

中文題目：個人化運動處方對鋼鐵公司勞工體適能之影響

英文題目：Effects of Personalized Exercise Prescriptions on Physical Fitness : Labors Work in Steel Corporation

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### ***Background***

Health-related physical fitness includes body composition, cardiorespiratory fitness, muscular strength, muscular endurance and flexibility. Person with better physical fitness can be more competent to daily life or work. Prevention is better than cure, in addition to using drugs to treat disease, should also be adjusted to the lifestyle, eating habits or physical activity to improve health and prevent further acute or chronic disease.

### ***Method***

On 2010 March by a steel company in southern Taiwan employees was encouraged all to participate this study. After completing the questionnaires, we calculated body mass index, measured waist circumference, body fat percentage, and performed maximum grip strength, one-minute sit-ups, sit and reach test, three minutes step test to measure body composition, muscular strength, muscular endurance, flexibility, cardiorespiratory fitness. Then each person was given personalized exercise prescription based on questionnaires and results of physical fitness. Then three months later, the repeated tests were performed. The results were recorded and analyzed.

### ***Result***

A total of 720 labors participate this study. The physical fitness test results: the average age is 50.58 years old, the average BMI is 26.7 (kg / m<sup>2</sup>), average 90.2 cm in waist circumference, waist-hip ratio is 0.899 on average, average body fat percentage is 25.6% of body fat percentage, muscle strength average is 43.7 (kg), the average of muscular endurance is 23.4 (times / min), the average of flexibility is 22.2 (cm), the average of cardiorespiratory fitness is 58.1. 380 people participate in the post-test after three months, the average age is 50.45 years, BMI average is 26.3 (kg / m<sup>2</sup>), waist circumference average is 85.8 cm, waist-hip ratio average is 0.884, average body fat percentage is 24.8%, muscle average is 44.0 (kg), average of muscular endurance is 27.2 (time / min), the average of flexibility is 24.0 (cm), average of cardiorespiratory fitness is 62.15. Paired samples T-test analysis of pre-test and post-test revealed the physical fitness all improved after exercise prescription. In addition to muscle strength, the others have significant differences. Also found labors in full compliance with the exercise prescription follow a significant difference in the

improvement of cardiorespiratory fitness.

***Conclusion***

In the study, in addition to pre-test of physical fitness, but also add a personalized exercise prescription, post-test of fitness. All the results of physical fitness improved 3 months later.