

Using ripple effects mapping to identify intended and unintended outcomes of a community-based physical activity intervention targeting low-income mid-life and older adults

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Background

- Less than 20% of U.S. older adults meet the recommended level of physical activity.
- While many PA interventions targeting this population have been shown to be effective in increasing PA engagement, very few studies have reported long-term maintenance of PA practice.
- Many of these PA interventions have focused on individual-level impacts.
- Identifying the higher-level impacts, such as at the interpersonal, community, or policy levels, can help us understand the interplay of the multiple factors that can affect PA sustainability.

Community Partner



- **Mission:** The trusted voice for aging
- **Vision:** An America Freed From Ageism
- **Promise:** Inspire. Serve. Advocate

Project Description

- **Steps for Change (SFC) (King, A., PI)**
 - SFC is a community-based PA intervention trial targeting low-income midlife and older adults living in or near affordable public housing sites, many of which are affiliated with John Stewart or LeadingAge (Table 1).
 - This group-randomized trial compares the evidence-based Active Living Every Day (ALED) Program versus ALED and a citizen science approach called Our Voice (OV).
 - The OV program engages participants to use a mobile app to capture PA facilitators and barriers in their local communities.
- **Objectives & Analytic Approaches**
 - Ripple effects mapping (REM) is a participatory evaluation method used to explore intended and unintended outcomes of a program or intervention.
 - At different intervention time points, trained research staff conducted REM sessions by engaging participants through interactive group reflections and discussion (Fig. 1).
 - A “mind map” of the participants’ responses was created for data visualization (Fig. 2).
 - Data analysis included (1) identifying themes based on the reported outcomes, and (2) coding based on the social-ecological model (Table 2).

Demographics

SFC Trial Demographics	
Number of participants	300
Number of sites	10
Number of cohorts	13
Mean age (yrs.)	69.4
% of women	72.9
% of ethnic/racial minorities	39

Table 1: Demographics of the SFC intervention trial



Figure 1: A cohort before an in-person REM session

Outcomes

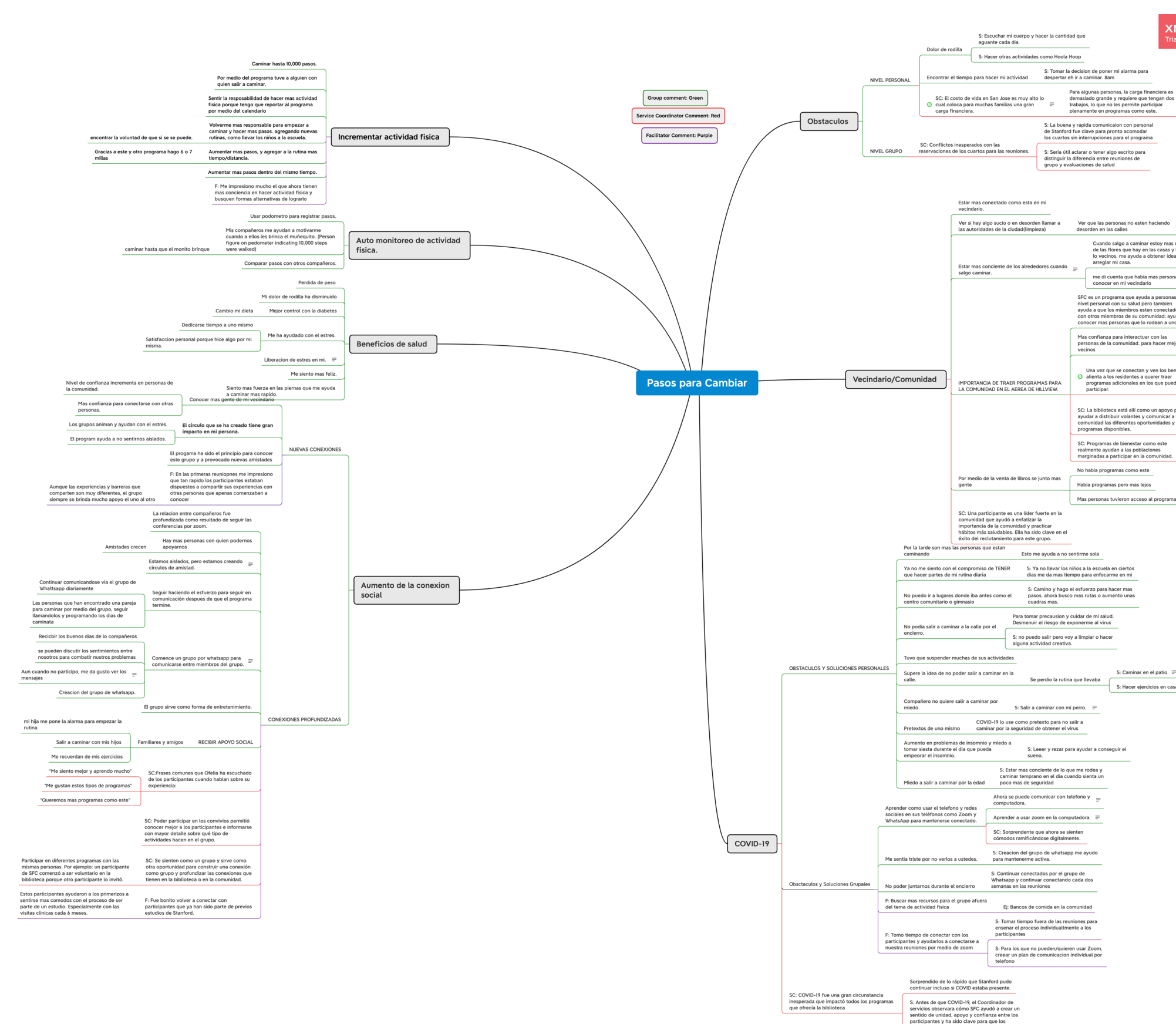


Figure 2: A mind map created with the XMind software during a virtual REM session

Lessons Learned

- REM sessions allowed participants to learn about each other’s experiences while fostering a supportive environment for increased group cohesion.

Coded Comments	Total Count	Individual	Family/ Interpersonal/ Group	Community/ Neighborhood	Policy/ Built Environment
Total Outcomes	64	29	32	13	1
	60.4%	45.3%	50.0%	20.3%	1.6%
Total Barriers	15	12	3	2	1
	14.2%	80.0%	20.0%	13.3%	6.7%
Total Solutions	20	14	9	0	0
	18.9%	70.0%	45.0%	0.0%	0.0%
Total of Others	7	3	3	3	0
	6.6%	5.2%	6.4%	16.7%	0.0%
Total Impacts	106	58	47	18	2

Table 2. A quantitative summary of the coded comments that corresponded to the different impact levels from the social-ecological model. *This table only includes data from one REM session.*

Recommendations

- In response to COVID19, adjustments were made to intervention delivery to allow participants to connect virtually.
- Using Xmind (mapping software) and Zoom during the pandemic made REM sessions feasible.
- The research team will conduct more in-depth analyses of the identified themes from the mind maps.
- Comparisons will also be made with REM data before and during the pandemic.
- The application of REM can serve as a tool to assess multi-level processes of PA interventions by capturing implementation and scale-up indicators to improve program sustainability across time.

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Learn more about our community partner at www.LeadingAge.com.