Exploring the Role of Physical Activity (PA) in the Life of Female Public Housing Residents of Harrisburg, PA

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Introduction & Background

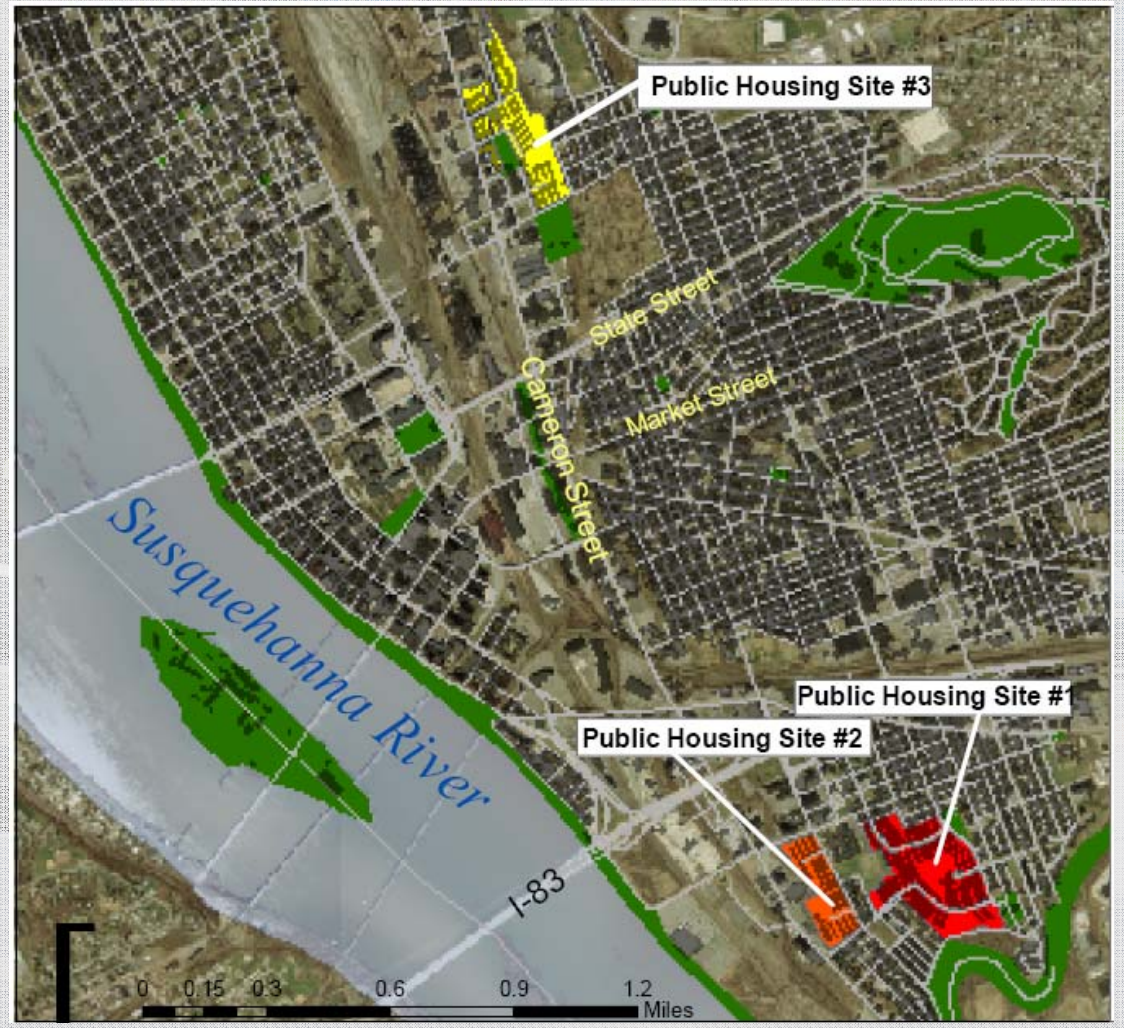
- Correlation between physical activity and obesity related diseases is undeniable
- Low-income and low-education groups are at a significantly higher risk for obesity-related illnesses while reporting low levels of leisure-time physical activity.
- Relatively little is known about their PA behavior patterns
- Development of standardized self-report instruments (like the International Physical Activity Questionnaire - IPAQ) to assess, monitor and compare health-enhancing physical activity in the population.
- Pedometers provide objective measures of PA and are easy to use by study participants including those with low literacy skills; also less expensive than accelerometer and provide reliable and sufficiently accurate objective PA data, especially with regard to walking.

Objectives

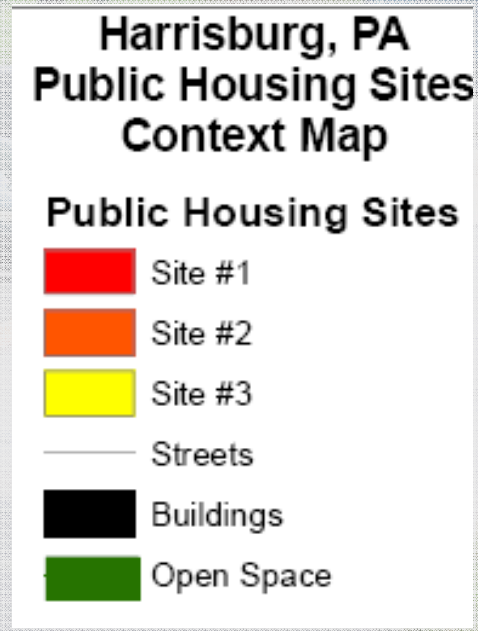
1) Explore the role of physical activity (PA) in the lives of female public housing residents and identify perceived barriers to PA as identified by female public housing residents.

2) Investigate the reliability/efficiency of collecting objective (pedometer-derived) and subjective (self-reported IPAQ-short form) measures of physical activity data for this population.

Setting



Three family public housing sites in Harrisburg, PA



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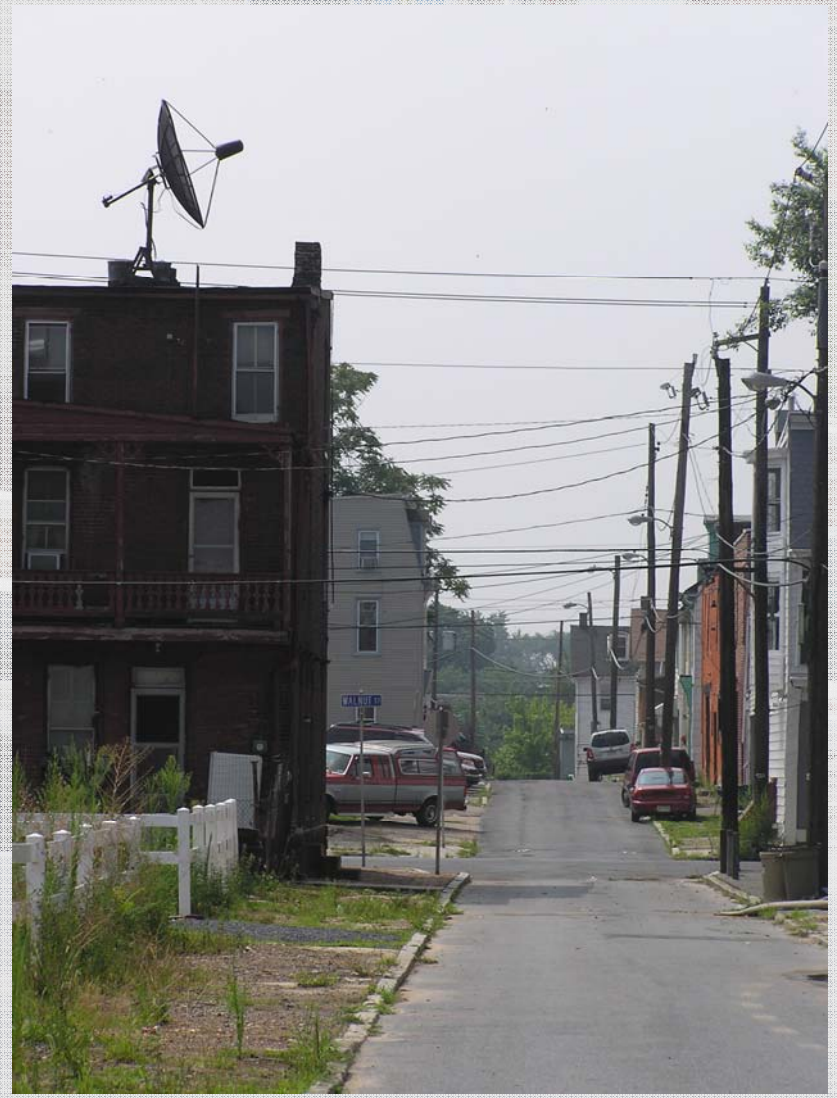

Housing Site 1
525 households/ 45.1 acres

Housing Site 2
227 households/ 14.0 acres

Housing Site 3
345 households/ 28.7 acres

Two storey walk-up barrack style buildings

Close to river-front but cut off by railway tracks

Participants & Procedures

- Part of a larger study that examined both PA and healthy nutrition of adult female public housing residents in Harrisburg, PA.
- Data collected in two phases:
  - Phase I: August 2005 to November 2005 (24 participants)
  - Phase II: April 2006 to June 2006 (68 participants)
- Posters/mailed flyers used to solicit participants
- Harrisburg Housing Authority involved in planning the project

Measures

- Basic Demographic Data
  - Interviewer administered questionnaire
- Physical Activity
  - Objective: pedometer (7 consecutive days)
  - Subjective: IPAQ-short form or IPAQ-S
- Focus Group Meetings
  - 2 each at Hall Manor and Hoverter Homes
  - 1 at Smith/Howard Day/Hillside Village

Findings: Role of PA

•Focus group participants aware of the need to exercise and be physically active

•The most common PA included walking and housework/daily living-related activities

•All participants that walked, did so in their neighborhood

•Those with kids mentioned playing with them (basketball), and even interacting with children as a form of exercise.

Findings: Perceived Barriers to PA

- Most common barriers in order of their priority are:
  1) concern for safety (including drug peddling and related violence, drug paraphernalia and broken glass found near play areas)
  2) lack of free facilities for physical activities for adults and youth
  3) few (if any) destinations within easy walking distance of home
  4) lack of organized activities for adults
  5) lack of social support networks
- Some other identified barriers include:
  1) difficulty of fitting in physical activity with demanding work schedules
  2) being overwhelmed with day-to-day living issues.

Findings: IPAQ-S & Pedometer Data

	IPAQ derived			Pedometer derived Mean Steps/week
	(Vigorous Activity) MET-min/Week	(Moderate Activity) MET-min/Week	(Walking Activity) MET-min/Week	
N	79	79	79	61
Mean (S.D.)	2094.08 (2911.87)	1779.14 (1683.51)	2535.32 (1498.75)	5234.79 (3172.40)
Median	720.00	1080.00	2772.00	5016.00
Skewness (S.E.)	1.63 (.27)	.77 (.27)	-.23 (.27)	.73 (.31)
Min	0.00	0.00	66.00	381.00
Max	10080.00	5040.00	4158.00	12926.00

Findings: IPAQ-S Scores

IPAQ Score	Frequency	Percentage	Cumulative Percentage
Low	3	3.8	3.8
Moderate	9	11.4	15.2
High	67	84.8	100.0
Total	79	100.0	

Findings: Pedometer-derived Mean Steps/Week

Pedometer Categories	Frequency	%	Cumulative %
Sedentary (< 5,000 steps)	29	47.5	47.5
Low Active (5,000 – 7,499 steps)	18	29.5	77.0
Somewhat Active (7,500 – 9,999 steps)	8	13.1	90.2
Active (>= 10,000 steps)	4	6.6	96.7
Highly Active (> 12,500 steps)	2	3.3	100.0
Total (N)	61	100.0	

Findings: IPAQ-S & Pedometer Data Comparison

		IPAQ – S Categories				
		No Data	**Low**	**Moderate**	**High**	**Total**
Pedometer Log Categories	**Sedentary**	0	0	6	23	29
	Low Active	1	0	1	16	18
	Somewhat Active	0	0	0	8	8
	Active	0	0	0	4	4
	High Active	1	0	0	1	2
	No/ Invalid Data	10	4	2	15	31
Total		12	4	9	67	92

Findings: IPAQ-S & Pedometer Data

Correlation

	Vigorous MET-min/Week	Moderate MET-min/Week	Walk MET-min/Week
Mean Steps/Day	.142 (59)	-.020 (59)	.245(*) (59)
Vigorous MET-min/Week		.067 (79)	.200(*) (79)
Moderate MET-min/Week			-.094 (79)

* Correlation is significant at the 0.05 level (1-tailed).

Discussion

- Physical Activity assessment:
  - Pedometer data
    - Low Mean Steps/Day (corroborated by limited research in this area)
    - Difficulty in obtaining valid data from this group
  - IPAQ-S
    - Over-reporting of physical activity
    - Moderate physical activity identification is problematic
  - Comparison of pedometer and IPAQ-S data
    - Low agreement
    - Correlations are also low

Discussion

- Participants aware of benefits of PA
- Perceived barriers identified by study participants – corroborated by existing research
- Interventions – culturally sensitive
- Data collection issues with this population

Next Steps

Low PA levels of this population suggests scope for improvement

Intervention studies focused on crime reduction, creating social support and provision of PA programming/facilities in the neighborhood are promising avenues of future research