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Park Use and Corresponding Physical Activity Among Adolescent Girls

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- Policy statement promoting opportunities for and policies supporting physical activity, such as consideration of easier access to parks and open space


American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

POLICY STATEMENT

The Built Environment: Designing Communities to Promote Physical Activity in Children

Committee on Environmental Health

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of All Children

Park Use Among Adolescents

- From observational studies using SOPARC (System for Observing Play and Recreation in Communities)
  - In absolute numbers, adolescents use the park less than younger children
  - Park use lower among females than males

Park Studies on Youth Using GPS

	SPEEDY	CALE	PEACH
Reference	Jones et al 2010	Quigg et al 2011	Wheeler et al 2011; Lachowycz et al 2012
GPS	Garmin Forerunner 205	Globalstat DG-100	Garmin Foretrex 201
Accelerometer	GT1M	GT1M	GT1M
Analysis n	100	176	1054 (902 f-up)
Age	9-10 years	5-10 years	10-11 years and 1 year later
Location	England	New Zealand	United Kingdom
Wear Time	4 days	7 days	4 days after school
Exposure	Parks, grassland, farmland, woodland, garden	Parks, playgrounds	Greenspace (parks, natural areas)
Outcome	MVPA bouts	Daily counts	MVPA

Objective

- To describe park usage and determine the contribution of parks to moderate to vigorous physical activity among adolescent girls, both cross-sectionally and longitudinally over a 1-year period

Methods: Sample and Measures

- N=265 control participants from 6 middle schools in 2 sites (CA, MN) from the Trial of Activity for Adolescent Girls (TAAG) Study
- Self-reported questionnaire completed twice
- Physical activity assessed with the ActiGraph 7164
- Location assessed with the Garmin Foretrex 201

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GIS Data

- Used ArcGIS (ESRI)
- Included national, state, and local parks from two sources
  - Tele Atlas park shape files
  - Local park shape files from parks and recreation
- Home address geocoded
- Calculated Euclidean distance from home to the nearest park and to each park visited

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Methods: Determination of a Park Visit

- Overlay GPS data with park shape files
- Select points within parks to focus on
- Remove points within 50 meters of their residence
- Minimum duration of park visit was 3 minutes
- Remove park visits that involved speeds >=30 km/hour
- Check time gaps and locations between points (to determine if they are part of the same park visit)

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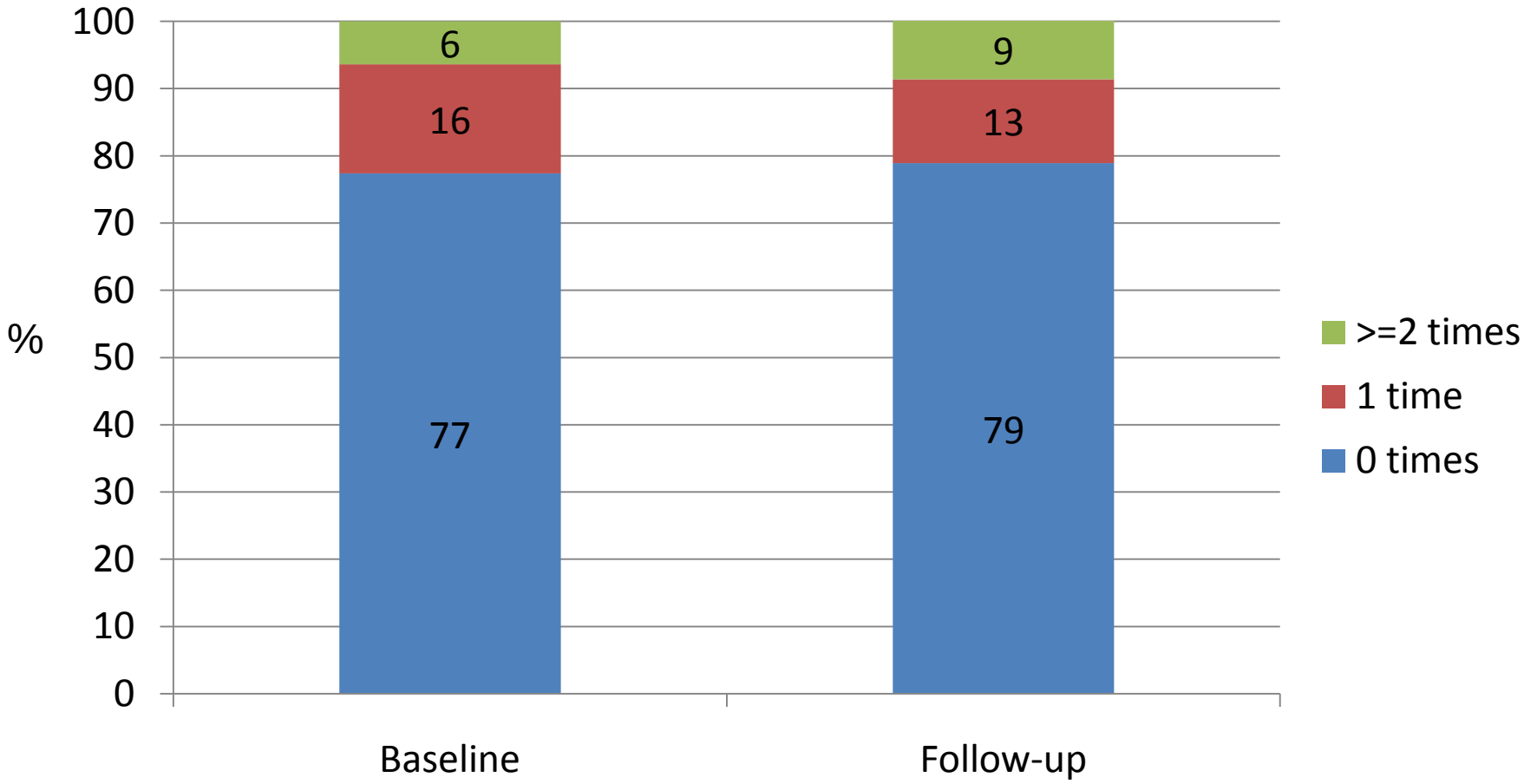
Description of Sample (baseline)

	Overall (n=265)	Minnesota (n=134)	California (n=131)
Race/ethnicity			
Non-hispanic White	56%	87%	25%
Hispanic	26%	2%	51%
Asian/Pacific Islander	8%	8%	8%
Other/Multi-racial	10%	3%	16%
Free/reduced price lunch	25%	15%	36%

Number of Visits to a Park



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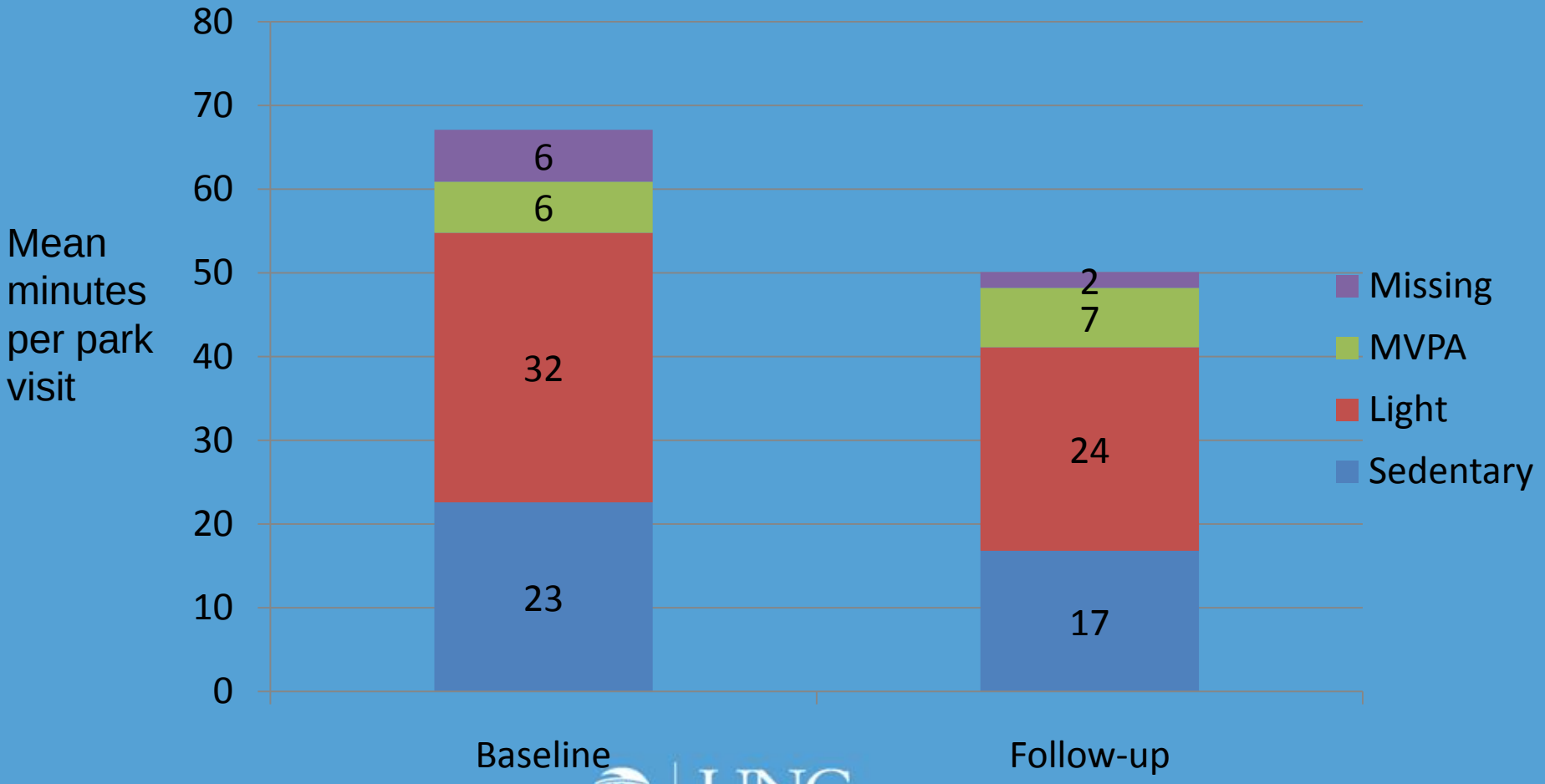
Distribution of Physical Activity During a Park Visit



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Park Visits

	Baseline Mean	Follow-up Mean	*p value*
Number of park visits in past week	0.33	0.35	*0.23*
Duration of park visits in past week (minutes)	20	13	*0.50*
Number of days visiting park in past week			
Weekdays	0.2	0.2	*0.30*
Weekends	0.1	0.1	*0.08*
Distance from home to nearest park (miles)	0.3	0.3	
Euclidean distance from home to visited park (miles)	8.0	6.3	

Moderate to Vigorous Physical Activity (MVPA)

	Baseline Mean	Follow-up Mean	*P value*
MVPA (min/day)	17	16	*0.24*
MVPA weekdays (min/day)	19	18	*0.13*
MVPA weekends (min/day)	11	10	*0.17*
	0.00	*0.00*	
MVPA on days with a park visit (min/day)	21	26	*0.21*
MVPA on days without a park visit (min/day)	16	15	*0.12*
	0.49	*0.002*	

Moderate to Vigorous Physical Activity (MVPA)

	Baseline Mean	Follow-up Mean	*P value*
Number of MVPA bouts/day	0.3	0.2	*0.05*
On days with a park visit	0.6	0.5	*0.61*
On days without a park visit	0.3	0.2	*0.03*
	0.10	*0.13*	
Duration of MVPA bouts/day	5.3	4.6	*0.07*
On days with a park visit	11.6	14.3	*0.82*
On days without a park visit	5.0	3.9	
	0.19	*0.17*	
Average mean counts/minute	358	345	*0.08*
On days with a park visit	410	429	*0.64*
On days without a park visit	354	340	*0.07*
	0.01	0.00	

Conclusions

- MVPA and overall counts were higher on days when parks were visited compared to days when parks were not visited.
- Over the 1-year time period, the number of MVPA bouts declined. The number and duration of parks visits did not change.

Acknowledgment

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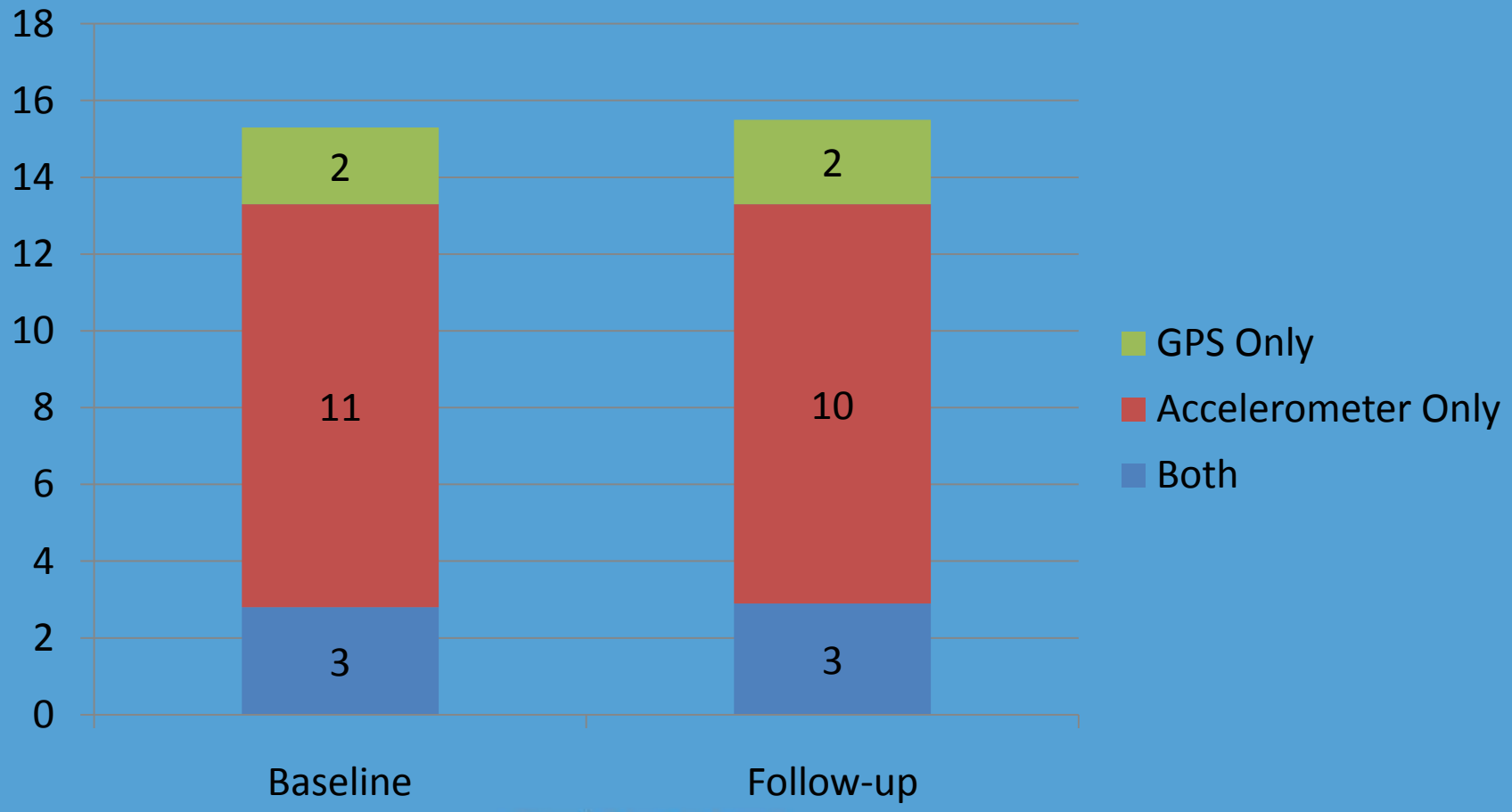
Monitor Time in Average Daily Hours



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