

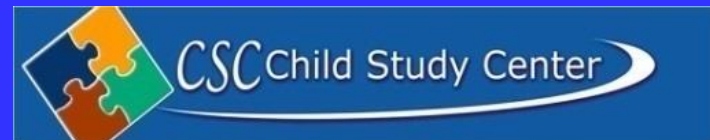
Enhancing the School Success of Children from Low-Income Families: The REDI Parent Program



Karen L. Bierman and the REDI Team

The Pennsylvania State University

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Acknowledgments

Funding: The National Institute of Child Health and Human Development

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Appreciation is expressed to:

Gloria Rhule and Julie Gest, intervention supervisors

Participating teachers, parents, and children

Head Start partners in Blair, Huntingdon, and York counties

Participating school districts

Our REDI Experience

- In 2003, we started working with Head Start classrooms to support teachers and improve daily classroom programming (REDI-C Program)
- After one year of preschool support, we documented important benefits in areas of child social-emotional and language-literacy skill development.
- But, disappointingly, some of these benefits (particularly on language-literacy skills) faded as children entered elementary school.

Preschool-based Enrichments: Fade out and Catch Up

- Enriching the quality of preschool programs can boost child school readiness.
- Intervention effects often fade after children transition into elementary school, as the pace of their growth slows and as other children catch up.



How to Sustain Support for Children?

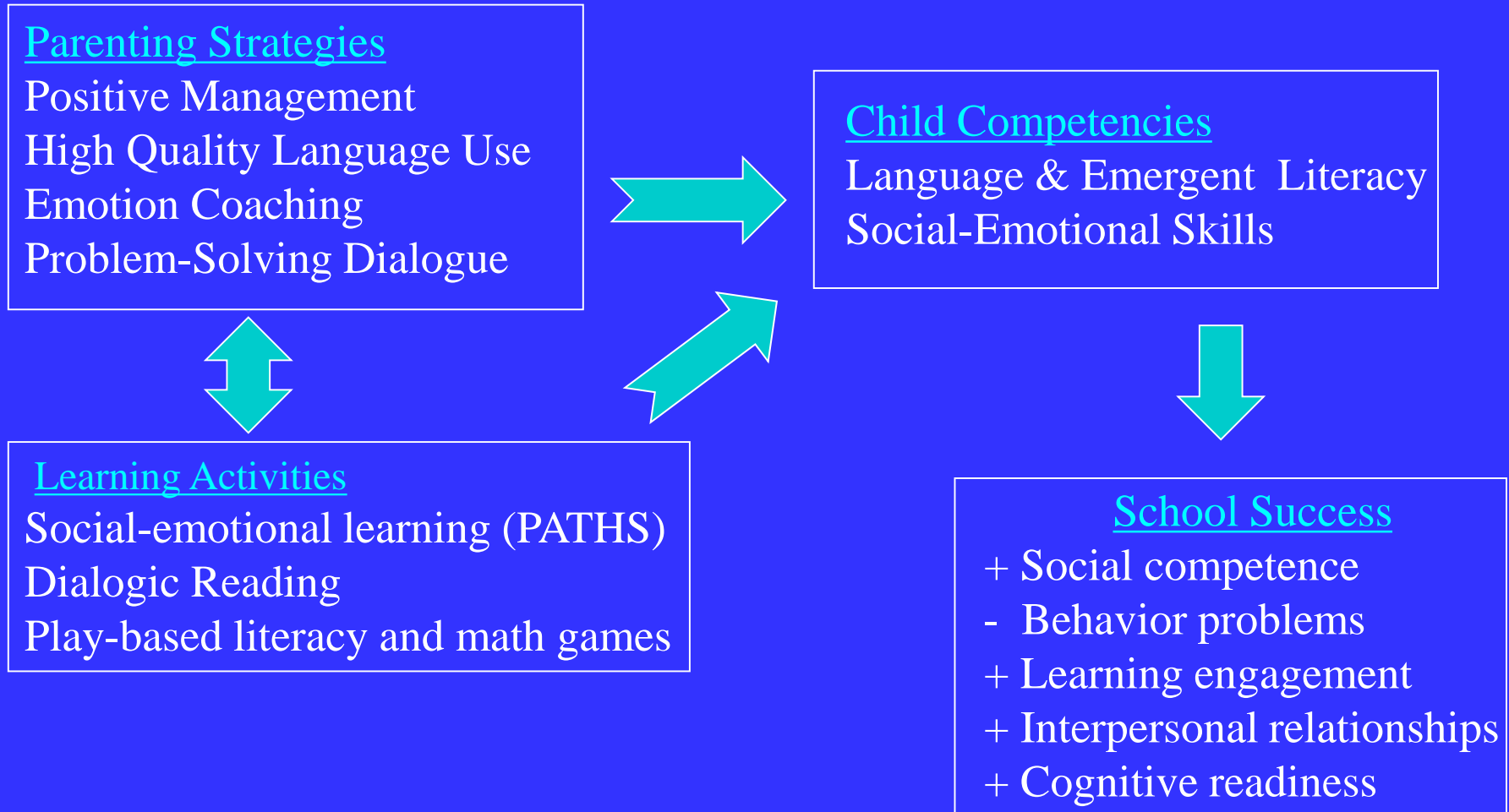


Engage parents!

- Extend REDI from the classroom to the home, giving parents support to enrich their daily programming to boost child social-emotional & language-literacy skill development.
- Cover the transition gap and empower parents to support children as they enter and progress through elementary school

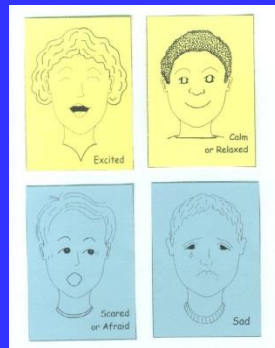
10 home visits during Head Start; 6 “booster” visits in kindergarten

REDI-P Logic Model



REDI-P Activity Boxes and Home Learning Curriculum:

- 1) Scripted books to support interactive reading and parent-child conversation
- 2) Games to practice letter learning, writing, sound identification, and counting (e.g., playing restaurant; post office).
- 3) PATHS activities, such as feeling face games and character stories to promote social-emotional learning and self-regulation.

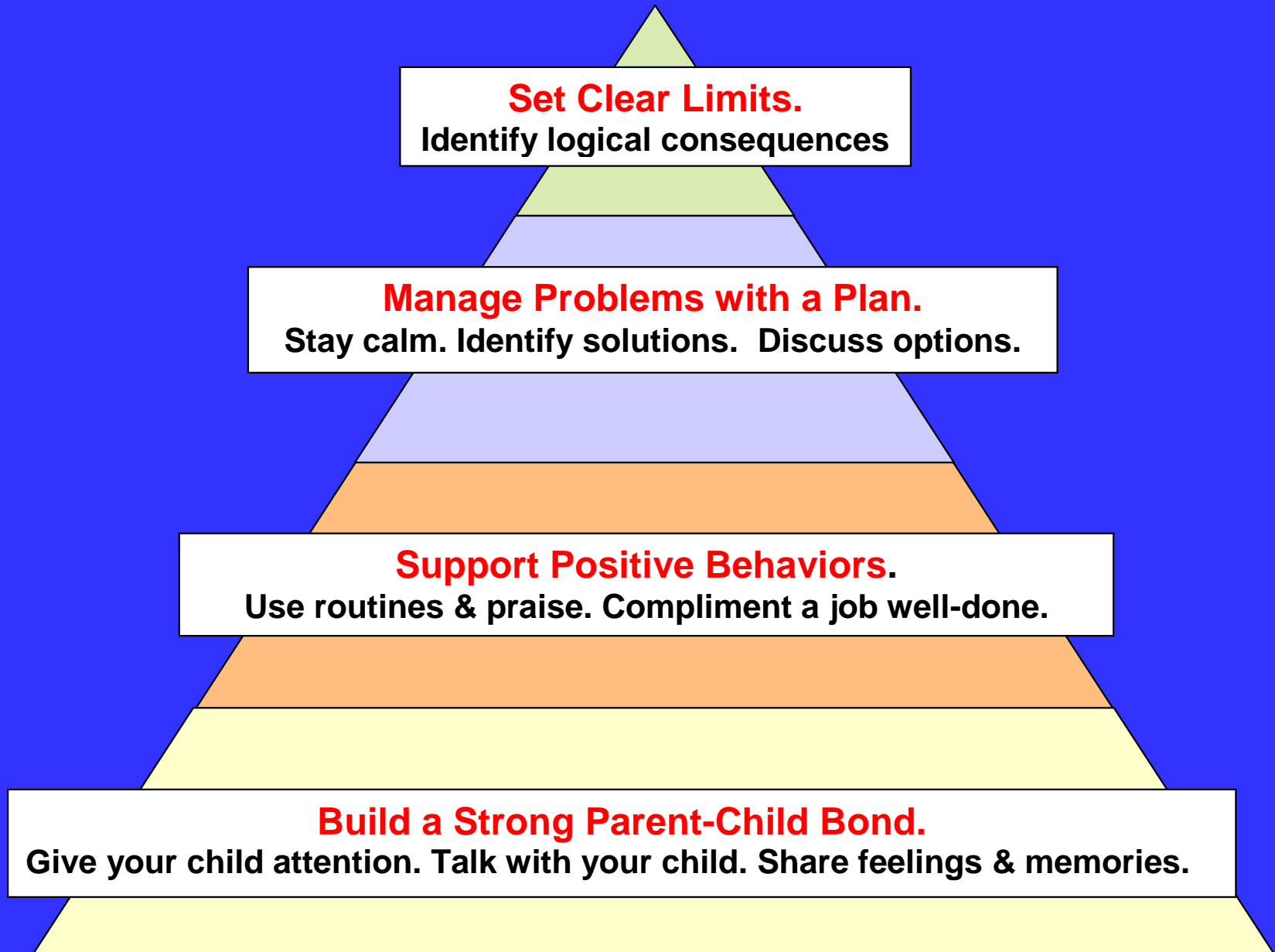


Coaching in REDI Parenting Strategies



- Providing positive support – warm involvement and positive limit-setting
- Emotion coaching - modeling feeling talk, reflecting feelings, supporting self-control
- Conversation - questions, active listening
- Planning and problem-solving dialogue.

REDI Program: Positive Parenting Pyramid



Components Focused on Promoting Change in Parenting Skills and Behaviors

- ***Goal-setting and self-reflection activities.***

Each session starts with a “check-in” that allows parents to reflect on their recent experiences and use of the program activities; each session ends with goal-setting

- ***Personal video-tape interaction review.***

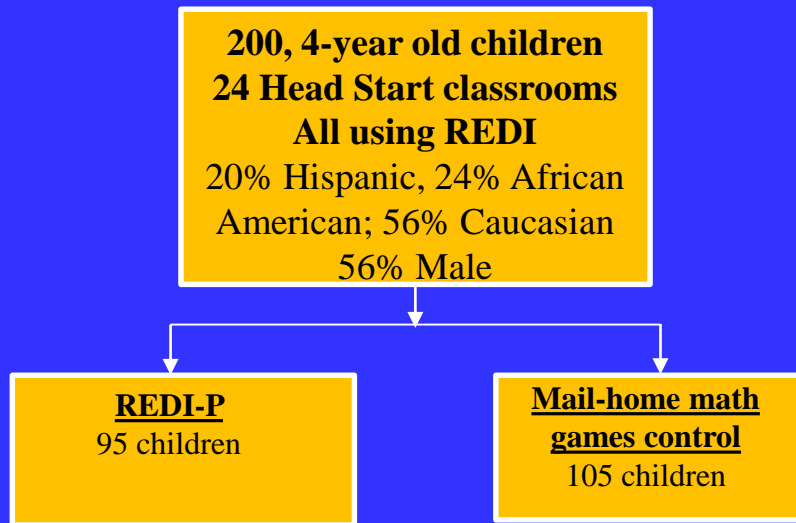
Reviews of parent-child interaction

videotapes occur three times during the program

- ***Personalized program memory book.***



REDI-P Evaluation: RCT Design

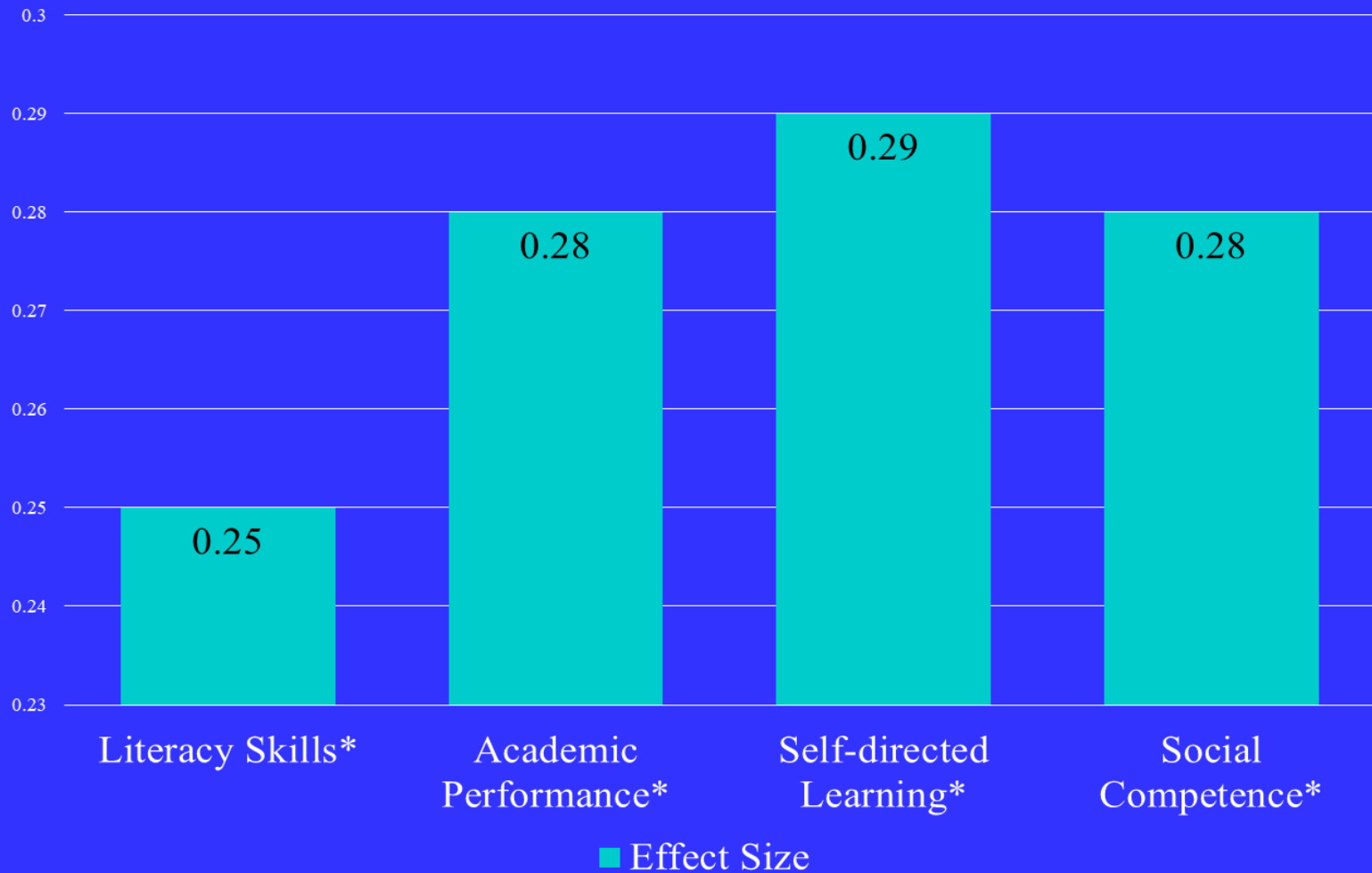


- All Head Start classrooms used REDI-C
- Children randomized to receive REDI-P or mail-home math games
- Assessments at beginning of pre-k and end of kindergarten; follow-up in third grade



REDI-P Kindergarten Outcomes

All children received the REDI classroom program; these are *additional* effects



Bierman, K.L., Welsh, J., Heinrichs, B.S., Nix, R.L., & Mathis, E.T. (2015). Helping Head Start parents promote their children's kindergarten adjustment: The REDI parent program. *Child Development*, 86, 1877-1891.

REDI-P Effects on Growth in EF Skills

In growth models from kindergarten through grade 3, REDI-P promoted accelerated growth and significantly higher grade 3 scores on:

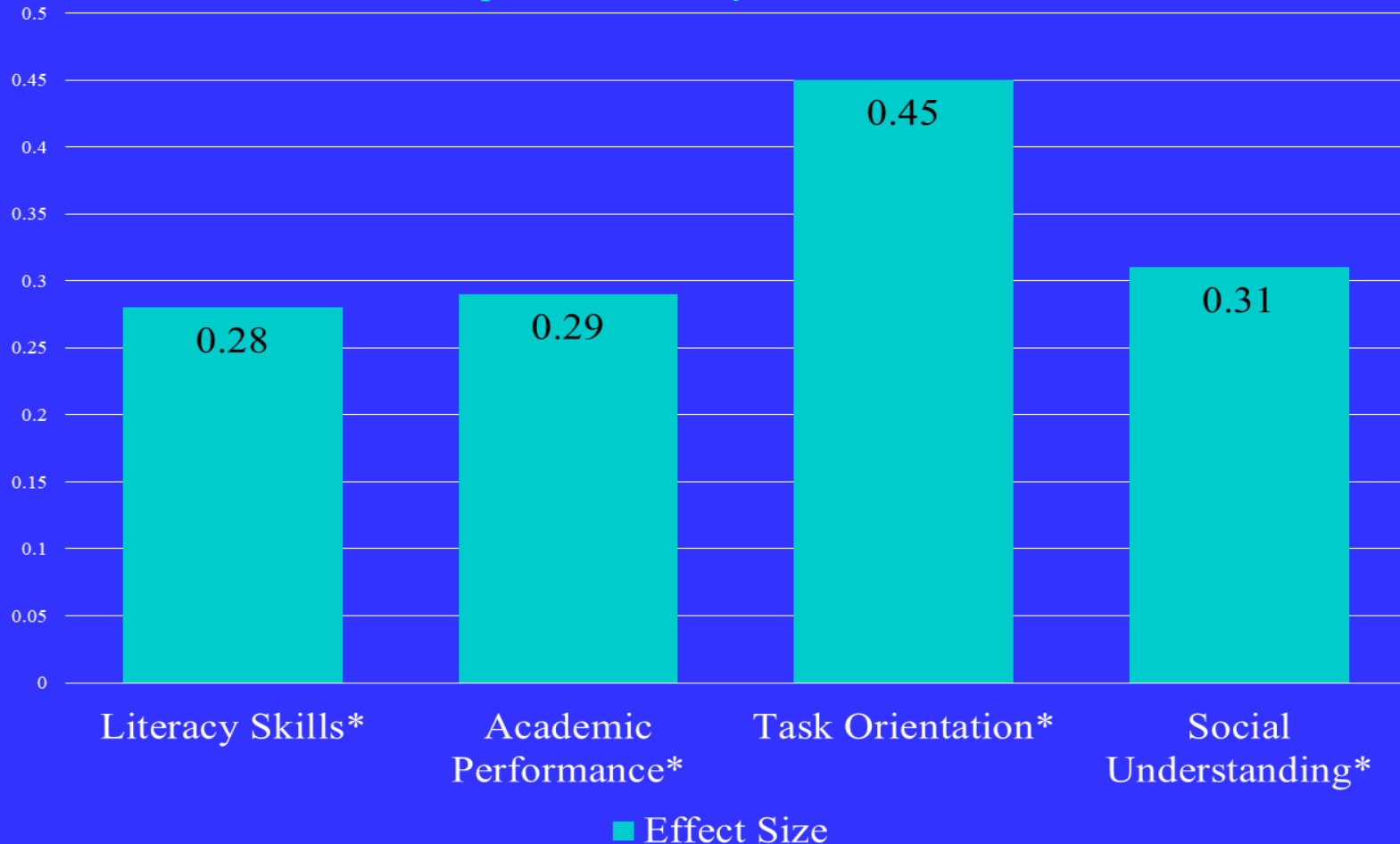
Working memory (Backward word span)

Inhibitory control (Walk-a-line slowly task)

Loughlin-Presnal, J. (2018). Do gains in executive functions support sustained intervention effects in a home and preschool-based school readiness intervention? Unpublished Dissertation, The Pennsylvania State University

REDI-P Grade 3 Sustained Effects

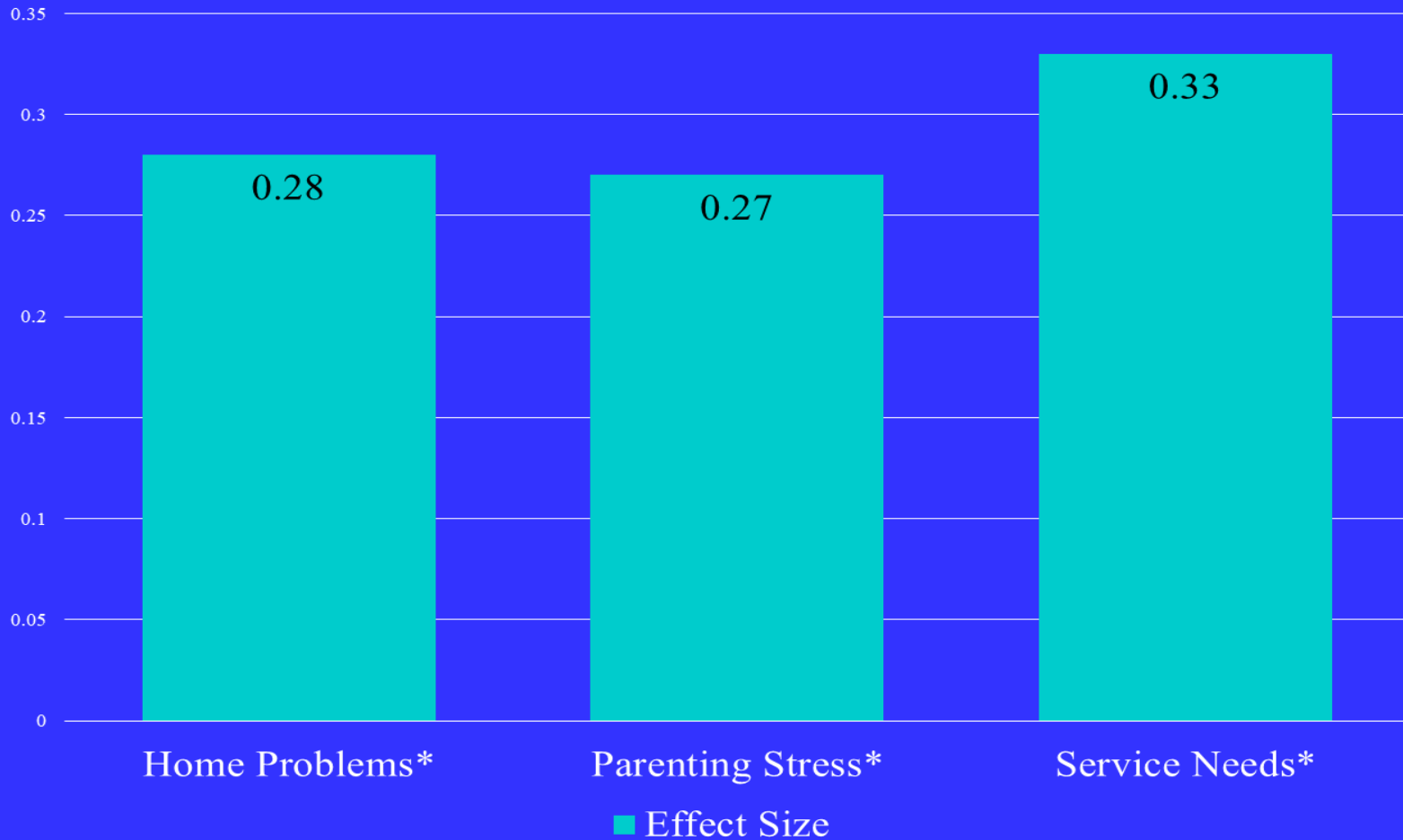
Follow-up assessments 4 years after intervention



Bierman, K.L., Welsh, J.A., Heinrichs, B.S., & Nix, R.L. (2018). Effect of preschool home visiting on school readiness and need for services in elementary school: A randomized clinical trial. *JAMA Pediatrics*, 172(8), e181029.

REDI-P Grade 3 New Effects

Follow-up assessments 4 years after intervention



Bierman, K.L., Welsh, J.A., Heinrichs, B.S., & Nix, R.L. (2018). Effect of preschool home visiting on school readiness and need for services in elementary school: A randomized clinical trial. *JAMA Pediatrics*, 172(8), e181029.

Implications

- REDI-P produced significant benefits across academic and social-emotional domains for children that were sustained through third grade.
- Additional benefits for families were evident by third grade.
- But, it is a fairly costly program and challenging to scale.
- Next step: Understand more about how the intervention worked to inform program refinements.

Exploring How REDI-P Worked

- Take a look at how different families engaged during the intervention and what aspects of intervention engagement seemed to produce child outcomes.

Dimensions of Parent Engagement

- Program attendance (dose): On average, parents completed 12 of 16 visits (SD = 5.48, range = 0 – 16).
 - ◆ In Head Start: 80% completed 8-10 visits.
 - ◆ In kindergarten: 65% completed 5-6 visits.
 - ◆ 13% participated minimally (0-3 visits).
- Participation quality: Each session, home visitors rated:
 - ◆ the working alliance (parent understanding of and interest in the program, openness to consultation)
 - ◆ use of home learning activities

Predictors of Parent Engagement

Family Characteristics	Dose	Alliance	Home Activities
Single-Parent Household	-.07	-.20	-.30**
Parent Education	.18	.24*	.15
Parent Employment	-.09	.06	.08
Parent Depression	-.16	-.11	-.22*
Parent-Child Warmth	.06	.37**	.30**
Child Characteristics			
Emergent Literacy Skills	-.08	.02	0.18
Behavior problems - Parent	-.02	-.21*	-.033**
Behavior problems-Teacher	.06	-.24*	-.034**

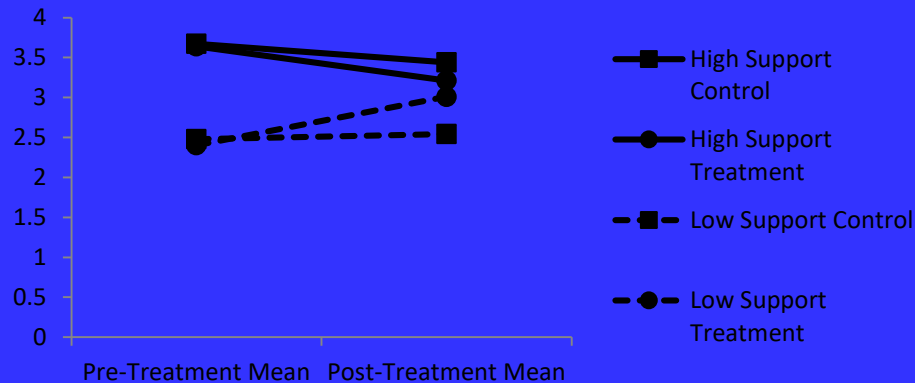
Nix, R.L., Bierman, K.L., Motamedi, M., Heinrichs, B.S., & Gill, S. (2018). Parent engagement in an enriched Head Start home visiting program: Predictors and associations with child outcomes. *Early Childhood Research Quarterly*, 45, 106-114.

Correlations Between Parent Engagement And Child Outcomes

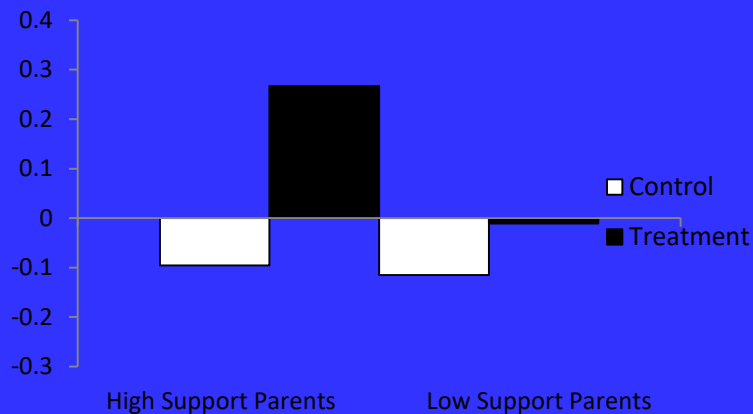
	Literacy Skills	Attention Skills	Home Behavior	School Behavior
Kindergarten Outcomes				
Intervention Attendance (Dose)	-.10	.03	.11	-.05
Working Alliance	.14	.21	.29**	.18
Use of Home Activities	.32**	.29**	.50***	.22*
Second Grade Outcomes				
Intervention Attendance (Dose)	-.09	.06	.05	.14
Working Alliance	.19	.33**	.24*	.47***
Use of Home Activities	.19	.33**	.34**	.32**

Nix, R.L., Bierman, K.L., Motamedi, M., Heinrichs, B.S., & Gill, S. (2018). Parent engagement in an enriched Head Start home visiting program: Predictors and associations with child outcomes. *Early Childhood Research Quarterly, 45*, 106-114.

Parents with Low vs. High Warmth at Baseline Made Different Gains in REDI-P



Parents with low levels of initial warmth were most likely to improve in parenting warmth



Parents with high levels of initial warmth were most likely to effectively teach their children literacy skills

Mathis, E.T., & Bierman, K.L., (2015). Effects of parent and child pre-intervention characteristics on child skill acquisition during a school readiness intervention. *Early Childhood Research Quarterly*, 33, 87-97.

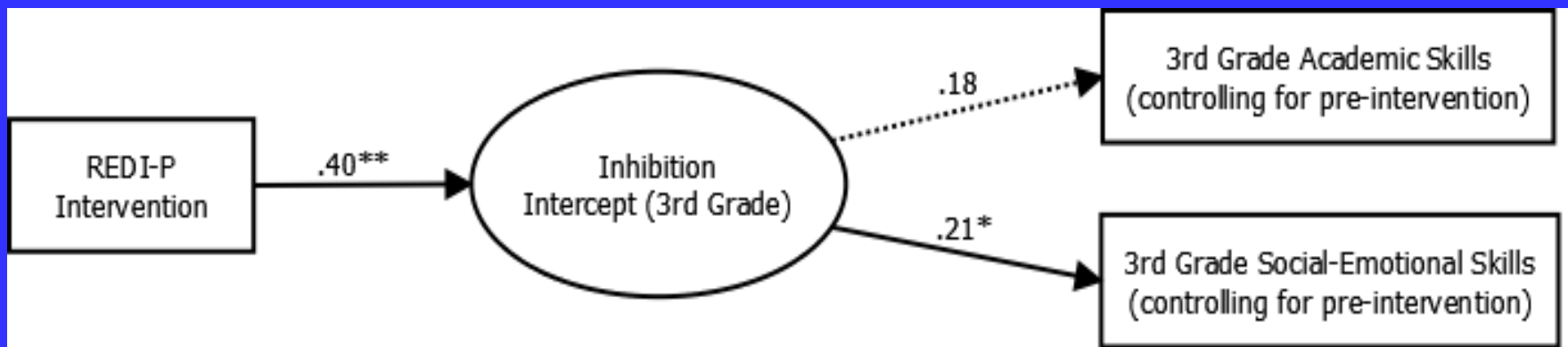
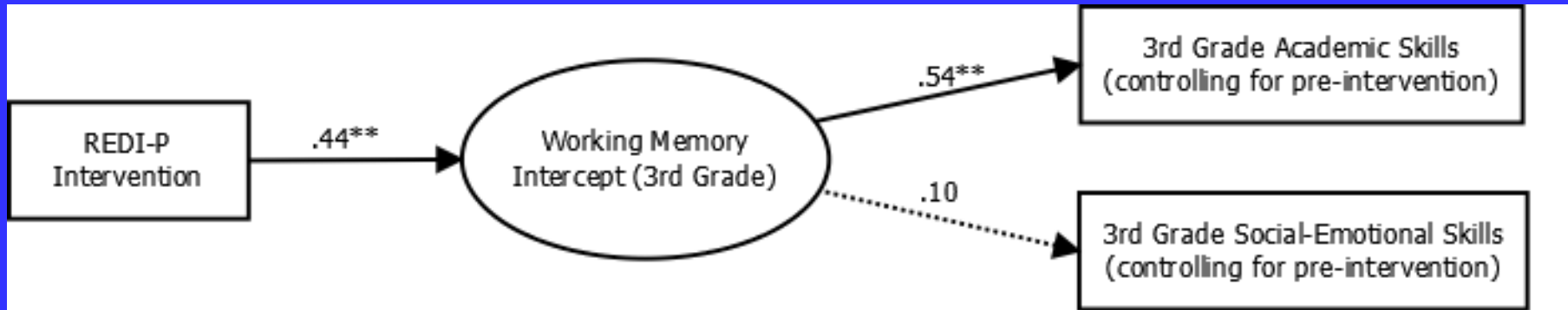
Implications of Engagement Data

- Using home activities was an important predictor of initial child outcomes
- Openness to and understanding of program content (along with use of home activities) predicted sustained child outcomes
- Lower parental warmth and heightened child problems reduced these aspects of engagement
 - ◆ Although low-warmth parents improved, they were not as effective teachers for their children

Exploring How REDI-P Worked

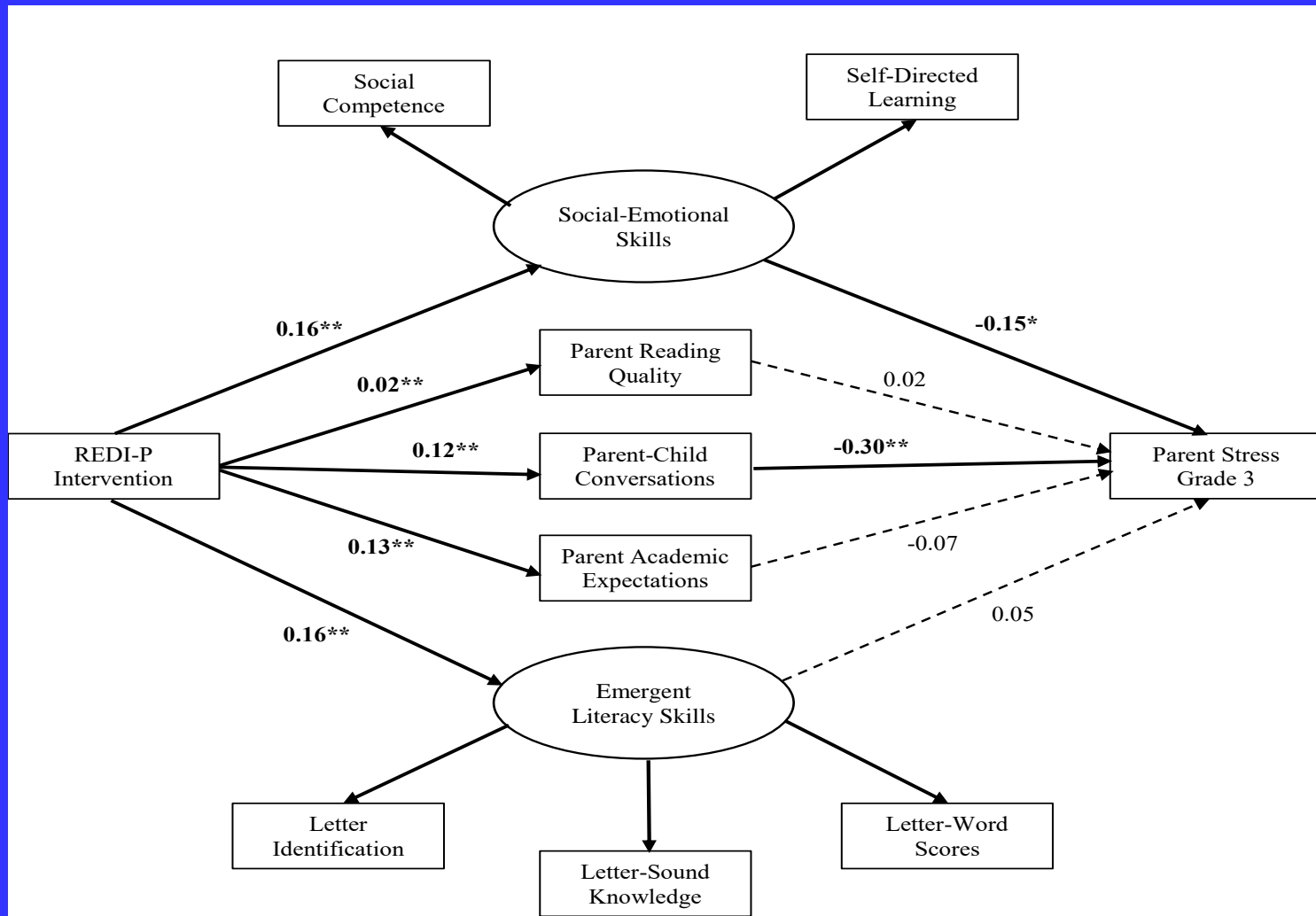
- Take a look at which initial effects supported sustained gains.

Mediation Model for Sustained Academic Benefits



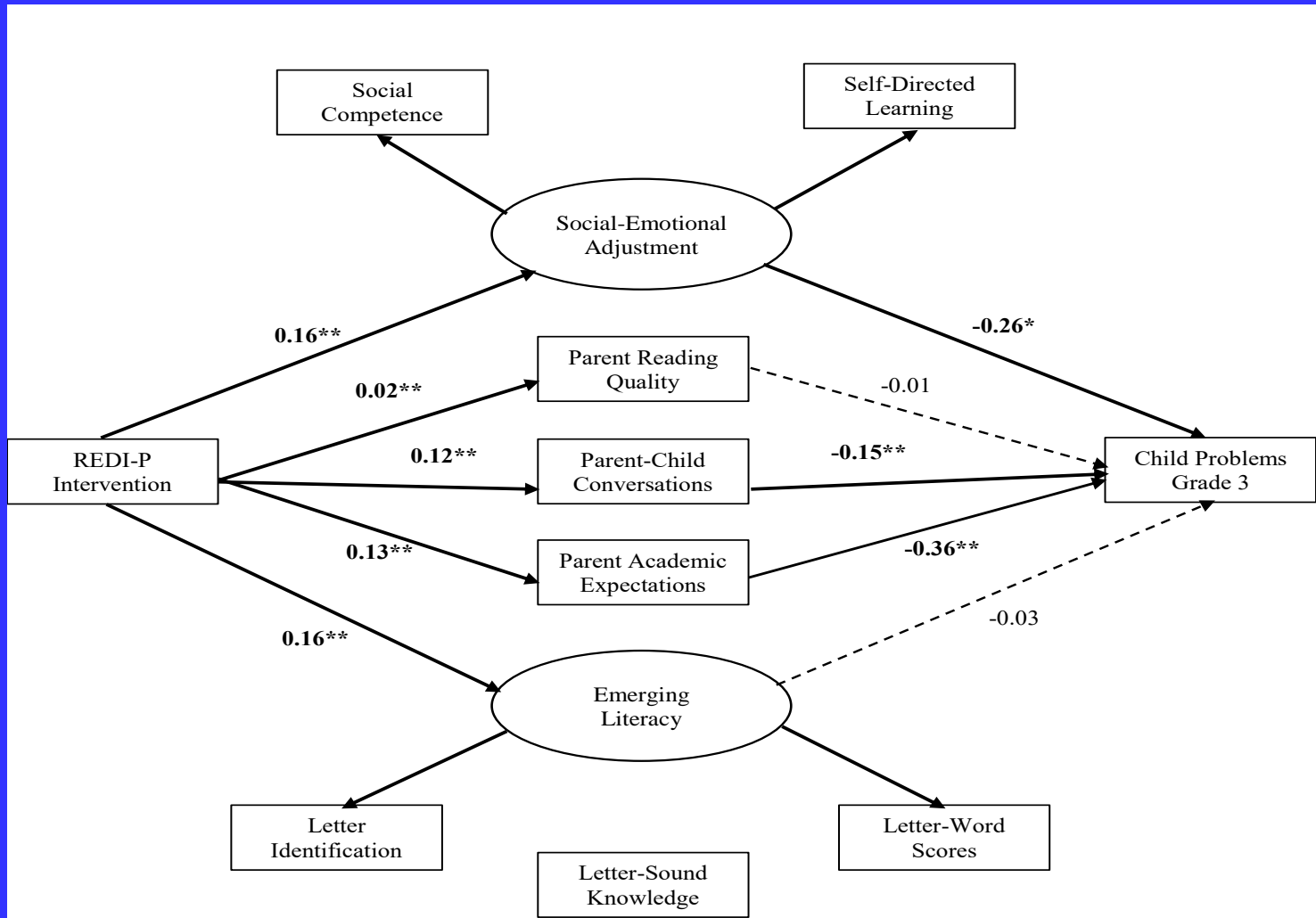
Note: REDI-P promoted faster growth in working memory from The upper model shows the effect of intervention on reducing child services. The lower model shows the mediation model, as intervention effects in all three domains mediated the reduced need for child services (Loughlin-Presnal, 2018)

Mediation Model for Reduced Parenting Stress



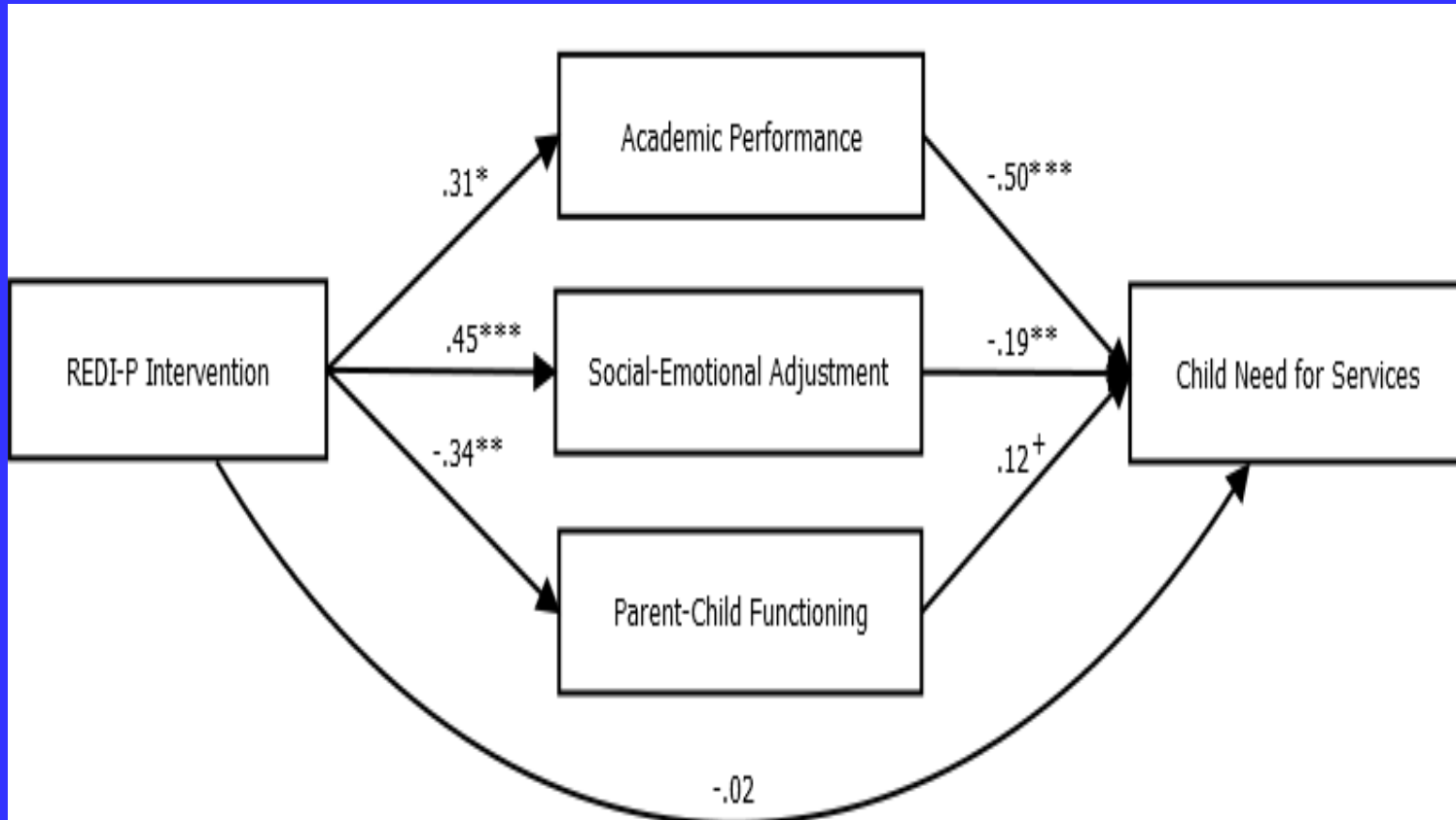
Bierman, K.L., McDoniel, M.E. & Loughlin-Presnal, J.E. (2019). How a preschool parent intervention produced later benefits: A longitudinal mediation analysis. (Manuscript under review)

Mediation Model for Reduced Child Problems at Home



Bierman, K.L., McDoniel, M.E. & Loughlin-Presnal, J.E. (2019). How a preschool parent intervention produced later benefits: A longitudinal mediation analysis. (Manuscript under review)

Mediation Model for Service Needs



Bierman, K.L., Welsh, J.A., Heinrichs, B.S., & Nix, R.L. (2018). Effect of preschool home visiting on school readiness and need for services in elementary school: A randomized clinical trial. *JAMA Pediatrics*, 172(8), e181029.

Discussion

- What components of REDI-P seemed most important?
 - ◆ A focus on social-emotional skills
 - ◆ A focus on parent-child conversations
 - ◆ Provision of literacy-based home learning activities
 - ◆ Parent guidance and support
- Who benefitted more?
 - ◆ Families who used the home learning activities
 - ◆ Families who embraced the intervention.
- Who struggled with this intervention?
 - ◆ Families with strained parent-child relationships and difficulties managing behavior

Implications and Challenges

- Scaling a program like REDI-P will require some adjustments.
- A important question is whether many families could use these kind of program materials and input without extensive home visiting.
- For families who find it difficult to use these kinds of program materials, more extensive support is likely needed focused first on relationship-building and positive behavioral support
- An additional question is the role of REDI-C alignment in the effects of REDI-P

Questions and Comments

