

PHYSICAL ACTIVITY

Today

“Communicating the Relevance of Research”

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This issue of *Physical Activity Today* focuses on recently published studies related to physical education participation and health outcomes.

The Question: Is PE associated with high school students' health-related behavior?

The Study

Schools are promising environments for health promotion activities because they reach a large proportion of young people and because research suggests that interventions in schools are efficient and effective. Despite this evidence, there are no conclusive findings for interventions related to alcohol consumption, physical activity, and eating habits. Therefore, health behaviors were assessed in this study, including physical activity, TV viewing, smoking, and alcohol, fruit, vegetable and soda consumption. More than 4000 high school students in Brazil were surveyed for the frequency of participation in PE classes. A translated version of the Global School-Based Student Health Survey from the World Health Organization was used as the questionnaire in this study.

The Results

Two-thirds of high school students surveyed did not take part in PE classes, with a slightly higher proportion among females (68%). Enrollment in PE classes was positively associated with physical activity, TV viewing, and fruit consumption, but was negatively associated with soda drinking. Among students who participated in at least 2 PE classes per week, consumption of fruit on a daily basis was 45% higher, and participation in physical activity

was 27% higher than those who did not have PE classes. Students who had PE classes watched 30% less TV during week days.

Relevance

The key finding in this study was that students who attended PE classes reported better eating habits (greater consumption of fruits and vegetables and lower consumption of soda), lower TV viewing time during week days and more physical activity participation. The latter result is consistent with several earlier studies on the topic. Physical Education programs are taught with the goal of changing students' future health behaviors. This study provides some evidence that supports that premise. Furthermore, the results have important implications for health and education policy. Public health and education authorities have evidence supporting the value of high quality PE programs at least twice a week in the promotion of health-related behaviors among adolescents.

Reference

Tassitano, R. M., Barros, M. V. G., Tenorio, M. C. M., Bezerra, J., Florindo, A. A., & Reis, R. S. (2010). Enrollment in Physical Education is associated with health-related behavior among high school students. *Journal of School Health, 80*(3), 126-133.

The Question: Can the school environment affect youth physical fitness?

The Study

Data were collected from over 5,000 5th and 7th graders at 93 schools in Georgia. Participant fitness was assessed by the Georgia Youth Fitness Assessment (GYFA). The GYFA utilized the FITNESSGRAM® to evaluate body composition, aerobic capacity, muscular strength and endurance, and flexibility. Policies and practices of the state including physical education requirement, specified time requirement, use of physical education as punishment, exemption from physical education, access to gym or field, community access to school facilities, free intramural opportunities, and required certification were analyzed and their association with fitness components assessed.

The Results

The results showed that requiring physical education in the student's grade was significantly associated with an increase in aerobic capacity, pull-ups, and curl-ups. Schools meeting NASPE guidelines for minutes per week for physical education, providing students with free intramural opportunities, and requiring teacher certification for the physical educators were associated with increased cardiovascular outcomes.

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Using physical education as punishment and the use of physical education exemptions were associated with worse cardiovascular outcomes.

Relevance

Schools are increasingly looking for ways to save money by decreasing or cutting physical education and sport programs. Children spend the majority of daylight hours in or at school, thus there is a need for schools to provide physical activity opportunities to their students, especially in light of the increased number of overweight and obese children. The results of this study show that by requiring grading, intramural opportunities, meeting NASPE's minutes per week of physical education guidelines, and requiring physical education teachers to have a teacher certification are associated with an increase in fitness test scores.

Reference

Kelly, I. R., Phillips, M. A., Revels, M., & Ujamaa, D. (2010). Contribution of the school environment to physical fitness in children and youth. *Journal of Physical Activity and Health, 7*, 333-342.

Contributor: David Daum, University of Illinois at Urbana-Champaign

The Question: Can PE help high school students be 'fit and healthy'?

The Study

One hundred and twenty-two students (62 boys, 60 girls) from five state high schools in Merseyside, England participated in this study. Stage sampling was used in each school to randomly select one boys' and one girls' PE class from each of grades 7 (11–12 years), 8 (12–13 years) and 9 (13–14 years). Three students per class were randomly selected to take part in the study. These students were categorized as 'high', 'average' and 'low' competence, based on their PE teachers' evaluation of their competence in specific PE activities. Students wore heart rate monitors during physical education lessons. Percentages of lesson time spent in moderate-and-vigorous (MVPA) and vigorous intensity physical activity (VPA) were recorded for each student.

The Results

The average duration of PE lessons was approximately 50 minutes. When all PE activities were considered together, students engaged in MVPA and VPA for approximately 34% and 8% of PE time, respectively. This equated to about 18 minutes of MVPA and 4 minutes of VPA. The high competent students were more active than the average- and low-competent students, who took part in similar amounts of activity. These trends were apparent among boys and girls. Students participated in most MVPA during team games (approximately 43%), while the least MVPA

was observed during movement activities (approximately 22%).

Relevance

During PE students took part in health enhancing activity for approximately one-third of the recommended 1-hour target. Physical education obviously has potential to help meet this target, and may make a more significant contribution to young people's regular physical activity if lessons are planned and delivered with MVPA goals in mind. Further, the differences in activity levels between competence levels highlight the importance of motor competence as an enabling factor for physical activity participation.

Reference

Fairclough, S. & Stratton, G. (2005). Physical education makes you 'fit and healthy': Physical education's contribution to young people's physical activity levels. *Health Education Research: Theory & Practice, 20*, 14-23.

LEARN MORE: about school-based physical activity through NASPE's Comprehensive School Physical Activity Programs position statement. <http://www.aahperd.org/naspe/standards/PEPS.cfm>

