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SCHOOL OF HEALTH & HUMAN SCIENCES

# Reducing Physical Activity Disparities Among Vulnerable Minorities: Methods and Preliminary Outcomes

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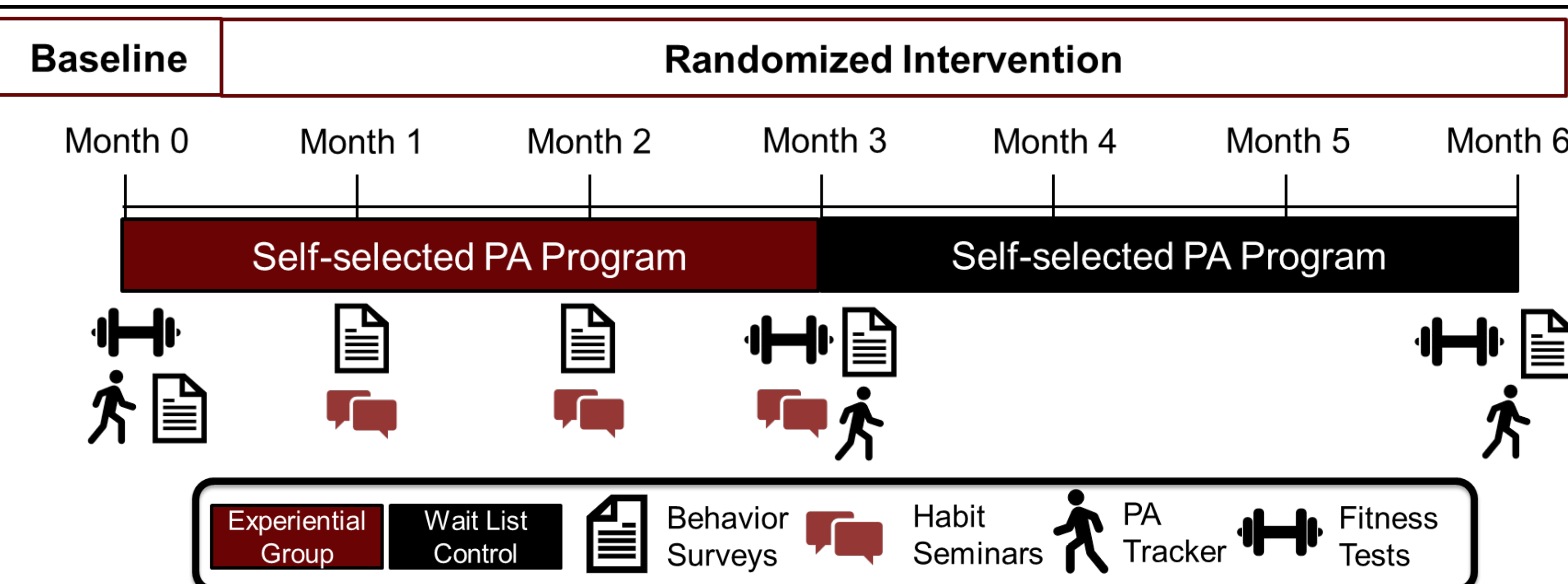
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## INTRODUCTION

**INTRODUCTION:** Vulnerable minorities experience high rates of chronic disease. Physical Activity (PA) is an effective preventive behavior to mitigate multiple diseases. Vulnerable minorities have low PA participation. Finding ways to engage PA in vulnerable minorities is imperative.

**PURPOSE:** To describe the preliminary findings from a community-based, theory-driven, wait-list pilot PA trial for vulnerable minorities.

## METHODS



**Figure 1. Study Protocol Timeline:** Individuals were randomized to an experimental (EXP) or wait-list control (WLC) group. All participants received a 3mo. fitness center membership. EXP participants were counseled to engage in regular PA (>4d/wk. for >30 mins); received trainer & on-site monthly education to form a PA habit & overcome barriers. The WLC group could engage in PA if desired but did not have the same research resources. WLC began membership at month 3.

	EXP	WLC
<b>N</b>	23	22
<b>Male</b>	8	7
<b>Female</b>	15	15
<b>% White</b>	60.9	86.4
<b>Age (yrs)</b>	48.8 ± 13.2	40.0 ± 9.7
<b>Height (cm)</b>	167.9 ± 7.0	168.5 ± 9.1
<b>Weight (kg)</b>	85.0 ± 19.3	98.0 ± 26.4
<b>BMI (kg/m<sup>2</sup>)</b>	30.2 ± 6.5	33.6 ± 8.3

**Table 1. Baseline Characteristics:** Forty-five adults were recruited. Participants were included if they were not meeting US PA guidelines, > 18yrs, and were not a member of the fitness facility. Participants were majority non-Hispanic White, educated, and employed full-time. Data reported as Mean ± SD.

## RESULTS

Variable	Condition	Baseline Mean (SD)	WK12 Mean (SD)	WK24 Mean (SD)	Cohen's D WK12 (w/in)	Cohen's D WK24 (w/in)	Cohen's D Baseline (b/t)	Cohen's D WK12 (b/t)	Cohen's D WK24 (b/t)
<b>Fitness Assessments</b>									
<b>30s Chair Test (reps)</b>	WLC	17.25 (5.16)	17.78 (3.0)	18.93 (2.57)	0.13	0.41	-0.33	0.29	0.23
	EXP	15.28 (6.60)	17.56 (5.51)	18.33 (4.13)	0.38	0.55			
<b>8ft Up &amp; Go (sec)</b>	WLC	5.05 (1.12)	5.03 (0.91)	4.64 (0.90)	-0.02	-0.40	-0.05	-0.23	0.13
	EXP	5.00 (0.85)	4.75 (1.11)	4.72 (0.93)	-0.25	-0.31			
<b>Arm Curl Left (reps)</b>	WLC	20.14 (5.48)	21.01 (4.04)	23.77 (2.22)	0.18	0.87	-0.16	0.25	0.05
	EXP	19.20 (5.25)	21.41 (5.10)	23.11 (3.86)	0.43	0.85			
<b>Arm Curl Right (reps)</b>	WLC	21.23 (5.88)	21.64 (3.77)	23.82 (2.69)	0.08	0.57	-0.41	0.30	0.24
	EXP	18.98 (5.23)	21.06 (5.38)	22.88 (4.04)	0.39	0.84			
<b>Sit &amp; Reach Left (cm)</b>	WLC	4.13 (8.31)	7.13 (5.84)	6.76 (5.63)	0.42	0.37	-0.89	0.32	0.60
	EXP	-4.7 (9.95)	1.89 (10.52)	4.19 (7.44)	0.58	0.94			
<b>Sit &amp; Reach Right (cm)</b>	WLC	5.02 (7.99)	6.42 (5.65)	6.91 (5.25)	0.20	0.28	-0.94	0.41	0.63
	EXP	-3.93 (10.76)	1.41 (10.14)	4.19 (7.44)	0.51	0.88			
<b>Back Scratch L/R (cm)</b>	WLC	-9.61 (12.40)	-12.02 (11.11)	-11.53 (6.07)	-0.21	-0.20	0.02	0.22	-0.07
	EXP	-9.32 (12.64)	-8.97 (12.77)	-12.15 (6.83)	0.03	-0.28			
<b>Back Scratch R/L (cm)</b>	WLC	-6.21 (13.13)	-5.38 (11.05)	-7.26 (6.97)	0.07	-0.10	0.16	0.00	-0.19
	EXP	-4.27 (10.37)	-3.46 (9.45)	-7.58 (6.40)	0.08	-0.38			
<b>PA Behavior</b>									
<b>MVPA (min/wk)</b>	WLC	173.66 (103.33)	227.22 (74.08)	248.11 (31.35)	0.60	0.98	-0.52	0.48	0.74
	EXP	127.97 (71.28)	225.17 (114.86)	269.37 (92.59)	1.02	1.71			
<b>Steps per Week</b>	WLC	34,975.56 (14,437.32)	39,339.22 (11,421.97)	40,784.45 (6,158.14)	0.34	0.52	-0.67	0.46	0.92
	EXP	26,225.87 (11,737.33)	36,775.19 (14,235.45)	44,321.34 (11,997.25)	0.81	1.53			
<b>Total PA (min/wk)</b>	WLC	1,159.03 (354.98)	1,263.64 (265.25)	1,072.53 (100.24)	0.33	-0.33	-0.81	0.41	0.99
	EXP	890.74 (306.11)	1,132.59 (387.95)	1,135.89 (229.40)	0.69	0.91			

**Table 2. Outcomes and Effect Sizes for Fitness Assessment and PA Behavior:** There were variable changes in health-related measures of physical fitness at Week 12 and 24 for both EXP & WLC. Between effect sizes failed to reach medium size at Week 12 & 24 for most variables. EXP & WLC groups both had increases in PA behavior at Week 12 & 24. Medium to large between group effect sizes were observed in favor of EXP group at both post time points. Data reported as Mean ± SD.

## CONCLUSIONS

Data show our intervention was successful at changing PA behavior. Our team experienced difficulties recruiting vulnerable minorities. Participant stated various personal, inter-personal, and community-level barriers to participation in our study. Next steps include reporting final outcomes and developing refined recruitment methods.

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