

PHYSICAL TRAINING OF COLLEGE STUDENTS USING TAEKWONDO ELEMENTS IN PHYSICAL EDUCATION CLASSES

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The obvious deterioration of students' health status requires the search for new and effective means and methods to solve the problem of strengthening the physical and mental health of teenagers and creating a healthy lifestyle. It is well known that one of the determinants of human health is physical activity. Currently, teenagers are increasingly interested in various combat sports, especially Taekwondo, which developed relatively late in China and does not yet have enough software and methodology support to allow everyone to engage in this sport. The lack of content, means and conditions for organizing physical education based on students' Taekwondo potential determines the choice of research topic.

Research purpose: The research purpose of this paper is to conduct a fusion and regenerative comprehensive research based on the opinions of various experts, on the premise of strict standards, wide range, high-precision experiments and scientific processing of the collected experimental data, so as to understand the physical and psychological impact of Taekwondo on college students.

Material and methods. The following research methods were used to write this article: literature method; teaching experiment measurement method; test method; comparative method.

Results and their discussion. Experimental results on guangdong industry and commerce vocational and technical university.

Table 1 – Body shape index data of male and female students of Guangdong Vocational and Technical University of Industry and Commerce and students of the same age group nationwide before and after Taekwondo practice

Index	Before experiment		After the experiment		National college students of the same age group	
	male	female	male	female	male	female
Height (cm)	170.4±16.02	59.90±15.88	170.56±18.34	159.93±15.45	171.06±18.99	160.33±14.88
Weight (kg)	60.09±9.30	53.94±7.22 ▲	61.65±7.76	51.45±5.67 ▲	60.05±6.06	50.45±4.90
Bust (cm)	82.67±4.37	83.90±3.76	82.70±6.92	82.87±4.23	81.53±6.02	83.87±5.51
Verwick index	83.65±5.18	84.37±4.23	82.49±6.42	81.12±4.67 ▲	80.47±6.42	79.80±5.57

It can be seen from Table 1 that there is a significant difference ($P < 0.05$) in the Vervik index of female students after practicing Taekwondo, showing a significant decrease, while that of male college students also decreased but not significantly [1].

Table 2 – Body composition index data of male and female students of Guangdong Vocational and Technical University of Industry and Commerce before and after Taekwondo practice

Index	Before experiment		After the experiment	
	male	female	male	female
Hips (mm)	10.36±4.23	15.56±2.67	10.39±3.45	10.21±2.14
Shoulder blade (mm)	10.45±4.32	10.72±4.26	10.67±4.21	10.72±3.22
Chest (mm)	10.23±2.87	10.78±3.98	10.87±3.56	10.64±2.95
Abdomen (mm)	14.21±3.67	13.02±2.47	12.87±3.81 ▲	11.92±3.53 ▲
Abdomen (mm)	10.45±4.21	11.04±3.54	10.46±4.23	11.00±2.61

Calf (mm)	10.32±3.56	10.45±3.23	10.56±4.76	10.13±2.98
Lean body mass (mm)	42.56±5.78	38.56±6.42	44.56±8.72	41.84±9.86▲
Body fat (%)	26.23±3.76	24.21±3.10	24.33±4.12	20.52±3.45

After practicing Taekwondo, the abdominal skin fold thickness of both male and female college students was significantly reduced ($P<0.05$). Moreover, the lean body mass of female college students after Taekwondo training was significantly greater than before the experiment ($P<0.05$). The lean body mass of male college students also increased but not significantly. No other significant differences were found [2].

It can be seen from Table 3 that the vital capacity/body mass index of female college students was significantly higher than before practice ($P<0.05$), and that of male college students also increased but not significantly. There is a significant difference between the step experiment index and the step experiment index of students in the same age group across the country, which is significantly lower. Girls also have a decrease but not significantly. After practice, the step test index increased significantly for both men and women ($P<0.05$). The basal heart rates of men and women were significantly lower than before exercise, but not significantly.

Table 3 – Cardiopulmonary function index data of male and female college students of Guangdong Vocational and Technical University of Industry and Commerce and college students of the same age group nationwide before and after Taekwondo practice

Index	Before experiment		After the experiment		National college students of the same age group	
	male	female	male	female	male	female
Vital capacity (ml)/body weight	69.00±10.76	51.87±9.15	71.45±11.23	54.90±10.34▲	67.00±9.90	50.8±8.75
basal heart rate	78.43±10.35	70.87±11.23	75.87±10.78	68.09±9.45	-	-
step experiment	60.00±28.35▲	51.45±18.03	62.00±25.32▲	53.76±14.35▲	62.40±21.35	52.4±19.89

Conclusion. Taekwondo elective courses can significantly improve the body shape of female college students, and can significantly reduce the body fat content and increase lean body mass of female college students. Taekwondo elective courses can significantly improve the vital capacity/body mass index of female college students, and the step test index of both male and female students can be significantly improved, effectively improving the cardiopulmonary function of college students.

If the physical condition of college students is taken as input and physical quality is taken as output, the benefits of physical education in colleges and universities can be expressed as: physical quality/(body shape + physical ability). The denominator increases year by year and the numerator decreases year by year, indicating that the effectiveness of physical education teaching in colleges and universities is declining [3, 4]. It is suggested that opening Taekwondo elective courses can significantly improve students' physical fitness and gradually improve the effectiveness of university physical education teaching. The above-mentioned research shows that Taekwondo classes can enhance the physical fitness of college students and play a positive role in cultivating their psychological quality and will quality. Therefore, it will become a trend to offer Taekwondo courses in universities.

1. Wang, Z.H. Research on the effects of aerobic exercise on body shape, composition and cardiopulmonary function of female college students[J]/Z.H. Wang//Journal of Beijing Sport University. – 2007. – P. 38–39.
2. Zhao, Z.W. Analysis and evaluation of the physical fitness survey results of undergraduate students at Shenyang Normal University[J]/Z.W. Zhao, X.S. Wang//Journal of Beijing Sport University. – 2003. – P. 9.
3. Ministry of Education, State Sports General Administration. Implementation of Student Physical Health Standards (Trial Plan) and Student Physical Health Standards (Trial Plan) Method/Ministry of Education, State Sports General Administration//National Sports Publishing House. – 2002. – P. 51.
4. Wang, F.H. Rational thinking on the evolution and development of students' physical health standards[J]/F.H. Wang//Journal of Capital Institute of Physical Education. – 2004. – P. 6.