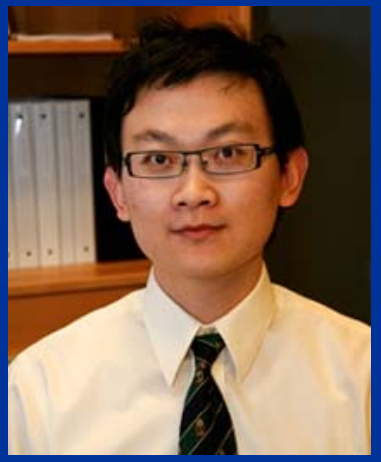
Hispanic Perceptions of Neighborhood Safety and Child's Physical Activity

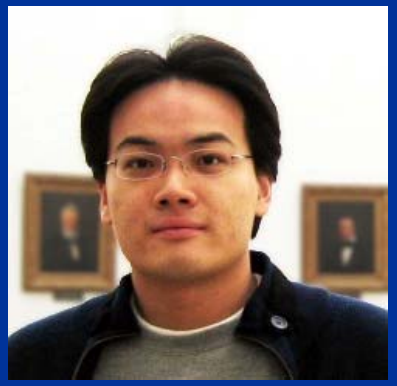
UHPEAK

Urban Hispanic Perceptions of Environment and Activity among Kids

Robert Wood Johnson Foundation
Active Living Research Program

Research Team



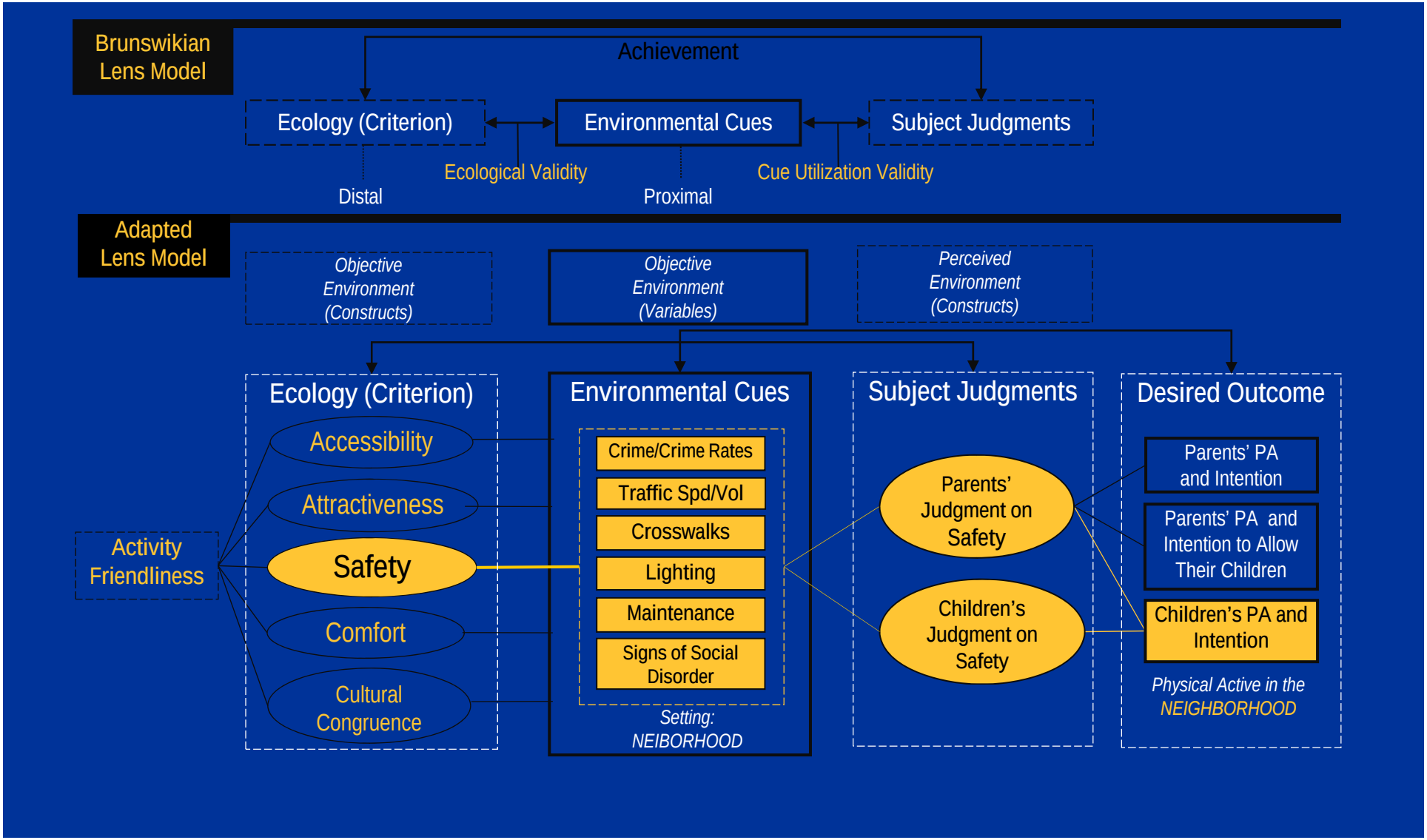


Aims

Aim 1 → **To assess differences in the perception of neighborhood safety related to walking and cycling between children and their mothers.**

Aim 2 → **To assess the role of neighborhood safety as perceived by children vs. by their mothers, and the congruence between the maternal and children's perceptions in explaining children's PA.**

Theoretical Model



Eligibility Requirements

- Mother-child must be of Hispanic origin
- Age between 9-11 years
- Be able to read English or Spanish
- Child with no medical condition that restricts physical performance (asthma, heart condition)

Recruitment Strategies

Recruitment Strategies Utilized in the UH PEAK Study	
Strategy 1*	Contact parents directly at school events (80% interest/50% recruited)
Strategy 2 *	Conduct a parental orientation about study on Saturdays and after-school (80% recruited)
Strategy 3	Research team made announcements in class and letters in both English and Spanish sent home with students (10%/2% recruited)
Strategy 4	Asked school teachers, counselors, parent coordinators to announce study and pass out letters in both English and Spanish (15%/2% recruited)

Participant Demographics

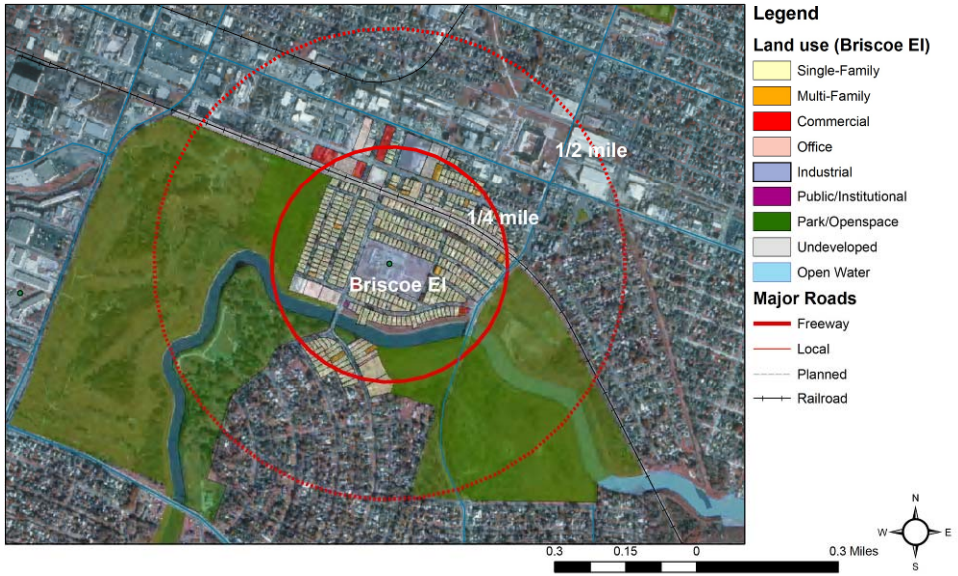
- Mothers (n=102)
  - 36 (±7.3) years old
  - Most born in Mexico (61%)
  - Most have 7th -12th grade education (61%)
  - Most are married (66.3%)
- Children (n=137)
  - 58% girls
  - 10 (±0.7) years old
  - Most born in US (76%)

Neighborhoods and Schools

- **The East End Neighborhood, Houston, TX**
  - **Large number of Hispanic** children at high risk of being overweight and obese.
  - **High prevalence of poverty** with 36% of families with <$15,000 (2000 Census).
  - **Low educational levels** with 54% of residents aged25 years and older having no high school diploma, and only 4% with a college degree or higher (2000 Census).
  - **Diverse physical environmental settings**, in terms of proximity to parks, types of parks, land uses, street patterns, and housing types.

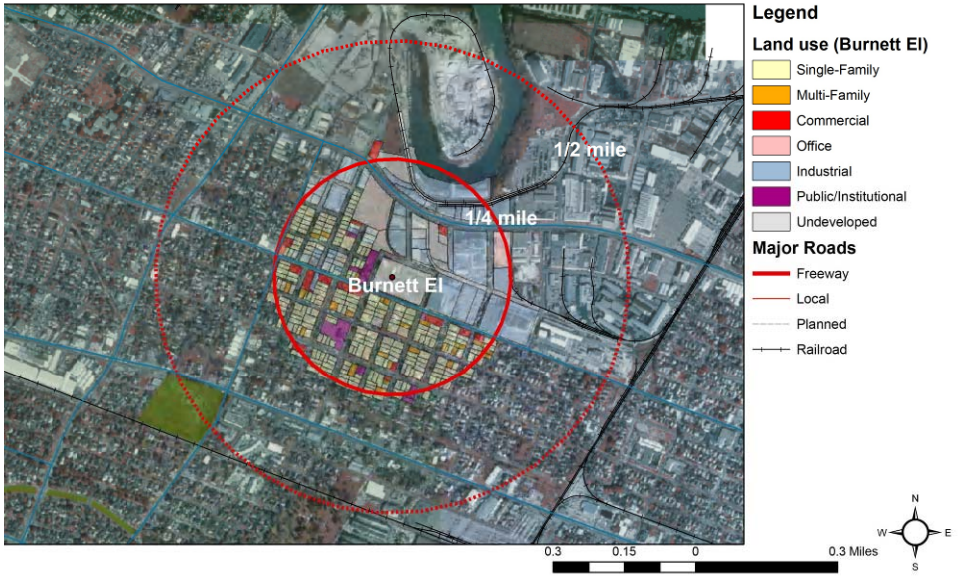
Neighborhoods and Schools

Briscoe Elementry School

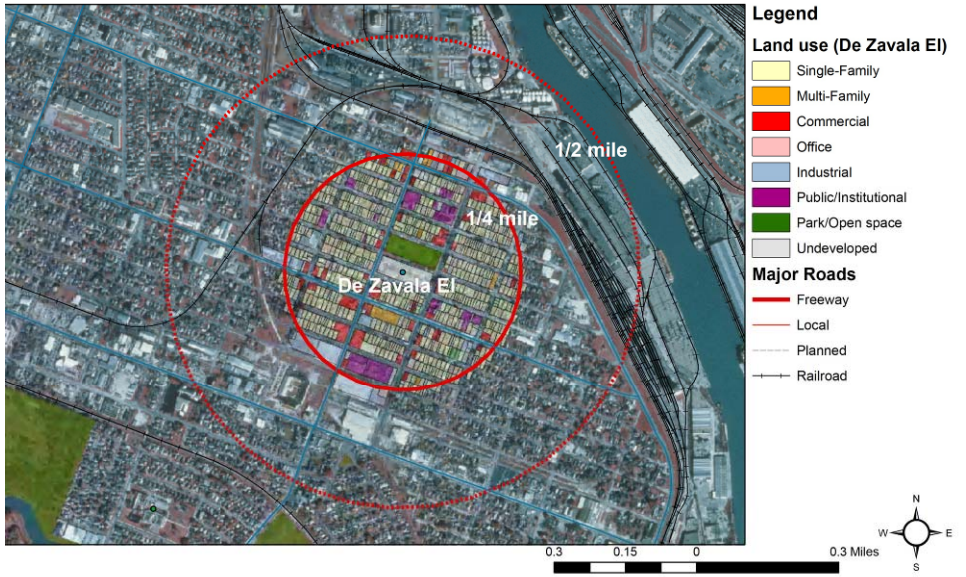


Carrillo Elementry School

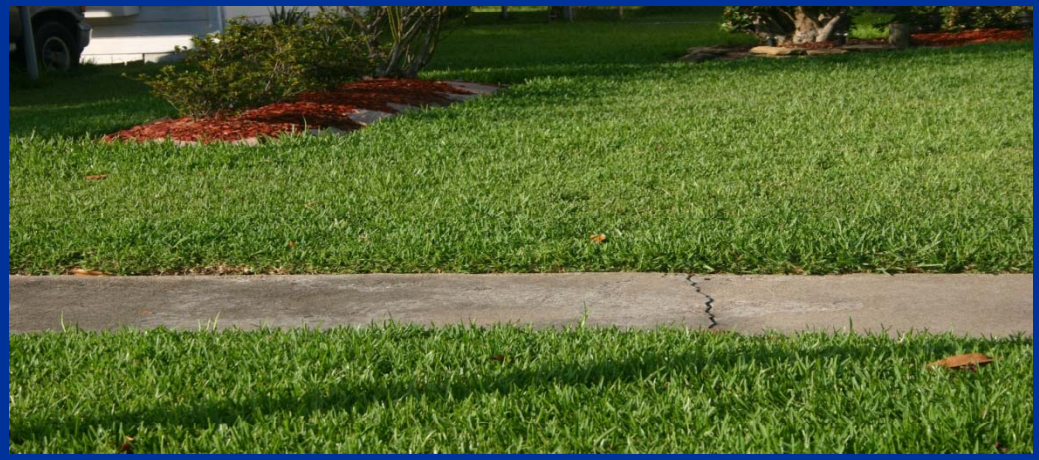
Burnett Elementry School



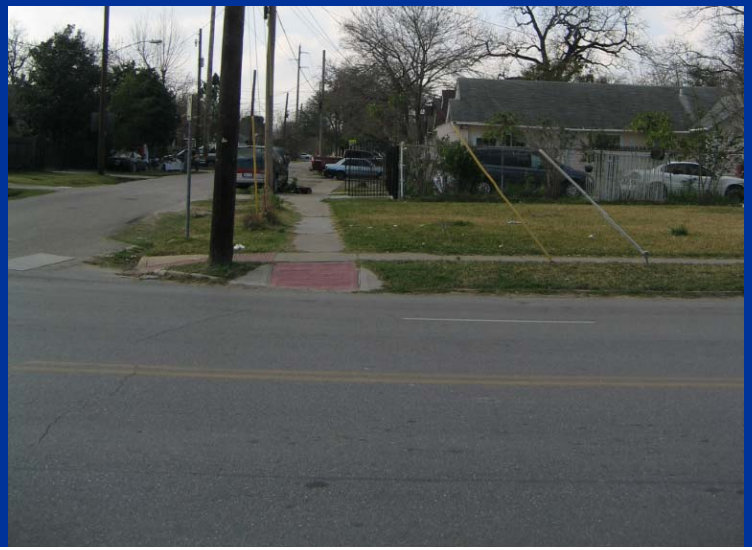
De Zavala Elementry School



Neighborhoods and Schools



Neighborhood



School Descriptions

	DZ	C	Bris	Bur
Total Enrollment 2005-2006	681 students	749 students	513 students	713 students
Hispanic students	99 %	97 %	98 %	99 %
Students receiving free or reduced price lunch	94 %	93 %	92 %	96 %
Distance to (and Size of) closest Park	0.03 miles (2.8 acres)	0.08 miles (161 acres)	0.17 miles (161 acres)	0.45 miles (10.2 acres)

Park Descriptions

PARK	DeZavala	Settegast	Mason	East Wood
Closest school	De Zavala	Rusk	Briscoe	Burnet
Distance to the closest school	0.03 miles	0.01 miles	0.17 miles	0.6 miles
Size	2.6 acres	4.1 acres	108.08 acres	10.8 acres
Bike or multiuse trails	No	No	Yes: 1.4 miles (nearby or adjacent to the park, asphalt)	Yes: 0.2 miles (off-road trail, asphalt)
Baseball	1	1 (softball)	3	1
Multi-purpose field	-	-	4	-
Playground	1	1	1	1
Community center	-	1	1	1

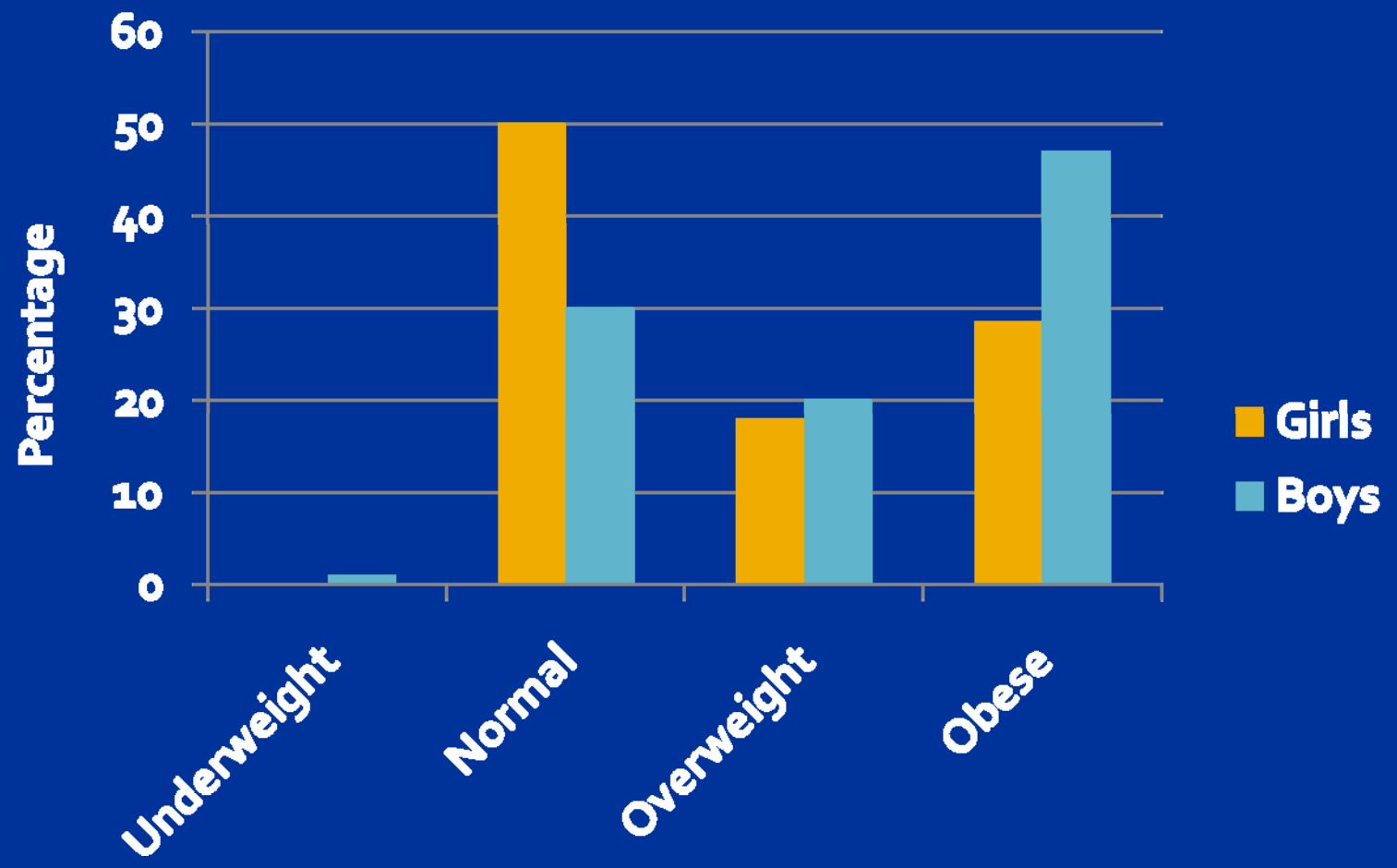
Measures

Measure	Method
Physical Activity/Sedentary	Accelerometer, Survey, GPS
Environmental Perceptions related to Cycling and Walking	Adapted Survey (NEWS)
Anthropometric	Body height and weight, waist and hip circumference, BF %
Demographic	Survey
Acculturation	Youth Acculturation, Barona Acculturation,Marin and Gamba

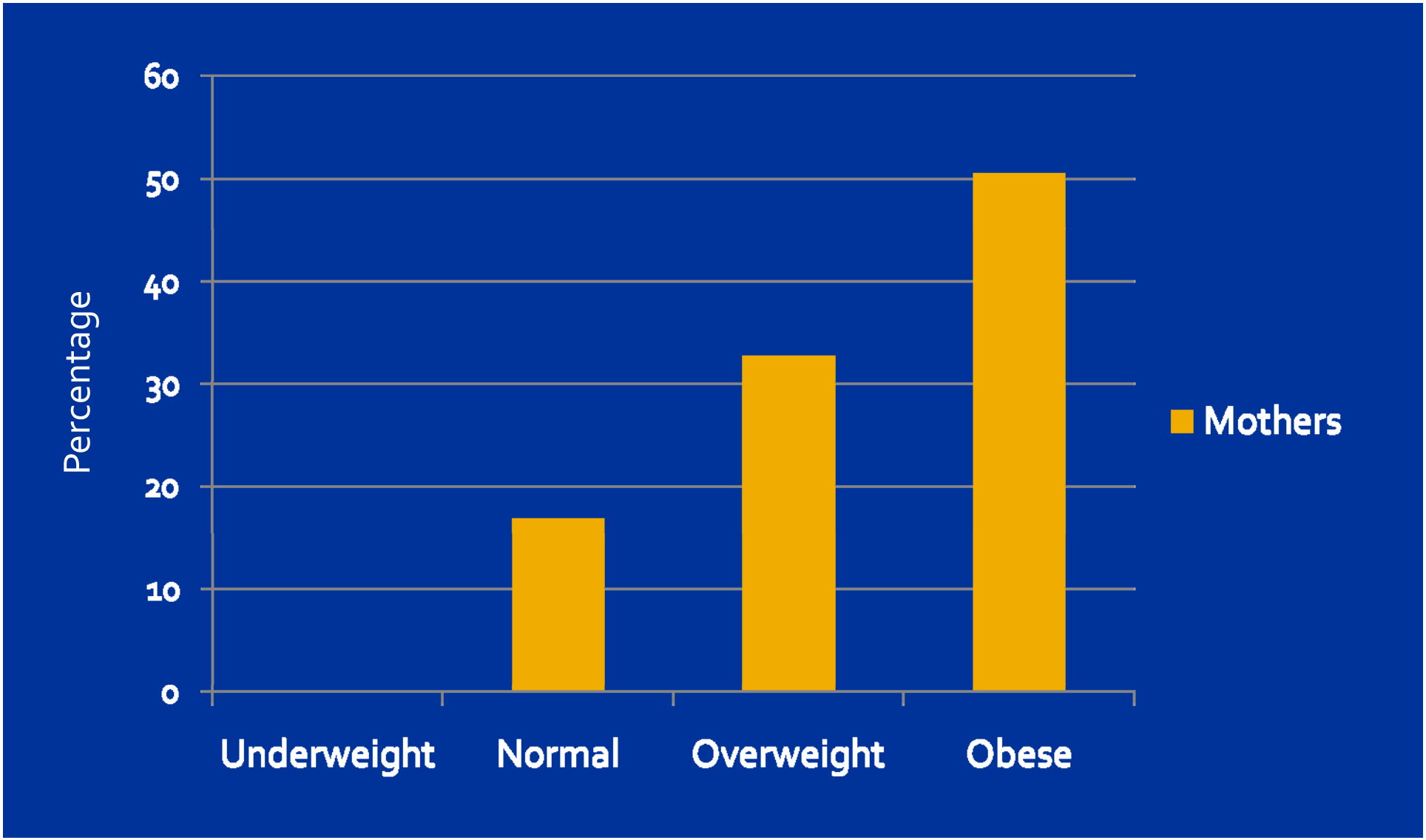
Results

	Girls (N=77)	Boys (N=55)	Mothers (N=102)
Weight (kg)	43.3	47.22	75.99
Height (cm)	142.9	142	156.21
BMI	20.9	22.9	31.06
BMI %ile	70	80.1	NA
Body Fat %	26.8	29.0	38.28
Waist (cm)	72.0	78.6	94.40
Hip (cm)	NA	NA	110.10

Children's Weight Status



Maternal Weight Status

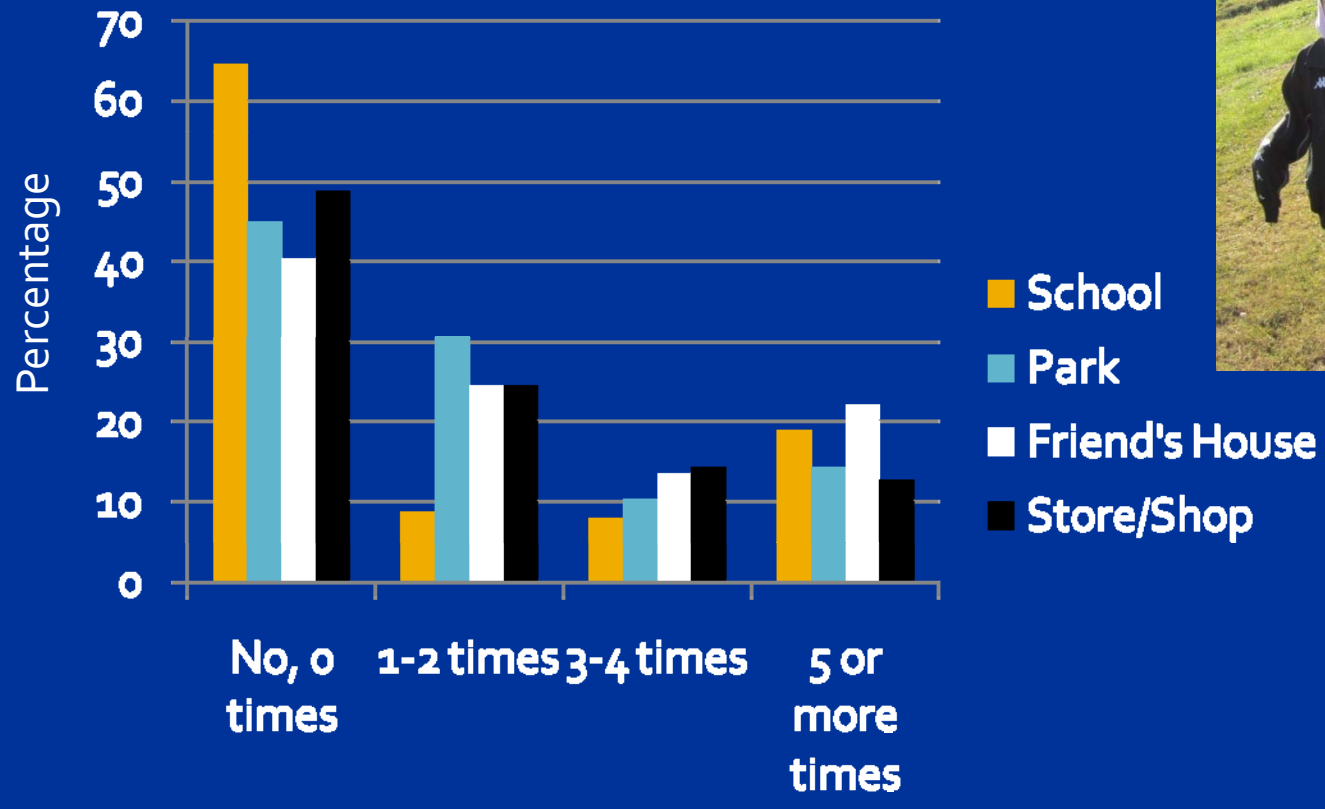


Places to be Active

Variables	N	Never	Sometimes	Often	Always
How often are you typically active in …?					
Your home street, front/back yard	132	2 (1.5%)	49 (37.1%)	39 (29.5%)	42 (31.8%)
Your school PE class	132	2 (1.5%)	54 (40.9%)	33 (25.0%)	43 (32.6%)
Your church facility	132	43 (32.6%)	52 (39.4%)	24 (18.2%)	13 (9.8%)
A park	132	4 (3.0%)	59 (44.7%)	32 (24.2%)	37 (28.0%)
A health club	132	99 (75.0%)	17 (12.9%)	8 (6.1%)	8 (6.1%)
A YMCA	132	108 (81.8%)	13 (9.8%)	8 (6.1%)	3 (2.3%)
A playground or green space in an apartment complex	132	55 (41.7%)	35 (26.5%)	21 (15.9%)	21 (15.9%)

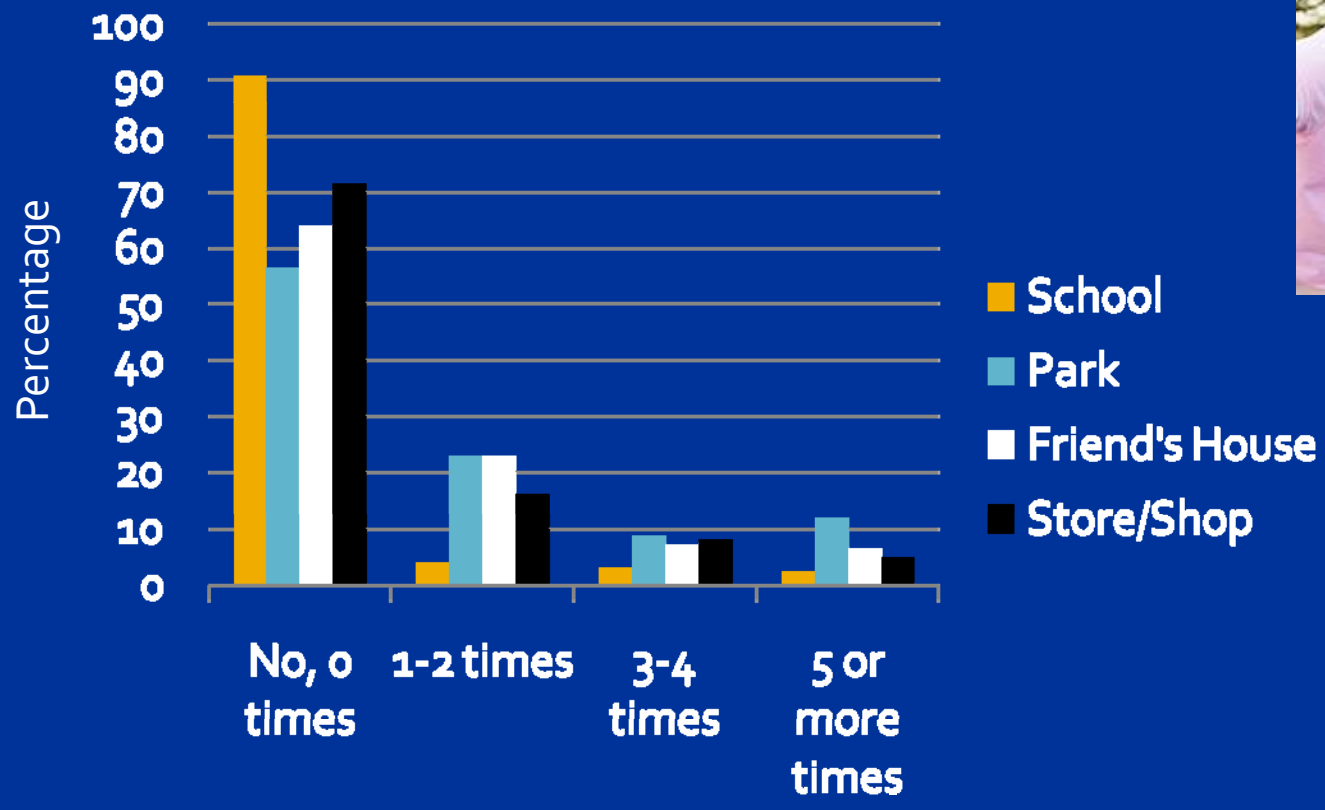
Results

In the past 7 days, have you **walked** to/from…



Results

In the past 7 days, have you **bicycled** to/from…

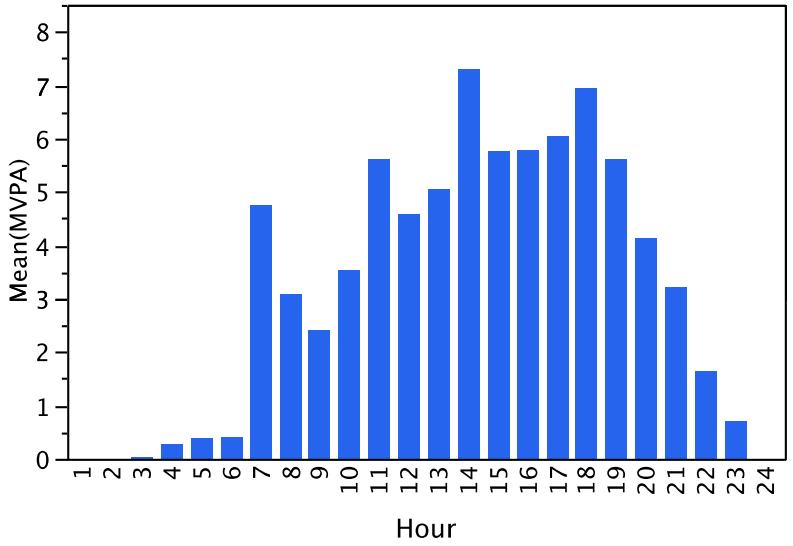


Average Daily MVPA

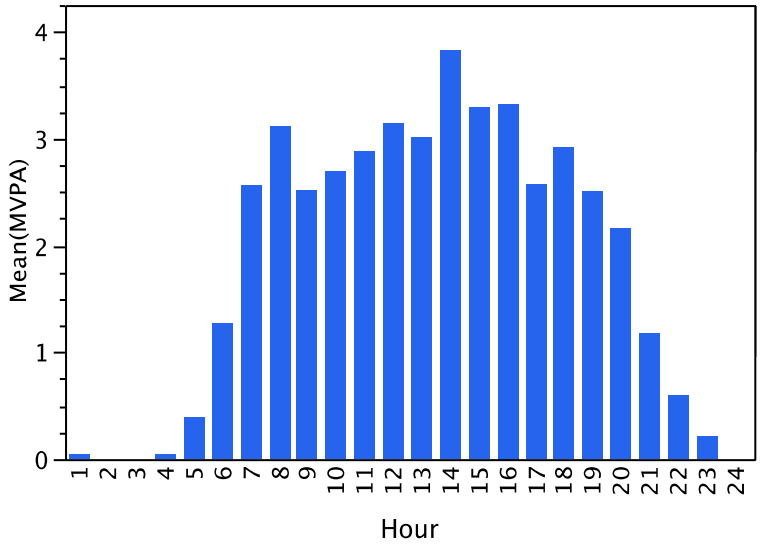
	Mean	SD	SEM	95%C.I.
Boys (n=21)	58.71	26.23	5.72	46.77 to 70.65
Girls (n=30)	42.4	25.21	4.60	32.98 to 51.81
Children's total	49.11	26.64	3.73	41.62 to 56.61
Mother's total (n=50)	20.81	18.29	2.61	15.56 to 26.07

Accelerometer Results

Children's MVPA by hour



Mothers' MVPA by hour



Comparison of Child and Mother Perceptions of Neighborhood Safety

	Children			Mothers			
Item	N	Mean	SD	N	Mean	SD	q-value*
[1]It is dangerous to walk or ride my bike in my neighborhood because of things like…							
[2]It is dangerous for my child to walk or ride his/her bike in my neighborhood because of things like…							
Too much traffic	137	1.27	0.55	88	4.02	0.77	2.57
Cars going too fast	137	2.18	1.50	88	4.08	0.95	1.55
Lack of crosswalks	137	2.16	1.52	88	3.51	1.41	0.99
Lack signals at crosswalks	137	2.26	1.57	88	3.40	1.41	0.73
No lighting	137	1.97	1.44	88	3.03	1.46	0.66
Stray dogs	137	2.58	1.60	88	3.75	1.38	0.75
Gangs	137	2.27	1.56	88	3.23	1.40	0.55
Strangers	137	2.87	1.64	88	3.54	1.38	0.25

[1]Question stem for the child survey. [2]Question stem for the mother survey.
Note: All questions were answered on a 5-point Likert-scale (1: Strongly disagree to 5: Strongly agree).

Prediction of Children's MVPA Daily Average from Mothers' Neighborhood Safety Perceptions

Item	Estimate	SE	t	Probability
Too much traffic	-3.39	3.42	-0.99	0.328
Cars going too fast	3.51	3.67	0.96	0.344
Lack of crosswalks	-8.39	3.86	-2.17	0.036*
No signals at crosswalks	4.31	3.60	1.20	0.293
No lighting	-2.43	4.44	-0.55	0.587
Stray dogs	2.60	3.03	0.86	0.396
Gangs	7.3	3.26	2.26	0.029*
Strangers	-4.98	3.85	-1.29	0.206

Maternal R^2 = .26 (p = .12), children's model (R^2=22) and the congruence score model (R^2=16).
*p < .05