

Importance

of SLEEP



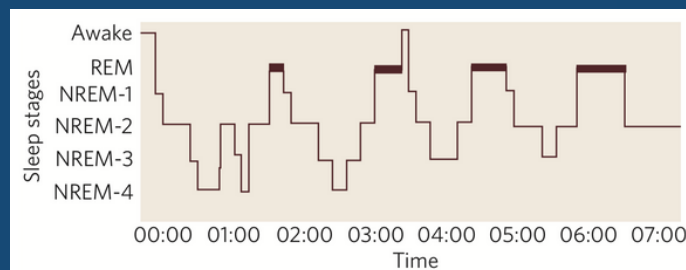
SLEEP & MEMORY

- Sleep were found to **enhance memory performance** both quantitatively (e.g. better recall of the newly learned (Tucker et al., 2006) and qualitatively (e.g. ability to gain new insights (Wagner et al., 2004);
- Sleep also helps us to **better focus on learning** new materials and enhance learning efficiency (Dinges, 1997);
- Beneficial effects of sleep were found in people across wide developmental span (e.g. children and adolescents (for a review, see Kopasz et al., 2010), adults and even the elderly (Mazzoni et al., 1999).

FACTS

about SLEEP

SLEEP STAGES



A night of sleep is composed of ~90- minute cycles divided into periods of rapid eye-movement sleep (REM) and non-REM sleep (NREM), with NREM further divided into stages 1 to 4. (Source: Stickgold, R., 2005)

Sleep and Health

Public Health Booklet



SLEEP & EMOTION

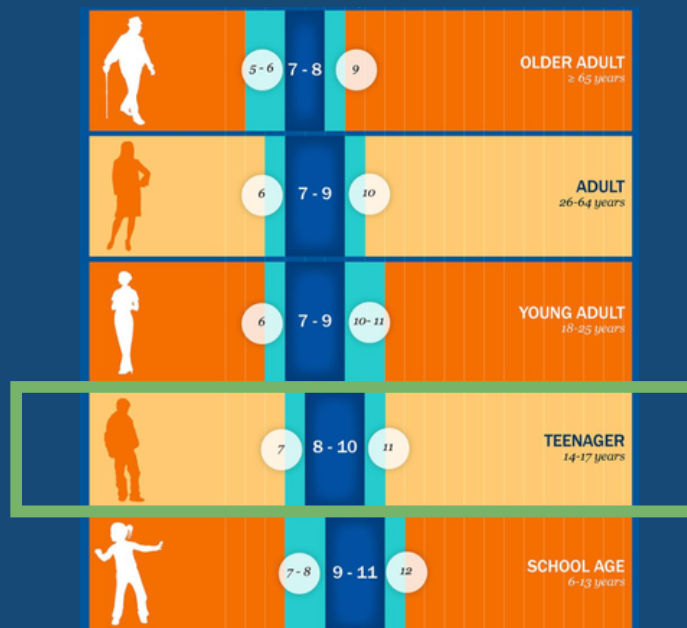
- Sleep was found to help us **restore the sensitivity and specificity** of brain's response to dealing emotional events in daily lives (Walker and van Der Helm, 2009).
- Trouble sleeping was suggested to correlated with parent report **anxiety and depression** in children (Johnson, Chilcoat & Breslau, 2000);
- Adolescents who experienced restricted sleep under laboratory setting reported significantly **more emotional issues** such as tense/anxious and angry/hostile accompanied with greater **oppositonality, irritability and poorer emotional regulation** (Baum et al., 2014).

POOR SLEEP



- Poor-quality sleepers reported significantly **more problems with physical and psychological health** than did good-quality sleepers in adolescent participants (Lund et al., 2010);
- Substantial studies have illustrated a **positive correlation between sleep hygiene** (e.g. healthy sleep schedule) **and academic performance** (For a review, see Curcio, Ferrara & De Gennaro, 2006).

SLEEP DURATION



Source: National Sleep Foundation, USA

To keep a regular and healthy sleep is of great importance to our mental and physical health, especially for adolescents who undergo large academic challenges and pressure.

The aim of this booklet is to promote the importance of sleep and provide suggestions on healthy sleep to the adolescents and the public in Hong Kong.

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SELF-ASSESS YOUR SLEEP

SLEEP DIARY

- This sleep diary can help you to **keep track of your sleep pattern and sleep quality** and further **improve healthy sleep**;
- It only takes you few minutes to complete every day;
- There is two sections for one day: one is to complete in the morning and the other is to complete in the evening;
- Make incremental changes.** Changing one habit at a time can set you on the path to healthy sleep.

Tips Healthy Sleep

1. STICK TO SLEEP SCHEDULE



- Research found an irregular bedtime schedule correlates to poor sleep quality (Kang & Chen, 2009)
- Therefore, **set a sleep and wake time** and try your best to stick to the schedule even on weekends;
- A consistent sleep schedule will help you feel less tired since it allows your body to get in sync with its natural patterns.

2. TAKE A DAYTIME NAP

- Research found even ultra short sleep like 5 minutes can make significant memory improvement (Lahl et al., 2008)
- So **take a nap** if you feel too sleep or drowsy during the day. It can help you refresh and make you study and work more efficiently;
- Do not nap too long or too close to your bedtime as it can interfere your regular sleep pattern.



3. AVOID AROUSAL ACITIVIES

Before your bedtime:



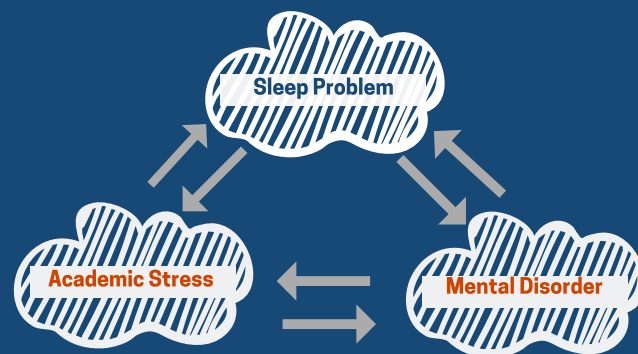
- Try to **avoid exercise, eating or drinking**;
- Try to **avoid electrical devices** such as TV, computer or cellphone;
- Try **not to leave your homework for the last minute**

Sleep Problem in HK

SLEEP QUALITY IN HK ADOLESCENTS

- Insufficient total sleep time:** 7.3hrs.<< recommended sleep hrs;
- Perceived stress** is the most significant risk factor for sleep disturbance;
- Excessive day time sleepiness** is common, with 41.9% of students report sleepiness higher than threshold;
- Sleep disturbance:** 19.1% of the sampling adolescents report different level of sleep difficulties (e.g. difficulty falling asleep, waking up during the night)

*Sample included 1629 adolescents aged 12 to 19 years
(Chung & Cheung, 2008)



(Luo, 2017)

Complete in Morning									
Start date: <u> </u> / <u> </u> / <u> </u>	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7		
Day of week: <u> </u>									
I went to bed last night at: <u> </u> AM / <u> </u> PM									
I got out of bed this morning at: <u> </u> AM / <u> </u> PM									
Last night I slept: <u> </u> hours									
Early After some time With difficulty									
I woke up during the night: <u> </u> times									
Last night I slept a total of: <u> </u> hours									
My sleep was disturbed by: <u> </u>									
List mental or physical factors including noise, lights, pests, allergies, temperature, discomfort, stress, etc.									
When I woke up for the day, I felt:									
Exhausted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Somewhat refreshed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fatigued	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notes: Record any other factors that may affect your sleep (e.g. hours of work, shift, or monthly cycle for women).									

Complete at the End of Day									
Day of week: <u> </u>	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7		
I consumed caffeinated drinks in the: Morning, Afternoon, Evening, (AM)									
M / A / E / N									
How many?									
I exercised at least 20 minutes in the: Morning, Afternoon, Evening, (AM)									
Medications I took today:									
Took a nap?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(circle one)	No	No	No	No	No	No	No	No	No
If yes, for how long?									
During the day how likely was I to doze off while performing daily activities:									
No chance, Slight chance, Moderate chance, High chance									
Throughout the day, my mood was... Very pleasant, Pleasant, Unpleasant, Very unpleasant									
Approximately 2-3 hours before going to bed, I consumed:									
Alcohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A heavy meal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caffeine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In the hour before going to sleep, my bedtime routine included:									
List activities including reading a book, using electronics, taking a bath, doing relaxation exercises, etc.									