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**Title: The effect of Chen's style Tai Chi on stress reduction in junior secondary school students**

### **ABSTRACT**

Hong Kong people's stress level is dramatically increasing. This is especially found in students aged below 15. It was found that the number of this group of students attempted suicides increased sharply in the recent three years which related to their stress level. It was understood that this group of students, who were studying as junior secondary school students, needed to encounter many new challenges such as changing new academic environment, and bearing greater responsibilities and expectation. These rapidly changes would probably result in stress. It is known that excessive stress will influence both physical and psychological health.

On the other hand, exercise is well-known in stress reduction. Although Tai Chi is a traditional exercise which has been widely practiced, there is limited scientific evidence to demonstrate its effect on stress reduction in junior secondary school students. The aim of this non-equivalent pre-test-post-test control group design study was to evaluate the effectiveness of Chen's style Tai Chi on stress reduction in junior secondary school students.

In the study, 69 participants who were Form 1 and 2 students were recruited by convenience sampling method and they were distributed into experimental group (n=32) and control group (n=37) respectively. In the experimental group, participants joined a 4-month Chen's Tai Chi programme, a qualified Tai Chi instructor was appointed to conduct the programme. There were totally 10 sessions within 4 months and each session lasted for 80 minutes. In the control group, students continued their usual activities as school schedule.

Stress was assessed using the Perceived stress scale 10-item (PSS-10) and demographic characteristics of the participants were collected by a demographic questionnaire. Collected data were analyzed by using descriptive and inferential

statistical tests with the statistical package for the social science (SPSS). The demographic characteristics and stress level were calculated by frequency, percentage, mean and standard deviation. The differences between experimental and control groups in terms of the demographic characteristics and stress level at baseline were calculated by independent t-test and Chi-square test. The relationships between the demographic characteristics and the change of stress level were evaluated by Pearson's correlation, independent t-test and ANOVA. The intervention effect of Tai Chi was evaluated by independent t-test.

In this study, change in perceived stress among JSSS was not statistically significant over time ( $t = -0.351$ ,  $p = 0.726$ ). However, findings showed statistically significant results in the relationship between years of immigration and change of stress ( $p = 0.039$ ), and number of extra-curricular activities and change of stress ( $p = 0.047$ ).

To conclude, Tai Chi may have potential effect in stress reduction among JSSS. Therefore, the effect of Tai Chi among JSSS needs further investigation. In addition, future studies on people who are mainland immigrants and with extra-curricular activities joined are recommended to determine whether greater degree of stress reduction with Tai Chi can be achieved.