

## **USING Pedometer to Enhance Daily Physical Activity Among University Students**

*Dr FONG, Siu Ming Shirley, Dr MA Wai Wing, Ada*

**DESCRIPTION:** This practice engaged undergraduate students in an experiential learning activity - pedometer-enhanced physical activity intervention - and encouraged them to be health educators to influence their peers to exercise daily. Participants (n=22) were required to wear a pedometer to register their daily physical activity over a week. The mean pedometer counts obtained in Day 1 and Day 7 were compared using paired t test. Results revealed that there was a general trend of improvement from Day 1 to Day 7. The mean pedometer count increased by 29.7% at Day 7 when compared to Day 1 ( $p = 0.003$ ). It hints that using pedometer might be a viable method to enhance physical activity among university students. In addition, participants were eager to introduce this intervention to their peers. Therefore, the practice of enhanced daily physical activity through the use of pedometer could be spread in the university community.

**SITUATIONS WHERE THIS PRACTICE CAN BE USED:** This simple intervention can be applied in school or community settings to motivate young people to increase their daily physical activity.

**BACKGROUND:** This practice was used in the University of Hong Kong BSc (Exercise and Health) programme in 2013-2014.

**OBJECTIVES:** Upon completion of this pedometer-enhanced physical activity intervention, the participants are able to:

- identify a method to increase daily physical activity level.
- take >10,000 steps per day which is a public health recommendation.
- introduce pedometer-enhanced physical activity intervention to at least five peers.

**ACTIVITIES:** A cohort of BSc (Exercise and Health) students from the University of Hong Kong participated in the study. Physical Activity Readiness Questionnaire was first used to screen their suitability to do exercises. Students who had significant musculoskeletal or cardiopulmonary disorders were excluded. Written informed consent was obtained from each participant. Height and weight were measured and the body mass index was calculated.

Each participant was instructed to wear a pedometer (Ariel Premium Supplu, Inc., St. Louis, US) that counted the number of steps taken during a typical week. The pedometer was attached to the left iliac crest. Participants were instructed to wear the pedometer from the moment they got up and detached it at the end of the day, just before they went to bed (except when showering). In addition, they were encouraged to do exercises (e.g., walking and jogging) as much as possible. All participants were instructed to document the number of steps in a record form and then push the reset button at the end of each day. Physical activity per day, as denoted by the pedometer count per day, was documented for 7 days (Monday through Sunday).

Data analysis was performed using IBM SPSS 20.0. Descriptive statistics (mean  $\pm$  SD) were used to describe the demographic and outcome variables. Paired t test was used to compare the mean pedometer counts obtained in Day 1 and Day 7. The significance level was set at 0.05.

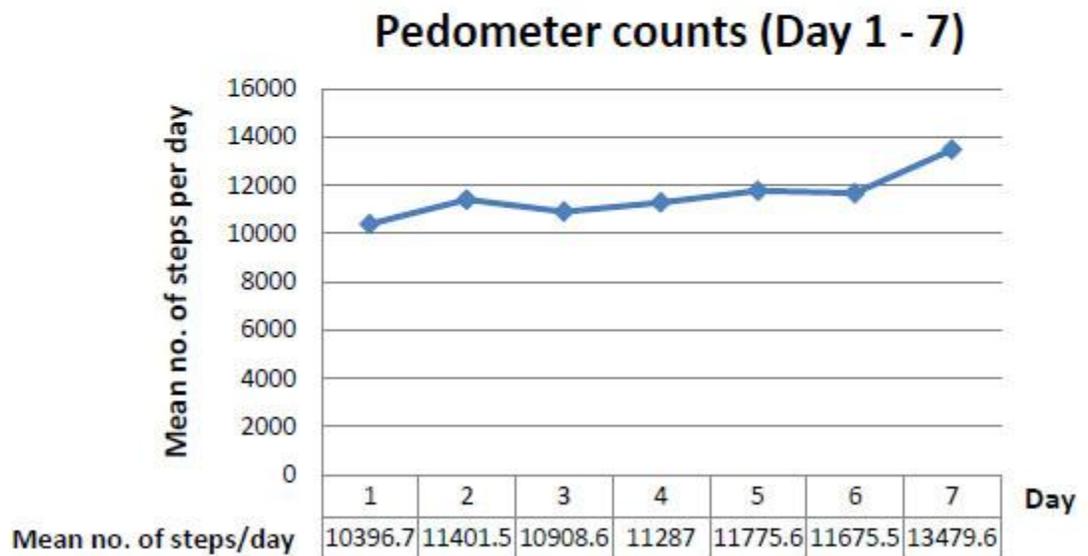
**SUPPORTING VIDEOS:** [Using Pedometer to Enhance Daily Physical Activity Among University Students](#)

**OUTCOMES WORTH NOTING:** All students (n = 22) were fit for exercise and joined the study. The participant characteristics are outlined in Table 1. Results revealed that there was a general

trend of improvement from Day 1 to Day 7. The mean pedometer count increased by 29.7% at Day 7 when compared to Day 1 ( $p = 0.003$ ) (Figure 1). Overall, the objectives of this pedometer-enhanced physical activity intervention were attained. It hints that using pedometer might be a viable method to enhance physical activity among university students.

**Table 1. Demographic characteristics of the participants**

	Mean $\pm$ SD
Age (years)	20.4 $\pm$ 1.3
Gender	11 males & 11 females
Height (cm)	167.7 $\pm$ 6.9
Weight (kg)	59.1 $\pm$ 9.8
Body mass index (kg/m <sup>2</sup> )	20.9 $\pm$ 2.3



**Figure 1. Pedometer count from Day 1 to Day 7**

**PARTICIPANTS' RESPONSE:** According to the participants' feedbacks, all of them appreciated this pedometer-enhanced physical activity intervention. They agreed that it was a viable method to increase physical activity to >10,000 steps per day which is a public health recommendation. Participants will act as a role model/ student educator to educate their peers on how to increase daily physical activity effectively.

**HOW THIS PRACTICE SUPPORTS LEARNING:** The BSc (Exercise and Health) students were actively involved in this experiential learning activity through which they learnt a viable method to increase physical activity level among university students. In addition, they learnt some lifelong learning skills such as research method through this practice.

**FURTHER SUGGESTIONS:** In order to achieve a more sustainable outcome, we suggested increase the duration of this pedometer-enhanced physical activity intervention to one month. Of course, supportive school/ university policy and cooperative teaching teams will be necessary for successful implementation of such intervention.