

Tiempos Juntos Por Nuestra Salud



Cost-effective and Safe Physical Activity Interventions for the Older Latinx Population

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Class of 2023

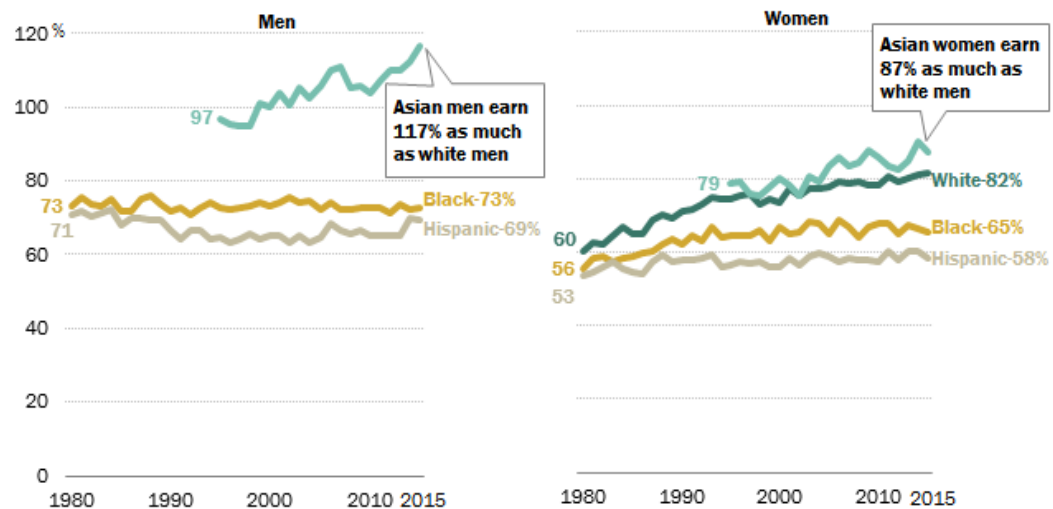
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Class of 2023

Mentor:
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Background

White men out-earn black and Hispanic men and all groups of women

Median hourly earnings as a percent of white men's earnings



Note: Estimates are for all civilian, non-institutionalized, full- or part-time workers ages 16 and older with positive earnings. Self-employed workers are excluded. Hispanics are of any race. Whites, blacks and Asians include only non-Hispanics. Asians include Native Hawaiian and Pacific Islanders.

Source: Pew Research Center tabulations of Current Population Survey data.

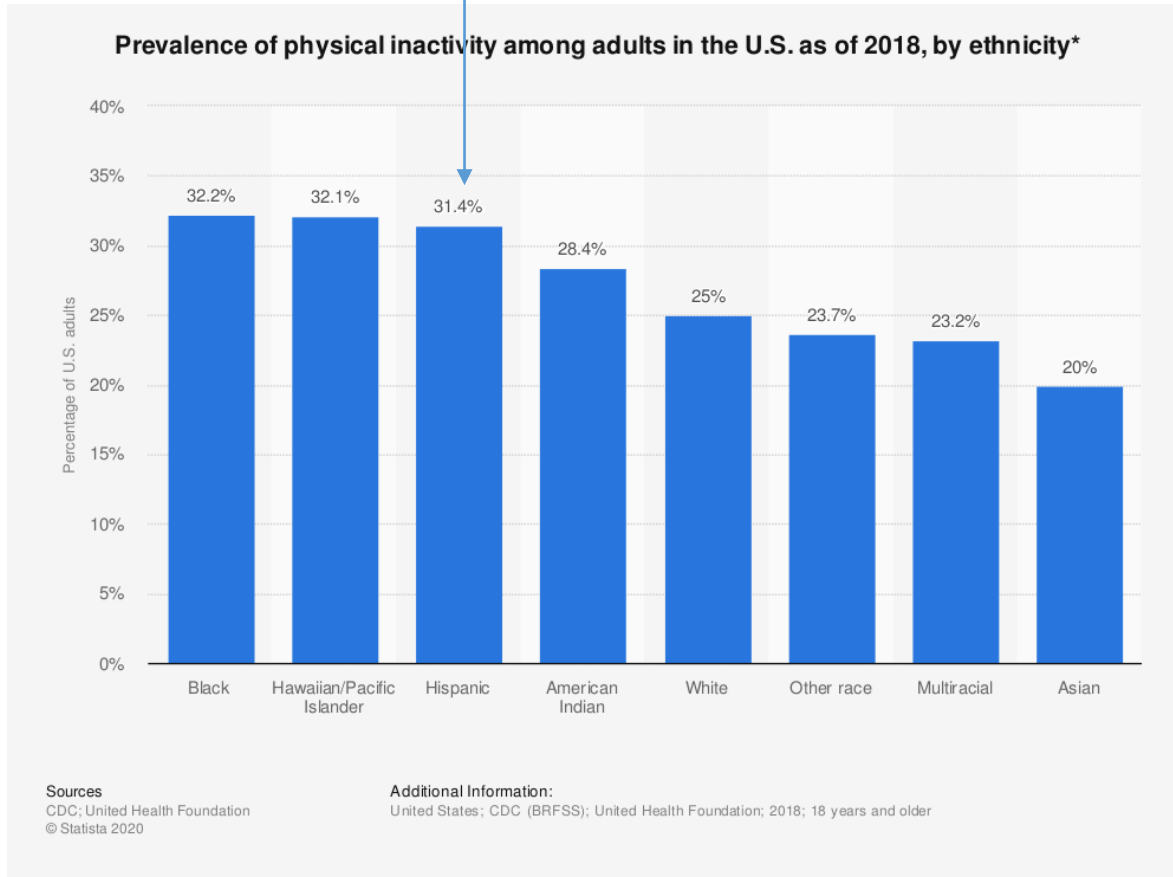
PEW RESEARCH CENTER



Sources

Patten, Eileen. "Racial, Gender Wage Gaps Persist In U.S. Despite Some Progress". *Pew Research Center*, 2016, <https://www.pewresearch.org/fact-tank/2016/07/01/racial-gender-wage-gaps-persist-in-u-s-despite-some-progress/>.

Significance



- According to the American Psychological Association (2021), CVDs are the number 2 cause of death for Hispanics/Latinos behind cancer.
- CDC presents that Hispanic/Latinos, at 17%, are more prevalent to develop type 2 diabetes (8%).

Aims and Methods

Aim One

*To examine the immediate and longer-term effects of **Tiempos Juntos** on the primary outcome of physical activity and on secondary (distal health) outcomes of CV health, sleep, and cognitive function.*

Assessment Method: Measured at each time interval, using both device-assessed and self-report approaches.

Tools used:

Actigraph – physical activity.

CV Health Outcomes – Automated BP device.

Sleep Outcomes – Actigraphy monitoring

Self-reporting tools based on 7-day Physical Activity Recall.

Aim Two

To identify theoretical mediators of Tiempos Juntos effects on physical activity.

Assessment methods: To be assessed at each time point.

Assessments:

Social network support – measured using the Social Support and Exercise Survey.

Community Resources – measured through the Neighborhood Environment Questionnaire.

Self-knowledge – Possible Selves Questionnaire

Motivation Appraisal – Index of Readiness

Self Regulation – Index of Self-Regulation

Aim Three

(Exploratory) To evaluate the effect of changes in CV health and sleep quality on cognitive function.

Assessment Method: Health outcomes to be measured at each time interval.

Tools:

Cognitive function – assess working memory, verbal and visual memory, generational and strategic search, visuospatial abilities, naming, and semantic knowledge, processing speed, and cognitive flexibility.

CV Health Outcomes – Automated BP device.

Sleep Outcomes – Actigraphy monitoring

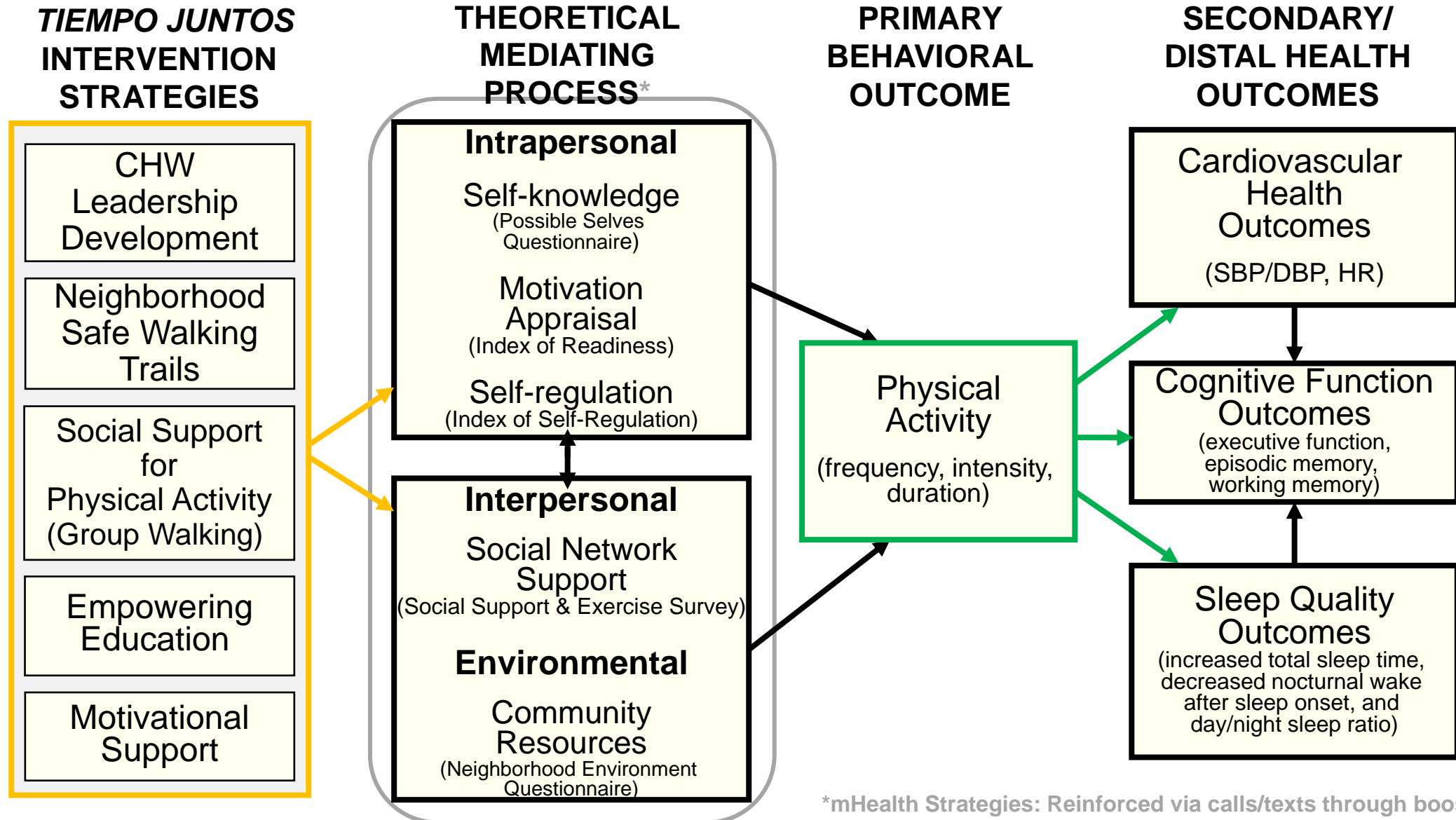
Aim Four

To evaluate intervention costs.

Method: Calculate intervention costs, and compare healthcare utilization costs to intervention costs to assess potential cost offsets.

Aim Two

Figure 1. Multilevel Intervention Framework to promote community-based physical activity (adapted from Fleury, 1996)

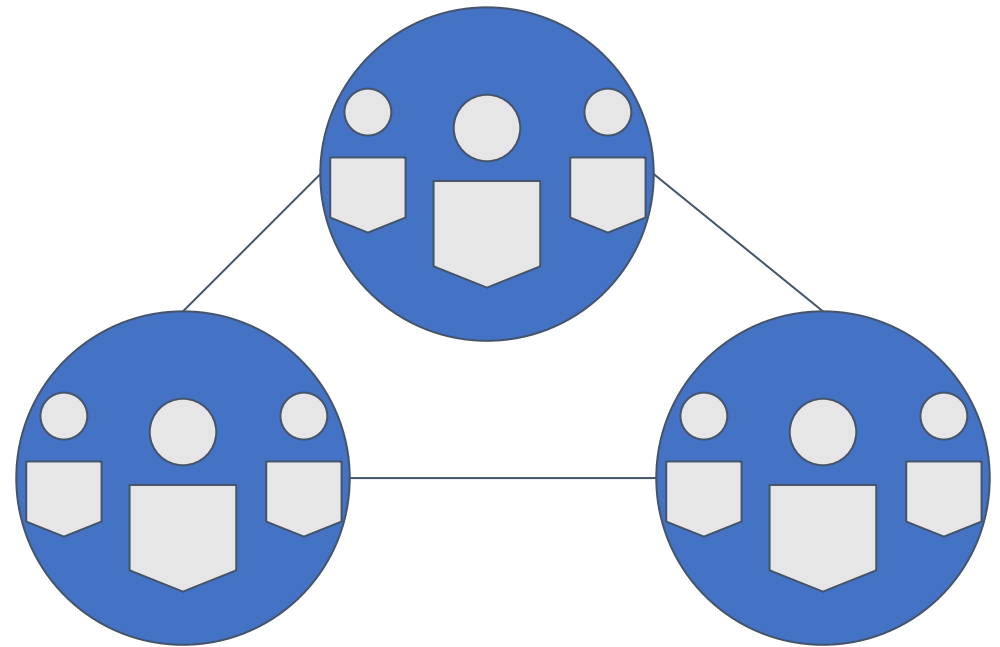


Social Support for PA

Strong social networks, and social cohesion could have a positive effect on health when a person feels connected by cultural background (Marquez et al., 2020).

In a 2019 analysis of the results of “Health is Power” report, a sample for diverse latino population was taken. Those who felt that Neighborhood social cohesion was high, reported less barriers to walkability (Vasquez et al., 2019)

In another analysis of increasing PA activity in minority women, show that the presence of disadvantages in a neighborhood would negatively affect a resident’s perception of the area, and thus can lead to significant reductions in PA and social interaction (Soltero et al., 2015).



Physical Environmental

Major Physical Factors of Walkability in Areas

Condition of Sidewalks,
Road Maintenance

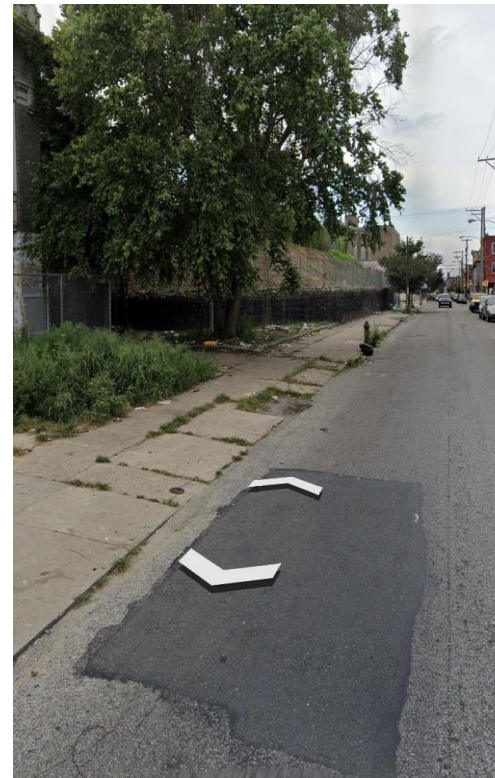
Weather
Conditions

Sign availability
i.e “Seniors
Present”

Occurrence of
violent crime

Drug use in the
area

Safety Patrols,
Social Groups



Sidewalk
2717 N 6th St
Philadelphia,
PA 19133

Specific Crime Details



Reported Crime in the month of July

2 Homicides 0 Rapes 13 Robberies
 31 Aggravated Assaults
 15 Burglaries 36 Thefts

Approximate area of 19133
 Reported Crime of July
 phillypolice.com

Neighborhood	Population	Violent Crime Rate	Property Crime	Drug Crime Rate
Fairhill	117042	0.70	1.23	0.65
Kensington	52029	0.60	1.60	0.77
Port Richmond	24540	0.69	3.46	0.0

Casa Indiana: 2935 N 2nd Street

Disadvantages



2914 Palethorp
St, Philadelphia,
PA 19133



2930 N 2nd St
Philadelphia, PA
19133

Advantages



*Kendon
Photography*
Senior Housing
News
February 16, 2021



*Kendon
Photography*
Senior
Housing
News
February 16,
2021

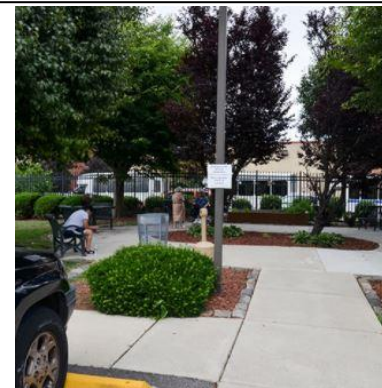
Casa Caribe / Caribe Towers: 173 W Allegheny Street

Disadvantages



3082 N 2nd St
Philadelphia, PA
19133

Advantages



Gallery, Park
Casa Caribe
Hacecdc.org



184 W Allegheny St
Philadelphia, PA
19133



173 W Westmoreland St
Philadelphia, PA
19133

Somerset Villas: 200 E Somerset Street, Philadelphia, PA

Disadvantages



298 E Somerset St
Philadelphia, PA
19134



77 E Somerset St
Philadelphia, PA
19134

Advantages



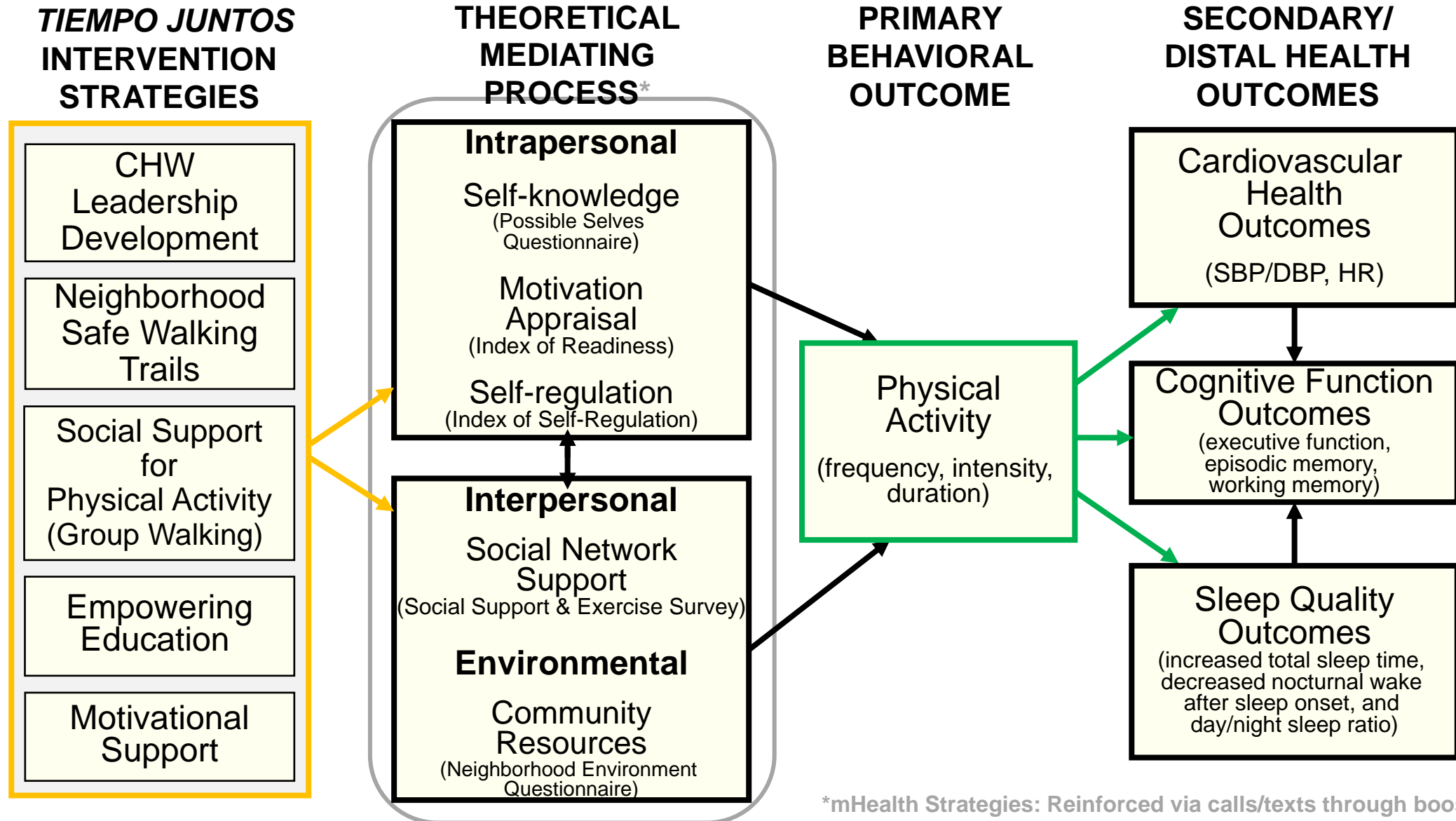
A St
Philadelphia, PA
19134



Gallery, Front
Somerset Villas
Hacecdc.org

Aim Four

Figure 1. Multilevel Intervention Framework to promote community-based physical activity (adapted from Fleury, 1996)



Effective Recruitment Strategies for Latinx Population



Using Electronic Medical Records.²

In a September 2020 study about clinical trial recruitment for gout patients (Miller et al., 2021), from 294 potential participants, 51% of participants were recruited using medical record-based methods.²



In-person, community organization engagement.¹

In the 2011 UCLA study (Mendez-Luck et al., 2011), focused on recruitment, 70% of participants recruited in the two studies of interest attended a recruitment event.¹



Community-based mass media.³

In a 2017 study about strategies for recruiting Latinx people for research (García et al., 2017), newspaper advertisements and radio broadcast may reach many potential participants and may be more affordable.³

Sources

García, Alexandra A. et al. "A Personal Touch: The Most Important Strategy For Recruiting Latino Research Participants". *Journal Of Transcultural Nursing*, vol 28, no. 4, 2016, pp. 342-347. SAGE Publications, doi:10.1177/1043659616644958.

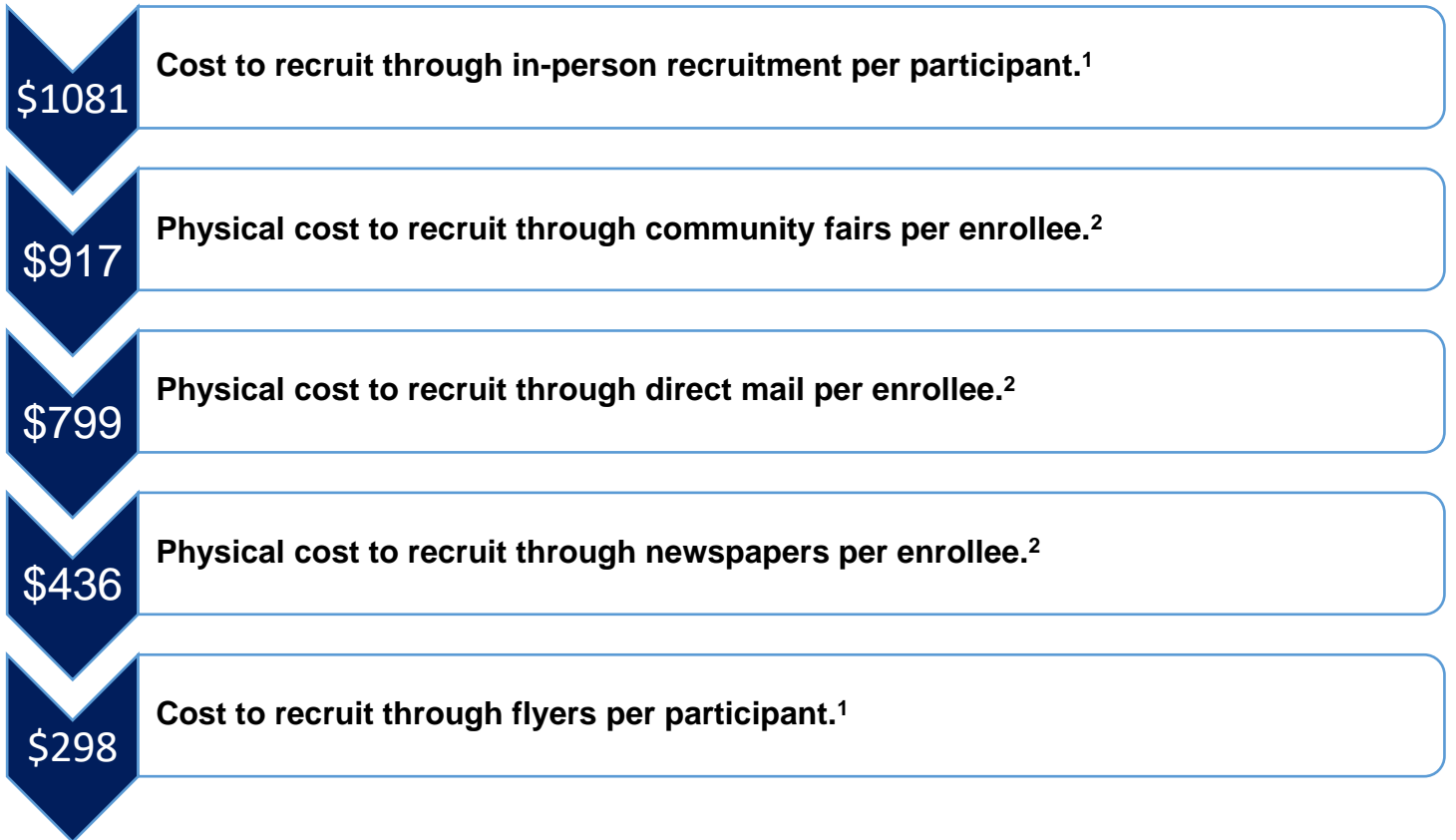
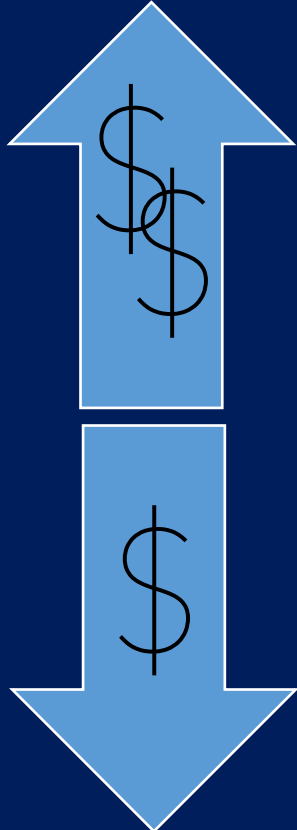
Mendez-Luck, C. A. et al. "Recruitment Strategies And Costs Associated With Community-Based Research In A Mexican-Origin Population". *The Gerontologist*, vol 51, no. Supplement 1, 2011, pp. S94-S105. Oxford University Press (OUP), doi:10.1093/geront/gnq076.

Miller, Hailey N et al. "Use Of Electronic Recruitment Methods In A Clinical Trial Of Adults With Gout". *Clinical Trials*, vol 18, no. 1, 2020, pp. 92-103. SAGE Publications, doi:10.1177/1740774520956969.

Cost Comparison of Recruitment Strategies

Online costs to target Facebook advertisements to the general population: \$794 per enrollee.²

Online costs to target Facebook advertisements to the African Americans or men: \$1426 per enrollee.²



A 2018 study (Juraschek et al., 2018) on the cost-effective recruitment strategies for randomized trials for cancer patients.²

A 2011 study (Mendez-Luck et al., 2011) on the effective recruitment strategies in a Mexican-origin population.¹

Sources

Juraschek, Stephen P et al. "Use Of Online Recruitment Strategies In A Randomized Trial Of Cancer Survivors". *Clinical Trials*, vol 15, no. 2, 2018, pp. 130-138. SAGE Publications, doi:10.1177/1740774517745829.

Cost-effective Physical Activity Interventions



In a 2009 study called “Lifestyle Interventions and Independence for Elders Pilot Study,” physical activity and education costs were compared for older adults.

- Multisite, randomized-controlled trial.
- Population: Older adults who were **sedentary and at risk for disability**.
- Groups: Physical Activity or Education (Control)

Cost of physical activity intervention: \$1134 per person per year.

3.4% incremental reduced disability

Cost of education intervention: \$175 per person



In a 2017 study, a community-based, physical activity intervention and nutrition program for older adults called *Texercise Select* was reviewed.

- Participants over the age of 55 were targeted for recruitment, though people aged 45 and over were allowed to participate.
- No physical or cognitive exclusion criteria.

Cost of interactive class: \$229 per person, 12-week program.

Result: Quality-adjusted life year gain for Hispanic participants was 0.160.

- Cost per QALY gain was \$1433 – which indicated the estimated investment.

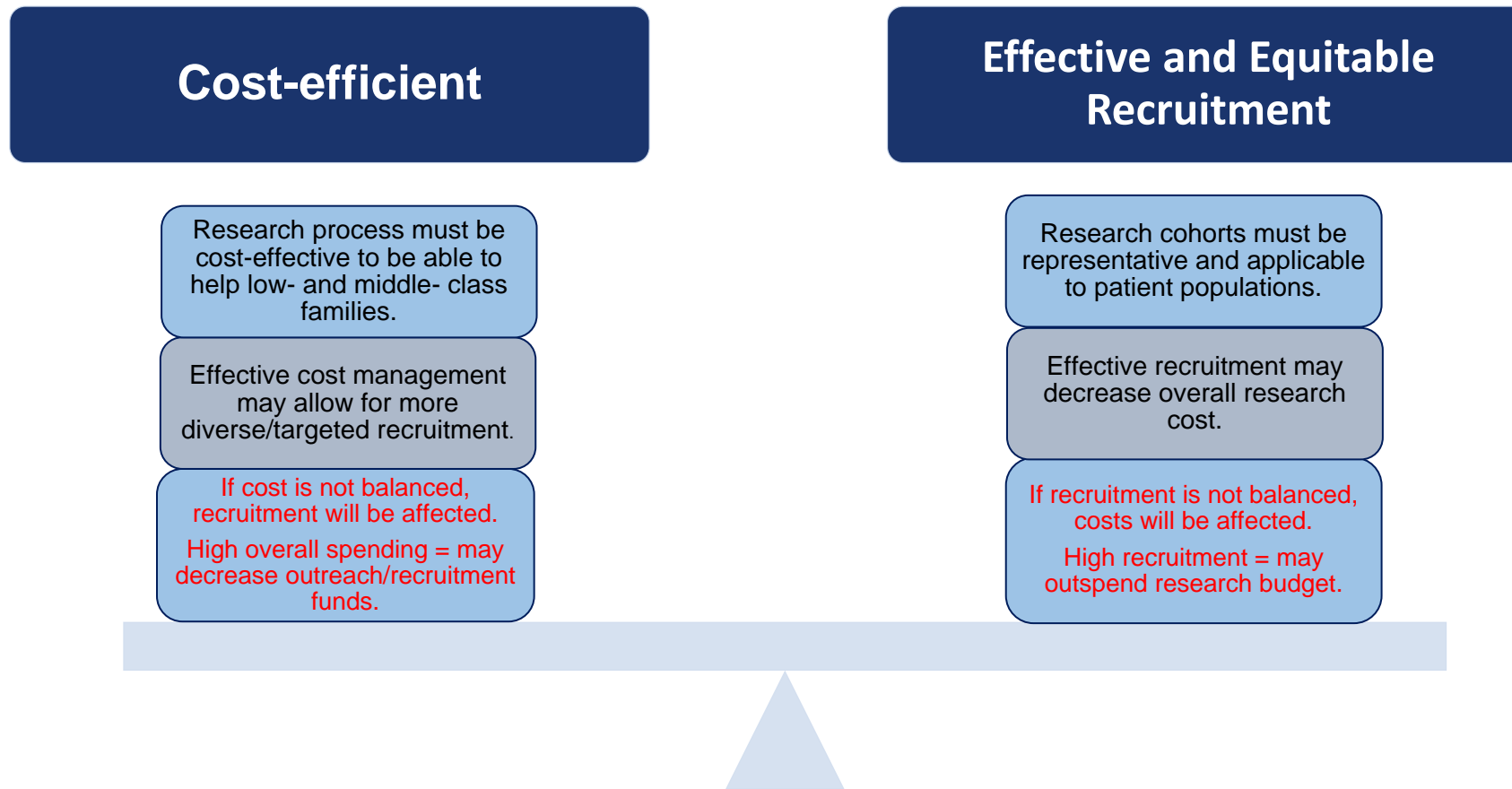
Sources

Akanni, Olufolake et al. "Cost-Effectiveness Of A Community Exercise And Nutrition Program For Older Adults: Texercise Select". *International Journal Of Environmental Research And Public Health*, vol 14, no. 5, 2017, p. 545. MDPI AG, doi:10.3390/ijerph14050545.

Groessl, Erik J. et al. "A Cost Analysis Of A Physical Activity Intervention For Older Adults". *Journal Of Physical Activity And Health*, vol 6, no. 6, 2009, pp. 767-774. *Human Kinetics*, doi:10.1123/jpah.6.6.767.

Summation: The “See-Saw” of Transformative Research

Goal: To see an increased effort to include Latinx populations in research to promote health outcomes through preventative action.



Role in the Project



Performed the literature review regarding social supports for the older population to engage in physical activity.



Completed translations for a variety of study-related documents, ranging from IRB modifications to HRS survey questions.



Performed a literature review regarding cost-effective recruitment, effective recruitment, and cost-effective physical activity interventions.

Our Lessons Learned

Personal



Throughout the research process, the answer that we find may be more useful than the answer we were originally looking for.

Academic



As a student, the research project has made us aware of the importance of research access for the Latinx community, as this is a medium for accessibility.

Career



We learned that we can contribute to making healthcare more accessible through the lens of targeted community outreach- a factor that we will consider in our future practice.

Acknowledgements!

Dr. Adriana Perez, *PhD, CRNP, ANP-BC, FAAN, FGSA*

Marianna Olave and Darlene Hodge Rodriguez

The Entire *Tiempos Juntos* Team

Joanne Levy, MBA

SUMR Scholars and Joanna Kim



References

1. "Adult Physical Inactivity Maps". *Centers For Disease Control And Prevention*, 2018, <https://www.cdc.gov/physicalactivity/data/inactivity-prevalence-maps/index.html>.
2. "Hispanic/Latino Americans And Type 2 Diabetes". *Centers For Disease Control And Prevention*, 2021, <https://www.cdc.gov/diabetes/library/features/hispanic-diabetes.html>.
3. Akanni, Olufolake et al. "Cost-Effectiveness Of A Community Exercise And Nutrition Program For Older Adults: Texercise Select". *International Journal Of Environmental Research And Public Health*, vol 14, no. 5, 2017, p. 545. *MDPI AG*, doi:10.3390/ijerph14050545.
4. Balfour, Pelbreton C. et al. "Cardiovascular Disease In Hispanics/Latinos In The United States.". *Journal Of Latina/O Psychology*, vol 4, no. 2, 2016, pp. 98-113. *American Psychological Association (APA)*, doi:10.1037/lat0000056.
5. García, Alexandra A. et al. "A Personal Touch: The Most Important Strategy For Recruiting Latino Research Participants". *Journal Of Transcultural Nursing*, vol 28, no. 4, 2016, pp. 342-347. *SAGE Publications*, doi:10.1177/1043659616644958.
6. Groessl, Erik J. et al. "A Cost Analysis Of A Physical Activity Intervention For Older Adults". *Journal Of Physical Activity And Health*, vol 6, no. 6, 2009, pp. 767-774. *Human Kinetics*, doi:10.1123/jpah.6.6.767.
7. Hernandez, Rosalba et al. "The Cross-Sectional And Longitudinal Association Between Perceived Neighborhood Walkability Characteristics And Depressive Symptoms In Older Latinos". *Journal Of Aging And Health*, vol 27, no. 3, 2015, pp. 551-568. *SAGE Publications*, doi:10.1177/0898264314553211.
8. Juraschek, Stephen P et al. "Use Of Online Recruitment Strategies In A Randomized Trial Of Cancer Survivors". *Clinical Trials*, vol 15, no. 2, 2018, pp. 130-138. *SAGE Publications*, doi:10.1177/1740774517745829.
9. Marquez, David X et al. "¡Ojo! What To Expect In Recruiting And Retaining Older Latinos In Physical Activity Programs". *Translational Behavioral Medicine*, 2019. *Oxford University Press (OUP)*, doi:10.1093/tbm/ibz127.
10. Marquez, David X. et al. "A Qualitative Exploration Of Factors Associated With Walking And Physical Activity In Community-Dwelling Older Latino Adults". *Journal Of Applied Gerontology*, vol 35, no. 6, 2014, pp. 664-677. *SAGE Publications*, doi:10.1177/0733464814533819.
11. Mendez-Luck, C. A. et al. "Recruitment Strategies And Costs Associated With Community-Based Research In A Mexican-Origin Population". *The Gerontologist*, vol 51, no. Supplement 1, 2011, pp. S94-S105. *Oxford University Press (OUP)*, doi:10.1093/geront/gnq076.
12. Miller, Hailey N et al. "Use Of Electronic Recruitment Methods In A Clinical Trial Of Adults With Gout". *Clinical Trials*, vol 18, no. 1, 2020, pp. 92-103. *SAGE Publications*, doi:10.1177/1740774520956969.
13. Patten, Eileen. "Racial, Gender Wage Gaps Persist In U.S. Despite Some Progress". *Pew Research Center*, 2016, <https://www.pewresearch.org/fact-tank/2016/07/01/racial-gender-wage-gaps-persist-in-u-s-despite-some-progress/>.
14. Soltero, Erica G. et al. "Does Social Support Mediate The Relationship Among Neighborhood Disadvantage, Incivilities, Crime And Physical Activity?". *Preventive Medicine*, vol 72, 2015, pp. 44-49. *Elsevier BV*, doi:10.1016/j.ypmed.2014.12.030.

Questions?





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