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Community Research Innovative Scholars Program (CRISP) Panel Discussion

Lorraine S. Cordeiro
University of Massachusetts Amherst

Et al.

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Community Research Innovative Scholars Program (CRISP) Panel Discussion

AS6-2072, 6th floor

Moderators and Presenter(s): Lorraine S. Cordeiro, U Massachusetts Amherst, Christopher Denning, U Massachusetts Boston, Herpreet Thind, U Massachusetts Lowell, Rachel Kulick, U Massachusetts Dartmouth

Session Description

The inaugural Community Research Innovative Scholars will present their perspectives regarding key issues, opportunities and/or challenges regarding community-engaged research. The scholarship of engagement provides opportunities to promote the development of human capital, in the classroom, within communities, in academia, and within the profession. Scholars will discuss the knowledge generation, economic, social and educational impact of their work on their universities and communities. Innovative engagement practices, strategies to address health and educational disparities, and scholarship impacts will be discussed in this panel.

Community Research Innovative Scholars Program (CRISP) Panel Discussion

Lorraine Cordeiro, PhD, MPH,
University of Massachusetts, Amherst.

Christopher Denning, PhD,
University of Massachusetts Boston.

Rachel Kulick, PhD, M.Ed.,
University of Massachusetts Dartmouth.

Herpreet Thind, PhD, MPH, MBBS,
University of Massachusetts Lowell.

Community Research Innovative Scholars Program (CRISP)

- Component of Clinical and Translational Science (UMCCTS) Community Engagement and Research Section
- To support the development of independent University of Massachusetts researchers who conduct community engaged research



**CENTER FOR CLINICAL AND
TRANSLATIONAL SCIENCE**

Lorraine Cordeiro, Ph.D., M.P.H.
Assistant Professor
Department of Nutrition
University of Massachusetts, Amherst

My research aims to

- 1) examine food insecurity as a social determinant of nutritional health,
- 2) advance scholarship on adolescent nutrition,
- 3) increase the research capital among underserved communities,
- 4) form successful academic-community partnerships.

FACT SHEET: President Obama's Precision Medicine Initiative

“Most medical treatments have been designed for the “**average patient.**” As a result of this “one-size-fits-all-approach,” treatments can be very successful for some patients but not for others. This is changing with the emergence of precision medicine, an innovative approach to disease prevention and treatment that takes into account individual differences in people’s genes, environments, and lifestyles.

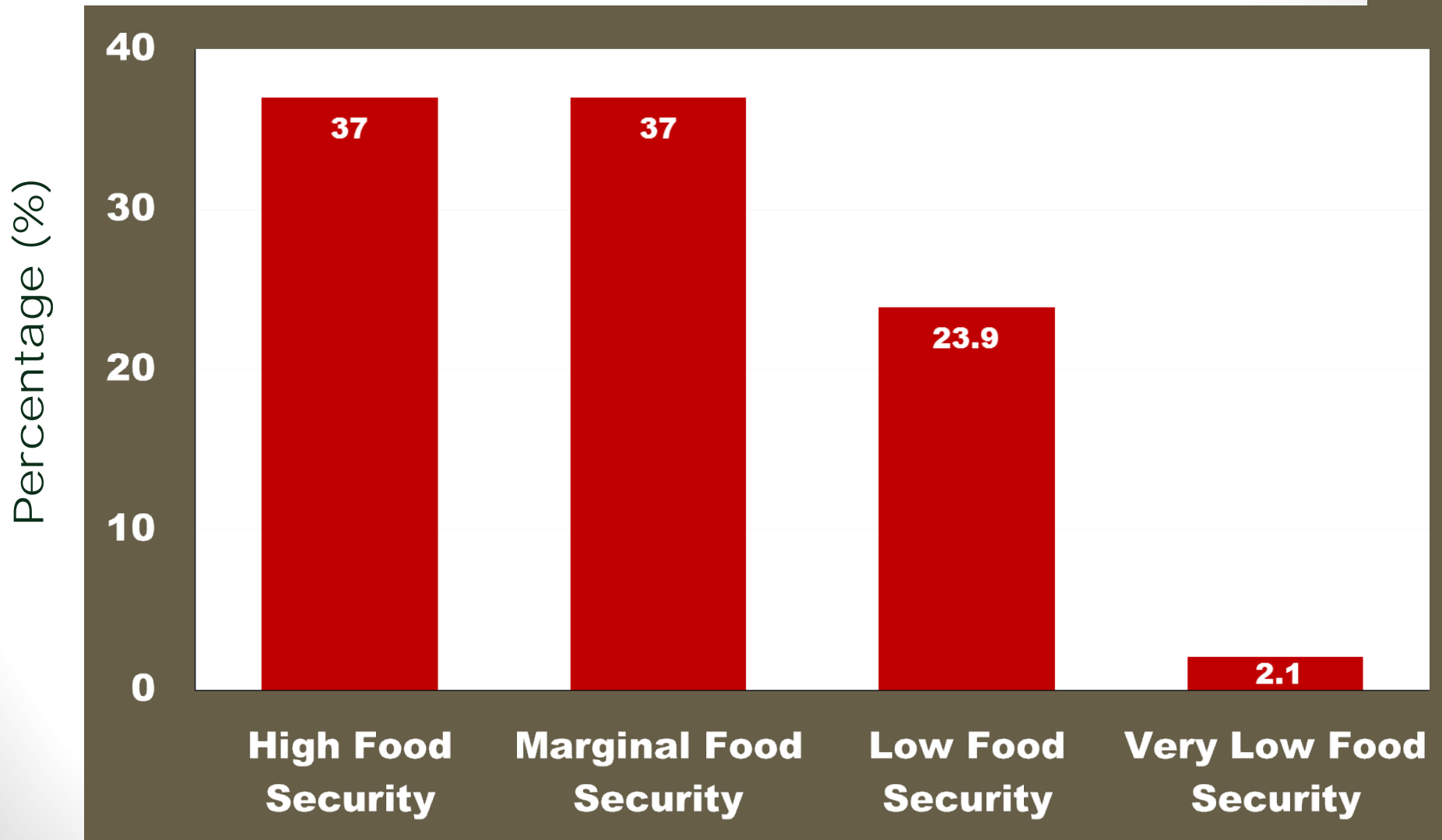
Methodological examination of food security measures

- What do different measures tell us about the status of household food insecurity in historically disadvantaged communities?
- Is household food insecurity a statistically significant and independent predictor of poor health and behavioral outcomes?
- Are there modifiable factors that could improve health and nutritional outcomes among the food insecure?

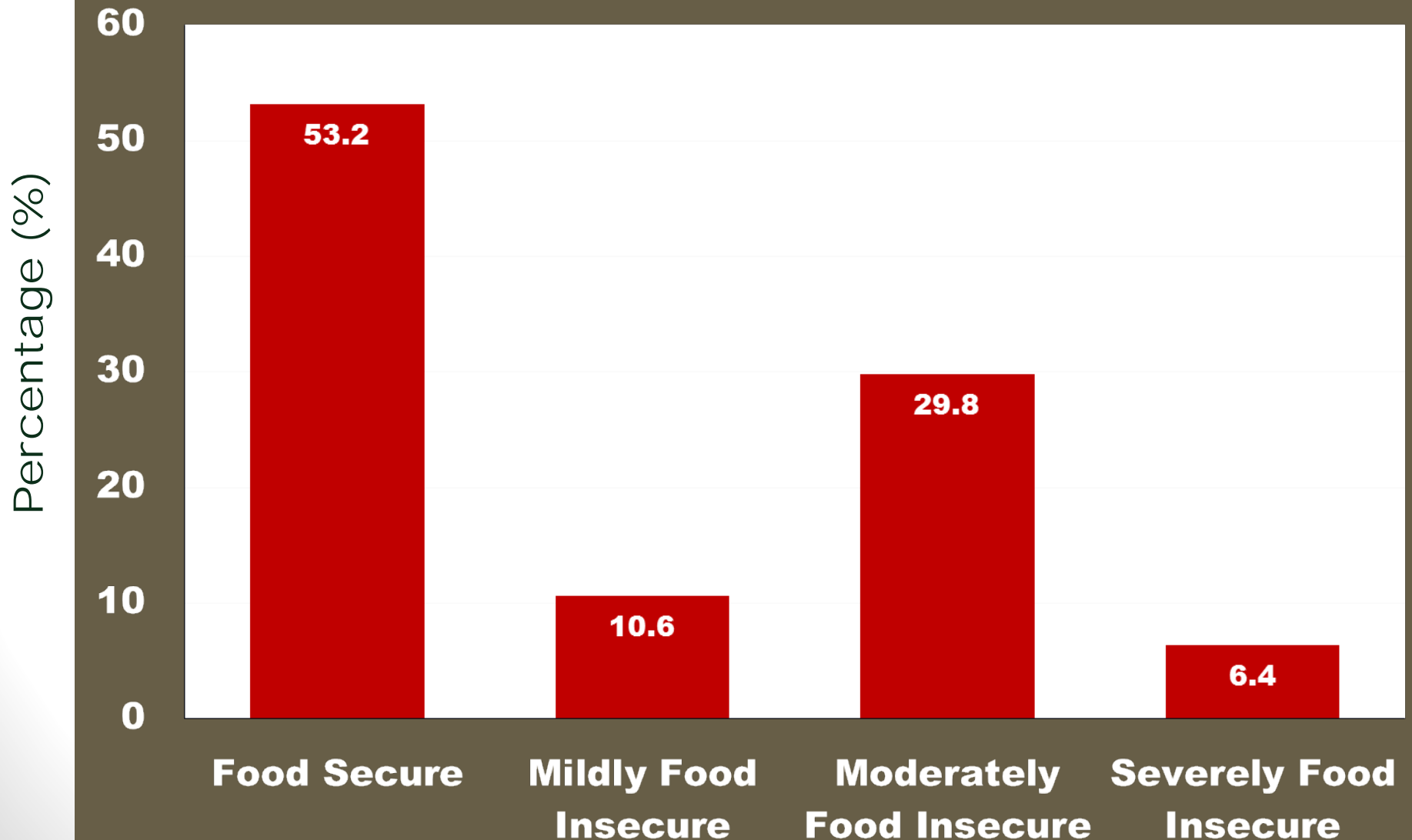
Measures: Does one size fit all?

- When we develop food security measures for the dominant culture, what assumptions are we making about food access, utilization, affordability, and vulnerability in underserved, minority populations?

Household Food Security Status (HFSS - Past 12 months)



Household Food Security Status (HFIAS - Past 12 months)



Percentage of total population by categories of household food security status (n=46)

HFIAS (International Measure)

HFSS (US Measure)

| | Food Secure % (n) | Mildly FIS % (n) | Moderately FIS % (n) | Severely FIS % (n) |
|------------------------|----------------------|---------------------|-------------------------|-----------------------|
| High Food Security | 30.4 (14) | 2.2 (1) | 4.3 (2) | 0 (0) |
| Marginal Food Security | 15.2 (7) | 6.5 (3) | 13.0 (6) | 2.2 (1) |
| Low Food Security | 6.5 (3) | 2.2 (1) | 10.9 (5) | 4.3 (2) |
| Very Low Food Security | 0 (0) | 0 (0) | 2.2 (1) | 0 (0) |

Food Security, Health Risks, and Nutrition Education among Immigrant and Refugee Women in the United States.

Community Partners:

- Cambodian Mutual Assistance Association of Greater Lowell, MA
- Timeless (small business)
- Refugee/Immigrant community members

Setting



y of Partnership



Met
in
1992



1980 Refugee Camp



1996



2014



Met in 1998



2015



2015

2016



THURSDAY, MARCH 31, 2016**1-2:30 PM, DUC 211 A/B**

BLACK AND BROWN

Systematic Racism Colors the Maternal and Child Health Experience

In the US, health disparities are pervasive in racial/ethnic minorities and low-income families. Conventional approaches to addressing long-standing disparities in maternal and child health outcomes have had limited success, partly due to an individual health focus and limited consideration for environmental risk factors. Our interests as community-based researchers is to identify ways in which racism impacts MCH experiences of minorities in the U.S., and to explore how the life course theory (LCT) can serve as an explicit model for addressing MCH disparities. We will present our current research findings within the context of our developing MCH disparities conceptual framework, which merges LCT with a community based participatory research (CBPR) approach, as a potentially effective pathway for improving health equity across generations.

PRESENTERS: Lorraine Cordeiro, Ph.D., M.P.H., Lindiwe Sibeko, Ph.D., IBCLC, and Chantha Bin, M.S.W.



Dr. Cordeiro is a community-engaged scholar that studies the associations between food security, high risk health behaviors, and hunger among adolescents and women in multiple social and cultural contexts. Dr. Cordeiro is the recipient of several distinguished awards and fellowships including the Tufts University Presidential Award for Citizenship and Public Service, the Albert Schweitzer Fellowship, UMass Amherst Distinguished Teaching Award, Center for Research on Families Faculty Scholar, and the UMass Civic Engagement and Service Learning Faculty Fellow. She is currently a 2016 Community Research Innovative Scholar at the University of Massachusetts Medical School's Center for Clinical and Translational Science.



Dr. Lindiwe Sibeko's research interests are maternal and child health focused. She addresses health disparities, which disproportionately impact racial/ethnic minorities and low-income population groups. Her emerging research agenda examines nutritional risk factors that perpetuate health inequities among women, newborns and children. Dr. Sibeko utilizes community based participatory research (CBPR) approaches to understand and target risk factors associated with health disparities at the individual, intra-personal, and structural levels. She is an expert in community health programming, community mobilization, lactation, dietetics, and completed her post-doctoral training in social and transcultural psychiatry. Dr. Sibeko's global research is on infant feeding beliefs, health behaviors, and safe breastfeeding practices among HIV-infected/affected individuals living in South Africa. Dr. Sibeko is a certified international lactation consultant, a Center for Research on Families Faculty Scholar, and served as a Civic Engagement and Service Learning Faculty Fellow at the University of Massachusetts.

Participants

Adapting and Piloting a Physical Activity Program for Young Children with Autism Spectrum Disorder

**Christopher B. Denning, Ph.D.
University of Massachusetts-Boston**

Statement of Problem

- Children with ASD less active than their typically developing peers (Pan, 2011)
- 50-73% of children with ASD have significant motor delays compared to normative peers (Berkeley et al., 2001; Mari et al., 2003).
 - Delays in overall gross motor skills, including manual dexterity, balance, gait, motor coordination, and ball handling skills (Berkeley et al., 2001; Fournier et al., 2010)
- Motor development appears to slow for two and three-year-old children with ASD (Lloyd et al., 2011; Ozonoff et al., 2008)

Community Partnership

- Have worked with preschool teachers in Quincy Public Schools (QPS) implementing a motor development program (Young Athletes) for three years
- Examined motor development outcomes, adaptations, feasibility and sustainability
- Current study will focus focus on children from three classrooms in an elementary school in QPS

Specific Aims

- Determine the effects of the PA program on levels and intensity of aerobic activity.
- Determine the effects of the PA program on motor development.
- Determine the effects of the PA program on social skills and behavior problems.
- Determine whether intervention can be implemented with fidelity.
- Evaluate the contribution of a focus group and teacher feedback forms to optimize the effectiveness of the PA intervention in the school context.

Demographics for Current Study

- Twelve children with ASD
- Three classrooms
- Grades K-4
- The setting is an elementary school from a large urban school district
- Target children will be from three self-contained classrooms for children with ASD.

Structure of Intervention

- Training component: 2 hour meeting
- School component: 24 lessons for each motor unit
 - When: 3 days a week, 30 minutes a day
- 24 lessons organized into 4 units
 - Each unit will last for two weeks

Overview of Physical Activity Program

- Part 1 – Moderate to Vigorous Exercise
 - 15 minutes of exercise that raises children’s heart rates
 - Possible activities include running, dancing, jump rope, relay races
- Part 2 – Motor Development (see schedule below for possible focus areas)
 - 10 minutes per session
 - Units will last 2 weeks each
 - Possible activities include practicing catching or throwing with partners, relay races, obstacle courses, bridges and tunnels
- Part 3 – Cool Down/Meditation
 - 5 minute cool down
 - Teacher focused flows or mediations that focus on breathing

Model Schedule for Motor Development

| Unit | Skill Focus |
|--------------------|-----------------------------|
| Unit 1 (weeks 1-2) | Foundational Skills |
| Unit 2 (weeks 3-4) | Walking, Running, & Jumping |
| Unit 3 (weeks 5-6) | Throwing & Catching |
| Unit 4 (weeks 7-8) | Kicking & Trapping |

Measures

- Heart Rate using Polar H7 monitors
- Social skills Improvement System Rating Scales (SSIS: Gresham & Elliott, 2008)
 - Social skills (e.g., communication, cooperation, engagement)
 - Problem behaviors (e.g., externalizing, internalizing, hyperactivity)
- Test of Gross Motor Development (TGMD-2; Ulrich, 2002).
Subscales included:
 - Locomotion
 - Object control
- Examine fidelity of implementation and weekly progress logs that included challenges and suggested adaptations for children with ASD.
- Focus group with teachers at end of study



Urban High School-Based Community Garden Project

Rachel Kulick

Assistant Professor in Sociology

University of Massachusetts Dartmouth



Addressing food insecurities, food deserts, and nutritional deficiencies in our food system has become a national and global priority

- 1 in 5 households in Southern MA/Bristol County (compared to 1 in 9 households in the rest of MA) contend with not having adequate resources and access to food
- Poverty rate is 22% in New Bedford and 23% in Fall River (compared to 11% in MA)
- Childhood obesity rate is 19% - New Bedford and 17% - Fall River (compared to 16% in MA)
- Obesity rate for 10th graders is 20% - New Bedford and 17% - Fall River (compared to 15% in MA)



Research Question

How does a high school-based community garden rooted in permaculture principles/practices situated on high school land provide educational tools and social structures to improve food security at the local level?



Community Partners

- Urban High School
- Marion Institute, Grow Education
- Southeastern MA Food Security Network



Defining Food Security (USDA definition):

- Low Food Security (old label = Food insecurity without hunger): reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.
- Very Low Food Security (old label = Food insecurity with hunger): Reports of multiple indications of disrupted eating patterns and reduced food intake.

Defining Permaculture:

- A solution-based approach to addressing food insecurity and building stronger communities.
- Permaculture is the design of food systems and social structures to provide for human needs while restoring ecosystem health.



Working Towards Food Justice.....

- To restore justice/local ownership to our food, land, people, and different cultures
- To frame food as a human right, a right of all people to healthy and culturally appropriate food produced through ecologically sound and sustainable methods



HOW? Community Engaged Process for Planning, Implementation, & Research

- ✓ COMMUNITY MEETINGS – bring together food relief workers, food producers/farmers, food educators, and policy makers to discuss state of food security in New Bedford/Fall River area
- ✓ SITE SELECTION – collectively identify benefits/challenges of a number of locations including inactive community gardens,
- COMMUNITY NEEDS ASSESSMENT – work with differing stakeholders (administrators, students, teachers, administrators, families/residents, neighboring businesses) to identify and map the root causes/challenges associated with food insecurities/injustices
- COMMUNITY GARDEN DEVELOPMENT – collectively design, implement, manage the garden
- CURRICULUM DEVELOPMENT – develop educational / curricular materials for high school community
- RESEARCH PROTOCOL – participatory action approach – working with school to develop protocol – will most likely include focus groups and

Revolutionizing Hunger Relief on Campus



Behavioral Interventions for Obesity and Diabetes

Herpreet Thind

Assistant Professor

**Department of Community Health and Sustainability
University of Massachusetts Lowell**

Research Interest

Obesity and Chronic Disease Prevention and Treatment;
Physical Activity; Yoga; Minority Health

University of Alabama at Birmingham

- CBPR – Social and cultural factors affecting physical activity among African American adolescents
- Examination of built environment for physical activity

Brown University and Miriam Hospital

- Efficacy of exercise videogames for physical activity adoption and maintenance
- Efficacy of yoga as an alternative therapy for smoking cessation

Home Exercise Benefits and Barriers Scale

- 28-item measure with seven distinct subscales with high individual item loadings (.64 to .91)
- Good internal consistency reliability (Cronbach's alpha ranging from .77 to .90)
- Associated with home exercise minutes

Yoga

- Number of people practicing yoga in the US is increasing
- Yoga research – cancer, chronic back pain, depression
- *Yoga for Obesity and Diabetes?*

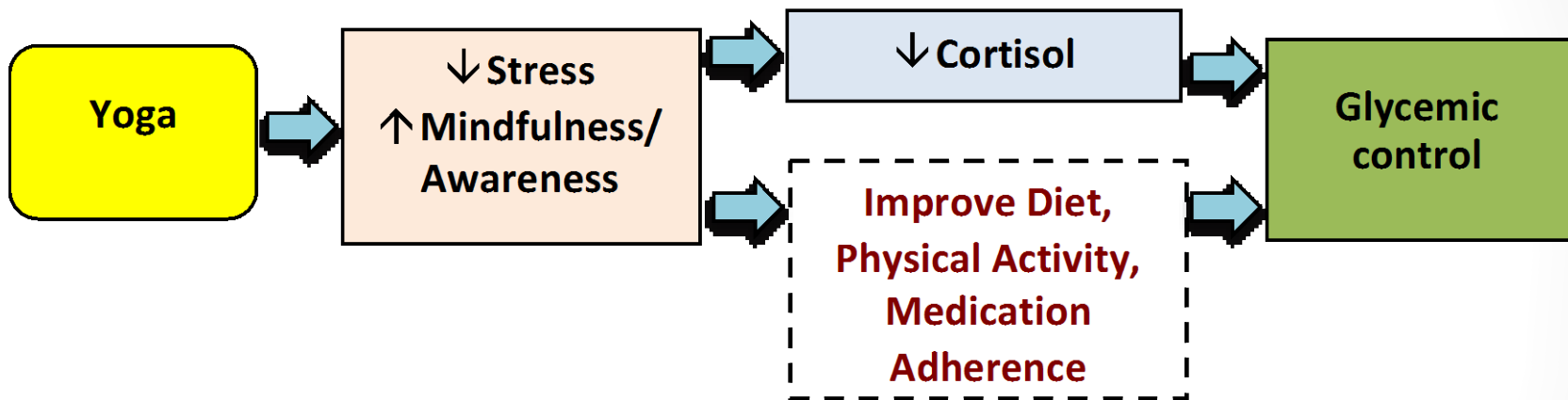
Diabetes Management

- Every 1% reduction in HbA1c decreases the risk of developing eye, renal and nerve disease by 40%
- Medication, diet, exercise
 - Adherence issues
- Diabetes management – distress
- 20-40% diabetics experience emotional distress

Yoga

- Yoga includes physical postures, breathing exercises, meditation, relaxation techniques
- Attention focused on breath – increased awareness/mindfulness
- Enhances parasympathetic activity
- Stress and diabetes

Potential Mechanism



Yoga for Diabetes

- Less strenuous activity - good alternative for exercise
- Widely available in the community
- Simple to learn – elderly, sedentary
- No major adverse effects
- Compliance usually high
- Requires little equipment - relatively inexpensive
- Once trained - home practice - long-term adherence
- Yoga - relatively low cost scalable intervention for reducing stress and improving outcomes among adults with T2DM

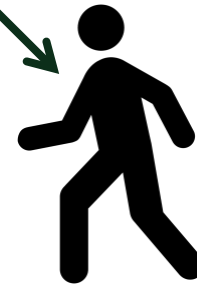
Yoga as a Complementary Therapy for Diabetes Management: An Initial Investigation

NIH-NCCIH Funded R21

Adults with
Type 2 diabetes



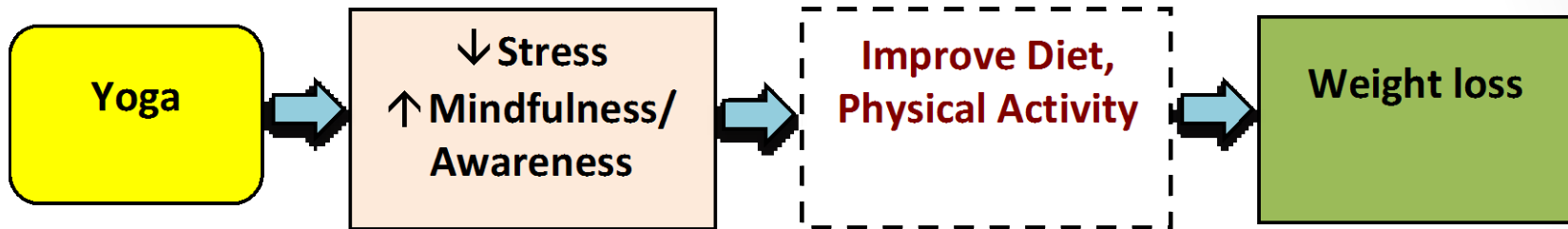
12-week Iyengar Yoga



12-week Walking

Assessments: Baseline, 12-week, 6 month, 9 month

Yoga for Overweight/Obese



Yoga intervention for minority populations

But will yoga be culturally acceptable?

CRISP Award

- Community-based Yoga to Improve Adherence to Weight Loss Recommendations
 - Community needs assessment
 - Perceptions about obesity, exercise and yoga
 - Pilot a community-based yoga intervention

PANEL DISCUSSION

Community Access

Community as Partner

Building legitimacy for community-based research