

Increasing Physical Activity in Parks: Results of a Randomized Controlled Intervention Trial

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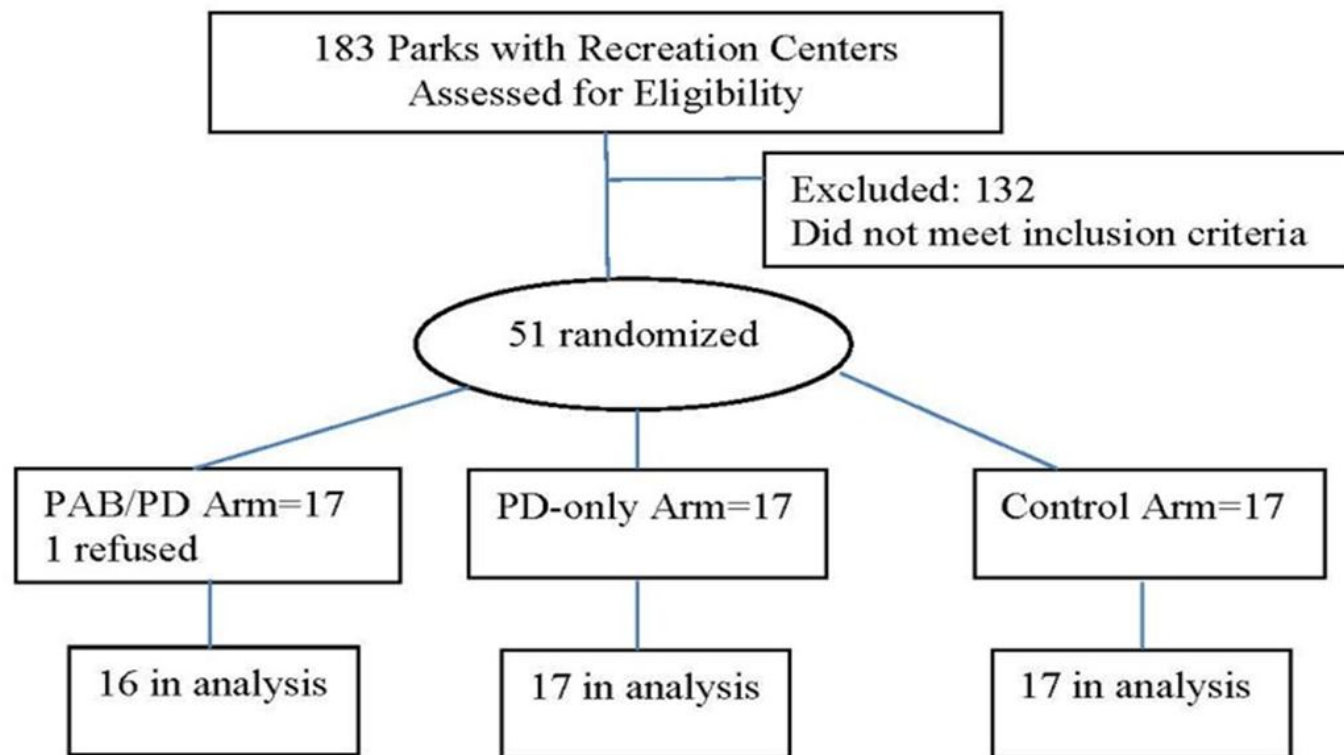
Original Study Question

- To examine the impact of using park assessments and marketing training to influence park programming and outreach by involving:
 - Park Directors alone, plus \$4000, or
 - Park Advisory Boards and Park Directors together, plus \$4000
- Compared to:
- No feedback/no support for park changes

Methods

- Randomized 50 parks to 3 conditions:
 - Outreach/programs selected by Park Director and Park Advisory Board (+\$4000 and training)
 - Outreach/programs selected by Park Director (+\$4000 and training)
 - Comparison group-No money or training provided
- SOPARC to measure park use and physical activity levels before implementing changes and during follow-up 2-3 years later
- Surveys of park users and residents

Figure 1. Profile of Randomized Controlled Trial



Socio-Demographics of Park Neighborhoods

	PAB/PD parks (n=16)	PD-Only Parks (n=17)	Control Parks (n=17)
Park Neighborhoods			
% households in poverty	22.9 (12.6)	23.7 (12.9)	24.2 (12.6)
% African American	12.7 (16.8)	11.6 (16.0)	14.5 (19.1)
% White	45.4 (25.9)	43.2 (23.0)	40.4 (24.7)
% Hispanic	44.7 (18.5)	47.8 (24.7)	50.6 (28.7)
Population in 1 mile (in thousands)	35 (17)	41 (26)	41 (28)
Park Acres	12.1 (15.5)	13.6 (16.8)	13.2 (11.3)

Marketing Training Points

Emphasized:

- Importance of excellent customer service
- Importance of outreach
- Importance of staff visibility
- Using special events to promote routine activities and programs

Specific Interventions – Three Categories

- Signage
 - Common signage: banners, bulletin boards, floor mats, LEDs, staff shirts, table covers, bubba keg, clipboards, staff aprons
 - Walking path signage: banners, signs, posts, maps
- Promotional incentives and outreach efforts
 - Small incentives and promo items
 - Email and Constant Contact
 - Frequent user items (key tags)
- Efforts targeting group activities and other miscellaneous expenses
 - Instructors
 - Class/activity materials and equipment (bouncer)
 - Facility upgrades (shades, tents)
 - Movie screen/projector, cameras, associated cables/equipment, PA system
 - Concert in park

Specific Interventions Across All 33 Intervention Parks

Category	% of total expenses across all parks	Total dollar amount spent across all parks (n=33)	# parks implementing this category
Signage	51 %	\$68,000	32
Incentives	21 %	\$27,000	18
Group activities	28 %	\$37,000	20



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WALK
ONE MILE
BURN
100
CALORIES



Specific Interventions (cont'd)

- 33 intervention parks spent a total of \$132k
- Efforts were not notably different between the two study arms:
 - 1 PAB park did not increase signage
 - 8 PAB parks and 7 PD parks did not provide incentives
 - 6 PAB park and 7 PD parks did not have group activity efforts
- A majority of parks used multiple effort categories
- Most parks implemented more than one specific change within each category

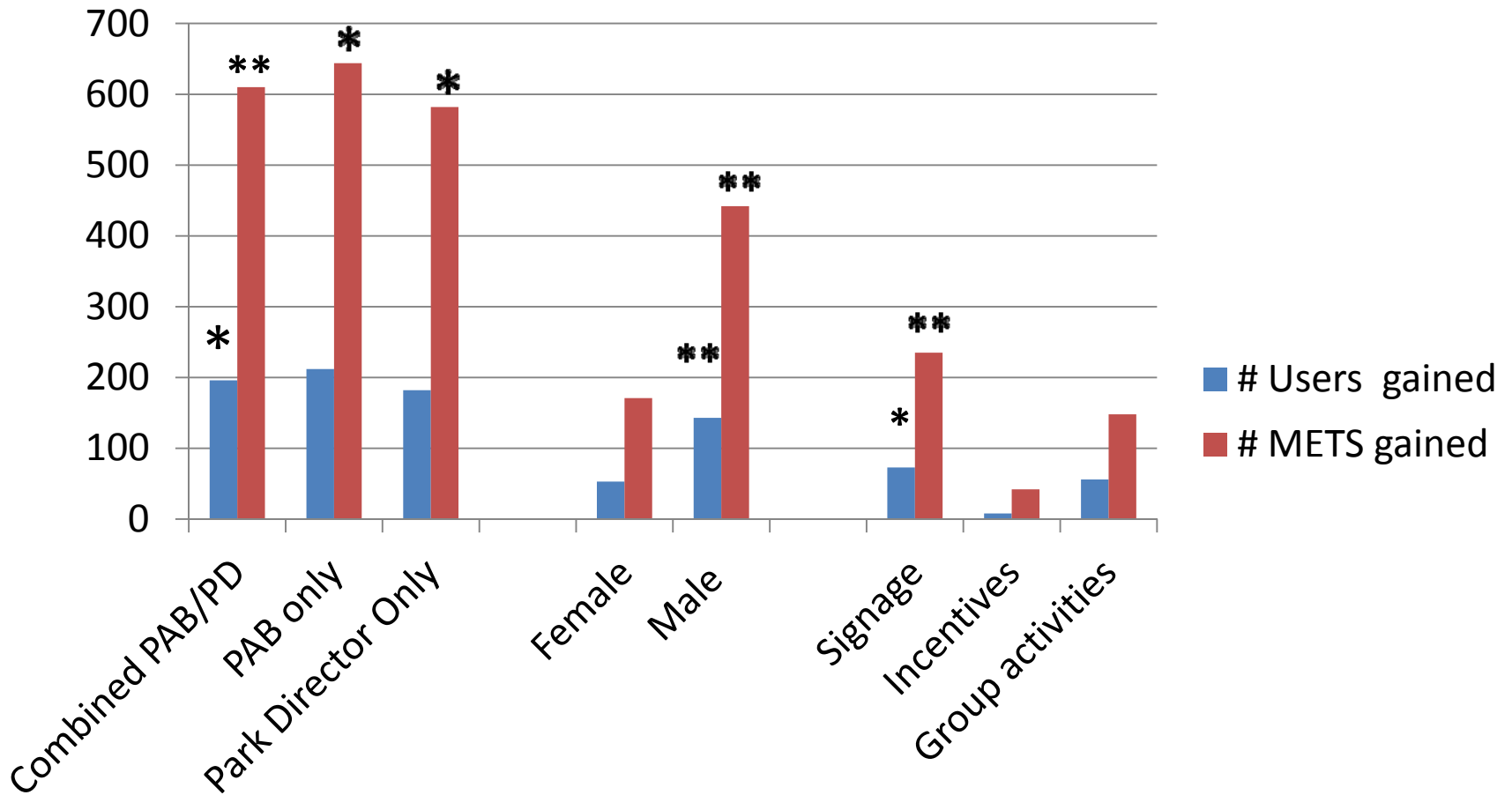
Results

- Observation of 104,101 park users (4% seniors) in 47,732 target area visits and observed another 107,096 park users at follow-up
- Conducted structured interviews with 6913 adults at baseline and 8360 at follow-up

Estimated Intervention Effect

- Doing nothing led to fewer users and reduced PA or energy expenditure
 - Control parks lost 146 users per week and 325 fewer METs were expended, roughly equal to 6-10% of the average park use
- Doing something increased users
 - Increase was 174 more users/week/park; 571 more METs expended/week/park: equivalent to 429 more people walking briskly for 20 minutes every week
 - Relatively, intervention parks increased average use by 7-12%.
- If the effect lasted at least 20 weeks, the cost per MET gained is approximately 14 cents

Subgroup D-I-D Changes in Park Use and Energy Expenditure



** = Significant at false discovery rate <.05
 * = Significant at false discovery rate <.10

Specific Intervention Effects

- Intervention effects were more notable for males than for females; roughly 75% was due to additional male park users
- Investment in signage appeared most important
 - >50% of the intervention effect was likely due to signage
 - But ineffectiveness of other expenditure categories may have resulted from insufficient sample sizes
- PAB/PD and PD only study arms did not have notable differences
 - Both implemented similar specific intervention efforts
 - Both have roughly equal overall intervention effect

Other Factors Contributing to Park Use and METs

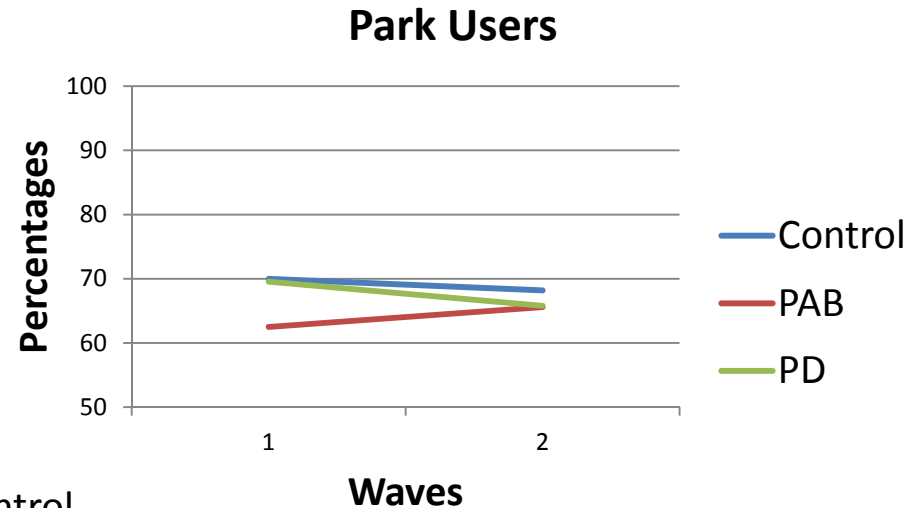
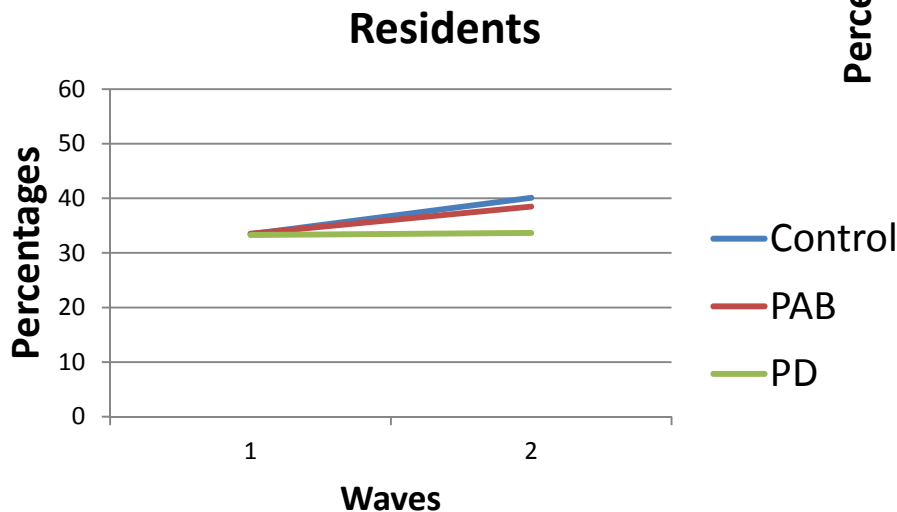
- Our statistical model controlled for various factors, largely replicating results from our earlier baseline data analysis
- Significant factors associated with increased use:
 - size of a park (with METs only)
 - local population density
 - # of facilities and amenities
 - accessibility
 - season (summer had the highest usage)
 - # of supervised/organized activities
- Other factors associated with decreased use, but insignificant:
 - Poverty
 - Perception of safety

Differences-in-differences Changes in Resident and Park User Survey Responses

- Frequency of park use (last 7 days):
 - Increased among park users, not residents
- Perception of safety (safe vs. unsafe)
 - No change
- Frequency of exercise sessions (last 7 days)
 - Increased in both park users and residents

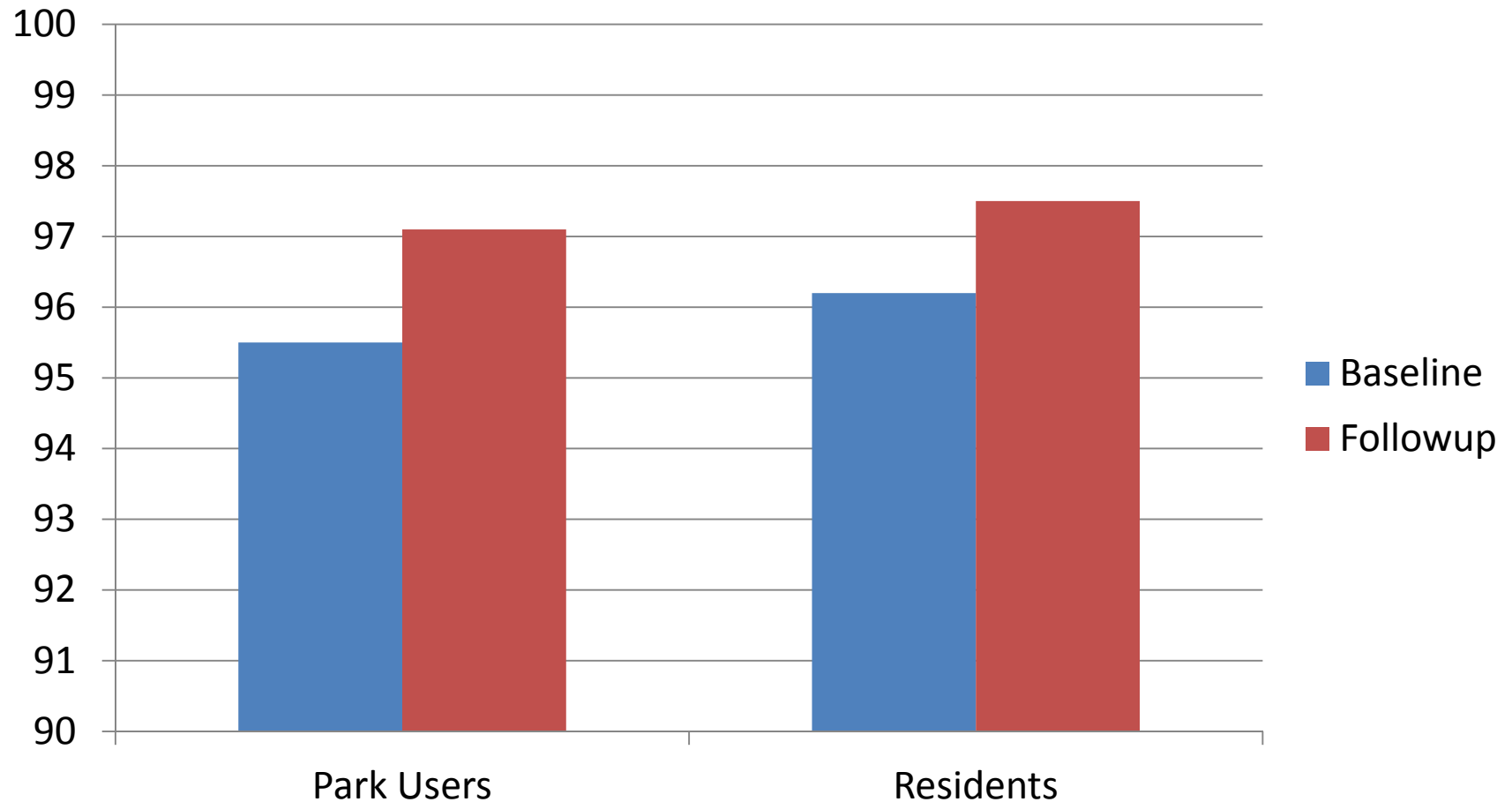
No Change in Percentage Knowing the Park Staff

No significant changes. Park users are more likely to know the park staff



“Knowing the park staff” means having enough knowledge about their work to rate it, and does not mean having a personal relationship with them.

Percentage of Respondents Who Rate Park Staff "A" or "B" Remains High



Malleable Factors

- Versatile parks attract more use
 - Popular parks are larger, have more facilities, and provide increased accessible to them
- Organized/supervised activities have a central role in promoting park use
 - The effects are sizeable and highly significant, enough to negate the disadvantages of being smaller and having fewer facilities
- Risk/safety: despite its statistical insignificance, efforts should address this
 - Data collector's experience.
 - Resident surveys indicate safety concerns for inner city parks

Challenges and Limitations in This Study

- PABs difficult to organize and maintain in low-income neighborhoods
- Many parks did not spend intervention funds until right before the follow-up measurement
- Ordering/delivering/installing intervention items not as smooth or timely as we had hoped
- Considerable staff turnover reduced continuity
- Some resistance to park branding efforts

Conclusion

- Lots of competition for people's leisure time; parks need to effectively compete in the marketplace
- Parks can attract more users, but it requires attention and modest investments
- Measurement is necessary to know what works
- Parks have a large, untapped potential to increase population physical activity

