

The Association of Physical Education with Physical Activity Among Adolescent Girls and Boys

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Presenter Disclosures

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Background

- Lack of physical activity is associated with obesity in youth, while getting adequate physical activity is a key factor in preventing and reversing overweight in both adults and children
- Participation in school-based physical education (PE) has been linked to increased levels of overall physical activity
- In many schools the amount of PE required and offered has declined in recent years



Background – continued

- In California only two years of PE are required in high schools
- Well-trained teaching staff produce more time spent in MVPA during class time, particularly among girls
- Class size is negatively associated with time spent in MVPA



Data Source – CHIS 2007

- **2007 California Health Interview Survey (CHIS)**
- Telephone survey of adults, adolescents and children from across the state conducted every two years
 - CHIS 2007 interviewed over 50,000 households in California. In households with adolescents, CHIS interviewed one randomly selected adolescent
- Interviews are conducted in five languages: English, Spanish, Chinese, Korean and Vietnamese



Data Source – continued

- CHIS collects name of school attended for school-aged children
- The data provide a representative sample of the state's non-institutionalized population, including health information on the overall population and on many racial and ethnic groups as well as local-level health information for most counties



Key Variables

- **Physical Activity: Number of days physically active for 60 minutes or more**
 - “In the past 7 days, on how many days were you physically active for at least 60 minutes total per day?”
- **Physical Education: Taking PE**
 - “Are you currently taking PE at school?”



Covariates

- Individual characteristics
 - Age, gender, race/ethnicity
- Family factors
 - Household income
- School factors
 - Percent of students participating in the free/reduced price meal program, racial composition of school



Analyses

- **Sample**
 - 3,097 adolescents ages 12-17 who attend public school
- **Descriptive analysis**
 - Number of days adolescents were physically active for 60 minutes or more, and whether they were taking PE at school
- **Multivariate regression**
 - Models examined the association of PE participation with physical activity overall and by gender
 - Included individual sociodemographic, family, and school characteristics as covariates



Study Population

- 49% female
- 34% non-Latino white, 46% Latino, 10% Asian, 7% African American, 0.4% American Indian/Alaskan Native, 0.6% Native Hawaiian/Pacific Islander, 3% mixed race
- 39% had household incomes below 200% of the Federal Poverty Level
- 66% in urban areas, 22% in suburban areas, 12% in rural areas



Descriptive Results

- 63% of California adolescents take PE at school
 - 59% of girls
 - 65% of boys
- 37% of teens were physically active for 60+ minutes on 5 or more days
 - 28% of girls
 - 46% of boys



Correlates of Physical Activity

- In adjusted analyses among all CA teens, the following were physically active on more days per week
 - Those taking PE at school
 - Boys
- The following were physically active on fewer days per week
 - Latinos and Asians (relative to whites)
 - Teens attending predominantly non-white schools



Correlates of Physical Activity Among Girls

Factor	Coefficient	p-value
Currently Taking PE at School (no)		
Yes	0.61	0.00
Age	-0.16	0.01
Race/ethnicity (white)		
Hispanic	-0.47	0.02
Asian	-0.65	0.05
African American	0.24	0.51
American Indian	0.99	0.10
Two or more races	0.12	0.71
Poverty Level (200+%)		
<200%	-0.34	0.05
School Racial Composition (25%+ white)		
<25%	-0.28	0.16
Percent of Free or Reduced Meal (25%+)		
<25%	0.29	0.19

Model also adjusted for urbanicity

Source: 2007 California Health Interview Survey



Correlates of Physical Activity Among Boys

Factor	Coefficient	p-value
Currently Taking PE at School (no)		
Yes	0.01	0.99
Age	-0.08	0.18
Race/ethnicity (white)		
Hispanic	-0.37	0.07
Asian	-0.59	0.06
African American	0.35	0.42
American Indian	0.19	0.78
Two or more races	-0.43	0.15
Poverty Level (200+%)		
<200%	0.30	0.15
School Racial Composition (25%+ white)		
<25%	-0.51	0.02
Percent of Free or Reduced Meal (25%+)		
<25%	-0.13	0.56

Model also adjusted for urbanicity

Source: 2007 California Health Interview Survey



Summary

- Participation in PE at school was associated with more days with 60+ minutes of physical activity overall
 - In stratified analyses this association was found among girls, but not boys
- Indicators of family SES were associated with physical activity for girls but not boys
- Indicators of school-level disadvantage were associated with physical activity for boys but not girls



Limitations

- No information about quality of PE
 - Time spent in MVPA
 - Instructor training
 - Equipment
- Cross-sectional analysis does not allow us to determine the direction of the relationship



Conclusions

- Participating in school PE classes may be especially important in helping girls to achieve more physical activity
- Policies that help schools meet or exceed current PE requirements may contribute to greater levels of physical activity for adolescents



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