

WILL YOU PLAY WITH ME?

CHANGES IN FREQUENCY OF  
ACTIVE PLAY WITHIN SOCIAL  
NETWORKS FOR MEXICAN-  
HERITAGE CHILDREN  
PARTICIPATING IN A FATHER-  
FOCUSED HEALTH PROGRAM

Active Living  
Conference

4/8/2021

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## Specific Aim

How does a father-focused family-centered culturally tailored health program impact the PA social networks of children?

# Back to the Basics



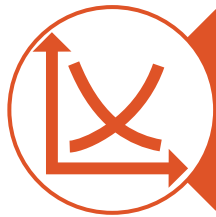
Reduced risk of obesity and improved physical functioning



Mental, emotional, and cognitive benefits



26.1% of children meet recommendations



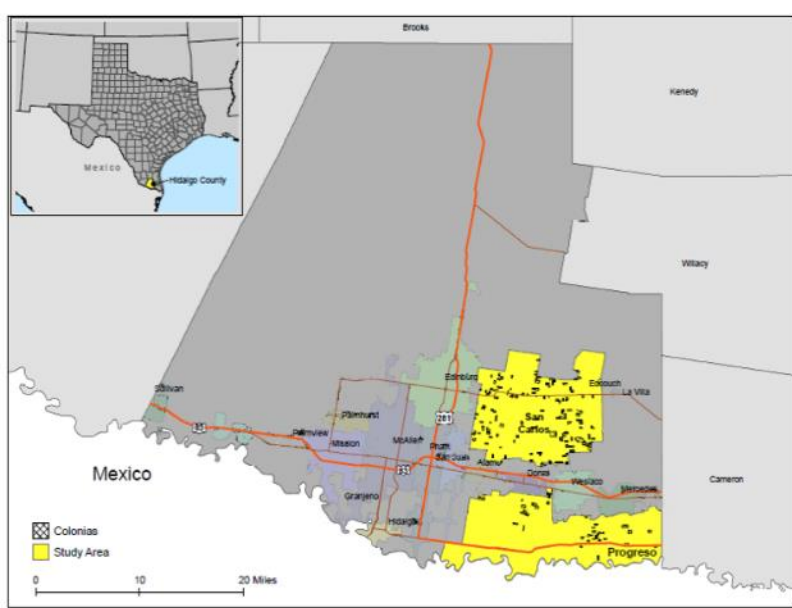
Disparities based on race/ethnicity, gender, and socioeconomic status



# Colonias

Rapidly growing population and need for low-income housing near the U.S.-Mexico border area

Functionally rural developing areas



Health Disparity

Poverty rate (19% - near or 42% - below poverty line)

Obesity (41.3%-55.5%)

Diabetes (32.5%)

# Family-Centered Programs

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Successful in improving child PA

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Fail to significantly engage fathers

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Call for increased focus on Latinx fathers



# Methods



Modified step-wedge cluster randomized trial design



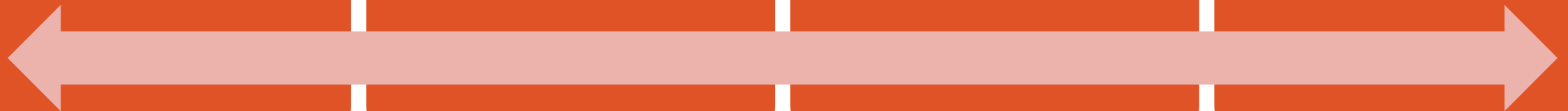
*Promotora* assisted curriculum development



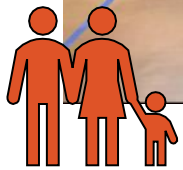
6-week father-focused family-centered health program



Mixed method analysis of child survey responses



# Program - Curriculum



Week 1 - Active Tic-Tac-Toe



Week 2 - Functional Fitness Circuits



Week 3 - Partner Exercises



Week 4 - Active Twist on Traditional Games

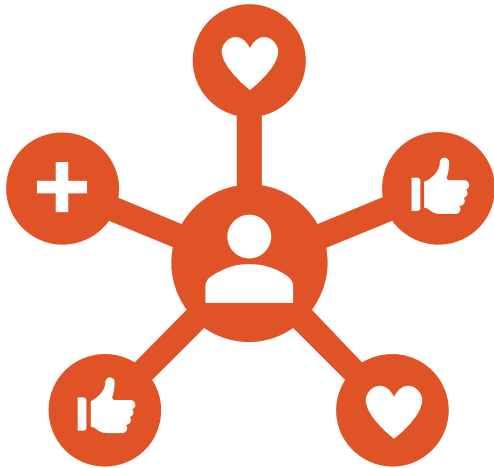


Week 5 - Partner Obstacle Course



Week 6 - Active Heads Up

# Measurements - Quantitative



- Up to five individuals (alters) with whom they had “actively played with most often” in the previous month
- Name interpreters:
  - Sex
  - Relationship (sibling, mother, father, friend, grandparent, aunt/uncle, cousin, other)
  - Frequency of play (“once in a while”, “sometimes”, “often”)
- Multilevel modeling was used to determine change over time





# Measurements - Qualitative

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Open-ended response items

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What activities they did most often with each person in their network

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Children were asked whether their parents helped them to be physically active and how

# RESULTS



## Descriptive Results

Variable	Before Program		After Program	
	M (SD)	Frequency (%)	M (SD)	Frequency (%)
Network Size	4.38 (1.00)		3.83 (1.32)	
Play Frequency	1.18 (0.65)		1.29 (0.67)	
Relationship				
Mother		11 (6.3%)		16 (10.1%)
Father		11 (6.3%)		15 (9.4%)
Sibling		43 (24.6%)		37 (23.3%)
Friend		65 (37.1%)		64 (40.3%)
Other		12 (6.9%)		6 (3.8%)
Aunt		6 (3.4%)		1 (0.6%)
Cousin		27 (15.4%)		4 (2.5%)

- 42 children (M age = 9.79, SD=1.01; 54.8% girls)
- Children reported significantly more alters they had actively played with before the program as compared to after the program  $t(41)=2.60, p=.01$ .
- 70.3% of the alters reported were of the same sex as the child

# Child - Frequency of active play

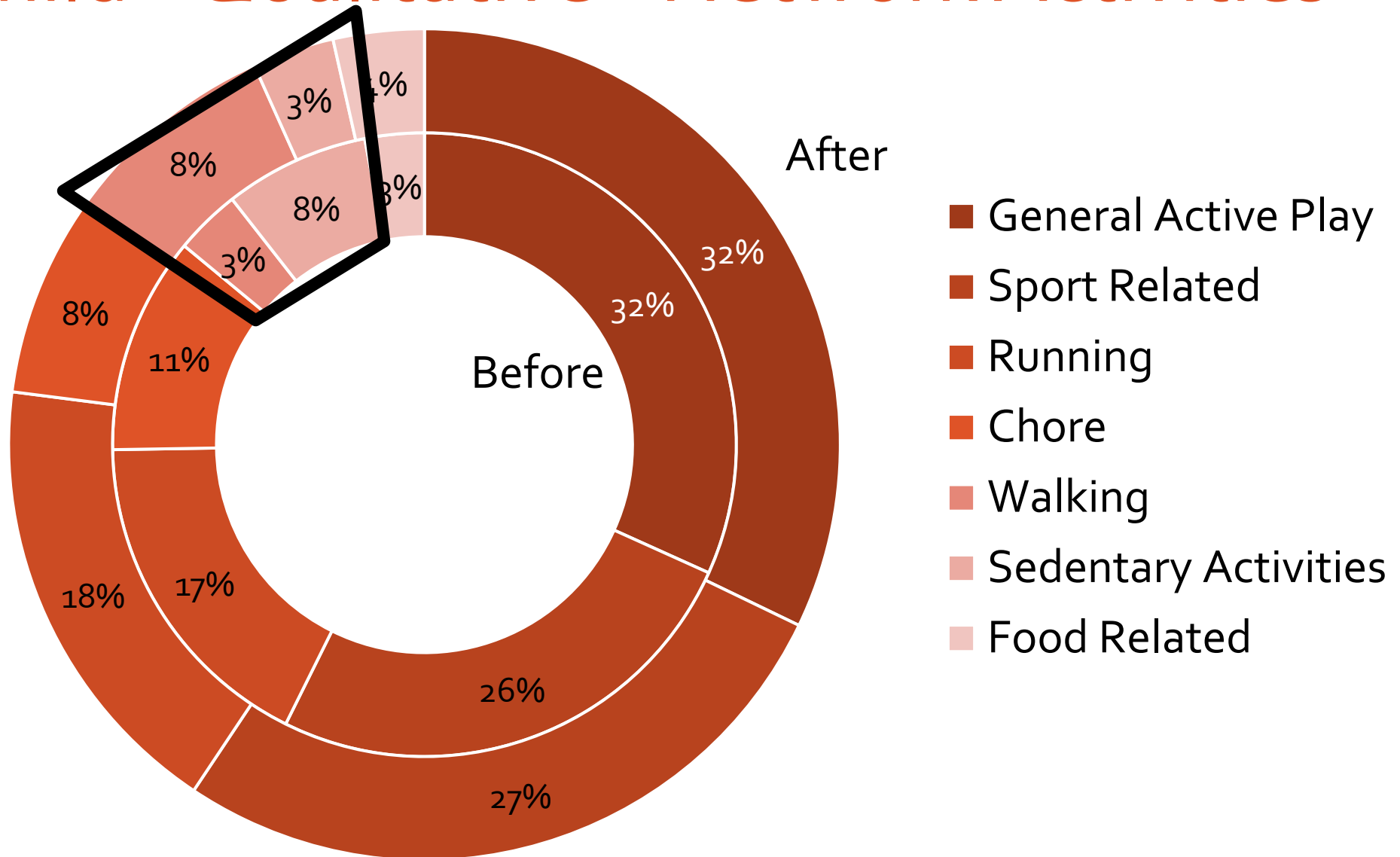


Children reported more frequent active play with alters after the program [OR = 7.82]

Girls reported more frequent active play with alters [OR = 6.51] compared to boys.

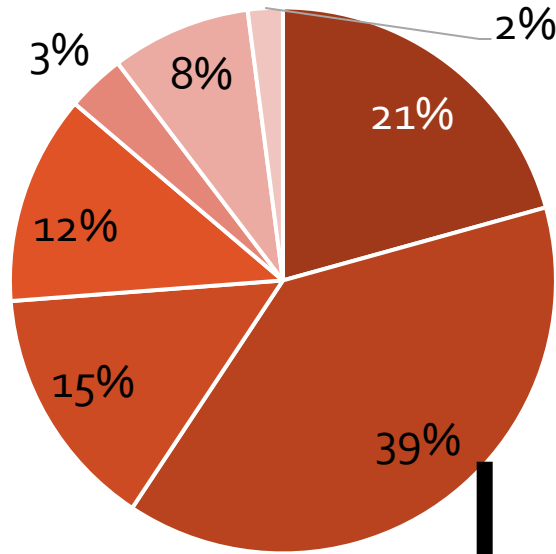
A significant interaction term indicated boys were significantly more likely to increase the frequency of active play with their alters.

# Child - Qualitative - Network Activities

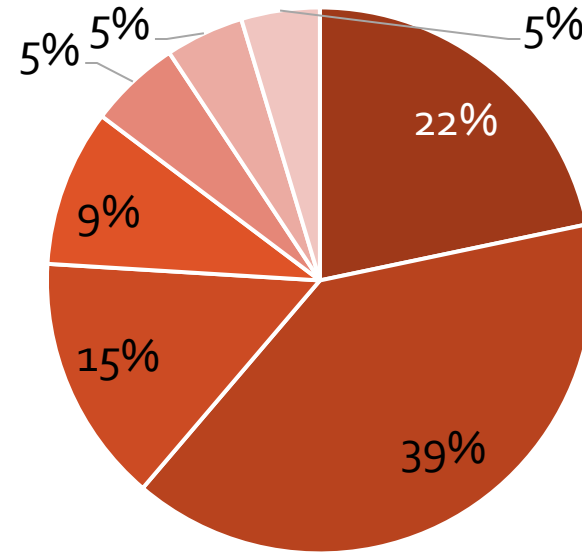


# Child - Qualitative - Network Activities

Boys

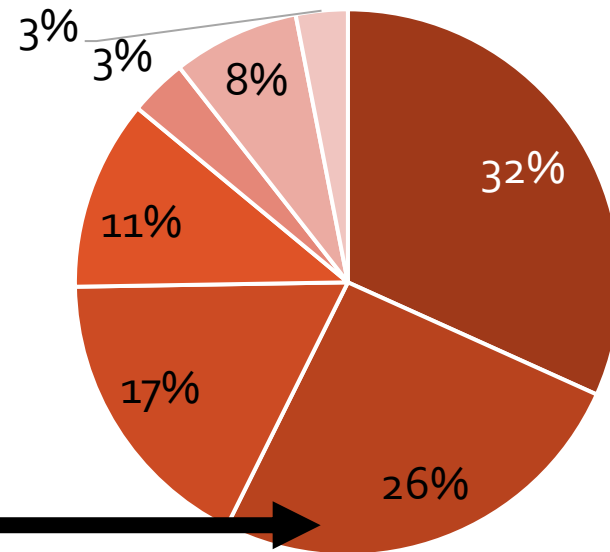
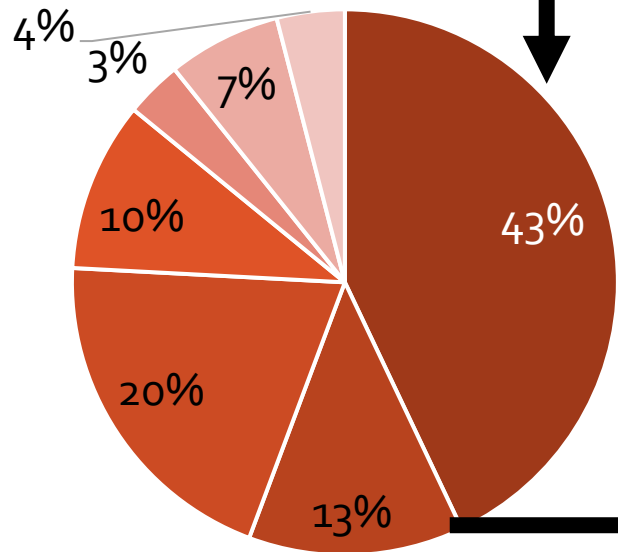


Before



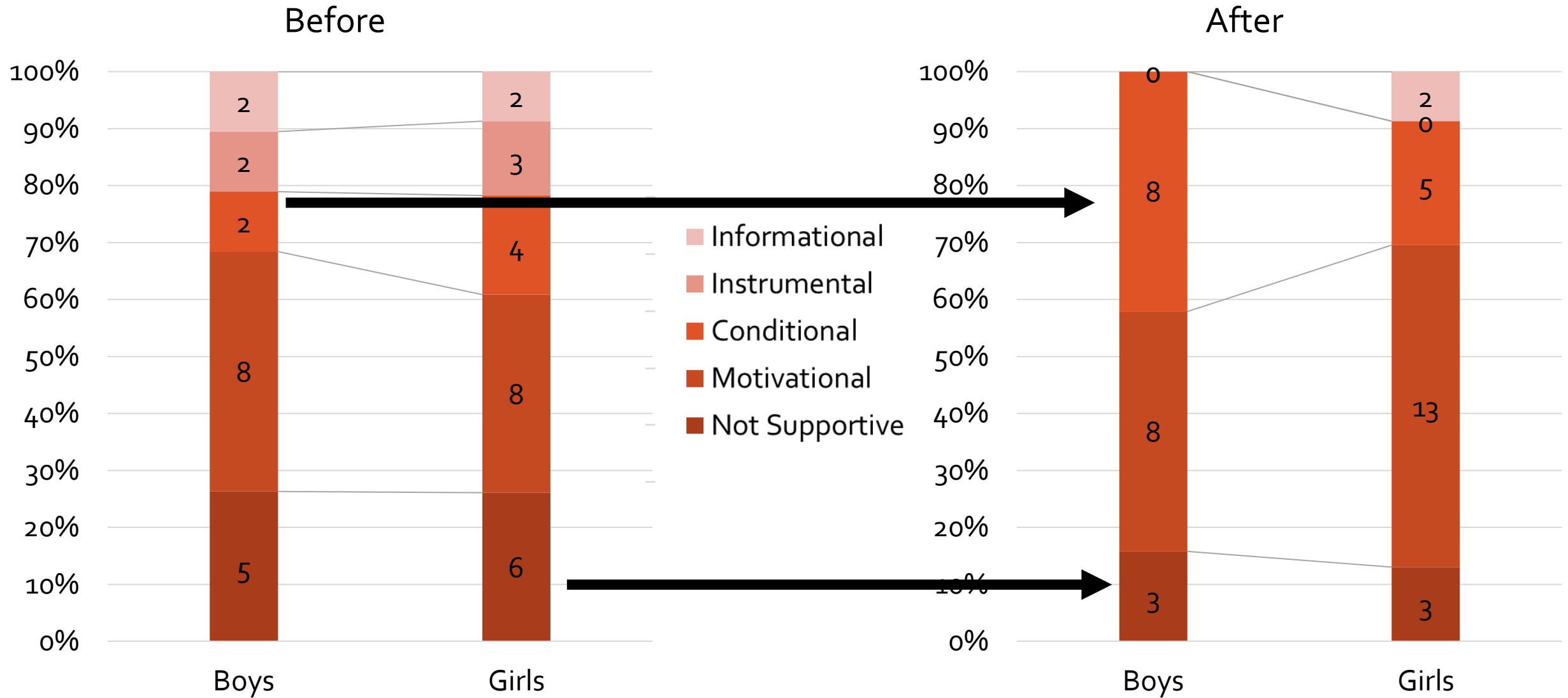
After

Girls



- General Active Play
- Sport Related
- Running
- Chore
- Walking
- Sedentary Activities
- Food Related

# Child - Qualitative - Support



A Newton's cradle with five spheres is shown on a dark, textured surface. The spheres are arranged in a circular pattern, and the word "DISCUSSION" is overlaid in the center in a bold, orange, sans-serif font with a white outline. A thin white horizontal line is positioned below the text.

# DISCUSSION



## Discussion – Network Descriptive

Children mentioned friends and siblings most often as play partners.

- Higher percentage of friends in a child's play network = more moderate-to-vigorous PA and less sedentary time

More likely to report same sex alters - homophily (a predisposition to connect with someone similar)

- Gender and social norms

# Discussion – Frequency of Activity

Reported more frequent active play or PA after the program

- Children who reported having more active play with alters also engaged in significantly more PA in preliminary studies

The activation of ties suggests the program was successful in increasing activity with network members

- Activation of Ties – being more physically active with preexisting connections or making connections with physically active people

Increase in activity may be due to the activities in the program which focused on co-participation in light to moderate PA.

- Co-participation and concurrent activity have both been noted in the literature to be beneficial for PA

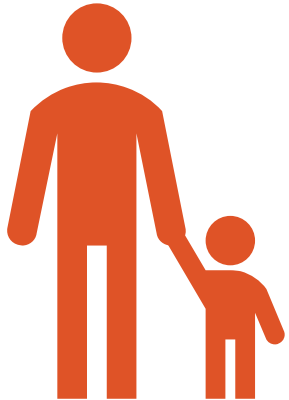
# Discussion – Frequency of Activity (Sex effects)



Significant interaction term between sex of the child and program effect



Boys were more likely to increase frequency of active play over time



Boys reported more activities with dad after the program



Girls were significantly more likely to report more frequent active play with their alters as compared to boys



## Limitations

The specific focus on Mexican-heritage families residing in *colonias* limits generalizability

Name generators were limited to five alters which may have left out important connections

Social desirability bias

# Conclusions

Public Health and the importance of social connectedness



Combination of social influence theories and methods



Suggests activation of social ties is possible through a father-focused, family-centered health program

# THANK YOU!

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SCAN ME