The Impact of Physical Environment and Policy Characteristics on Physical Activity Levels of Children Attending Afterschool Programs

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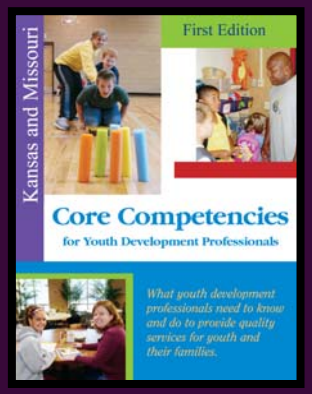
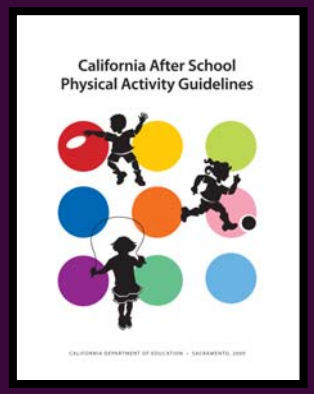
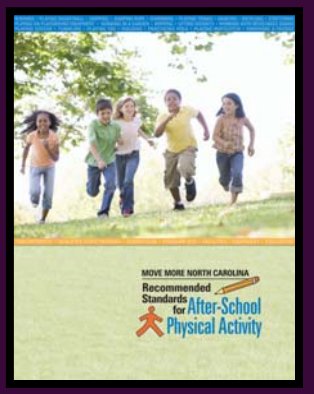
Physical Activity Policies in ASP's







Physical Activity Policies in ASP‘s

- Formal statements that defines:
  - Priority for action goals, and or strategies as well as, accountability of involved actors
    - Formal rules, Guidelines, Benchmarks, Written codes, Regulations, Standards
- Physical Activity Allocated and Accumulated
- Staff Training
- Ongoing Evaluation
- Child Feedback

Physical Environment of ASP‘s

Physical Environment of ASP‘s

- Built environment
  - Building design
  - Type of space (indoor vs. outdoor)
  - Physical space (size)
- Physical space (size)
  - Location
    - Schools
    - Community centers
    - Recreational facilitates
    - Faith-based buildings

Purpose

To evaluate the influence of program physical environment and policy characteristics on the physical activity levels of children attending a diverse range of ASP's

Methods

Methods

- **Baseline data large RCT**
  - 20 ASP's across South Carolina
  - Serving over 1,800 + youth

- **Measurements**
  - Accelerometers: 4 non-consecutive days (M-Th)
  - Child Demographics
  - Policy Characteristics
  - Physical Environment

Methods

- **Physical Activity Levels:**
  - MVPA and Sedentary
    - Accelerometry (Evenson and Matthews cutpoints)
    - Time on and time off recorded
- **Policy-Level Characteristics**
  - Healthy Afterschool Activity and Nutrition Documentation (HAAND) Instrument
    - HAPI –PA Scale, Single day visit to ASP's
    - Document review, observation or , self-report
    - Higher scores – more supportive environment
- **Physical Activity Space (size)**
  - Target Areas – SOPLAY protocol
    - Indoor – Measuring Wheel
    - Outdoor – Aerial imagery (GIS)

Example ASP's Target Area Map

0 – Hall

1 – Cafeteria

2– Gym

3 – Library

4 – Computer Lab 1

5 – Computer Lab 2

6 – Playground 1

7– BB Courts

8 – Playground, Swing, Slide

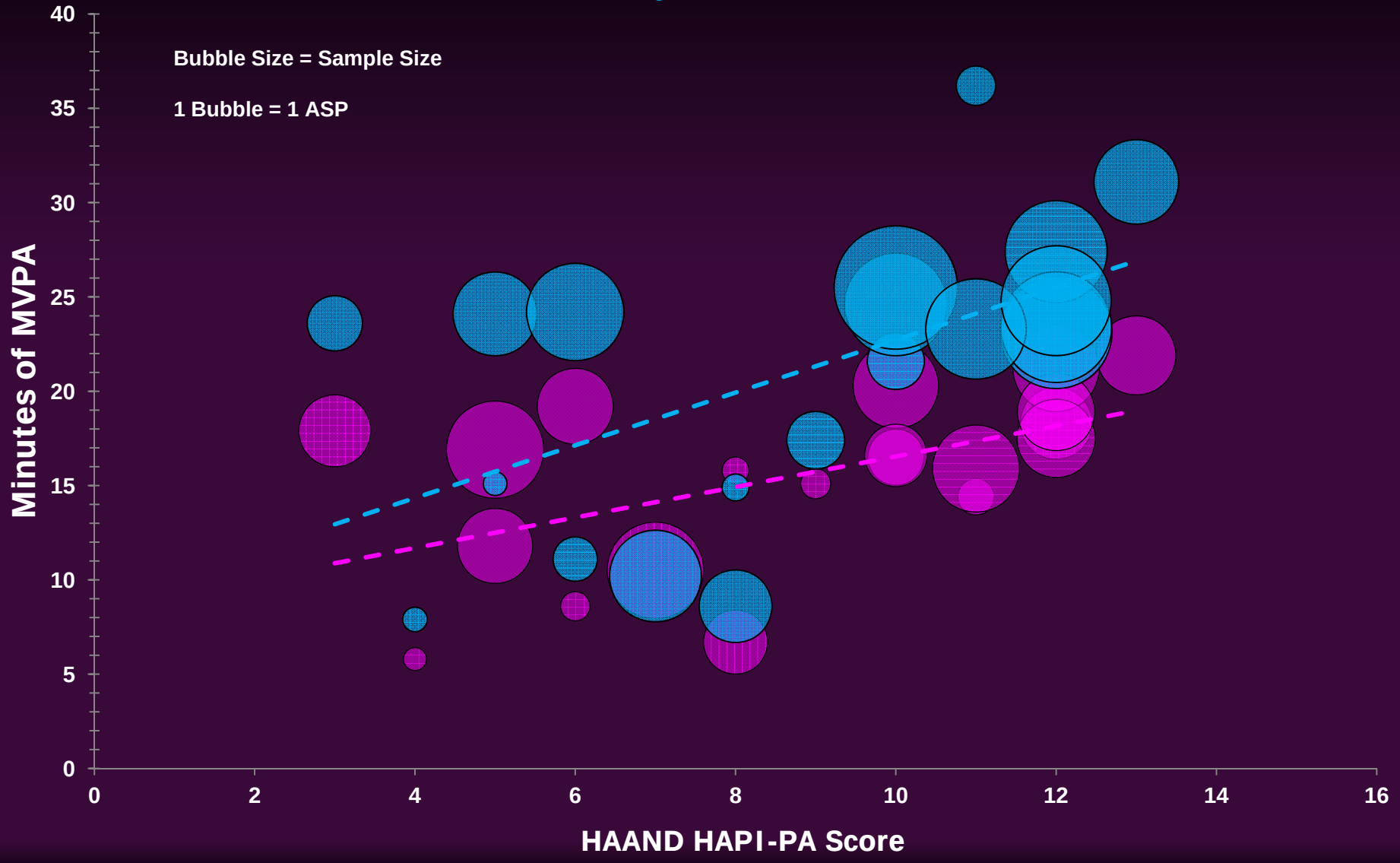
Methods: Analyses

- Mixed Model Regression
  - Multiple Days nested within Children nested within ASPs

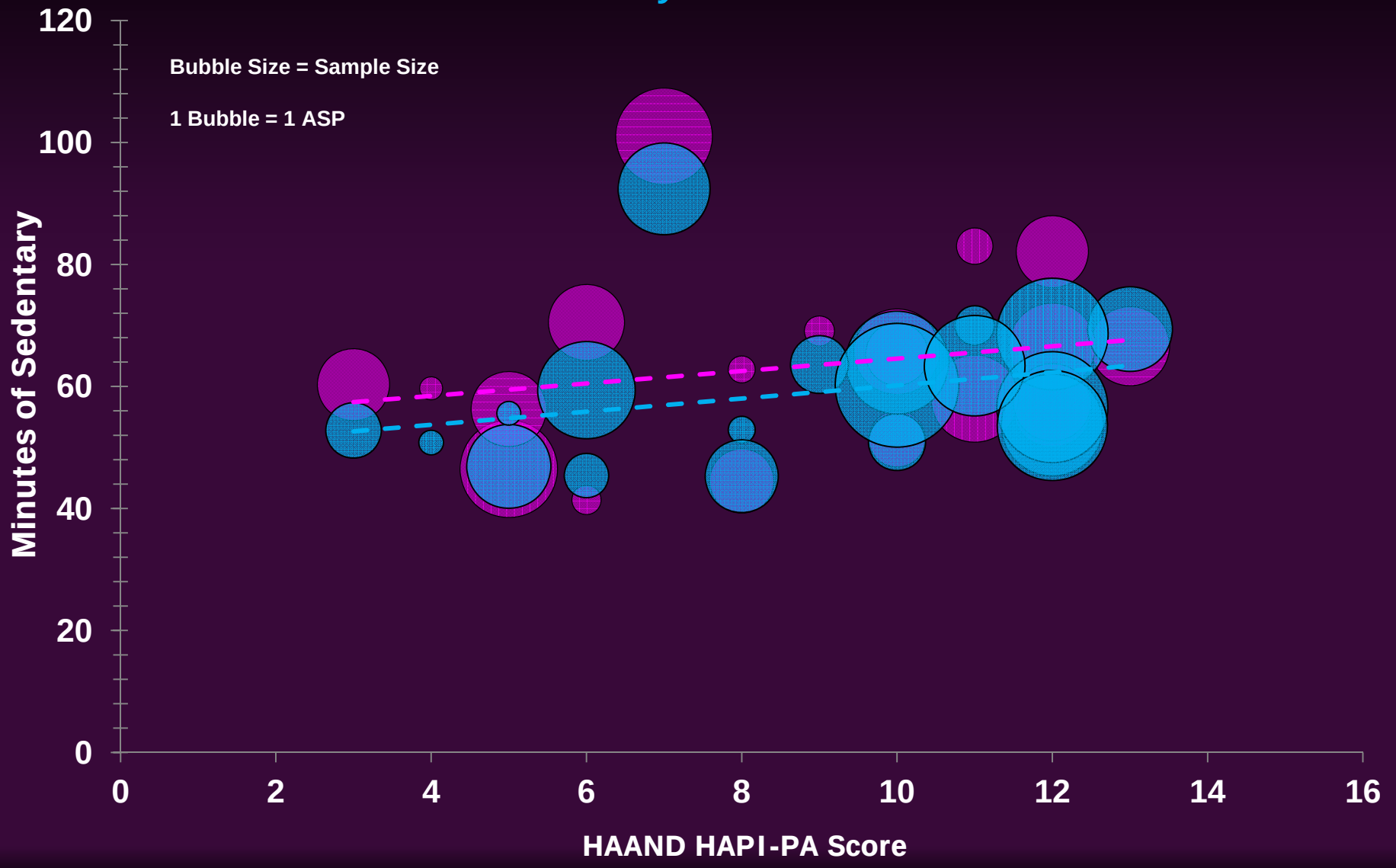
- Separate models for total MVPA and Sedentary time

Results

PA Policy Score and total MVPA for Boys and Girls

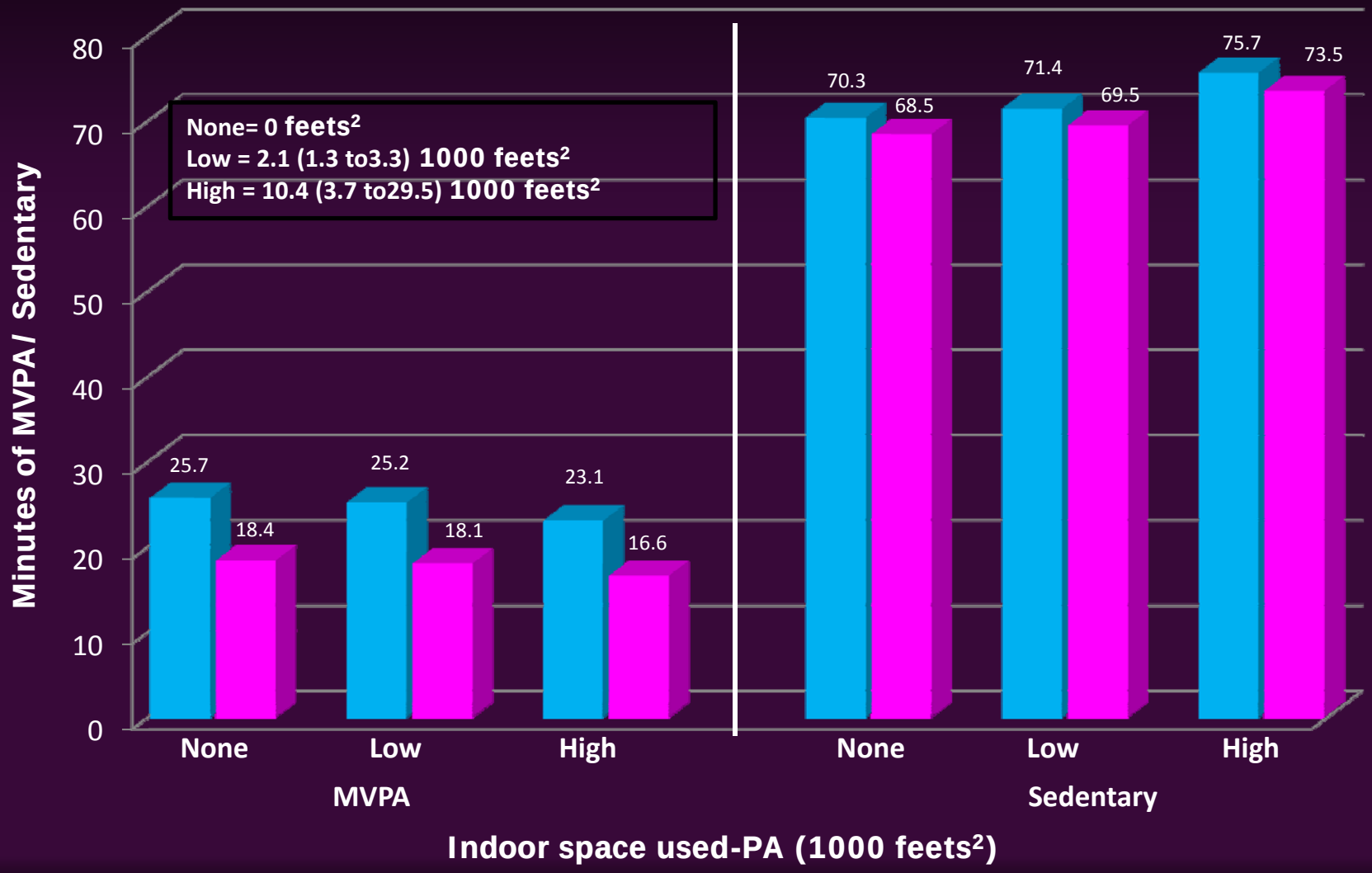


PA Policy Score and Sedentary for Boys and Girls



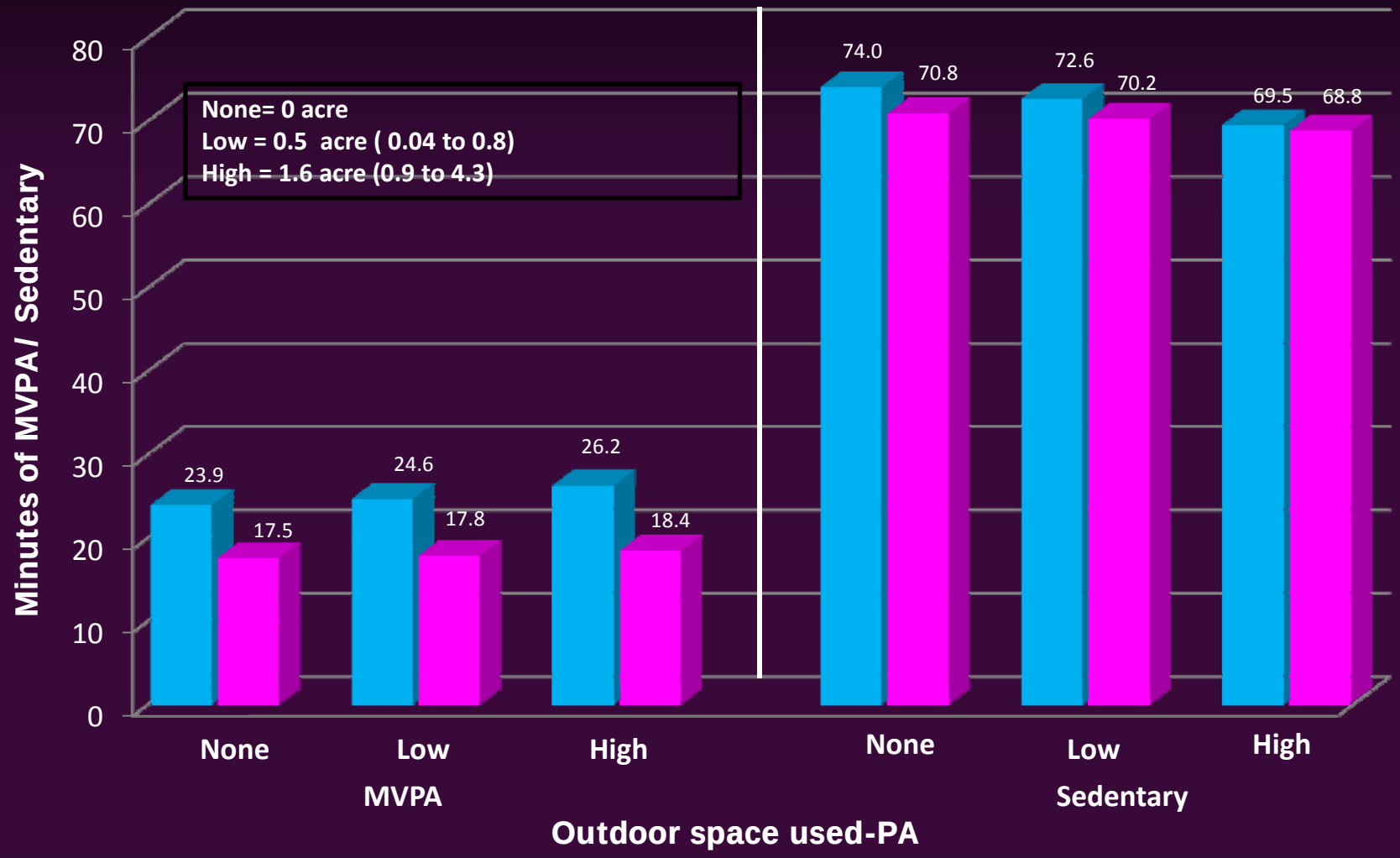
Indoor used-PA space and MVPA and Sedentary for Boys and Girls

(Model Derived Estimates)



Outdoor used-PA space and MVPA and Sedentary for Boys and Girls

(Model Derived Estimates)



Conclusions and Implications

Conclusions and Implications

State of practice:

Beets et al., (2013):

- Policy-level characteristics largely **unrelated** to amount of activity accumulated by children

Thompson et al., (2013)

- Lack of adherence to PE scheduled at the teachers levels (elementary)
  - School master schedules : 82% of school met 100 min PE/week
  - Teachers scheduled : 20% of met 100 min PE/week
- Discrepancies between self-reported and objectively reported PE time
  - Observation: 5% were in compliance

Our findings:

- Policy – level characteristics **appear** to be associated with MVPA
  - Most ASP's were at the lower level of Policy Scale
  - Across the 20 ASP's little variability

Conclusions and Implications

- Size of used (indoor & outdoor) physical activity space associated with MVPA and Sedentary behavior
  - Greater indoor PA-used space associated with decreased MVPA and increased Sedentary
    - Type of games / other activity
  - Greater outdoor PA-used space associated with increased MVPA and decreased Sedentary
    - The magnitude of change and the amount of MVPA accumulated was relatively small for every one unit of increases in the size of physical activity space

Conclusions and Implications

- More space **could** be the answer to promoting physical activity

However….

More space is NOT a public heath answer

- Supportive PA policies in ASPs are important

However….

Policies are ineffective without strategies to enhance practice

Conclusions and Implications

- Other factors amendable to change

Staff skills

- Physical activity promotion training quality
  - 50 % (10 ASP's) offered no training
  - 10 % (2 ASP's) offered training lead by non-certified personal
  - 40 % (8 ASP's) offered training lead by qualified professional
- Physical activity Training amount
  - < 1 hour per year devoted to physical activity promotion

Quality control

- Evaluation of amount of accumulated physical activity
  - 70 % (14 ASP's) no way of monitoring
  - 30 % (6 ASP's) once a year evaluation based on self report (staff reporting child activity levels)

Questions

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