

# Setting the stage: An overview of human development research relevant to ACF programs serving AIAN children, families, and communities

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# Setting the Stage – Key Questions

1. What is the historical context for today's American Indians and Alaska Natives?
2. What does the overall picture of health, well-being and economic security look like for AIAN?
3. What are the possible direct and indirect effects of historical trauma on AIAN?
4. What promotes positive development in AIAN adults and children?
5. Given what we know about the positive role of culture, how might we reclaim traditional ways as evidence-based practice?
6. How do we move forward with integrating knowledge bases to understand AIAN children and families?

What is the historical context for today's American Indians and Alaska Natives?



# American Indian History

- ▶ Pre-contact
  - Traditional Tribal Governments were strong
    - Iroquois League
    - Muscogee Nation
    - The Lakota Nation
    - The Pueblos
    - The Yakimas
- ▶ The Newcomers
  - Spanish Claims
  - French-Indian Relations
  - The Dutch-Iroquois Alliance
  - The Rise of the English

# American Indian History

*“The more we can kill this year, the less will have to be killed next war, for the more I see of these Indians, the more convinced I am that they all have to be killed or be maintained as a species of paupers.” Gen. William T. Sherman, 1867*

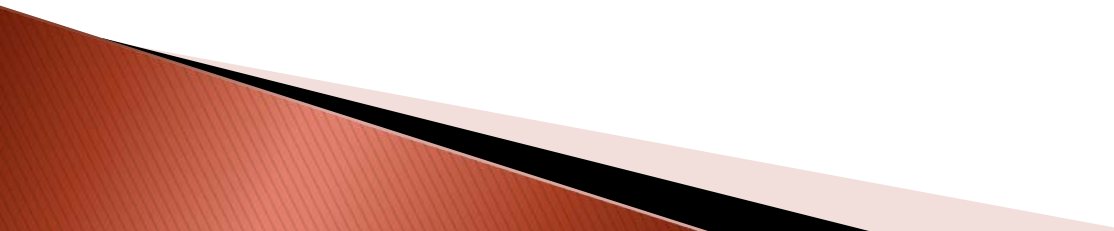
## ▶ A Century of Destruction

- The Marshall Decisions – The first legal definition of Indian Status
- Removal – 1830 and ongoing
  - More than 30 tribes moved
  - More than 1000 battles fought with the US army from 1866 to 1891
  - Massacres
    - Sand Creek – 1864
    - Wounded Knee – 1890

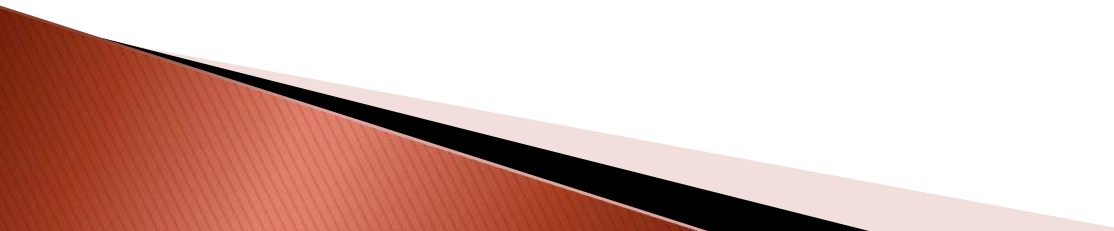
## ▶ A Century of Confusion

- Establishment of the BIA
- The Dawes Allotment Act
- The Indian Citizenship Act of 1924
- The Merriam Report of 1928
- The Indian Reorganization Act of 1934
- The Termination Era
- Self-Determination

What does the overall picture of health, well-being and economic security look like for AIAN?




# AIAN Populations Today

- ▶ 2010 Census reported 5.2 million people in the US identified as AI or AN alone or in combination with one or more other races
  - ▶ 2.9 million reported AIAN alone
  - ▶ The population increased by 39% since 2000
  - ▶ Median age is 31 in comparison to 37.4 for the U.S. population as a whole
  - ▶ 566 federally recognized tribes, 325 federally recognized reservations, 618 AIAN legal statistical areas
- 


# The Great Divide

**COME TO DENVER.**  
THE CHANCE OF YOUR LIFETIME!


**Good Jobs**  
Retail Trade  
Manufacturing  
Government—Federal, State, Local  
Wholesale Trade  
Construction of Buildings, Etc.




**Happy Homes**  
Beautiful Houses  
Many Churches  
Exciting Community Life  
Over Half of Homes Owned by Residents  
Convenient Stores—Shopping Centers



**Training**  
Vocational Training  
AutoMech., Beauty Shop, Drafting,  
Nursing, Office Work, Watchmaking  
Adult Education  
Evening High School, Arts and Crafts  
Job Improvement, Home-making



**Beautiful Colorado**  
\*Tallest\* State, 48Mt. Peaks Over 14,000 Ft.  
350 Days Sunshine, Mild Winters  
Zoos, Museums, Mountain Parks, Drives  
Picnic Areas, Lakes, Amusement Parks  
Big Game Hunting, Trout Fishing, Camping



- ▶ 78% of the nation's 5.2 million self-identified American Indians live in areas located outside reservation boundaries
- ▶ 4,576,127 live in AI areas
- ▶ 242,613 live in AN village statistical areas
- ▶ Most people who live in AI areas and AN village statistical areas did not identify as AIAN



# Households and Language

- ▶ 1,122,043 family households in 2012; 54.7% were married–couple families with children
- ▶ 6.2% of families consisted of grandparents living with their grandchildren
  - AIAN grandparents who are raising their grandchildren have high rates of chronic disease and disability, and low rates of attaining public assistance
- ▶ 54% owned their own home in comparison to 63.9% in U.S.
- ▶ 20.4% spoke a language other than English at home
  - In Head Start Region XI, less than 5% of children are first speakers of their native language

# Education and Economic Security

- ▶ 78.8% AIAN 25 and older who had at least a high school diploma, GED or alternative credential
- ▶ 13.5% earned a Bachelor's degree or higher
  - Comparison statistics are 86.4% and 29.1% in the overall population
- ▶ 26.1% work in management, business, and science, 25.1% work in service occupations
- ▶ 161,686 veterans
- ▶ Median household income is \$35,310 (\$51,371 in U.S. as a whole)
- ▶ 29.1% were in poverty in 2012, the highest rate of any race group

What are the possible direct and indirect effects of historical trauma on AIAN?

# Possible Direct and Indirect Effect of Historical Trauma

- ▶ What is historical trauma?
  - Historical trauma stems from the perpetuation of an event with genocidal/ethnocidal intent and is defined as the “cumulative emotional and psychological wounding over the lifespan and across generations emanating from massive group experiences” (Braveheart, 2003)
- ▶ The consequence of historical trauma are broad and long lasting and include:
  - Loss of homelands, sacred places, historical artifacts, agricultural lands, traditional governments
  - Economic
  - Educational including for some a loss of motivation and respect for education due to trauma from boarding school experiences
  - Physical and Psychological
    - Possible implications of epigenetics and toxic stress for AIAN communities

# Psychological Effects of Historical Trauma

- ▶ 1/5 to 1/3 of Indigenous adults reported thoughts about historical loss daily and these thoughts had negative emotional consequences (Whitbeck, Adams, Hoyt, & Chen, 2004)
- ▶ 20% or more of adolescents reported thoughts about historic trauma; thoughts of historic loss were associated with increased depression (Whitbeck, Walls, Johnson, Morrisseau, & McDougall, 2009)
- ▶ Grandparent generation participation in government relocation programs was found to have negative affects on well-being in subsequent generations (Wall & Whitbeck, 2012)

# Current Statistics and Epigenetic Research: Is this research applicable to AIAN populations?

- AIAN women experience 2 to 3 times more violent victimization than women of any other race (DOJ, 2008)
  - Stressful experiences prenatally and early in life lead to long-term epigenetic remodeling of the stress axis system with the epigenetic load accumulated over a lifetime contributing to a predisposition for disease and psychiatric disorders (Murgatroyd et al., 2009; Franklin et al., 2010; McCrory, De Brito, & Viding, 2010) and may contribute to a cascade of epigenetic events involved in the development of drug addiction (Kumar et al., 2005; Robison & Nestler, 2011)
- A recent study found that young fathers reported high rates of lifetime substance abuse and alcohol abuse (Neault et al., 2012)
  - Drug addiction leads to epigenetic modifications of the brain's reward system which in turn serves to regulate drug addiction (Feng & Nestler, 2013)
  - Drug induced epigenetic changes may be transferred to offspring and influence their susceptibility to drug abuse (Vassoler et al., 2013)

# Sustained Effects of Historical Trauma: Links to Research on Toxic Stress

- ▶ Exposure to early life adversity leads to HPA Axis dysregulation which contributes to emotional and behavioral dysregulation, cognitive impairments, and increased suicide risk (Turecki et al., 2012)
- ▶ The more risk factors children are exposed to in the first 3 years of life, the more likely they are to have developmental delays (Barth et al., 2008)
- ▶ Adults who reported more adverse experiences in childhood were more likely to develop heart disease than adults who reported fewer adverse experiences in childhood (Dong et al., 2004)
- ▶ Poor housing quality, adult exits from the home, perceived economic insufficiency, and low positive care-giving behavior was associated with higher cortisol levels in infants seen from 7 to 24 months of age with African American ethnicity an additional risk factor (Blair et al., 2011)

**What promotes positive  
development in AIAN adults and  
children?**





# High Risk Means High Reward: There are Many Ways to Make a Difference in AIAN Communities

## ▶ Support and promote economic development

- Help tribes build infrastructure
- Share best practices
- Share stories about what hasn't worked too
- Help tribes connect with successful programs
- Be a resource for tribes and individuals – smile – let them know you are happy to be there
- Provide local community members with jobs and training opportunities with your grant funding if possible
- Create distance education programs and degrees
- Support tribal colleges
- Be a cultural resource if asked by helping tribes document/record/preserve tribal languages, traditions, and arts
  - Support local artists and vendors

# My Focus: The Many Ways that Culture Promotes Positive Development

- ▶ Traditional spirituality, traditional practices and cultural identity have all been shown to be protective factors
- ▶ Traditional spirituality and practices were associated with alcohol cessation (Torres–Stone et al., 2006) and were negatively related to depressive symptoms (Whitbeck et al., 2002) and suicidal behaviors (Garrouette et al., 2003) in adults
- ▶ All 3 were associated with increased self–esteem, academic success, and prosocial behaviors among adolescents (LaFromboise et al., 2006; Whitbeck et al., 2001; Pu et al., 2012; Reinhardt, Evenstad, & Faircloth, 2012)

Given what we know about the positive role of culture, how might we reclaim traditional ways as evidence-based practice?

# Studying Cognitive Development in Relation to Active Cultural Engagement As One Way To Reclaim Traditional Ways as Evidence-based Practice

## ▶ Cultural engagement and social development

(Tsethlikai, M. (2010). The influence of a friend's perspective on American Indian children's recall of previously misconstrued events. *Developmental Psychology*, 46(6), 1481–1496.)

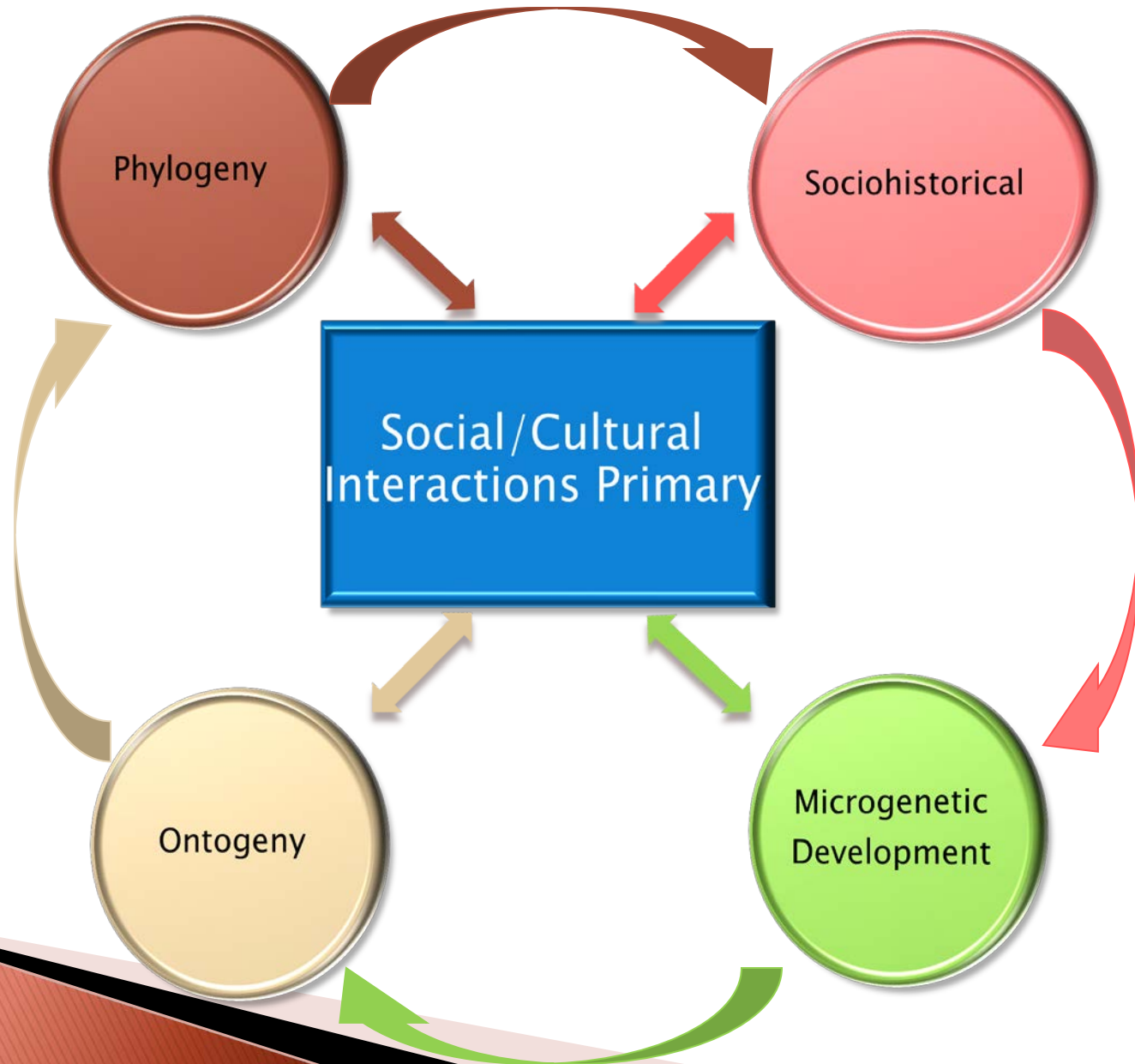
## ▶ Cultural engagement and verbal skills

(Tsethlikai, M. (2011). An exploratory analysis of American Indian children's cultural engagement, fluid cognitive skills, and standardized verbal IQ scores. *Developmental Psychology*, 47(1), 192–202.)

## ▶ Cultural engagement and social learning

(Tsethlikai, M., & Rogoff, B. (2013). Involvement in traditional cultural practices and American Indian children's incidental recall of a folktale. *Developmental Psychology: Special Issue on Social Learning*)

# Integrating Developmental Systems Theories and Vygotsky's Theory of Cognitive Development to Better Understand the Status of AIAN Children Today



# To Make Cultural Processes Primary in Cognitive Development We Have to Expand How We Think about Intelligence and Measure It

Crystallized Intelligence =  
Vocabulary IQ and  
Performance on  
Standardized Tests

- Highly influenced by economic status
- Educational achievement of parents
- American Indian children do not do well on these tests.

Fluid Intelligence =  
Executive Functions and the  
ability to Self-Regulate

- Highly influenced by the activities you engage in
  - Improved by
    - Exercise ♥
    - Dance 🎵
    - Music 🎵
    - Art 😊
    - Speaking two languages

## Shifting the Focus to Executive Functions as One Way to Support Traditional Ways as Evidence-based Practice

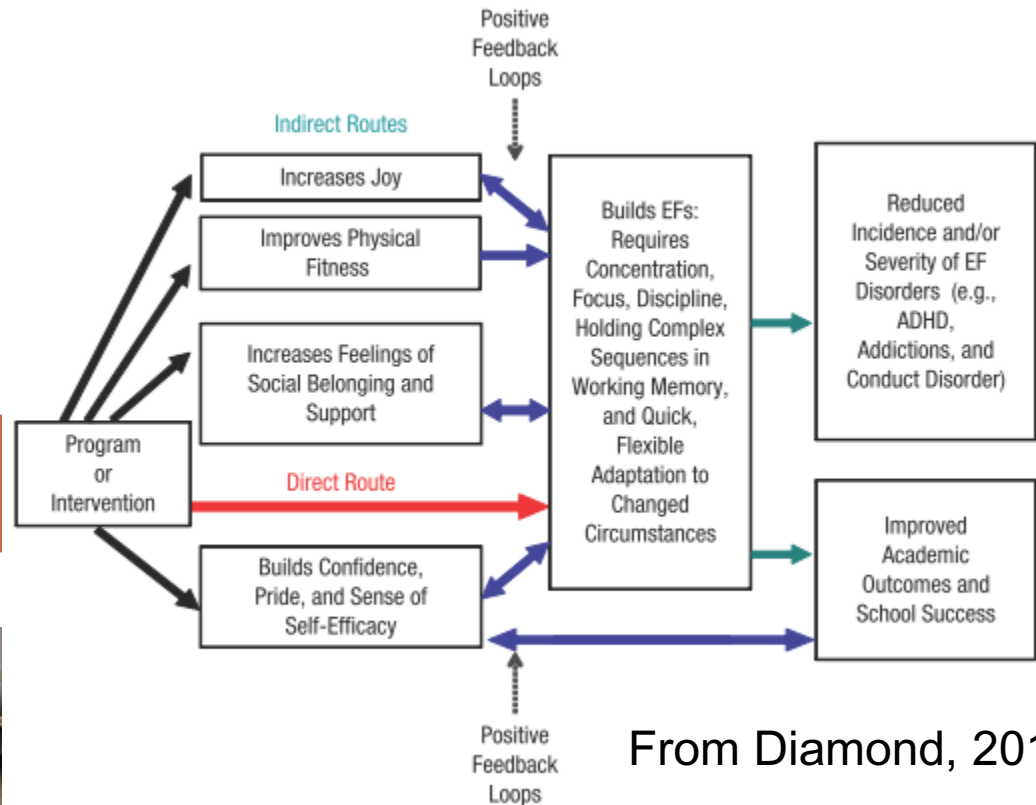
- ▶ The healthy development of EF has been linked to positive developmental outcomes including:
  - social competence (Hughes, 1998), and
  - academic and social readiness to attend school (Blair, 2002; Blair & Diamond, 2008, Tsethlikai, 2011).
- ▶ Indicators of self-control are the BEST predictors of healthy development and well-being (Moffitt et al., 2011)



# Why Might Cultural Engagement Promote the Development of Executive Functions?



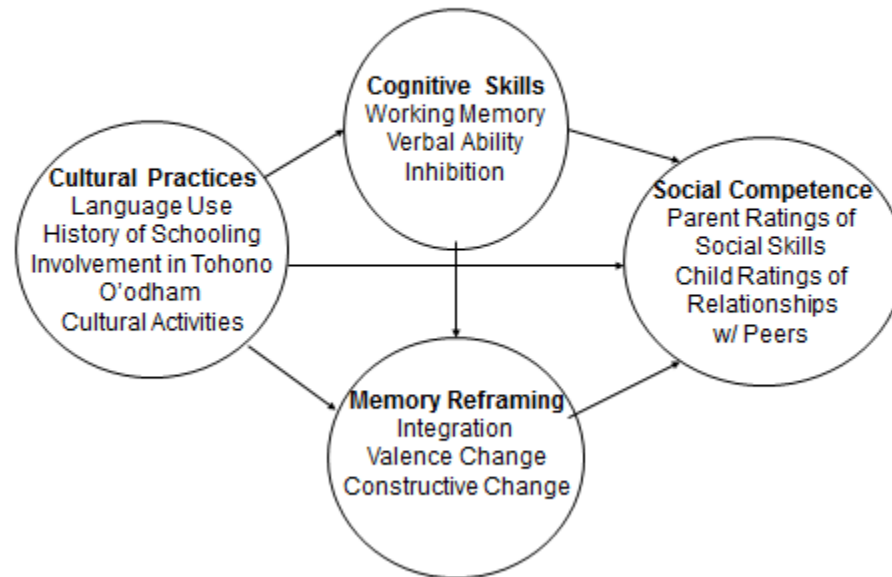
Cultural Activities



From Diamond, 2012



# Exploratory Study 1: Does Active Cultural Engagement Promote Cognitive and Social Development?

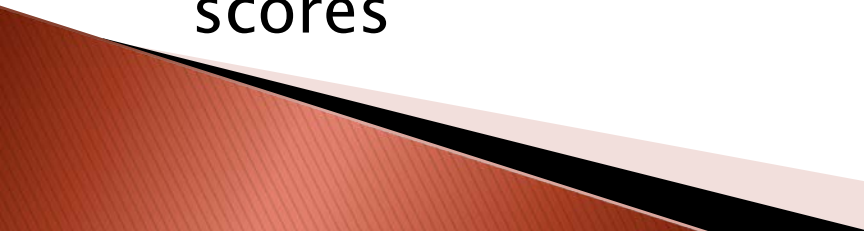


# Cultural Variables



- ▶ Cultural Engagement
  - Cultural participation
    - Guardians listed participation in cultural activities
      - Saguaro fruit harvesting
      - Waila
      - Pilgrimages to Mexico
      - Traditional Storytelling
  - TO language knowledge
    - 0 = does not speak (n = 47)
    - 1 = understands, but doesn't speak well or speaks fluently (n = 52)

# Key Findings in Study 1

- ▶ Cultural engagement varied by location with children in more rural areas maintaining more traditional ways and reporting greater knowledge of the TO language than urban children
  - ▶ Income matters – families with higher incomes reported more participation in traditional cultural practices than families with lower incomes
  - ▶ Active cultural engagement was directly related to enhanced social competence after controlling for income, and social competence directly predicted enhanced fluid cognitive skills and higher verbal IQ scores
- 



## Exploratory Research Study 2: Does Cultural Engagement Predict Cognitive Development?

**High**

**Low**

Verbal IQ

Age 7 & 8

91.57 (15.43) (n = 7)

92.06 (8.77) (n = 16)

Age 9

93.80 (11.88) (n = 10)

88.77 (8.14) (n = 13)

Age 10

91.42 (9.61) (n = 12)

86.08 (10.71) (n = 17)\*

Age 11 & 12

83.80 (12.19) (n = 5)

79.74 (13.98) (n = 19)

# Key Findings of Study 2

- ▶ Partial least squares modeling revealed two pathways from traditional practices to better cognitive development:
  - Children who had some knowledge of the TO language displayed increments in fluid cognitive skills by age group whereas children with no TO language knowledge showed no improvement by age group.
  - Active cultural participation predicted higher verbal IQ scores

# Study 3: Does Cultural Engagement Teach Children to Learn through Listening?

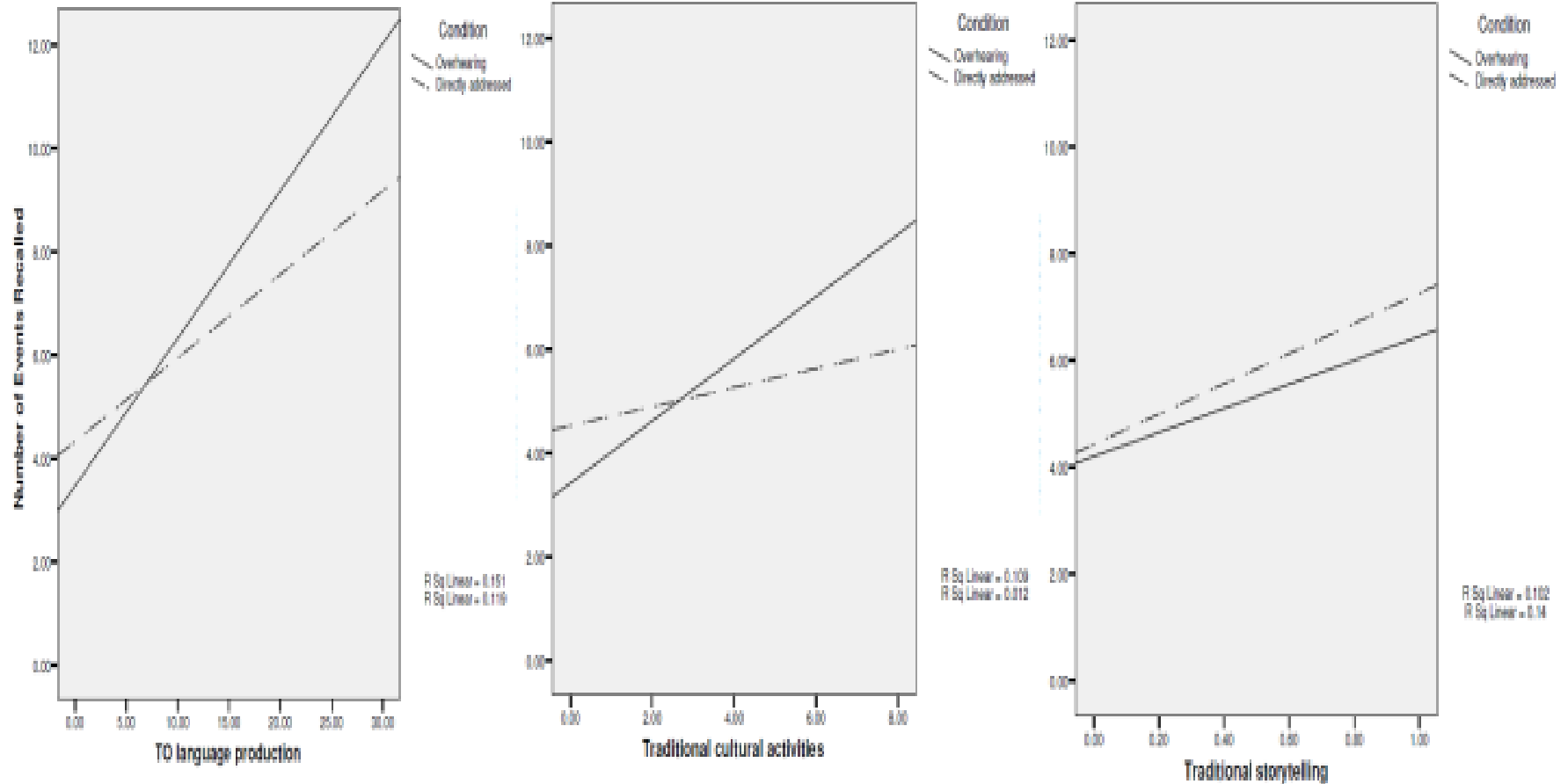


# Primary Hypothesis

- ▶ Cultural engagement will predict stronger incidental story recall in the overhearing children in comparison to the directly told children

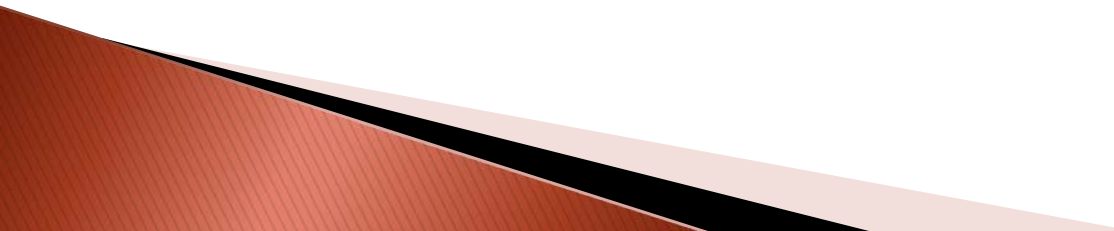
*Regression lines for TO Language production, traditional TO Activities, and traditional TO Storytelling as predictors of*

*Number of Story Events Recalled by overhearing and directly addressed children.*





# Key Findings of Study 3

- ▶ Active participation in meaningful cultural activities shapes children's attention and memory skills
  - ▶ Allowing children to learn through listening in and observing more skilled children may be an important way to help AIAN children succeed academically
- 

# Others Support the View that Culture is the Key to Academic Success

- ▶ AI and AN leaders today support the idea that education is the key to strengthening sovereignty and self-determination
- ▶ They also stress that western education must not take priority over teaching children their traditional ways
  - Tribal languages must survive and thrive
  - Culture must not be sacrificed

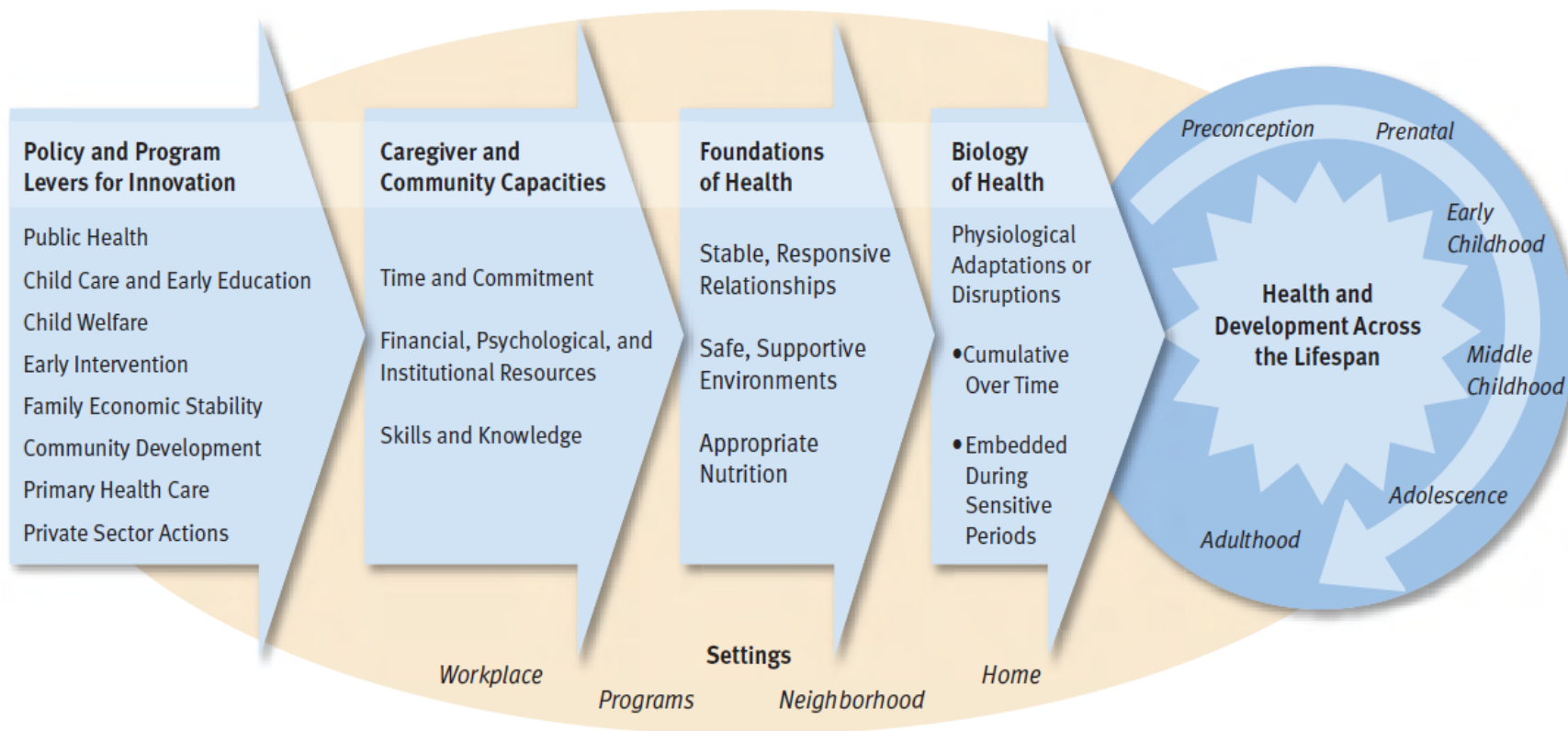
*The more closely American Indian education efforts are aligned with tribal cultural activities such as pow wows and spiritual ceremonies, the more likely it is that American Indian fathers will perceive these efforts to be relevant to their tribal background, and the more likely it is that they will participate in these activities with their daughters – Reinhardt, Evanstad, & Faircloth, 2012*

How do we move forward with integrating knowledge bases to understand AIAN children and families?

# Lessons Learned from Integrating Knowledge Bases to Understand AIAN Children

- ▶ Culture is essential for well-being, academic achievement and personal success
- ▶ Intervention and prevention efforts must be long term efforts that address the impact of historical trauma and continued environmental insults both individually and inter-generationally
- ▶ We must move beyond studying development at one level of analysis and start integrating across multiple levels to examine how cultural, historical, environmental (e.g., quality of housing, access to adequate nutrition, presence of community violence, and ability of neighborhoods to support healthy lifestyles), and biological factors influence development and contribute to individual differences
- ▶ We must form multidisciplinary teams to address the complexity and community collaborations to fully understand the context and current meanings of risk factors
- ▶ It will be difficult work due to issues surrounding historical trauma – numerous implementation reports published by ACF document these difficulties

# A Framework for Reconceptualizing Early Childhood Policies and Programs to Strengthen Lifelong Health



Courtesy of: Center on the Developing Child Harvard University

[WWW.DEVELOPINGCHILD.HARVARD.EDU](http://WWW.DEVELOPINGCHILD.HARVARD.EDU)

Historical Trauma

Broken Treaties  
Relocation  
Starvation  
Boarding Schools  
IRA

**Policy and Program Levers for Innovation**

Public Health  
Child Care and Early Education  
Child Welfare  
Early Intervention  
Family Economic Stability  
Community Development  
Primary Health Care  
Private Sector Actions

**Caregiver and Community Capacities**

Time and Commitment  
Financial, Psychological, and Institutional Resources  
Skills and Knowledge

**Foundations of Health**

Stable, Responsive Relationships  
Safe, Supportive Environments  
Appropriate Nutrition

**Biology of Health**

Physiological Adaptations or Disruptions  
• Cumulative Over Time  
• Embedded During Sensitive Periods

Preconception Prenatal

Early Childhood

Health and Development Across the Lifespan

Middle Childhood

Adolescence

Adulthood

Workplace

Settings

Programs

Neighborhood

Home

Original Model Courtesy of: Center on the Developing Child Harvard University  
[WWW.DEVELOPINGCHILD.HARVARD.EDU](http://WWW.DEVELOPINGCHILD.HARVARD.EDU)



Thank You  
Tohono O'odham Nation  
Spencer Foundation  
Ford Foundation  
William T. Grant Foundation  
The University of Utah  
Arizona State University  
Office of Planning, Research and  
Evaluation

Administration for Children and Families  
Administration for Native Americans  
Aleta Meyer

# For More Information on Epigenetics

- <http://learn.genetics.utah.edu/content/epigenetics/>
- <http://learn.genetics.utah.edu/content/epigenetics/intro/>
- <http://learn.genetics.utah.edu/content/epigenetics/rats/>
- <http://learn.genetics.utah.edu/content/epigenetics/nutrition/>
- <http://learn.genetics.utah.edu/content/epigenetics/brain/>
- A great video on epigenetics available online:
  - <http://www.pbs.org/wgbh/nova/body/epigenetics.html>
- A great video not available online – Ghosts in Your Genes
  - <http://www.pbs.org/wgbh/nova/genes/>