

Physical Education Does Not Adversely Affect After-School Fitness Performance

What Was the Question?

Some coaches have held the belief that adolescent athletes' participation in physical education on the same day as after-school practice or competition may decrease performance. Based on this assumption, some physical education teachers have exempted student athletes from class on game days. Faigenbaum et al. (2010) examined the acute effects of "typical" physical education lessons, including sport skill, aerobic, and resistance activities on adolescent athletes' after-school fitness performance.

What Was Done?

The authors enlisted nine female and 11 male multisport athletes (average age = 15 years) to test the effects of moderate intensity aerobic exercise (AE), resistance training (RT), and basketball skill training (BS) in physical education on after-school fitness performance. Participants were instructed not to engage in any physical activity outside of physical education during the course of the study, to eat healthy foods, and to remain well hydrated. Participants engaged in 43-minute AE, RT, and BS lessons on randomly ordered days as part of their regularly scheduled physical education class. All lessons were taught by the same teacher and took place between 10:30 a.m. and 2:00 p.m. A control day, during which participants did not participate in physical education, was also implemented. The AE lesson involved six-minute intervals of jogging followed by two minutes of walking on an outdoor track. Participants' heart rate was maintained between 140 and 160 beats per minute. The RT lesson included two weightlifting exercises, four

strength exercises, two abdominal and lower-back strengthening exercises, and three shoulder-specific dumbbell exercises. The BS lessons involved three previously mastered basketball skills and a 15-minute modified game. Fitness assessments were conducted to measure students' power, speed, and agility. The fitness measures included the sit-and-reach, long jump, vertical jump, four-kilogram medicine-ball put, 20-meter sprint, shuttle run, and 200-meter sprint right after school (with 1.5 hours minimum recovery time after physical education) on each day that students engaged in study-related physical education lessons. All fitness assessments followed standard testing protocols, were performed in a standardized sequence in groups of three to five participants, and were conducted by the same two researchers.

What Was Found?

No significant gender differences were found, so the data were pooled for analysis. In this sample, no significant differences were found on any of the seven fitness performance assessments (flexibility, long jump, vertical jump, medicine ball put, 20-m sprint, shuttle run, 200-m sprint) after AE, RT, BS, or control physical education lessons.

What Does the Study Mean?

The results show that these athletes' participation in developmentally appropriate aerobic exercise, resistance training, and basketball skill-training lessons had no effect on their after-school fitness performance. The findings suggest that student athletes are able to participate in physical education classes that include activities of moderate

duration and intensity as long as they are given adequate time to recover between physical education and the after-school activity. No support was found for the belief that participation in physical education will negatively affect a student athlete's performance in after-school activities. However, the authors specifically stated that these findings should not be generalized to after-school sports practice or competitions, due to the higher levels of physical and psychological stress associated with such activities. The authors further suggest that excluding student athletes from physical education activities may have a negative effect on their overall physical education experience and undermine their development of competence and confidence to become and remain physically active throughout life. Although adolescent athletes are skilled in the specific sports in which they participate, having these students engage in all physical education classes can help ensure their development as well-rounded, physically educated individuals with skills and knowledge about a *variety* of sports and activities.

Reference

Faigenbaum, A. D., McFarland, J. E., Buchanan E., Ratamess, N. A., Kang, J., Hoffman, J. R. (2010). After-school fitness performance is not altered after physical education lessons in adolescent athletes. *Journal of Strength and Conditioning Research*, 24(3), 765-770.

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