

Family Stress, Child Competence and School-Based Prevention: Building a Healthy Rural Population

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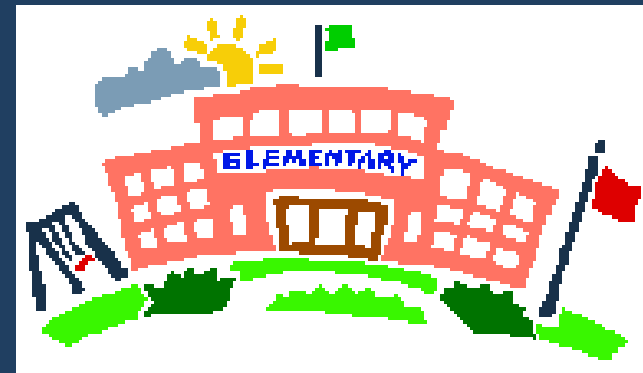
Prevention Research Center
FOR THE PROMOTION OF HUMAN DEVELOPMENT



What I will Discuss

Recent Findings from the Family Life Project

Issues in Implementing Evidence-Based Prevention
in Rural Areas



The Family Life Project: Children's Lives in Low Wealth Rural Communities*

Phase I: Lynne Vernon-Feagans
Martha Cox

Phase II: Lynne Vernon-Feagans
Mark Greenberg

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Family Life
PROJECT



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL



Center for
Developmental Science



FPG Child Development Institute
The University of North Carolina at Chapel Hill



SCHOOL OF
EDUCATION

Photos by Jack Lauterer and
the FPG Child Development
Institute

Goal of The Family Life Project

To understand how

- *community,*
- *family economic and health resources,*
- *family contexts,*
- *early relationships,*
- *early schooling peer relations and*
- *individual differences in the children themselves*

interact over time to shape the developmental trajectories of competence from birth through middle childhood.



Outline

- I. Why is this Study Important
- II. Research Design and Demographics
- III. How Does Risk Get “Under the Skin”

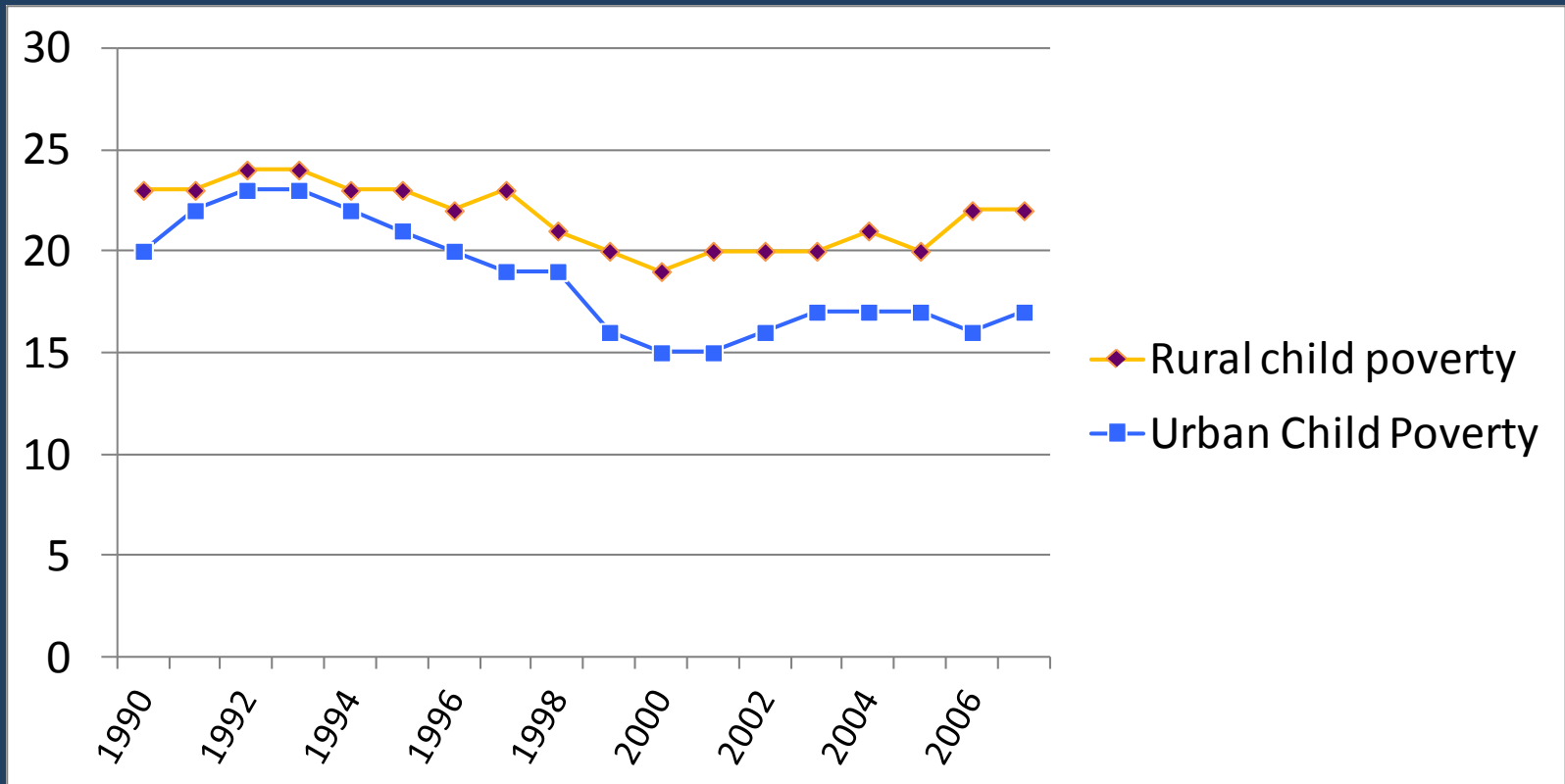


I. Why is this Study Important?

- 1. There are literally no large developmental studies of children who live in low wealth rural contexts and yet they constitute about 20% to 25% of the children in the United States.
- 2. A greater proportion of children in rural areas live below the poverty line

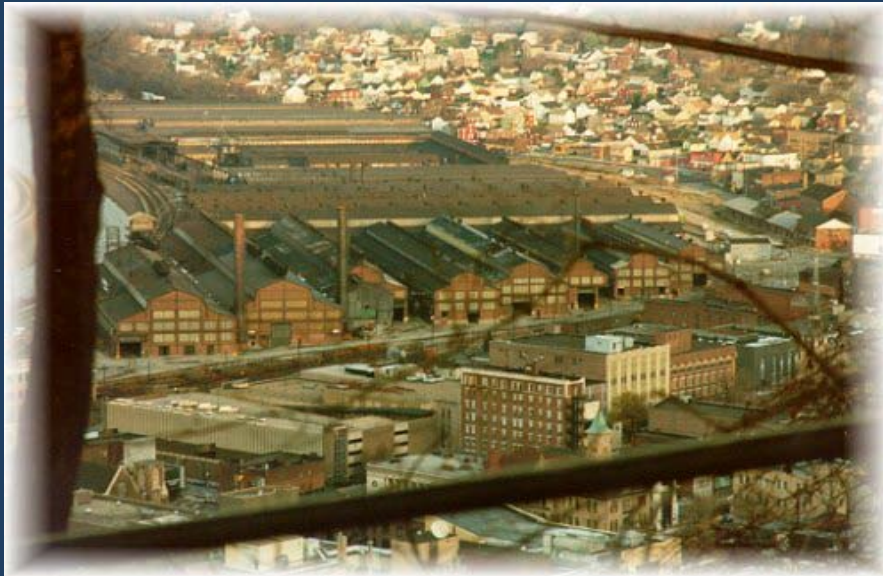


Child Poverty in Rural and Urban Areas: 1990 - 2007



William P. O'Hare, [*The Forgotten Fifth: Child Poverty in Rural America*](#) (2009).

Poverty is associated with Job loss
over the last 30 years



.....and poorer housing



Single Family Homes



Trailers

Current Challenges in Rural Life

- Replacement of good jobs by service industry jobs that have few benefits and require non-standard work hours
- Lower rates of College Attendance
- Outmigration of talented young adults
- Reduction in the tax base for schools
- Rise of consolidated schools that jeopardize small towns and require long bus rides for children

There are unique rural risk and protective factors

Risk Factors

- Fewer good jobs
- Less access to public transportation
- Less access to good health childcare services
- Longer distances to work and school
- Less experienced and skilled teachers
- More tobacco and prescription drug abuse
- Fewer weak ties

Protective Factors

- Less exposure to random violent crime
- More homes and land owned by families
- More access to extended family
- Stronger connections to religious institutions
- Greater sense of community
- Greater connections to schools

Research Design and Demographics

- Epidemiological Frame

- Target the two large regions east of the Mississippi with large pockets of non-urban poverty

- The Black South: Three contiguous poor counties in North Carolina
- Appalachia: Three contiguous poor counties in Pennsylvania



FLP Sample

- 1292 Children
- Recruited in local hospitals
- Over-sampling poverty

Poverty Level

North Carolina

African American

0-200%

>200%

490

29

Non-African American

168

86

Pennsylvania

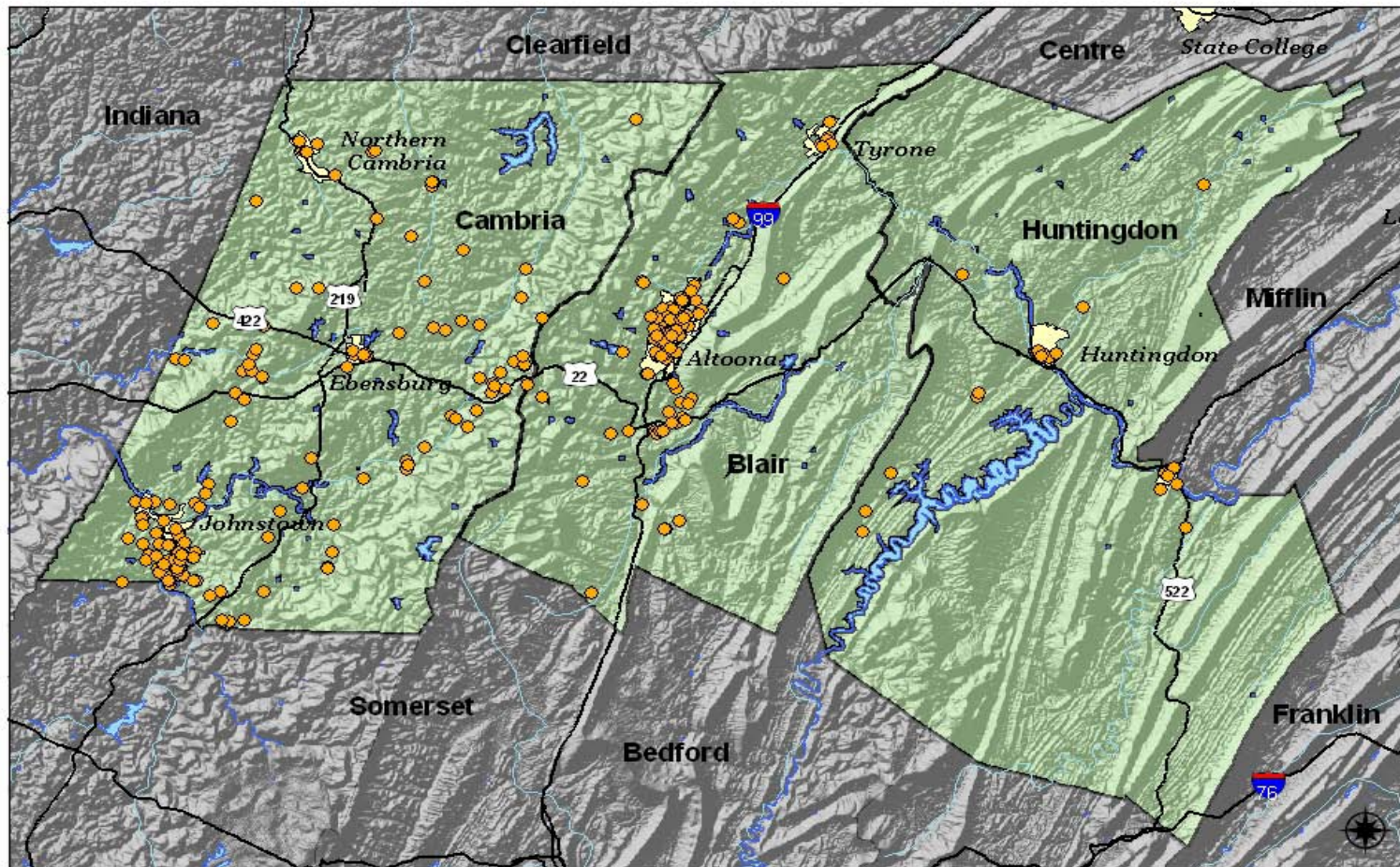
Non-African American

344

175



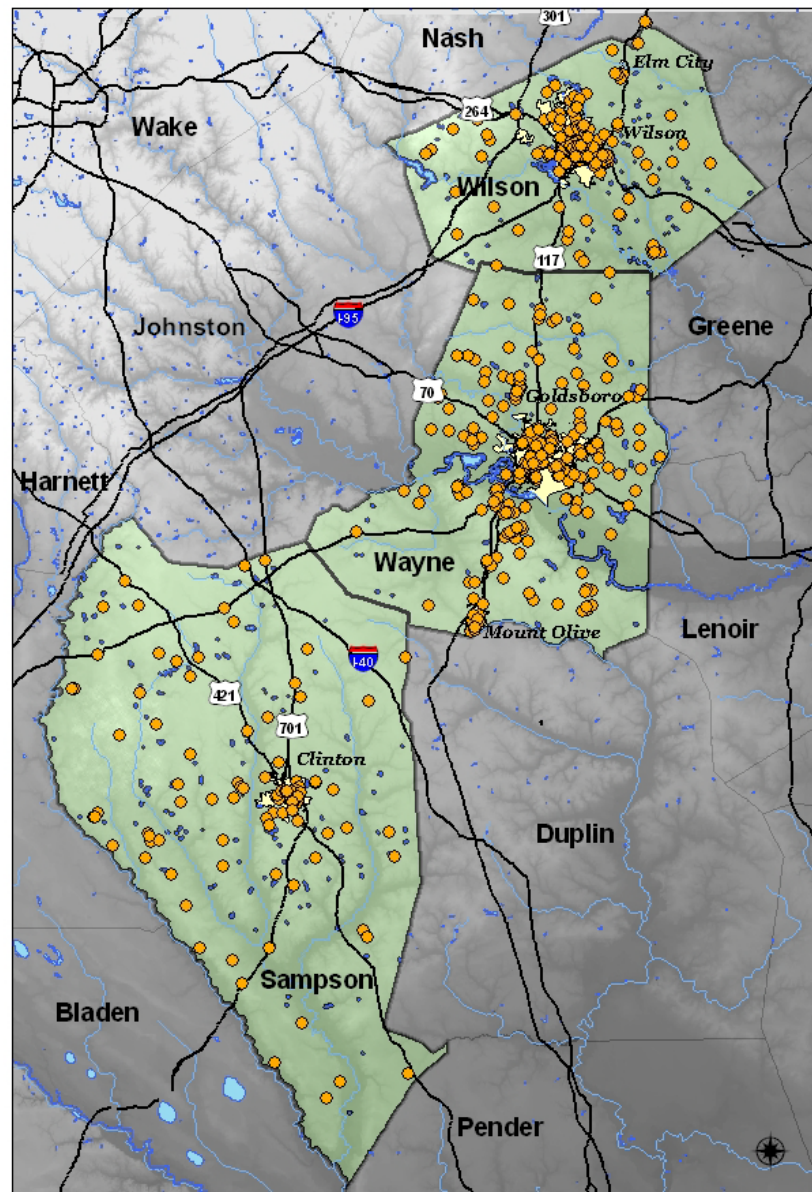
The Family Life Project: Participant locations in Pennsylvania



- Participants
- Hydro
- Major Roadway
- Surrounding Counties
- Project Counties
- Cities



The Family Life Project: Participant locations in North Carolina



- Participants
- Surrounding Counties
- Major Roadways
- Cities
- Project Counties
- Hydro

0 5 10 20 Miles



Family Life Project: Data Collection for Phase I

Birth

Hospital

2 months

Home Visit

6 months

2 Home Visits

**Child Care
Visit**

Phone Call

15 months

Home Visit

**Child Care
Visit**

24 months

Phone Call

2 Home Visits

**Child Care
Visit**

Phone Calls

36 months

2 Home Visits

**Child Care
Visit**

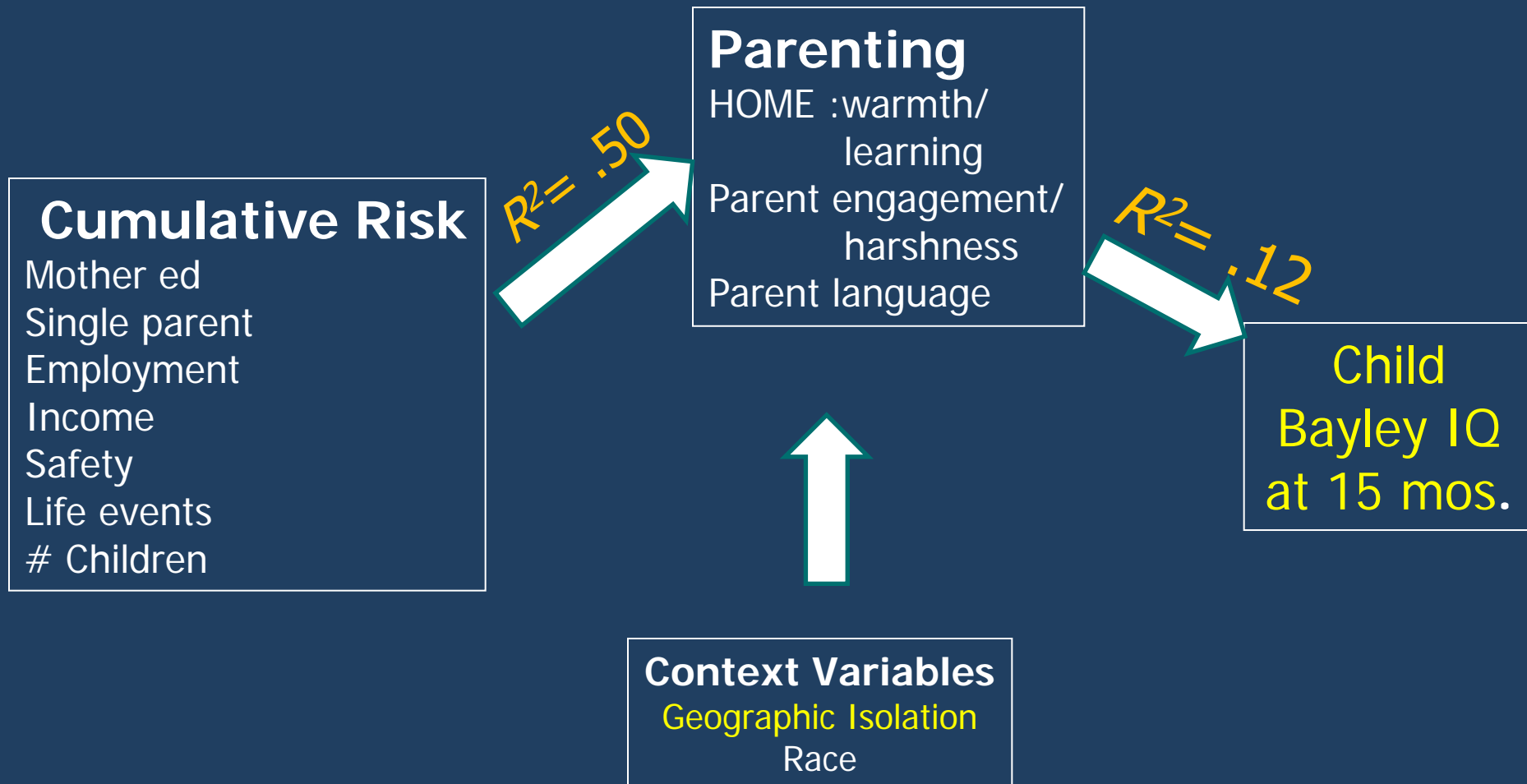
The Family Life Project: Data Collection for Phase II

48 months	60 months	Pre-K	Kindergarten	1 st Grade	2 nd Grade
Home Visit	Home Visit			Home Visit	
		Classroom Visit	Classroom Visit	Classroom Visit	Classroom Visit
		Child Assessment	Child Assessment	Child Assessment	2 Child Assessments

How Does Poverty Get “Under the Skin”

- A. Cumulative Early Risk and Early Intelligence
- B. Psychophysiology and Executive Functioning

Cumulative Risk, Parenting, and Cognitive Development at 15 Months



Burchinal. P. Vernon-Feagans, L., Cox. M. and .and the Family Life Project Investigators (2008). Cumulative Social Risk, Parenting, and Infant Development in Rural Low-Income Communities. *Parenting, 8*, 41-69.19

Role of Rurality and Geographic Isolation

- Census Block Data as a predictor
 - Income, poverty, single headed homes, rates of unemployment and public assistance
- GIS -
 - mapped distances from each residence to 10 locations (school, library, supermarket, transportation, etc)
- **Geographic Isolation had a protective effect** -
Stronger negative prediction between cumulative stress and poor parenting when families were LESS isolated. Isolation was protective (less dense, less public housing)

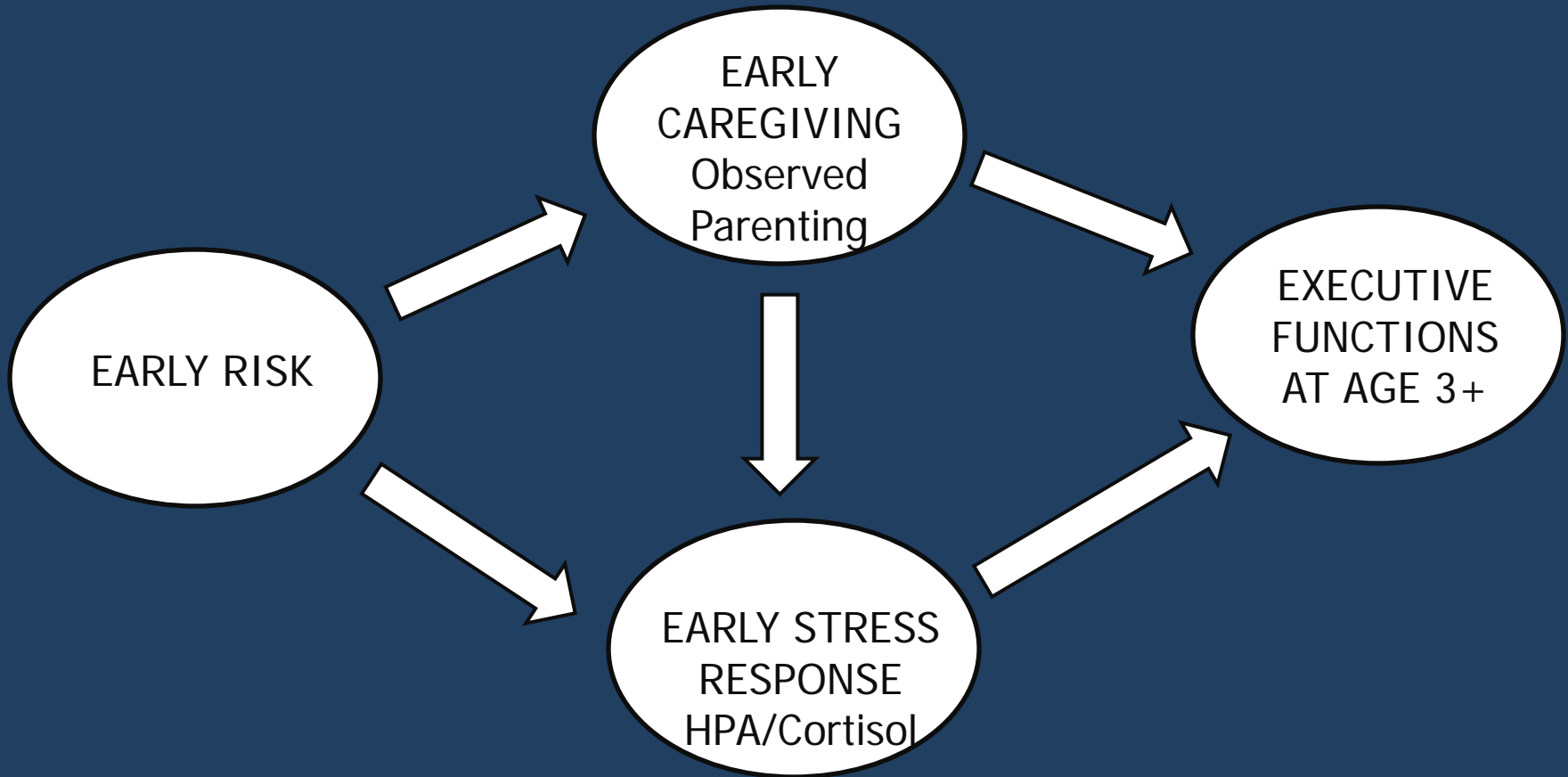
Factors that Influence Executive Function

- What is EF?
 - Inhibitory control
 - working memory
 - attention shifting
- EF has strong relations to self-regulation and early Academic Achievement
- EF development related to Maturation of Prefrontal Cortex
- Some data linking Stress Hormones to EF in early devel
 - Stress hormones modulate synaptic activity in the neural circuitry of the PFC

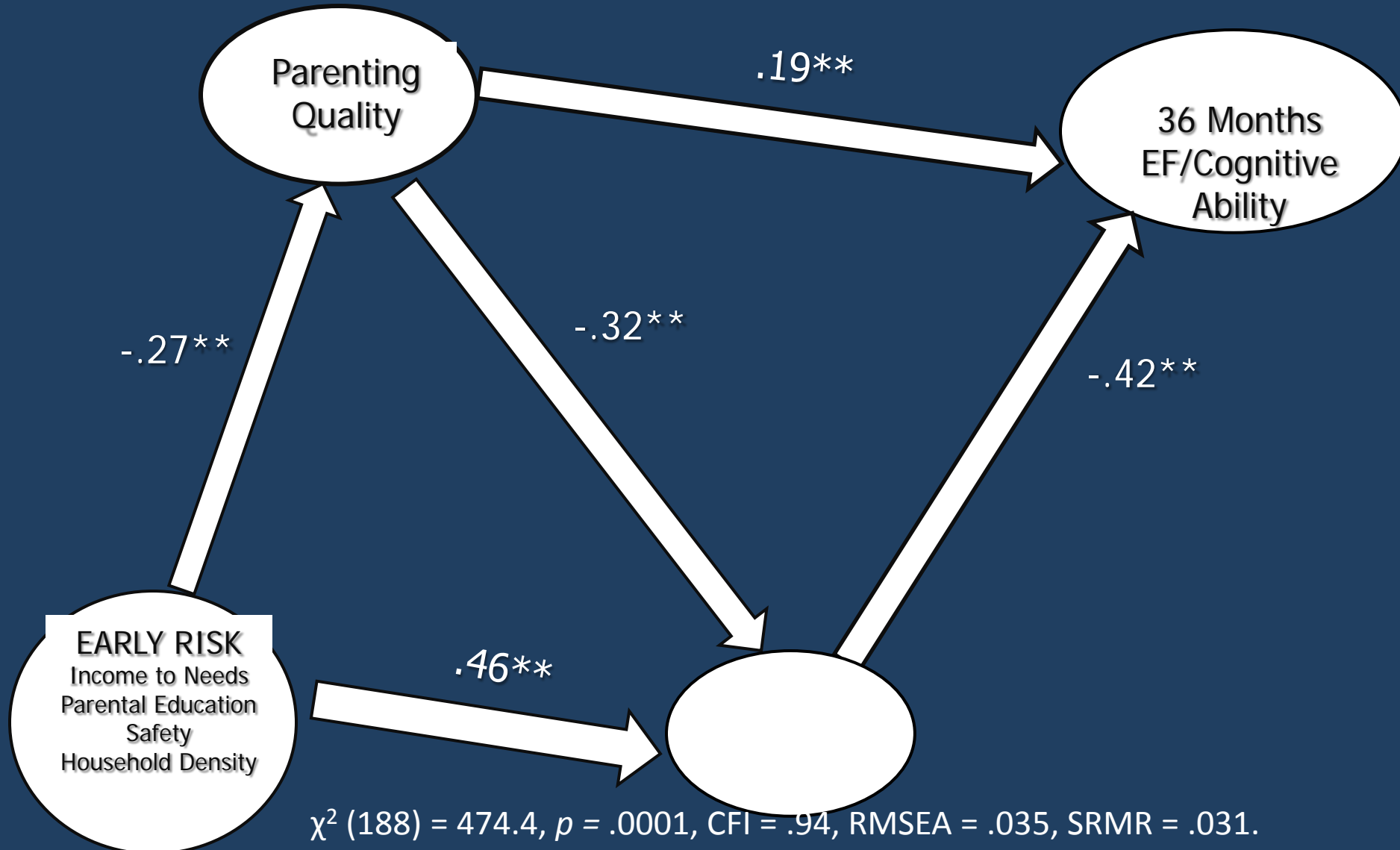
Executive Functions assessed with a new longitudinal battery at 36, 48, 60 months - Willoughby, M., Blair, C., Wirth, R. J., Greenberg, M. T. and the Family Life Project Investigators (2010). The Measurement of executive function at age 3: Psychometric properties and criterion validity of a new battery of tasks. *Psychological Assessment*, 22, 306-317.

Executive Function Development

36 month model



Family Life Project – How Does Risk Get Under the Skin???

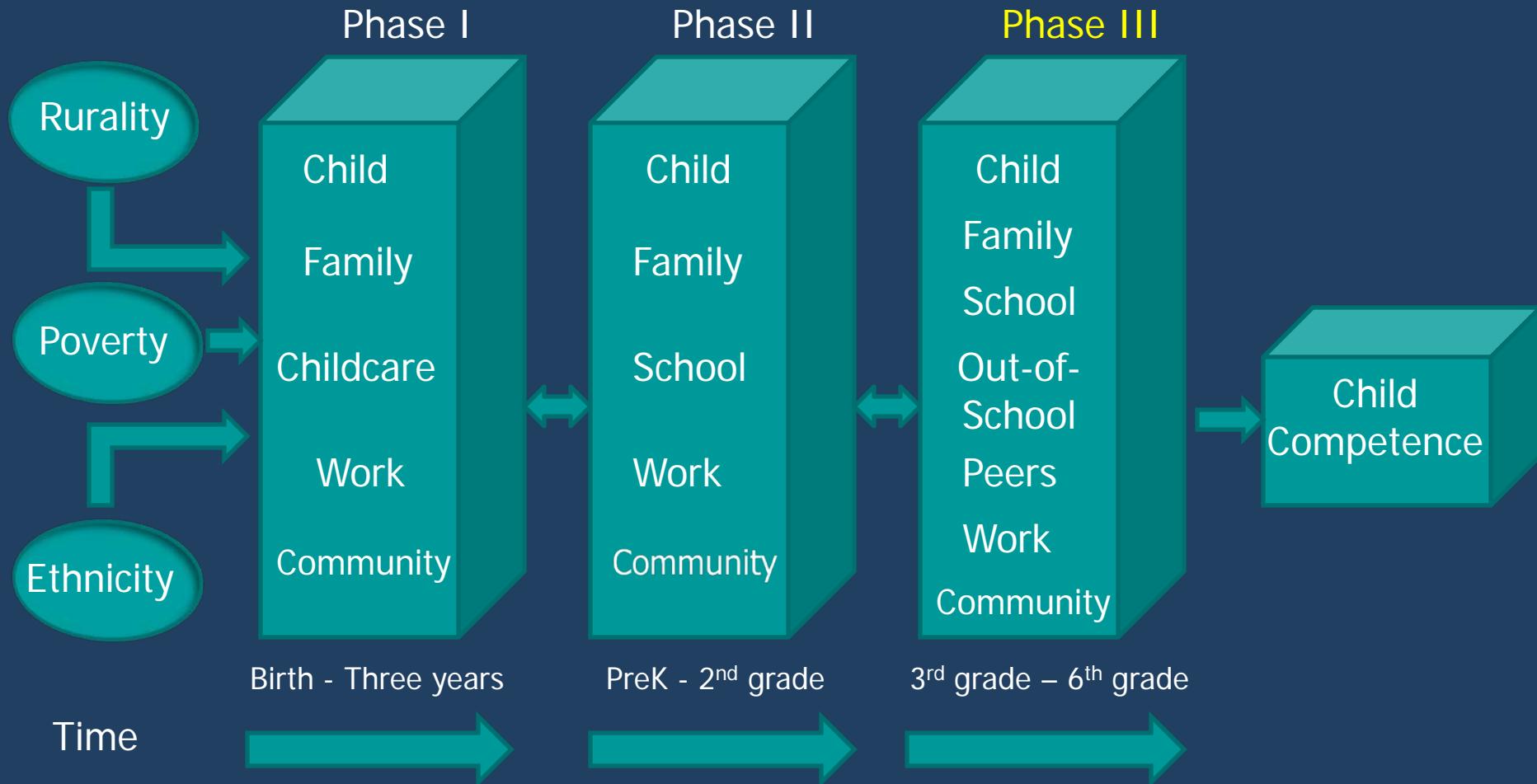


How does Family/Ecological Risk Get under the Skin?

In Rural Communities with Substantial Poverty:

- Early Risk (especially maternal education and length of time in poverty in early development) is affecting Cognitive Development
- This is mediated by quality of parenting and changes in early stress reactivity
- Both parenting and stress reactivity then influence EF and early achievement

Transactional Framework



Prevention of Violence and Promotion of Social-Emotional Development in Rural Schools

- Rates of School Violence are somewhat lower in rural areas
- School Dropout is a major issue in many rural areas
- In general, Prevention programs have been proven to have similar effects on aggression, violence, and substance use



“In theory there is no difference between theory and practice; in practice, there is.”

Yogi Berra



- When implementation does occur, it is often easier in rural areas because it is more possible to
 - implement with quality
 - Sustain over time

Due to

- 1. less competing agendas*
- 2. stability in staff leadership*



Rural School Challenges

- Rural schools often have limited funds to initiate new programs
- Rural schools often have less access to up-to-date information on prevention
- Rural schools have fewer agencies, NGOs, to provide support



Conclusions

- Rural poor children enter school at risk – stress has gotten under their skin and impacts learning and self-regulation
- Early interventions (home visiting and quality preschool) can impact readiness to learn
- Rural schools need support/ongoing TA in order to implement EBIs to improve self-regulation and reduce risk for adolescent problem behaviors
- Rural schools can be centers for youth and family well-being if they partner effectively with traditional community services (e.g., Cooperative Extension, County services, faith-based groups, etc)

Basic Research Needs

- There is a need for integrated research projects that focus on how early self-regulation (genetic, biological and social) influence learning and trajectories toward adolescent problem behaviors in rural children.
 - These studies should integrate community social and health epidemiology, quality of schooling, and family processes in understanding health and social outcomes in rural population
 - We need to better understand how social class and racial stratification, discrimination and stigma affect life trajectories of rural youth as they move into adolescence and young adulthood

Prevention Research Needs

There is a need for:

- Preventive interventions that focus on issues particular to rural communities and specific rural populations (school dropout, drinking and driving, etc).
- Testing new models of delivery for rural populations that use distance learning technologies for both schools and for families.
- There is a need for focused translational research centers that specialize in the delivery, financing and sustainability of evidence-based interventions for rural schools and communities