



# Distributing 'Smart Watch' alone cannot reduce Sedentary Behavior

## An Active Lifestyle can be encouraged

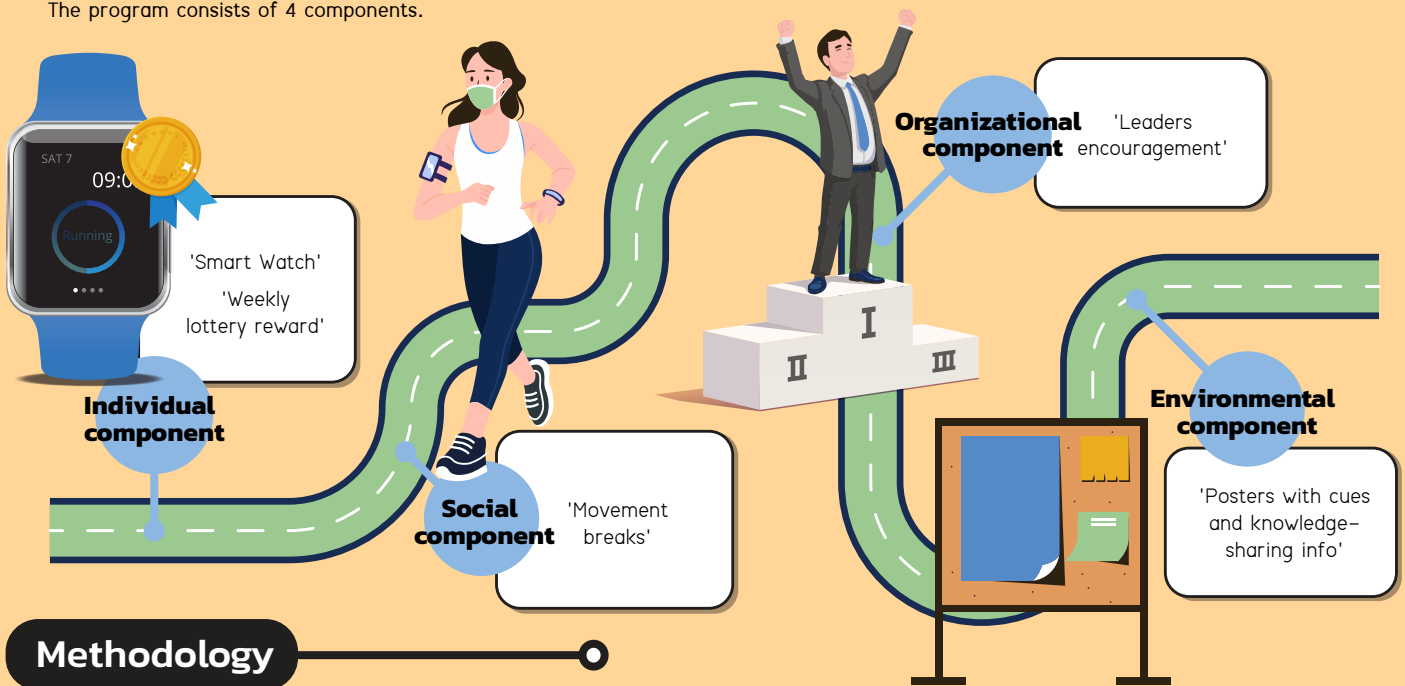
By harmonizing Individual, Social, Organizational, and Environmental levels

### Highlight

- Sedentary behavior and physical inactivity increase the risks of non-communicable diseases such as hypertension, diabetes, and cardiovascular diseases, which contribute to approximately 70% of all-cause mortality among Thais.
- There is a misunderstanding that exercise in leisure time can neutralize the effect of a sedentary lifestyle. Risks from sedentary behavior cannot be nullified unless we reduce the sedentary time.
- The study results suggested that single-component interventions cannot lead to behavioral change. Multi-component interventions are crucial.
- The research team developed the Physical Activity at Work (PAW) program to reduce sedentary behavior in Thai office-based workers and conducted the first full-scale trial in Southeast Asia.

### What is PAW!?

the Physical Activity at Work (PAW) is a workplace behavioral-change program developed for sedentary behavior reduction in office workers. The program consists of 4 components.



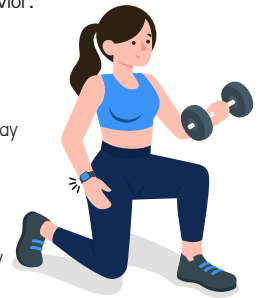
### Methodology

Sample	Design	Data collection
<ul style="list-style-type: none"> <li>○ Offices under the Ministry of Public Health: <b>18</b> Offices</li> <li>○ A total of <b>282</b> participants</li> <li>○ At the end of the program: <b>254</b> participants</li> </ul>	<p>A Cluster-Randomized Controlled Trial</p> <ul style="list-style-type: none"> <li>○ <b>Intervention group</b></li> <li>○ <b>Control group</b></li> </ul>	<ul style="list-style-type: none"> <li>○ baseline data collection <b>Before the randomization and the start of the intervention</b></li> <li>○ follow-up data collection <b>At the 24th week of the intervention period</b></li> </ul> <p>(To find between-group differences in sedentary time and physical activity levels)</p>

## Results



- 1 The PAW multi-component intervention did not significantly reduce sedentary behavior.
- 2 The Intervention-group participants
  - Spent **26.8** minutes less in sedentary behavior per day
  - Had **455** more steps per day
  - Spent **5.3** minutes more in moderate-to-vigorous physical activities per day
- 3 Complied participants (joined more than half of movement break sessions)
  - Spent **45.5** minutes less in sedentary behavior per day
  - Had **1,622** more steps per day
  - Spent **12** minutes more in moderate-to-vigorous physical activities per day
- 4 Social component intervention (the movement breaks) was the main component to reduce sedentary behavior and increase physical activity
- 5 There were no significant differences in behavior between participants who used Smartwatch on a daily basis but did not join enough movement break sessions and those who did not own Smartwatch.



## Remarks from the study

- Harmonization of individual, social, organizational, and environmental levels is needed to develop an effective behavioral change policy.
- Distributing Smartwatch alone cannot significantly change behavior unless other intervention components are also encouraged.
- Reviews confirm that multicomponent interventions are more effective. Other studies use different interventions such as goal setting for the individual component, competitive gamification for the social component, and height-adjustable desks for the environmental component.

## About the study

The HITAP research team collected i) interview data including demographics, time spent in sedentary behavior and physical activity, illnesses, and office syndrome, ii) cardiovascular biomarkers, iii) objective measurement of sedentary behavior and physical activity using the ActiGraph™, in which participants wear as belts for 10 days during data collection periods.

To detect between-group mean differences accounting for cluster effect, data analysis was done using the Linear Mixed-Effect Model. The unadjusted analysis was compared with analyses adjusting for baseline data, ActiGraph™ wear time, and cluster size. Subgroup analysis was done in intervention-group participants who joined at least 50% of the movement break sessions, compared to the control group.



### For more information about the research

This policy brief is part of the project "The physical activity at work (PAW) study: a cluster randomised trial of a multicomponent short-break intervention to reduce sitting time and increase physical activity among office workers in Thailand"

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