
Are adolescents less physically active in the summer? What are differences by race, ethnicity, and sex?



The Issue

Children and adolescents gain more weight in the summer than the school year. African American and Latino youth gain more weight in the summer than do youth from other racial or ethnic groups. Some studies have found that youth are less physically active in the summer, which is surprising because they are not required to sit for many hours in school during the summer. It is unknown whether this seasonal difference varies across race, ethnic, and sex subgroups. The aim of this study was to examine race/ethnic and sex differences in adolescent physical activity, sedentary behavior, and related variables, comparing the school year and summer.



Results

Physical activity

Physical activity declined from school year to the summer among all race/ethnic groups and both sexes. Daily physical activity amounts dropped by an average of 14 minutes per day. There were significant race/ethnic differences in the decline:

- ◇ American Indians showed the greatest decline, about 27 min/day, and White non-Hispanics showed the least decline, about 5 min/day. This may be due partly to American Indians being the most active, and White non-Hispanics being the least active, during the school year.
- ◇ The school year to summer decline tended to be greater among boys (17 min/day) than girls (10 min/day), though girls were consistently less active than boys.
- ◇ American Indians, Latinos, and girls were the least active groups in the summer, indicating these subgroups are at particularly high risk.

Sedentary (sitting) time

All racial and ethnic groups were sedentary between 8 and 9 hours per day, which did not differ from the school year to the summer. All groups of adolescents reported more screen time in the summer, except for American Indians. Perhaps screen time increased during summer because enforced sitting time during school was replaced by more screen time in the summer.



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Enjoyment of physical activity

All subgroups of adolescents reported less enjoyment of physical activity in the summer. This is a possible explanation of lower physical activity in the summer. Virtually all physical activities are with peers during the school year, so the greater difficulty of organizing activities with peers in summer could reduce enjoyment of summer activities.

What activities do adolescents prefer in the summer?

Walking was the most preferred physical activity across all subgroups and seasons. Exercise (perhaps interpreted as dance exercise) and running were highly rated by all race/ethnic groups, and girls showed strong preferences for water play.

Where do adolescents prefer to be active in the summer?

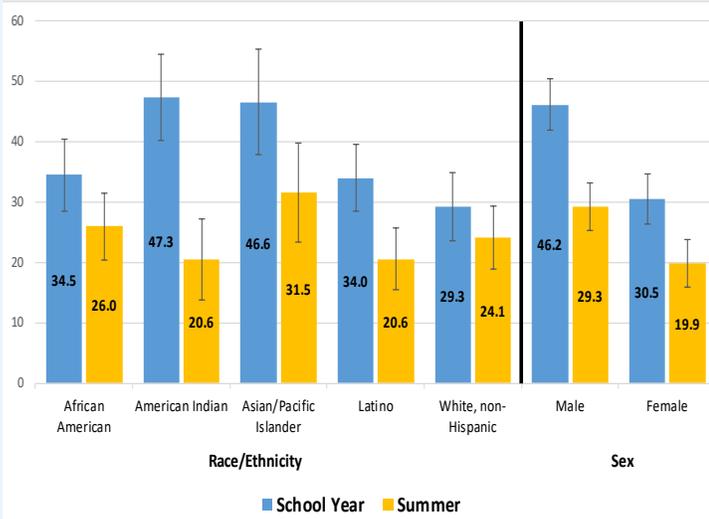
When asked where they would ideally like to do physical activity, in and around the home were rated highly regardless of season, except for Latinos and White non-Hispanics. Other top choices of places to be active in summer varied across subgroups. Swimming pools were a top choice among Latinos, White non-Hispanics, and girls. Asian/Pacific Islanders and boys preferred indoor recreation facilities. American Indians' top-rated location was parks outside the neighborhood.



Implications

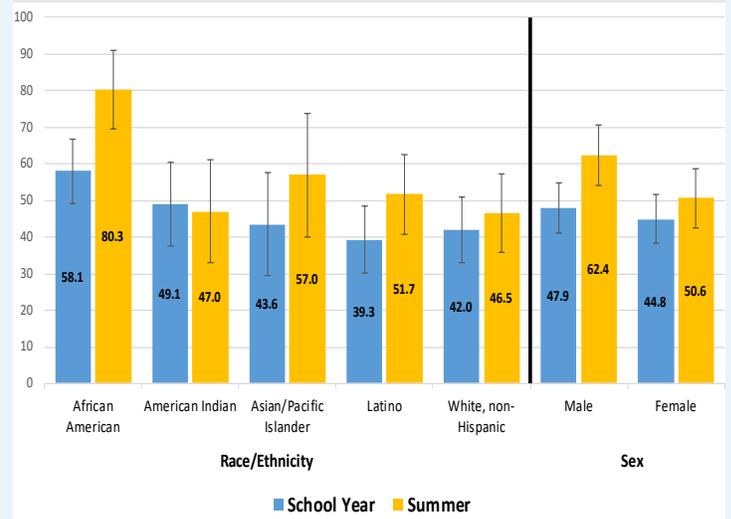
- ✔ Because declines in physical activity from the school year to the summer were documented in all groups of adolescents, population-wide interventions are needed to increase physical activity in the summer.
 - ◇ American Indians, Latinos, and girls had the lowest overall physical activity in the summer. These groups should be the highest priority for summer-time interventions.
- ✔ Increasing walking should be a major focus of interventions because walking was consistently the most preferred activity.
 - ◇ Virtually every group preferred to be active in and around the home in summer.
 - ◇ However, swimming pools, indoor recreation facilities, and parks should be considered important environmental resources for adolescent physical activity, depending on the subgroup.
- ✔ Some findings were particularly useful in identifying reasons for the overall summer decline that could be addressed in interventions.
 - ◇ For example, enjoyment of physical activity was generally lower in the summer. More studies are needed to identify what contributes to greater enjoyment, but increasing opportunities to be physically active with friends might be effective.
 - ◇ Screen time was generally higher in summer, suggesting that communities may need to provide preferred places to be active in neighborhoods, as well as safe, supervised programs, in order to give adolescents of all subgroups alternatives to watching screens in the summer. Interventions to reduce screen time in the summer are most needed for African American adolescents.

Moderate-to-Vigorous Physical Activity



Minutes per day, measured by accelerometer

Screen Time



Total hours per week, self reported



Methodology

- ✓ We recruited adolescents aged 10-17 years, living in lower income areas, from these racial/ethnic groups: African American, American Indian, Asian/Pacific Islander, Latino, and White, non-Hispanic.
- ✓ Two hundred and seven adolescents completed surveys in both the school year and summer, and 150 wore accelerometers during both seasons. The sample size per group ranged from 56 for African Americans to 21 for Asian/Pacific Islanders. There were similar numbers of girls and boys. Recruitment was challenging, so sample sizes were smaller than desired.
- ✓ Adolescents were requested to wear electronic accelerometers on a belt during their waking hours for 7-10 days during both the school year and summer. Both moderate-to-vigorous physical activity and sedentary time were assessed with the devices.
- ✓ Surveys were completed each season to assess various types of physical activity, screen time, enjoyment of physical activity, and preferred types and places for physical activity, among other variables.
- ✓ Adolescents were given a \$30 gift card for completing measures in both seasons.

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