**Supplementary material: Questionnaire**

**Section 1: Demographic characteristics**

1.1 Age: \_\_\_\_\_\_\_\_ years

1.2 Weight: \_\_\_\_\_\_\_\_ kilograms

1.3 Height: \_\_\_\_\_\_\_\_\_centimeters

1.4 Waist circumference: \_\_\_\_\_\_\_\_ centimeters

1.5 Have you been diagnosed by a physician with non-communicable diseases?

( ) No

( ) Yes, including [SELECT ALL THAT APPLY]:

( ) Hypertension ( ) Diabetes

( ) Dyslipidemia ( ) Cardiovascular disease

( ) Other, please specify: \_\_\_\_\_\_\_\_\_\_\_

* 1. Have you ever been consulted with medical professionals about mental health?

( ) No

( ) Yes, including [SELECT ALL THAT APPLY]:

( ) Depression ( ) Anxiety

( ) Stress ( ) Other, please specify: \_\_\_\_\_\_\_\_\_\_\_

* 1. How often do you consume caffeine (e.g. coffee)?

( ) Never consumed

( ) Occasionally consumed

( ) Consumed daily

* 1. Have you ever smoked?

( ) Never

( ) Ever

( ) Current

* 1. How many days per week that you exercise for at least 30 minutes?

\_\_\_\_\_\_\_\_\_\_\_ days per week

1.10 How is your family relationship?

( ) Good

( ) Conflicting

**Section 2: Work-related and environmental factors**

2.1 How many years have you ever been a professional firefighter?

\_\_\_\_\_\_\_\_\_\_\_ years

2.2 How much is your monthly income?

\_\_\_\_\_\_\_\_\_\_\_ Thai Baht

2.3 What is your job positions aligned with educational levels?

( ) Bachelor’s degree or higher

( ) Below Bachelor’s degree

2.4 Do you have any part-time jobs?

( ) No

( ) Yes, including [SELECT ALL THAT APPLY]:

( ) Daytime (8 a.m. to 8 p.m.)

( ) Nighttime (8 p.m. to 8 a.m.)

2.5 What is your shift pattern?

( ) Discontinuous shifts (having break of ≥24 hours between shifts)

( ) Continuous shifts (having break of <24 hours between shifts)

2.6 Where is your main sleep accommodation during work shifts?

( ) On-call room

( ) Dormitory

( ) Home

2.7 Do you have any issues related to sleeping quarters?

( ) No

( ) Yes, including [SELECT ALL THAT APPLY]:

( ) Excessive noise

( ) Lighting conditions

( ) Bedding readiness concerns

**Section 3: Pittsburgh Sleep Quality Index (PSQI)**

INSTRUCTIONS: The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

1. During the past month, what time have you usually gone to bed at night?

BED TIME \_\_\_\_\_\_\_\_\_\_\_

1. During the past month, how long (in minutes) has it usually take you to fall asleep each night?

NUMBER OF MINUTES \_\_\_\_\_\_\_\_\_\_\_

1. During the past month, when have you usually gotten up in the morning?

USUAL GETTING UP TIME \_\_\_\_\_\_\_\_\_\_\_

1. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.)

HOURS OF SLEEP PER NIGHT \_\_\_\_\_\_\_\_\_\_\_

For each of the remaining questions, check the one best response. Please answer all questions.

1. During the past month, how often have you had trouble sleeping because you . . .
2. Cannot get to sleep within 30 minutes

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Wake up in the middle of the night or early morning

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Have to get up to use the bathroom

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Cannot breathe comfortably

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Cough or snore loudly

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Feel too cold

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Feel too hot

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Had bad dreams

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Have pain

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Other reason(s), please describe\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ How often during the past month have you had trouble sleeping because of this?

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. During the past month, how would you rate your sleep quality overall?

Very good \_\_\_\_\_\_\_\_\_\_\_

Fairly good \_\_\_\_\_\_\_\_\_\_

Fairly bad \_\_\_\_\_\_\_\_\_\_\_

Very bad \_\_\_\_\_\_\_\_\_\_\_\_

1. During the past month, how often have you taken medicine to help you sleep (prescribed or "over the counter")?

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?

No problem at all \_\_\_\_\_\_\_\_\_\_

Only a very slight problem \_\_\_\_\_\_\_\_\_\_

Somewhat of a problem \_\_\_\_\_\_\_\_\_\_

A very big problem \_\_\_\_\_\_\_\_\_\_

1. Do you have a bed partner or roommate?

No bed partner or roommate \_\_\_\_\_\_\_\_\_\_

Partner/room mate in other room \_\_\_\_\_\_\_\_\_\_

Partner in same room, but not same bed \_\_\_\_\_\_\_\_\_\_

Partner in same bed \_\_\_\_\_\_\_\_\_\_

If you have a roommate or bed partner, ask him/her how often in the past month you have had . . .

1. Loud snoring

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Long pauses between breaths while asleep

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Legs twitching or jerking while you sleep

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Episodes of disorientation or confusion during sleep

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_

1. Other restlessness while you sleep; please describe\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Not during the Less than Once or Three or more

past month\_\_\_\_\_ once a week\_\_\_\_\_ twice a week\_\_\_\_\_ times a week\_\_\_\_\_