

Understanding Contextual Barriers and Supports for Physical Activity among Mexican-origin Children in Texas Border *Colonias*

Umstatta Meyer M. R., Patterson M. S., Salazar C. L.,
Allen S. J., & Sharkey J. R.

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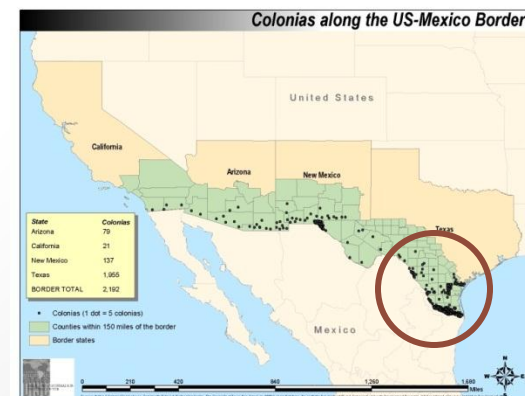
Joseph R. Sharkey (P.I.)

Texas A&M University, School of Rural Public Health



Background

- The Mexican-origin population is the fastest growing racial/ethnic subpopulation in the U.S.
- **Colonias**
 - Burgeoning substandard residential areas along the U.S.-Mexico border
 - Originally developed from subdivided agricultural lands in response to a deficit in low-income housing
 - Archetype for new destination communities
 - Disproportionate ethnicity-related burdens
 - Disproportionate socioeconomic burdens
 - Limited access to resources
 - **Highest U.S. risk for obesity and diabetes**



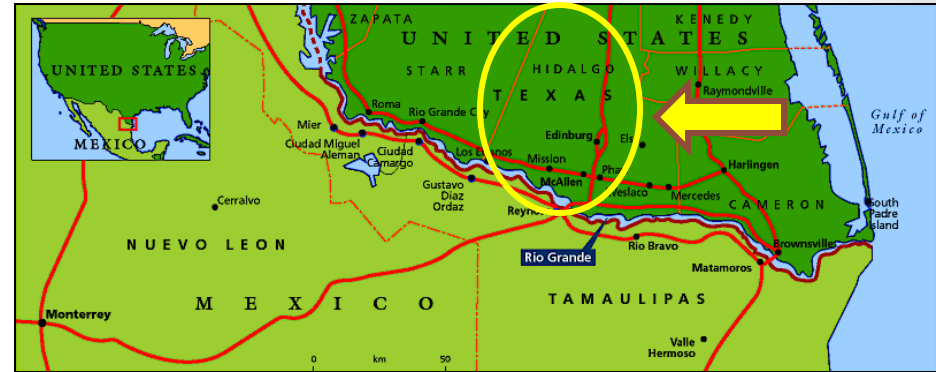
Background

- Evidence consistently supports a positive & significant relationship between **physical activity** & **lower disease risk**
- However, **fewer** children & adults of Mexican-origin **engage** in recommended **physical activity** levels as compared to other U.S. subpopulations
 - 39.3% of Hispanic H.S. youth reported 60 minutes of physical activity on 5 or more of the previous days
 - 46.6 % of the entire H.S. population
 - 54.6% of non-Hispanic white youth

Purpose

- Identify perceived barriers to engaging in physical activity for children living in *colonias*
 - *Reported by children*
 - *Reported by mothers*
 - *For girls and boys*
 - *For children born in the U.S. and those born in Mexico*
- Identify environmental physical activity resources/supports within *colonia* households and neighborhoods

“Influence of mobile food vendors on food and beverage choices of low-income Mexican American children in Texas *colonias*”



- **Hidalgo, County**
- **Promotora-researchers**

- Indigenous community health workers trained in research
- Trusted by *colonia* residents
- Serve as cultural brokers
- Have knowledge of the values, beliefs, and practices
- Programs using community health workers (*promotoras*) have been some of the most successful in delivering primary and preventative health services and information in *colonia* areas

Methods

- **January – February 2011**

- **Measurement selection & development**

- Barriers checklist

- Literature review; *Promotora*-researchers reviewed

- Physical activity environmental resource/support checklists

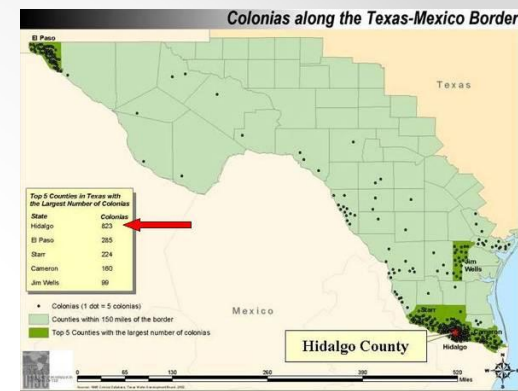
- Physical activity literature

- Visual scans of 32 *colonias* in 3 areas of Hidalgo County, TX

- *Promotora*-researchers reviewed

- 16 household & 23 neighborhood items were retained

- ***Promotora*-researcher training**



Methods

- **March – May 2011**
 - Face-to-face interviews conducted in Spanish by *Promotora*-researchers
 - Demographic & health characteristics
 - Barriers checklist
 - Physical activity environmental resource/support checklists completed by *Promotora*-researchers



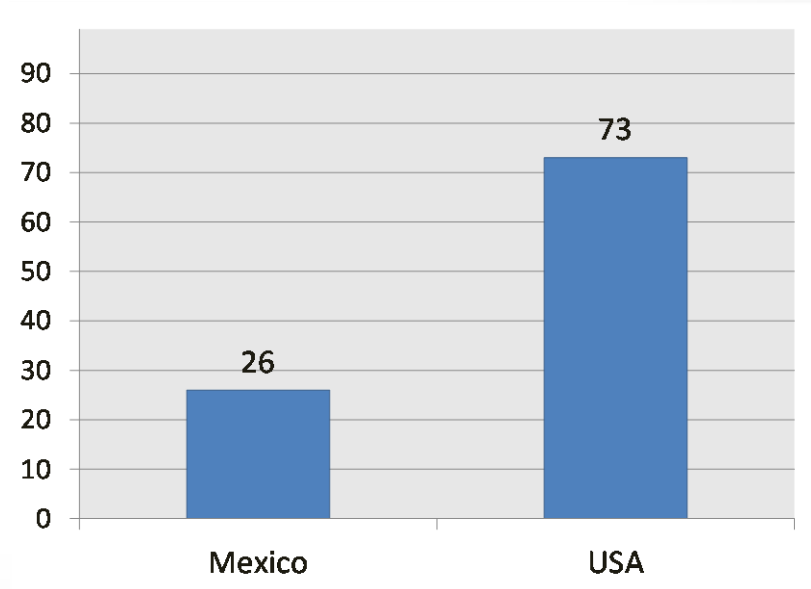
Methods

- **Analyses**
- Face-to-face interview items
 - Demographic & health characteristics
 - Frequencies & descriptive statistics
 - Barrier Checklist
 - Frequencies
 - Chi-square
- Environmental resource / support checklists
 - Frequencies



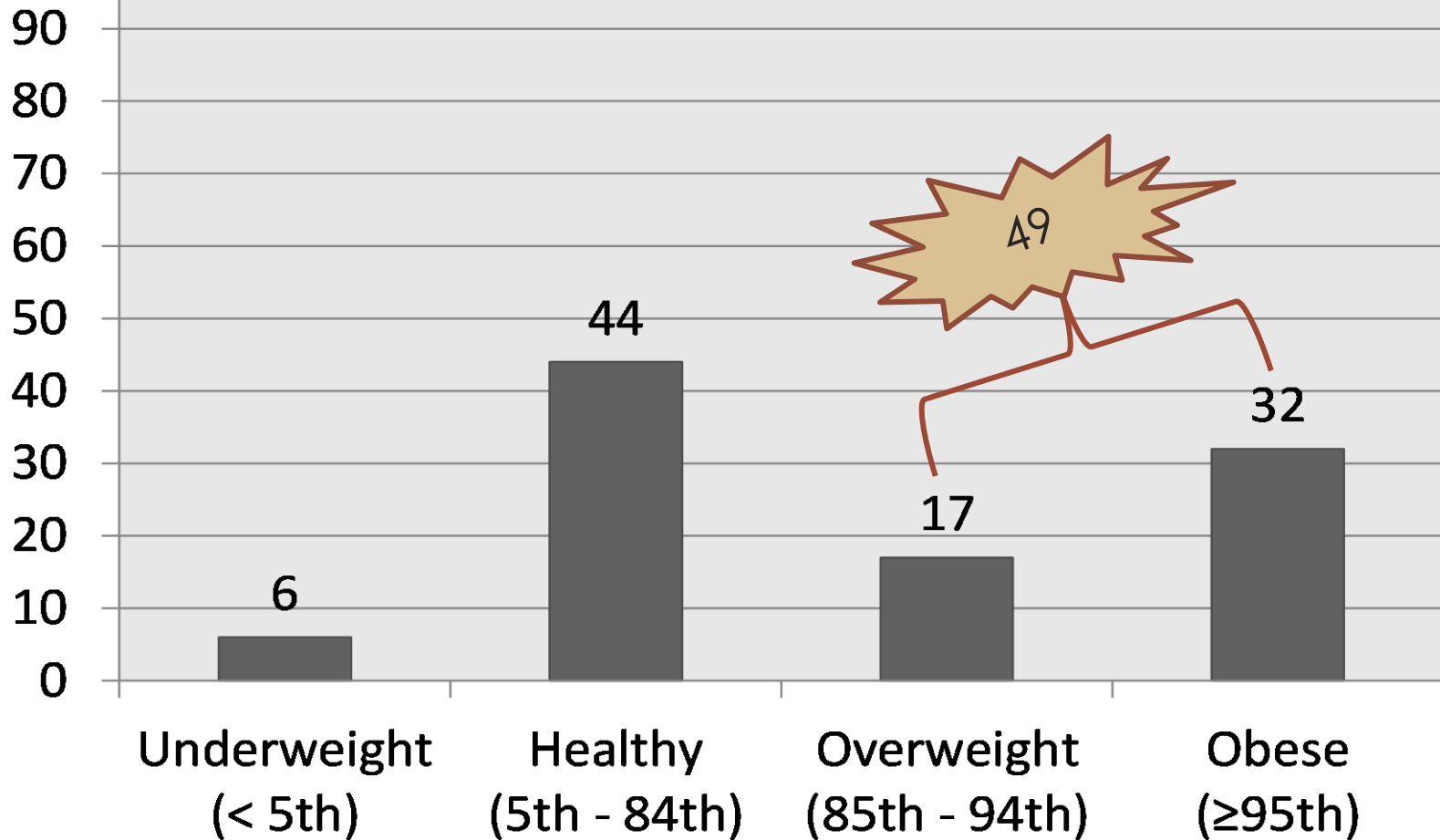
Participant Characteristics

- 99 child-mother dyads
- Age: $\mu=8.9$ years ($SD=1.5$)
 - 43.4% Male
 - 56.6% Female
- Total family monthly income
 - < \$500: 25.3%
 - \$500 - \$699: 24.2%
 - \$700 - \$899: 19.2%
 - \geq \$900: 25.3%
- Ethnicity / Race
 - 100% Mexican-origin
- Language in home
 - 100% Spanish
- Country of birth



BMI Percentile

$\mu=69^{\text{th}}$ (SD=32.7)

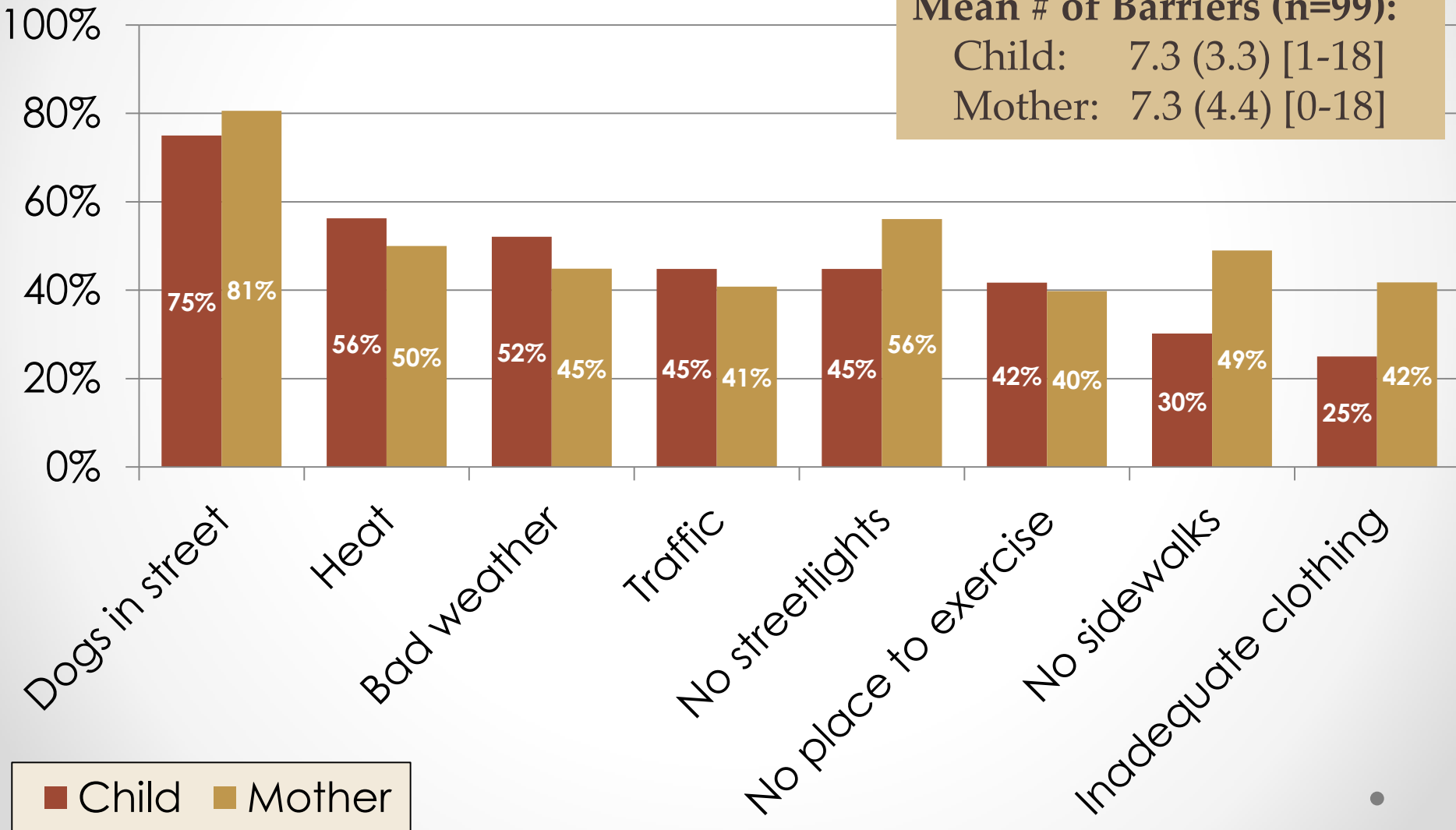


Barriers to Physical Activity

Mean # of Barriers (n=99):

Child: 7.3 (3.3) [1-18]

Mother: 7.3 (4.4) [0-18]



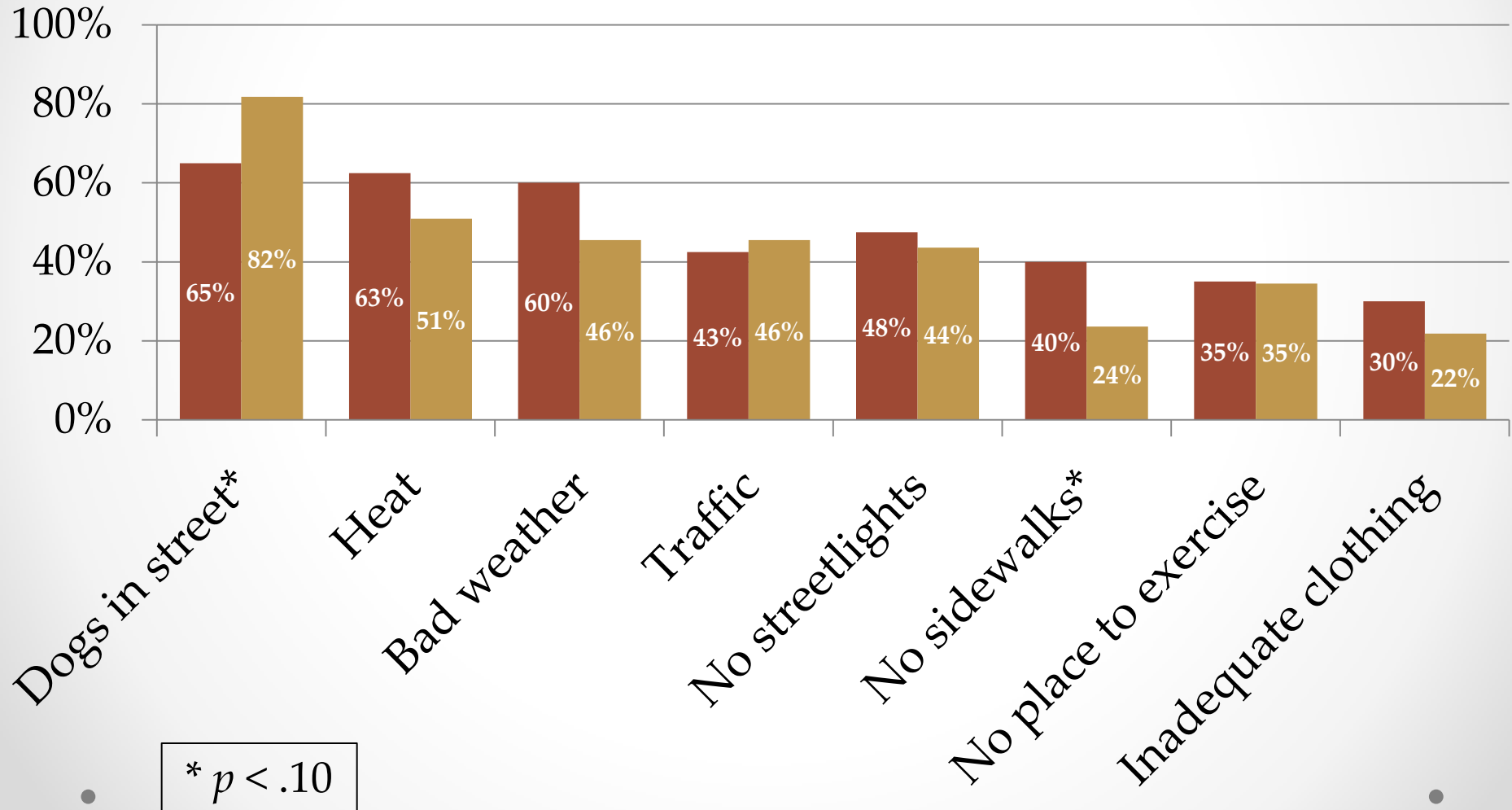
Barriers to Physical Activity

- **Least Frequent Barriers**

- Immigration status (Child: 1% / Mother: 3%)
- Unable to leave house (Child: 1% / Mother: 3%)
- Loose farm animals (Child: 4% / Mother: 5%)
- Asthma (Child: 7% / Mother: 6%)
- Trash (Child: 13% / Mother: 20%)
- Crime (Child: 13% / Mother: 24%)
- Kidnappings (Child: 16% / Mother: 22%)
- Exercise isn't fun (Child: 16% / Mother: 2%)

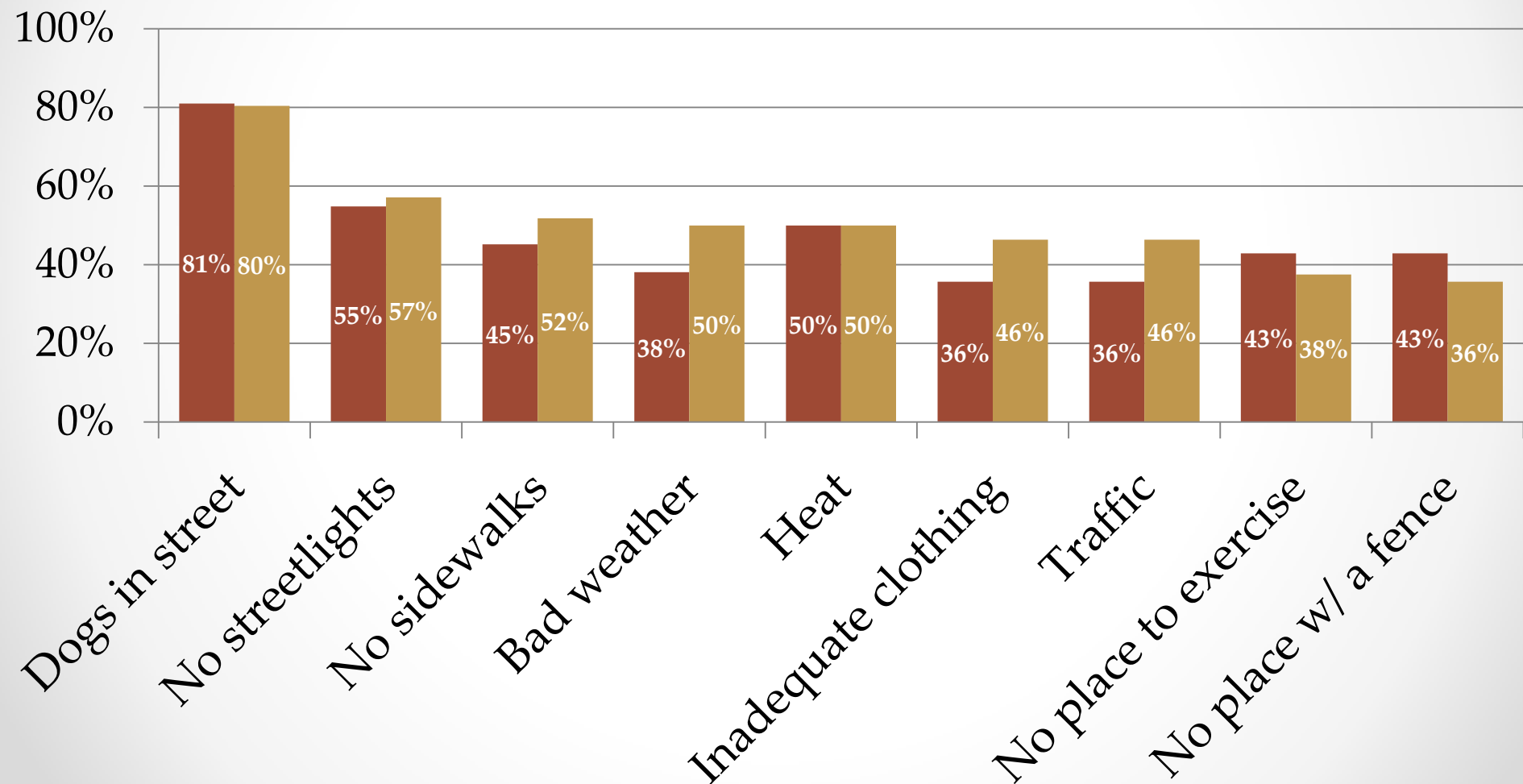
Barriers by Gender: Reported by Child

Boys Girls



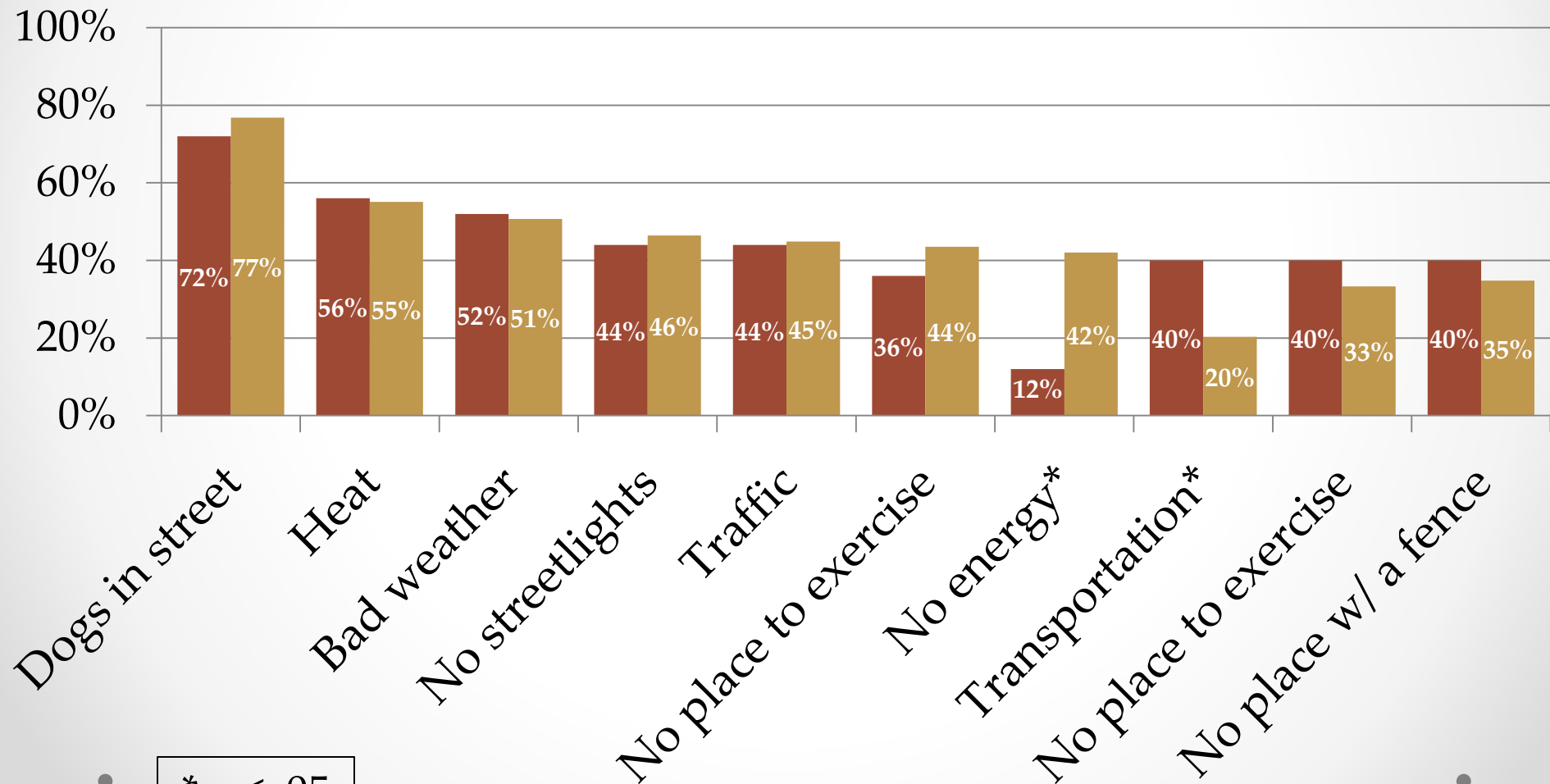
Barriers by Gender: Reported by Mothers

Boys Girls



Barriers by Birth Country: By Child

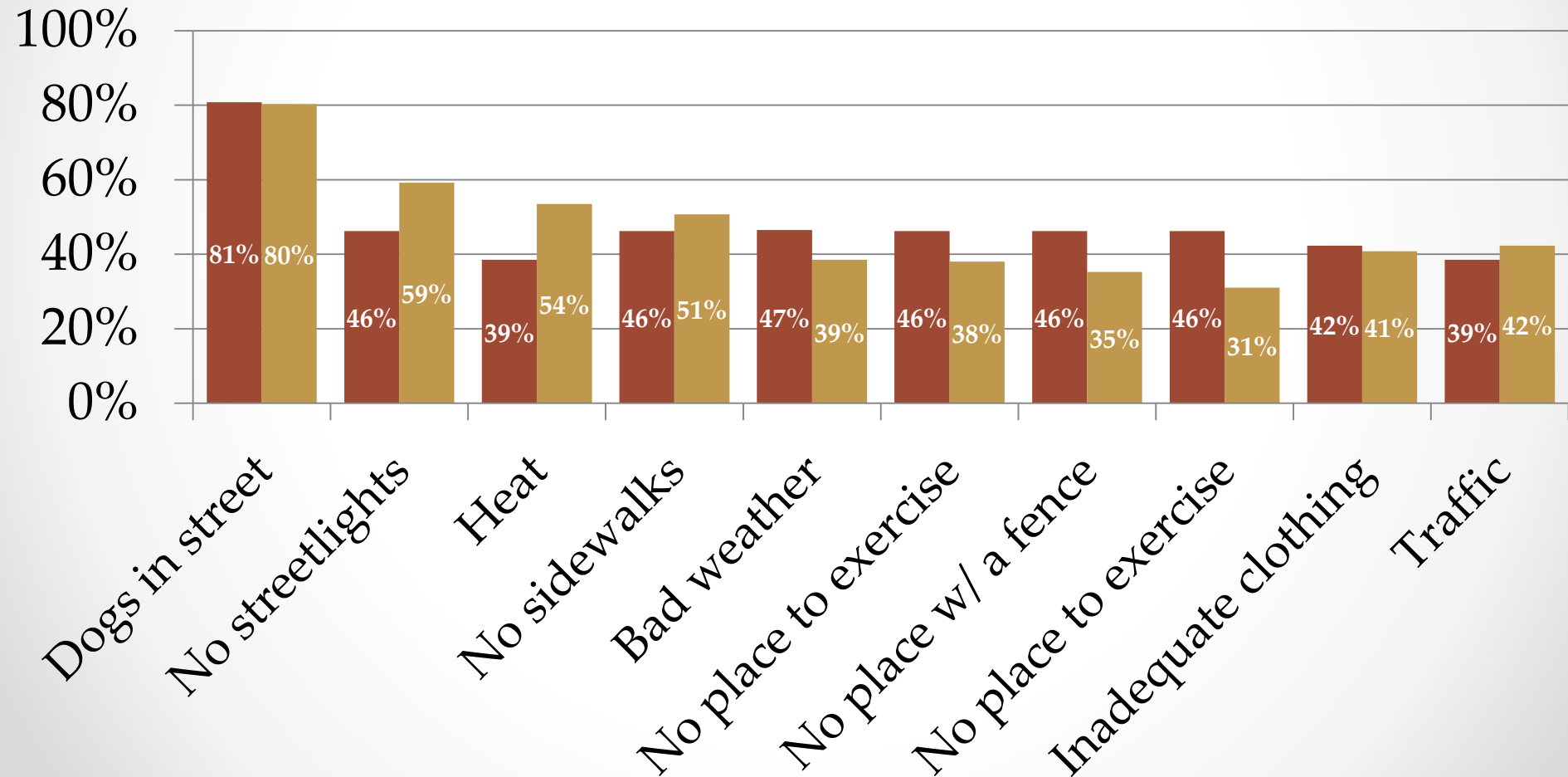
■ Mexico ■ USA



* $p \leq .05$

Barriers by Birth Country: By Mother

■ Mexico ■ USA



Environmental Support: Home

- Most Frequent:

($\mu=5.2$ [0 - 12], $SD=2.4$)

- Patio space (90.0%)
- Sport balls (80.8%)
- Bicycles/Tricycles (72.7%)
- Push cars (50.5%)



- Fewer than 1/4 houses:

- Volleyball net (3.0%)
- Tire swing (7.0%)
- Tires to roll or play w/ (9.1%)
- Toy train (14.1%)
- Paved driveway (16.2%)
- Swing set (17.2%)
- Weight machine (18.2%)
- Pool (19.2%)
- Trampoline (22.2%)

Environmental Support: Neighborhood

- Most Frequent:

($\mu=14.4$ [5 - 22], $SD=3.5$)

- Bicycles/Tricycles (97%)
- Paved streets (91.9%)
- Trampolines (91.9%)
- Sport balls (88.9%)
- Swing sets (87.9%)
- Patio space (86%)
- Basketball goals (84.8%)
- Good streets for running/walking (82.8%)
- Church/school playground (70.7%)

- Lack of support:

- Rec buildings (24.2%)
- No stoplights (69.7%)
- Traffic (64.6%)
- A lot of graffiti (47.5%)



Transportation

To Physical Activities

- 47% Use a Bus
- 45% Driven in a Car
- 20% Walk
- 0% Cycle
- 0% Public Transportation



Car Availability (Moms)

- 75.8% own a car
- 59.6% have car available during day
- Alternate transportation:
 - Relatives 41.4%
 - Family friends 20.2%
- 53.5% are charged for alternate transportation

Discussion



- Differences in perceived barriers exist for physical activity for girls and boys and when considering country of birth
 - Gender: No energy, Transportation
 - Birth Country: Dogs in street, No sidewalks
- Future physical activity initiatives targeting *colonias* children should consider programs incorporating available spaces and resources within homes and neighborhoods
 - Patios, balls, bikes/trikes, streets (traffic control)

Future Directions

- Identify social influences of physical activity
- Examine church policies and facilities
- Examine school policies and facilities
- Take a CBPR approach and work with *colonias* residents to develop physical activity interventions for *colonias* children and families



Thank you!

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Megan S. Patterson

Cindy L. Salazar

Samantha J. Allen

Joseph R. Sharkey