sup>‡</sup>	15.5 (6.3) <sup>‡</sup>	11.9 (4.7)						
40s (n = 20)	7.9 (2.9)	12.1 (4.6) <sup>‡</sup>	13.1 (4.6) <sup>‡</sup>	11.0 (4.5) <sup>‡</sup>	9.2 (4.1)						
<i>P</i> -value <sup>b</sup>	.010	.154	.168	.008	.148						
Instability											
20s (n = 20)	11.4 (5.4)	11.4 (5.3)	11.7 (6.5)	10.9 (5.9)	7.3 (4.4) <sup>‡</sup>	1.22 (2, 51.1)	.305	19.93 (4, 236)	< .001	1.52 (8, 236)	.151
30s (n = 22)	9.4 (3.8)	9.3 (4.3)	10.2 (5.1)	9.2 (4.5)	7.6 (3.8) <sup>†</sup>						
40s (n = 20)	8.0 (4.0)	8.1 (4.0)	8.3 (3.6)	8.1 (4.5)	6.2 (1.8) <sup>‡</sup>						
<i>P</i> -value <sup>b</sup>	.060	.074	.124	.226	.416						
Uneasiness											
20s (n = 20)	10.2 (3.7)	11.5 (3.9)	12.4 (4.6) <sup>†</sup>	12.2 (5.6)	8.6 (4.4)	3.07 (2, 293.0)	.048	18.15 (4, 294)	< .001	1.91 (8, 294)	.060
30s (n = 22)	8.2 (3.2)	9.5 (4.1)	11.7 (5.3) <sup>‡</sup>	10.7 (4.9) <sup>‡</sup>	8.6 (4.0)						
40s (n = 20)	6.9 (2.4)	8.0 (2.9)	8.6 (2.6) <sup>†</sup>	8.5 (4.3) <sup>†</sup>	7.5 (2.6)						
<i>P</i> -value <sup>b</sup>	.006	.015	.018	.066	.555						
Local pain or dullness											
20s (n = 20)	10.0 (3.6)	12.6 (4.6) <sup>‡</sup>	12.1 (5.1) <sup>†</sup>	14.1 (6.2) <sup>‡</sup>	9.5 (4.8)	0.86 (2, 47)	.432	34.36 (4, 236)	< .001	2.59 (8, 236)	.010
30s (n = 22)	9.3 (4.4)	11.8 (4.6) <sup>‡</sup>	12.0 (5.5) <sup>‡</sup>	12.8 (5.6) <sup>‡</sup>	9.9 (4.8)						
40s (n = 20)	8.6 (3.8)	9.8 (4.0) <sup>†</sup>	10.0 (4.0) <sup>‡</sup>	10.3 (4.4) <sup>‡</sup>	8.9 (3.9)						
<i>P</i> -value <sup>b</sup>	.543	.127	.292	.091	.751						
Eyestrain											
20s (n = 20)	10.0 (4.2)	13.3 (4.2) <sup>‡</sup>	14.2 (5.5) <sup>‡</sup>	14.4 (5.5) <sup>‡</sup>	8.5 (5.1)	0.16 (2, 39)	.217	40.12 (4, 236)	< .001	1.79 (8, 236)	.078
30s (n = 22)	8.9 (3.4)	11.9 (4.7) <sup>‡</sup>	13.5 (5.5) <sup>‡</sup>	12.5 (5.5) <sup>‡</sup>	8.9 (3.7)						
40s (n = 20)	7.6 (3.9)	10.7 (4.9) <sup>‡</sup>	9.9 (5.0) <sup>‡</sup>	10.6 (4.6) <sup>‡</sup>	7.6 (3.2)						
<i>P</i> -value <sup>b</sup>	.145	.225	.028	.076	.551						
Total score											
20s (n = 20)	53.9 (19.2)	63.8 (20.8) <sup>†</sup>	65.7 (25.6) <sup>‡</sup>	67.7 (26.0) <sup>‡</sup>	45.2 (21.6) <sup>†</sup>	2.03 (2, 16)	.163	39.80 (4, 236)	< .001	2.01 (8, 236)	.046
30s (n = 22)	46.0 (17.5)	56.9 (20.6) <sup>‡</sup>	63.5 (24.9) <sup>‡</sup>	60.7 (25.0) <sup>‡</sup>	47.0 (18.7)						
40s (n = 20)	38.9 (14.6)	48.7 (16.6) <sup>‡</sup>	49.8 (16.9) <sup>‡</sup>	48.4 (18.6) <sup>‡</sup>	39.3 (13.0)						
<i>P</i> -value <sup>b</sup>	.028	.056	.064	.037	.367						

**Abbreviations:** df, degree of freedom; SD, standard deviation. **Notes:** Statistically significant values were marked in bold; a, Linear mixed model; b, One-way ANOVA and Tukey–Kramer's honestly significant difference (HSD) test (\*,  $P < .05$ . \*\*,  $P < .01$ ); c, Dunnett's test (before night work = control; †,  $P < .05$ , ‡,  $P < .01$ ).