

Behavioral and Social Approaches to Increase Physical Activity: Classroom-Based Health Education to Reduce TV Viewing and Video Game Playing (2000 Archived Review)

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Review Summary

Intervention Definition

In elementary school classrooms, as part of a general health curriculum, regular classroom teachers may teach classes that specifically emphasize decreasing the amount of time spent watching television and playing video games.

Interventions in this review include classroom-based health education to reduce TV viewing and video game playing. Classes may include instruction in behavioral management techniques or strategies such as self-monitoring of viewing behavior, limiting access to television and video games, and budgeting time for television and video.

Summary of Task Force Finding

The Community Preventive Services Task Force finds insufficient evidence to determine the effectiveness of health education classes focused on reducing television viewing and video game playing in increasing physical activity behavior because of inconsistent results.

Results from the Systematic Reviews

Three studies qualified for this review.

- Included studies showed a consistent and sizable decrease in television viewing and video game playing for both boys and girls.
- Time spent in other sedentary behaviors decreased in a single study.
- Reductions in television viewing and video game playing did not consistently correspond with increases in physical activity.
- Six measures of physical activity showed inconsistent results, with two measures showing increases and four measures showing decreases.
- This intervention may have additional benefits in terms of reducing television watching and may lower levels of adiposity.
- More research is needed into the links between reducing time spent watching television or playing video games and increasing physical activity.

About the Systematic Review

The Task Force finding is based on evidence from a systematic review of 3 studies (search period 1980 - 2000). The review was conducted on behalf of the Task Force by a team of specialists in systematic review methods, and in research, practice, and policy related to increasing physical activity.

Economic Review

An economic review of this intervention was not conducted because the Task Force did not have enough information to determine if the intervention works.

Publications

Kahn EB, Ramsey LT, Brownson R, et al. [The effectiveness of interventions to increase physical activity: a systematic review](http://www.thecommunityguide.org/pa/pa-ajpm-evrev.pdf) [www.thecommunityguide.org/pa/pa-ajpm-evrev.pdf]. *Am J Prev Med* 2002;22(4S):73-107.

Task Force on Community Preventive Services. [Recommendations to increase physical activity in communities](#) [www.thecommunityguide.org/pa/pa-ajpm-recs.pdf]. *Am J Prev Med* 2002;22 (4S):67-72.

CDC. [Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services](#) [www.cdc.gov/mmwr/preview/mmwrhtml/rr5018a1.htm]. *MMWR* 2001;50 (RR-18):1-16.

Task Force on Community Preventive Services. [Physical activity](#) [www.thecommunityguide.org/pa/Physical-Activity.pdf].
In: Zaza S, Briss PA, Harris KW, eds. *The Guide to Community Preventive Services: What Works to Promote Health?*
Atlanta (GA): Oxford University Press;2005:80-113 (Out of Print).

Task Force Finding

Intervention Definition

In these interventions, health education classes taught in elementary school classrooms as part of a general health curriculum by regular classroom teachers specifically emphasize decreasing the amount of time spent watching television and playing video games. Lessons include behavioral management strategies such as self-monitoring of viewing behavior, limiting access to television and video games, and budgeting time for television and video. All studies reviewed included a “TV turnoff challenge” in which students were encouraged not to watch television for a specified number of days. Alternative activities that required greater energy expenditure were not specifically recommended. Parental involvement was a prominent part of the intervention, and all households were given automatic television use monitors.

Task Force Finding (October 2000)*

The Task Force identified three qualifying studies that evaluated the effectiveness of these interventions. Although the studies showed decreases in the amount of time spent in television viewing and other sedentary behaviors and found reductions in adiposity, they did not provide consistent evidence for increased physical activity. On the basis of the small number of available studies, the variability in the interventions evaluated, and the lack of information specifically linking these programs to increases in PA, insufficient evidence exists to assess the effectiveness of classroom-based health education focused on reducing television viewing and video game playing in increasing physical activity.

*From the following publication:

Task Force on Community Preventive Services. [Recommendations to increase physical activity in communities](http://www.thecommunityguide.org/pa/pa-ajpm-recs.pdf) [www.thecommunityguide.org/pa/pa-ajpm-recs.pdf]. *Am J Prev Med* 2002;22 (4S):67-72.

Supporting Materials

Evidence Gaps

What are Evidence Gaps?

Each Community Preventive Services Task Force (Task Force) review identifies critical evidence gaps—areas where information is lacking. Evidence gaps can exist whether or not a recommendation is made. In cases when the Task Force finds insufficient evidence to determine whether an intervention strategy works, evidence gaps encourage researchers and program evaluators to conduct more effectiveness studies. When the Task Force recommends an intervention, evidence gaps highlight missing information that would help users determine if the intervention could meet their particular needs. For example, evidence may be needed to determine where the intervention will work, with which populations, how much it will cost to implement, whether it will provide adequate return on investment, or how users should structure or deliver the intervention to ensure effectiveness. Finally, evidence may be missing for outcomes different from those on which the Task Force recommendation is based.

Identified Evidence Gaps

The following outlines evidence gaps for reviews of these interventions to increase physical activity: Individually-Adapted Health Behavior Change Programs; Social Support Interventions in Community Settings; Family-Based Social Support; Enhanced School-Based Physical Education (archived); College-Based Physical Education and Health Education; Classroom-Based Health Education to Reduce TV Viewing and Video Game Playing; Community-Wide Campaigns; Mass Media Campaigns (archived); Classroom-Based Health Education Focused on Providing Information; Creation of or Enhanced Access to Places for Physical Activity Combined with Informational Outreach Activities.

Effectiveness

Several crosscutting research issues about the effectiveness of all of the reviewed interventions remain.

- What behavioral changes that do not involve physical activity can be shown to be associated with changes in physical activity?
 - For example, does a decrease in time spent watching television mean an increase in physical activity or will another sedentary activity be substituted?
 - Does an increase in the use of public transportation mean an increase in physical activity or will users drive to the transit stop?
- Physical activity is difficult to measure consistently across studies and populations. Although several good measures have been developed, several issues remain to be addressed.
 - Reliable and valid measures are needed for the spectrum of physical activity. Rationale: Current measures are better for vigorous activity than for moderate or light activity.
 - Sedentary people are more likely to begin activity at a light level; this activity is often not captured by current measurement techniques.
 - Increased consensus about “best measures” for physical activity would help to increase comparability between studies and would facilitate assessment of effectiveness.
- Note: This is not intended to preclude researchers’ latitude in choosing what aspects of physical activity to measure and to decide which measures are most appropriate for a particular study population. Perhaps a useful

middle ground position would be the establishment of selected core measures that most researchers should use which could then be supplemented by additional measures. The duration of an intervention's effect was often difficult to determine.

Applicability

Each recommended and strongly recommended intervention should be applicable in most relevant target populations and settings, assuming that appropriate attention is paid to tailoring. However, possible differences in the effectiveness of each intervention for specific subgroups of the population often could not be determined. Several questions about the applicability of these interventions in settings and populations other than those studied remain.

- Are there significant differences in the effectiveness of these interventions, based on the level or scale of an intervention?
- What are the effects of each intervention in various sociodemographic subgroups, such as age, gender, race, or ethnicity?

Other Positive or Negative Effects

The studies included in this review did not report on other positive and negative effects of these interventions. Research on the following questions would be useful:

- Do informational approaches to increasing physical activity help to increase health knowledge? Is it necessary to increase knowledge or improve attitudes toward physical activity to increase physical activity levels?
- Do these approaches to increasing physical activity increase awareness of opportunities for and benefits of physical activity?
- What are the most effective ways to maintain physical activity levels after the initial behavior change has occurred?
- Are there other benefits from an intervention that might enhance its acceptability? For example, does increasing social support for physical activity carry over into an overall greater sense of community?
- Are there any key harms?
- Is anything known about whether or how approaches to physical activity could reduce potential harms (e.g., injuries or other problems associated with doing too much too fast)?

Economic Evidence

The available economic data were limited. Therefore, considerable research is warranted on the following questions:

- What is the cost-effectiveness of each of these interventions?
- How can effectiveness in terms of health outcomes or quality-adjusted health outcomes be better measured, estimated, or modeled?
- How can the cost benefit of these programs be estimated?
- How do specific characteristics of each of these approaches contribute to economic efficiency?
- What combinations of components in multicomponent interventions are most cost-effective?

Barriers

Research questions generated in this review include the following:

- What are the physical or structural (environmental) barriers to implementing these interventions?
- What resource (time and money) constraints prevent or hinder the implementation of these interventions?

Included Studies

Gortmaker SL, Cheung LW, Peterson KE, et al. Impact of a school-based interdisciplinary intervention on diet and physical activity among urban primary school children: eat well and keep moving. *Arch Pediatr Adolesc Med* 1999;153:975–83.

Gortmaker SL, Peterson K, Wiecha J, et al. Reducing obesity via a school-based interdisciplinary intervention among youth: Planet Health. *Arch Pediatr Adolesc Med* 1999;153:409–18.

Robinson TN. Reducing children’s television viewing to prevent obesity: a randomized controlled trial. *JAMA* 1999;282:1561–7.

Disclaimer

The findings and conclusions on this page are those of the Community Preventive Services Task Force and do not necessarily represent those of CDC. Task Force evidence-based recommendations are not mandates for compliance or spending. Instead, they provide information and options for decision makers and stakeholders to consider when determining which programs, services, and policies best meet the needs, preferences, available resources, and constraints of their constituents.

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