

Supplementary Material: *The Feasibility and Effectiveness of a Community-Based Intervention to Reduce Sedentary Behavior in Older Adults*

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Additional information on Power Analysis: A power analysis (G*Power 3.1) was performed to estimate optimal sample size for detecting potential differences between intervention and wait-list control groups in sedentary behavior using a repeated measures design with an alpha of 0.05, a power of 0.80, and a medium effect based on our pilot results. Results from the power analysis estimated a total of 68 participants (34/group) would be needed for this study. Health promotion coordinators from State Aging Units in four counties consisting of small urban/rural communities (n=3) and an African American community (n=1) each recruited 20-30 older adults from their counties who were randomly assigned to either the intervention group (n=10-15) or the wait-list control group (n=10-15). {Note: this paper summarizes the procedures and results for the small urban/rural communities. A separate paper is in preparation summarizing the procedures and results for the African American sample}.

Additional information regarding randomization procedures: In order to participate in this study, participants had to be healthy community-dwelling (i.e., residing in a home or apartment), sedentary (i.e., sit more than 6 hrs per day), and aged 55 years and older. Interested and eligible participants were randomly assigned to either the “Stand Up and Move More” intervention group or a wait-list control group. Participants were randomized by county (and stratified by age: 55-70 years old, 71+ years old) using an excel spreadsheet containing two columns (one column per group) of computer-generated random numbers for each county. Study staff consulted the spreadsheet to determine the random group assignment for that

particular participant (e.g., if the eligible participant was the fifth eligible participant from that county, study staff would determine if a 5 corresponded to random assignment to the wait-list or intervention group).

Additional information regarding intervention workshop sessions: The intervention consisted of 4 weekly small-group workshop sessions (1 to 1 ½ hours) with a refresher session four weeks after the last workshop session. The sessions were facilitated by community partners in each county who regularly offer health promotion programs to older adults. Prior to the start of the workshops, the facilitators attended a 6-hour training session in which they learned about and practiced delivering the “Stand Up and Move More” curriculum. The intervention was based on self-regulation and social cognitive theories with sessions designed to provide information on sedentary behavior, elicit ideas from older adults regarding how they could reduce their sitting time, help them set practical and individualized goals, develop action plans to reach their goals, and refine their plans across sessions to promote behavior change. The facilitators were provided with a curriculum binder providing scripts, hand-outs, key points to emphasize, and questions for discussion for each session. A brief overview of the weekly sessions follows: Session 1: information was provided on sedentary behavior; participants were asked to reflect on the time they spend sitting during the day; the group discussed how they could stand up and move more safely; participants set a goal for the next week and developed an action plan to meet the goal; and instructions were provided on self-monitoring for the upcoming week. Session 2: group discussion on why they sit and barriers to standing more; self-evaluation of their behavior and goals from previous week; problem solving activity; participants set new goal and developed an action plan to meet the goal; discussion of self-monitoring from the previous week. Session 3: group discussion on the benefits of standing up and moving more; confidence building (e.g., what strategies work well); self-evaluation of their behavior and goals from previous week; participants set new goal and developed an action plan

to meet the goal; discussion of self-monitoring. Session 4: participants asked to reflect on the time they spend sitting during the day and whether this is different from week 1; group discussion on staying active in the community; self-evaluation of their behavior and goals from previous week; participants set a new longer-term goal and developed an action plan to stand up and move more over the long-term; and discussion of successes. Refresher Session: participants re-examined their behaviors and goal over the past four weeks; group discussion on progress and benefits of standing up and moving more; sharing of strategies that worked well; participants set long-term goal and developed an action plan to meet the goal; participants were congratulated and received a certificate for completion of the workshop. During the intervention, participants were asked to break up bouts of prolonged sitting (> 1 hour) with short breaks; specifically, they were asked to break up sitting time an extra 3 to 5 times/day during the first week of the intervention progressing to 10 to 12 times/day by the end of the four-week intervention. Participants self-monitored their activity by using a small click counter every time they stood up and completed a daily log at the end of each day throughout the study.

Supplementary Table 1*Means, standard deviations, and effect sizes for self-reported sedentary behavior activities at pre- and post-intervention, and follow-up*

| Outcomes | Means and Standard Deviations | | | Effect Sizes | |
|---|--------------------------------------|-------------------|-----------------|---------------------|------------------|
| | Pre-Intervention | Post-Intervention | Follow-Up | Pre to Post | Pre to Follow-up |
| | <i>M ± SD</i> | <i>M ± SD</i> | <i>M ± SD</i> | <i>Cohen's d</i> | <i>Cohen's d</i> |
| <i>Watching Television (mins/day)</i> | | | | | |
| Control | 231.17 ± 135.02 | 198.00 ± 97.03 | 197.83 ± 121.10 | -0.29 | -0.26 |
| Intervention | 170.60 ± 113.48 | 120.18 ± 73.34 | 97.30 ± 71.72 | -0.54 | -0.79 |
| <i>Using the computer/internet (mins/day)</i> | | | | | |
| Control | 82.23 ± 116.73 | 64.51 ± 84.85 | 43.74 ± 60.83 | -0.18 | -0.43 |
| Intervention | 81.68 ± 83.82 | 61.08 ± 71.66 | 54.35 ± 70.36 | -0.26 | -0.35 |
| <i>Reading (mins/day)</i> | | | | | |
| Control | 58.17 ± 62.90 | 49.91 ± 49.60 | 45.20 ± 59.45 | -0.15 | -0.21 |
| Intervention | 73.89 ± 85.21 | 53.53 ± 48.79 | 62.70 ± 61.45 | -0.30 | -0.15 |
| <i>Socializing (mins/day)</i> | | | | | |
| Control | 56.43 ± 36.63 | 61.91 ± 36.59 | 60.3 ± 47.88 | 0.15 | 0.09 |
| Intervention | 57.54 ± 42.86 | 62.63 ± 46.65 | 50.30 ± 45.19 | 0.11 | -0.16 |
| <i>Transportation (mins/day)</i> | | | | | |
| Control | 41.65 ± 25.04 | 33.23 ± 16.42 | 41.39 ± 24.29 | -0.41 | -0.01 |
| Intervention | 47.95 ± 52.68 | 48.64 ± 24.55 | 43.91 ± 20.89 | 0.01 | -0.11 |
| <i>Hobbies (mins/day)</i> | | | | | |
| Control | 68.06 ± 103.41 | 51.80 ± 79.54 | 28.71 ± 56.14 | -0.18 | -0.49 |
| Intervention | 31.64 ± 45.81 | 14.68 ± 21.65 | 19.22 ± 28.01 | -0.50 | -0.34 |
| <i>Working/volunteering (mins/day)</i> | | | | | |
| Control | 19.89 ± 44.91 | 9.77 ± 21.59 | 18.77 ± 41.00 | -0.30 | -0.03 |
| Intervention | 25.30 ± 48.50 | 16.59 ± 39.64 | 13.27 ± 34.73 | -0.20 | -0.29 |
| <i>Other (mins/day)</i> | | | | | |
| Control | 48.49 ± 36.38 | 67.83 ± 32.31 | 84.13 ± 43.97 | 0.56 | 0.89 |
| Intervention | 83.57 ± 78.37 | 77.97 ± 48.42 | 70.02 ± 35.18 | -0.09 | -0.24 |
| <i>Total (mins/day)</i> | | | | | |
| Control | 606.07 ± 124.34 | 536.97 ± 134.27 | 520.09 ± 143.62 | -0.53 | -0.64 |
| Intervention | 582.66 ± 144.81 | 441.26 ± 138.84 | 391.55 ± 142.98 | -1.00 | -1.33 |

Note. Effect sizes are derived from within-group calculations.