

## Correlation between Physical Fitness and Performance and Grade of Table Tennis of Middle School Students

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**Abstract :** This study is to test the correlation between the Physical Fitness (PF) of middle school students and their performance and sports grade of table tennis. Methods: 398 middle school students from Shanghai Tongji No.2 Middle School participated in the study, including 232 boys and 166 girls. Each participant participated in the Chinese Students' Physical Fitness Test (CSPFT), including BMI, 50-meter running, vital capacity, sitting body flexion, standing long jump, 800-meter running, 1000-meter running, pull-ups, and sit-ups. Test scores were converted to a percentage score according to the CSPFT guidelines. In addition, each student participated in the Nation Junior Table Tennis grade test, and completed the table tennis sports grade assessment of 1-9. Results: There is a significant positive correlation between the scores of multiple PF tests and the total scores of table tennis, such as BMI ( $r = 0.15$ ,  $p < 0.01$ ), standing long jump ( $r = 0.15$ ,  $p < 0.05$ ), 800-meter run ( $r = 0.02$ ,  $p < 0.01$ ); The scores of multiple PF are positively correlated with table tennis grade, such as vital capacity ( $r = 0.1$ ,  $p < 0.01$ ) and 50-meter running ( $r = 0.18$ ,  $p < 0.05$ ). At the same time, the sit-ups performance showed a significant negative correlation with the table tennis performance ( $r = -0.08$ ,  $p < 0.01$ ); There is no significant correlation between the other PF indicators and the performance and grade of table tennis. Conclusions: This study shows that there is a corresponding relationship between some PF indicators of middle school students and their table tennis performance and table tennis grade but the specific form and reason of the relationship need to be further explored.

**Keywords :** middle school students, physical fitness, table tennis grade, table tennis performance

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