

Design of a culturally adapted physical activity intervention for older Latino/Hispanic adults to prevent dementia

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Background

- Dementia rates are higher in the older Latino/a/x and Hispanic (henceforth referred to as Latino) population compared to the Non-Hispanic White population.
- While physical inactivity is a preventable risk factor for dementia, few physical activity (PA) interventions have been culturally adapted in the older Latino community.
- Most of the existing prior studies have tested structured intervention programs, such as dance rather than lifestyle-based intervention approaches.
- We developed a culturally adapted lifestyle-based approach initially focusing on sitting less throughout the day and build towards moderate-to-vigorous PA (MVPA). The adaptation process included feedback and input from community member participants and a community advisory board
- Here we present the protocol for the Mente Sana (Brain Boost) randomized controlled trial to test the effects of the intervention on physical activity levels in 130 Latino adults ages 55 and over with the ultimate goal of improving cognitive function.

Methods

- **Setting:** Southern California and Washington State.
- **Eligibility:** aged 55-89, identify as Latino, speak and read Spanish or English, own a smartphone, have or willing to get a Fitbit account
- **Procedures:** All procedures are conducted remotely in Spanish or English. At baseline and 12-weeks participants complete questionnaires, phone-based cognitive assessments, and wear an ActiGraph GT3X+ on their waist for 7-days. After baseline assessments, participants are randomized to the De Pie y a Movernos (De Pie) intervention or an online education control group.

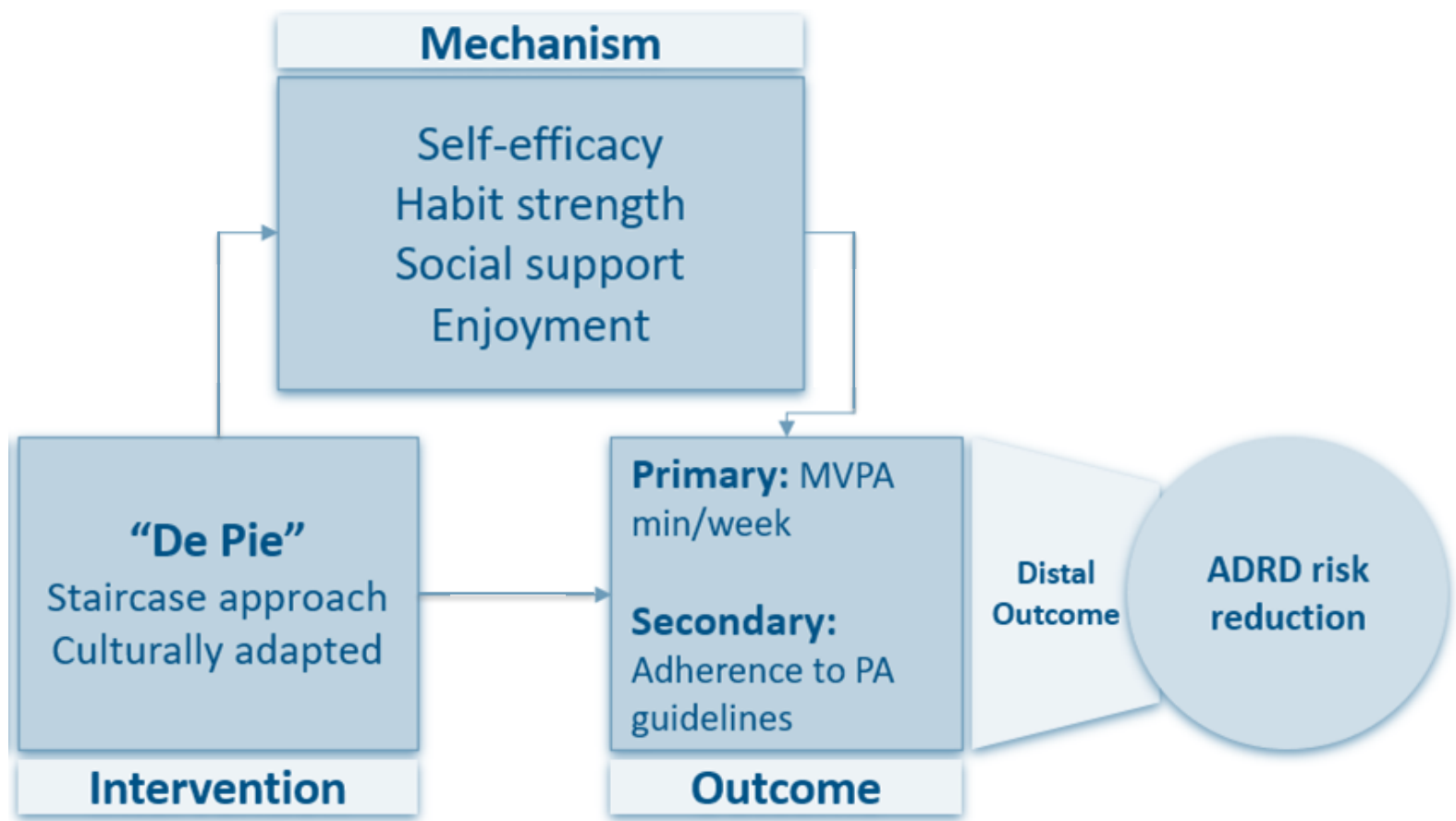


Figure 1. Overarching study design

Outcomes

- **Primary outcome:** ActiGraph-measured moderate-to-vigorous PA (MVPA) time
- **Secondary outcomes:** Meeting PA guidelines of 150+ minutes of MVPA per week; ActiGraph sedentary time, light-intensity PA, and steps
- **Exploratory outcomes:** Telephone version of the NACC Uniform Data Set version 3 (UDS3) neuropsychological battery
- **Analyses:** Linear regression models with robust standard errors (or modified Poisson regression for binary outcomes), including baseline values, group assignment and unbalanced covariates (e.g., demographics, site) will be conducted. Qualitative exit interviews will be conducted to further adapt and improve the intervention.

Intervention

- 6 health coaching contacts using a motivational interviewing approach for problem-solving, goal setting and action planning.
- Followed a staircase approach in which participants initially focus on goals to reduce sitting time by standing and moving more (Step 1) and then, when ready, advance to goals to MVPA (Step 2). See Figure 2.
- The intervention promotes improvements in psychosocial mechanisms of self-efficacy, habit strength, social support and enjoyment
- Fitbit Inspire 3 fitness trackers are used for self-monitoring and feedback is provided by the coach based on real-time data review via the Fitabase research platform

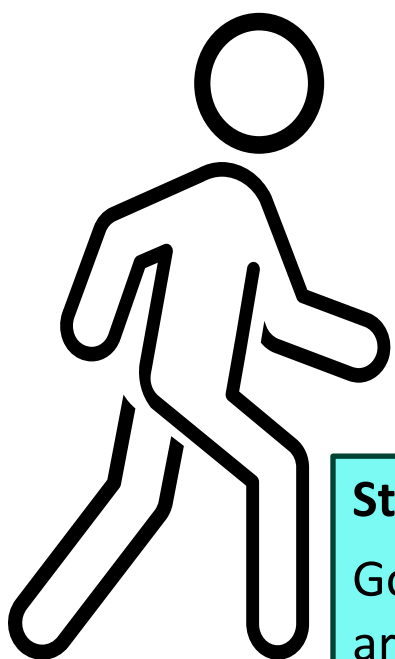
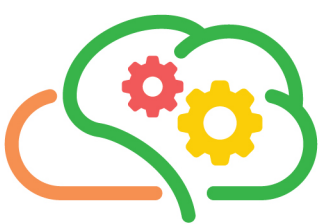


Figure 2. Intervention Steps.

Step 2: Keep fit
Goal example: Add 15 minutes of exercise per day that gets your heart beating harder.

Step 1: Sit less & move more throughout the day
Goal examples: Get 250 steps every hour by walking around the house, or while talking on the phone.



Mente
Sana



Table 1. Participant characteristics at baseline (N = 126 out of 130 anticipated enrollees)

Age, mean (SD)	65 (7)
Women, n (%)	98 (78)
Bachelor's degree or higher, n (%)	40 (32)
Spanish language preferred, n (%)	84 (67)
Montreal Cognitive Assessment, mean (SD)	18 (2.7)
Actigraph MVPA, mins/week, mean (SD)	21 (21)
Meet MVPA guidelines, n (%)	38 (33)
ActiGraph sedentary time, mins/week, mean (SD)	550 (96)
Steps/day, mean (SD)	5710 (3020)

Conclusions

There is a need for PA interventions that are remotely delivered and culturally adapted to reduce barriers to PA engagement in the older Latino population. Our study was developed to fill this gap. If effective, the intervention can be tested for long-term brain health outcomes.

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