Patterns of physical activity among 3rd - 5th graders in a low-income urban community

Robert J. McDermott, PhD[1], Rita DeBate, PhD, MPH, CHES[1], Marissa Zwald, MPH[1], John K. Trainor, MS[1], Emily Koby, BA, Carol A. Bryant, PhD[1]

(1) Florida Prevention Research Center, University of South Florida, College of Public Health

Introduction

Physical activity (PA) is essential for good health and proper growth and development among children and youth. PA is one of the 10 Leading Health Indicators in Healthy People 2010 yet youth PA levels continue to fall below Healthy People 2010 objectives[1]. Research documents that significant PA declines occur between grades 1-3 and 4-6, thus indicating elementary school as a critical stage for PA interventions[2-4].

The objective of this project is to assess levels of physical activity of 3rd-5th grade children in a low-income, as baseline data for a larger community-based physical activity intervention.

Methods

Baseline physical activity data was collected using a multi-tool survey. The survey included the Physical Activity Questionnaire for Older Children[5] (PAQ-C) to assess physical activity participation, Youth Risk Behavioral Survey[6] questions about sedentary behaviors, and the Physical Activity Enjoyment Scale[7] (PACES) to assess enjoyment of physical activity. Additionally the survey included demographic questions.

- PAQ-C
  - 7-day PA recall for children 8-14 years old
  - 9 questions measuring moderate to vigorous PA
  - Sum score is a mean of all activities on a scale of 1-5, 5 being the most active
- YRBS
  - 2 questions from YRBS to assess sedentary behaviors related to television and computer use
- PACES
  - 14 statement Likert-type scale to asses PA enjoyment
  - Modified by research team for use with 8-12 year olds

Kids racing at an intervention-sponsored activity

Kids bowling at the intervention finale

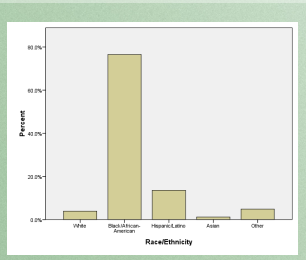

Figure 1: Race/Ethnicity

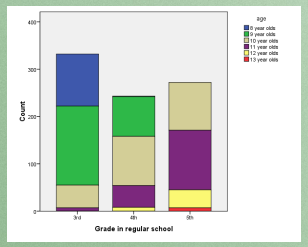

Figure 2: Age by grade

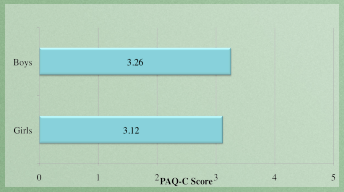

Figure 3: PAQ Score

Grade	PAQ-PACES Correlation
3rd	.177**
4th	.267**
5th	.342**

**Correlation significant at the .01 level

Figure 4: Correlations

Results

- Children in this community (n=1042) were predominantly African American or Black aged 8-13 years old (figures 1 & 2)
- PAQ-C
  - Children were moderately active with a mean PAQ of 3.2
  - Boys were slightly more active than girls (Figure 3) but this difference was not significant (p=.182)
- Sedentary Behaviors
  - "Screen time" (time in front of a tv or computer screen) was high, 50% spending 4-5 hours of screen time each day (Figures 4 and 5)
  - Video game is more prevalent with boys than girls (p=.00).
- Enjoyment
  - Children had a high level of PA enjoyment with a mean score of 34.6 (the adapted PACES scale ranges from 13 to 39, with a higher score indicating greater enjoyment)
  - There was no significant difference between the sexes (p=.918)
- PAQ-PACES Correlations
  - Modified PACES scores significantly correlated with PAQ scores; correlation coefficient= .307, p=.000
  - PAQ-PACES correlations increased by grade level, with a significant difference (p=.046) between the correlations for 3rd and 5th graders (see Figure 4)

Conclusions

- While moderate levels of physical activity are present in this community, so are high levels of screen time.
- The significant increase in the correlation of physical activity and physical activity enjoyment between 3rd and 5th graders stresses the increased importance of enjoyment in continued physical activity as children get older.
- Interventions can capitalize on physical activity enjoyment to create a sustainable shift of some screen time to physical activity by emphasizing fun, safe time to be physically active.
- Interventions focused on physical activity enjoyment may be especially important to increase physical activity in older children,

This research was supported by grant number 1H75DP001733-01 from CDC. The contents of this poster are solely the responsibility of the authors and do not necessarily represent the official views of CDC.

**See handout for references

University of South Florida College of Public Health

Works Cited

1. U.S. Department of Health and Human Services. Physical Activity and Fitness. In: Healthy People 2010. 2 ed. Washington, DC: Government Printing Office; 2000:3-36.
2. Telama R, Yang X. Decline of physical activity from youth to young adulthood in Finland. Medicine & Science in Sports & Exercise 2000;32:1617-22.
3. Kimm S, Glynn W, Kriska A, et al. Longitudinal changes in physical activity in a biracial cohort during adolescence. Medicine & Science in Sports & Exercise 2000;32:1446-54.
4. Caspersen C, Pereia M, Curran K. Changes in physical activity patterns in the United States, by sex and cross-sectional age. Medicine & Science in Sports & Exercise 2000;32:1601-9.
5. Janz K, Lutuchy E, Wenthe P, Levy S. Measuring Activity in Children and Adolescents Using Self-Report: PAQ-C and PAQ-A. Medicine & Science in Sports & Exercise 2008;40:767-72.
6. Danice K. Eaton, Laura Kann, Steve Kinchen, Shari Shanklin, James Ross, Joseph Hawkins, William A. Harris, Richard Lowry, Tim McManus, David Chyen, Connie Lim, Nancy D. Brener, Howell Wechsler. Youth Risk Behavior Surveillance --- United States, 2007. MMWR Surveillance Summaries. 57(SS04):1-131. June 6, 2008.
7. Motl R, Dishman R, Saunders R, Dowda M, Felton G, Pate R. Measuring enjoyment of physical activity in adolescent girls. American Journal of Preventive Medicine 2001;21(2): 110-7.