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The Physical Health Characteristics and Its Causes Analysis of Female Dance Students

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Objective Dance is an art form with the body as the carrier, the long-term systematic dance training will make a certain effect on the physical health. By comparing the physical health test results of the female college students majoring in dance with female general students', this research will analyze the characteristics of physical health of female dance students and its influencing factors, and provide the basis of dance can promote the physical health of women, which can help dance to play a role in promoting the national physical and mental health.

Methods The physical health data of female students majoring in dance in Beijing dance academy and female students majoring in liberal arts in a normal university in Beijing in 2018 were analyzed and studied. The physical test indexes include: (1) body morphology indexes: height, weight; (2) body function indexes: vital capacity; (3) Physical Fitness indicators: reaction selection time, sit and reach, standing long jump, 50m run, 800m run, sit-ups. SPSS17.0 software was used to process the data, and independent sample T test was used to compare and analyze the data of the two groups, and $P < 0.05$ was taken as a significant difference.

Results The physical health test results of female students majoring in dance and ordinary female students are as follows: (1) BMI: The former is $19.58 \pm 1.72 \text{ kg/m}^2$; the latter is $20.43 \pm 2.86 \text{ kg/m}^2$. (2) Vital Capacity: The former is $2613.19 \pm 546.7 \text{ ml}$; the latter is $2597.12 \pm 449.34 \text{ ml}$. (3) 50m Run: The former is $8.94 \pm 0.952 \text{ s}$; the latter is $9.48 \pm 0.62 \text{ s}$; 800m Run: The former is $244.4 \pm 30.6 \text{ s}$; the latter is $238.1 \pm 22.2 \text{ s}$; Sit-and-Reach: The former is $28.34 \pm 4.14 \text{ cm}$; the latter is $18.86 \pm 6.62 \text{ cm}$; Standing Long Jump: The former is $180.04 \pm 17.79 \text{ cm}$, the latter is $162.73 \pm 16.39 \text{ cm}$. One Min Sit-Ups: The former is $40.52 \pm 6.5 \text{ times}$; the latter is $29.44 \pm 8.02 \text{ times}$. In addition to the Vital Capacity, the test results of other indicators all showed significant differences ($P < 0.05$).

Conclusions (1) Compared with ordinary college students, female students majoring in dance have a lower BMI. As a physical activity, dance can stimulate bone growth; At the same time, the daily dance training increases the energy consumption of the body, besides that, dance students must limit the daily diet to control the weight to meet the special dance figure requirements. (2) The lung capacity of female students majoring in dance is slightly higher than that of ordinary students, but the difference is not significant, which indicates that the training of dance has no obvious effect on the lung capacity. (3) The strength, speed, flexibility and other physical indicators of female students majoring in dance were all significantly higher than those of ordinary students. As far as strength is concerned, lower limb ability is an important part of dance training, long-term dance training will improve the explosive power of lower limb and body coordination, so female dancers performed well in the standing long jump. Dance major students have a higher score of one-minute sit-ups, because the strength of lumbar and abdominal muscle group is also an important content of dance training, it has been improved to a certain extent after a long period of training. The complex and diverse changes in the speed and spatial position of dance movements are conducive to the improvement of the speed quality and the flexibility of the nervous system. Therefore, female students majoring in dance are relatively faster in the 50-meter running. Dance has a really high requirement for flexibility, which is also an important content of dance training. After a long-term training, the

flexibility of students majoring in dance has been greatly improved, which is reflected an obvious advantages in the value of the sit-and-reach.

However, female dance majors did not have an advantage in lung capacity and 800-meter running, indicating that their lung functions and endurance capacity were at a general level. In the dance training, there are more intervals during the movements and less continuous movements for a long time, which has little effect on improving the function of the aerobic metabolism system. This suggests that students majoring in dance should carry out targeted aerobic exercise to improve their endurance.

To sum up, on the whole, female students majoring in dance have a relatively high level of physical health, especially with advantages in body shape, muscle strength and flexibility. It shows that the beneficial effect of long-term dance training on physical health. Therefore, how to incorporate dance into the national physical health system as an important means to promote national health, and how to take certain measures to encourage the public to actively participate in dance activities to bring the health functions of dance fully play are worthy of more attention and deeper research.