

# Early Childhood Intervention Practices That Matter Most: What Research Tells Us for Getting the Best Results for Children and Their Families

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## Evidence-Informed Early Childhood Intervention

- 50+ years of research has identified many of the intrafamily and extrafamily factors that account for variations in child, parent, and family behavior and development
- Different bodies of research now provide the foundations for a particular set of early childhood intervention practices that matter most for optimizing child, parent, and family outcomes
- The research and associated practices, taken together, are framed in an ecological model with intervention practices at different levels of systems influences (Bronfenbrenner, 1979).

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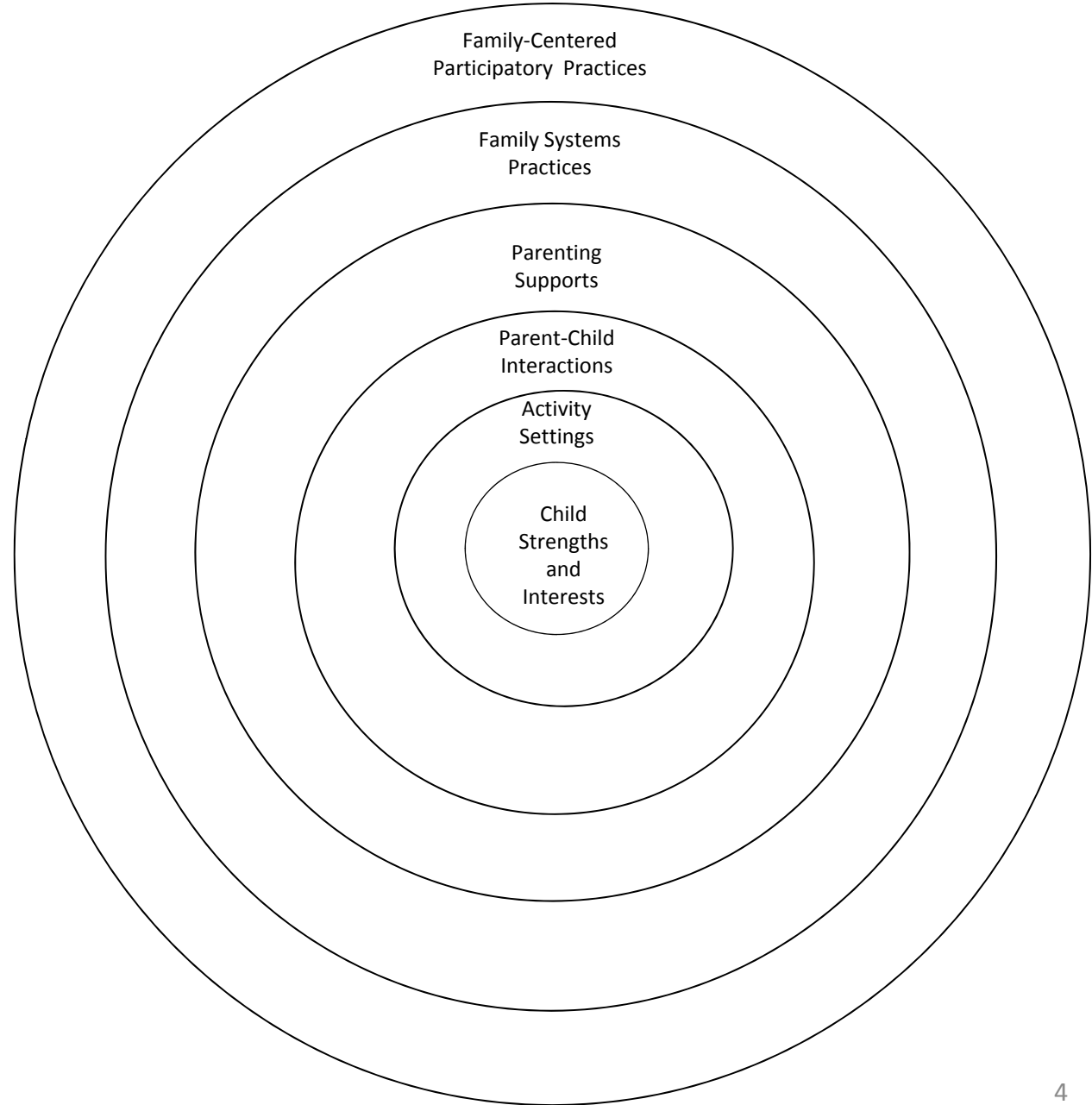
Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

## Practices That Matter Most

- Child strengths and interests as the building blocks for child learning and development
- Everyday activity settings as the context for child functional learning and development
- Parent (adult)-child interactions as the context for promoting and strengthening child and parent competence and confidence
- Parenting supports that provide parents the time, energy, and opportunities to carry-out parenting roles and responsibilities
- Family systems practices that promote and strengthen parents' abilities to obtain needed child, parent, and family supports and resources
- Family-centered participatory practices used by early childhood practitioners to support and strengthen parent and family functioning in ways having capacity-building consequences

**Evidence-Informed  
ECI Practices**

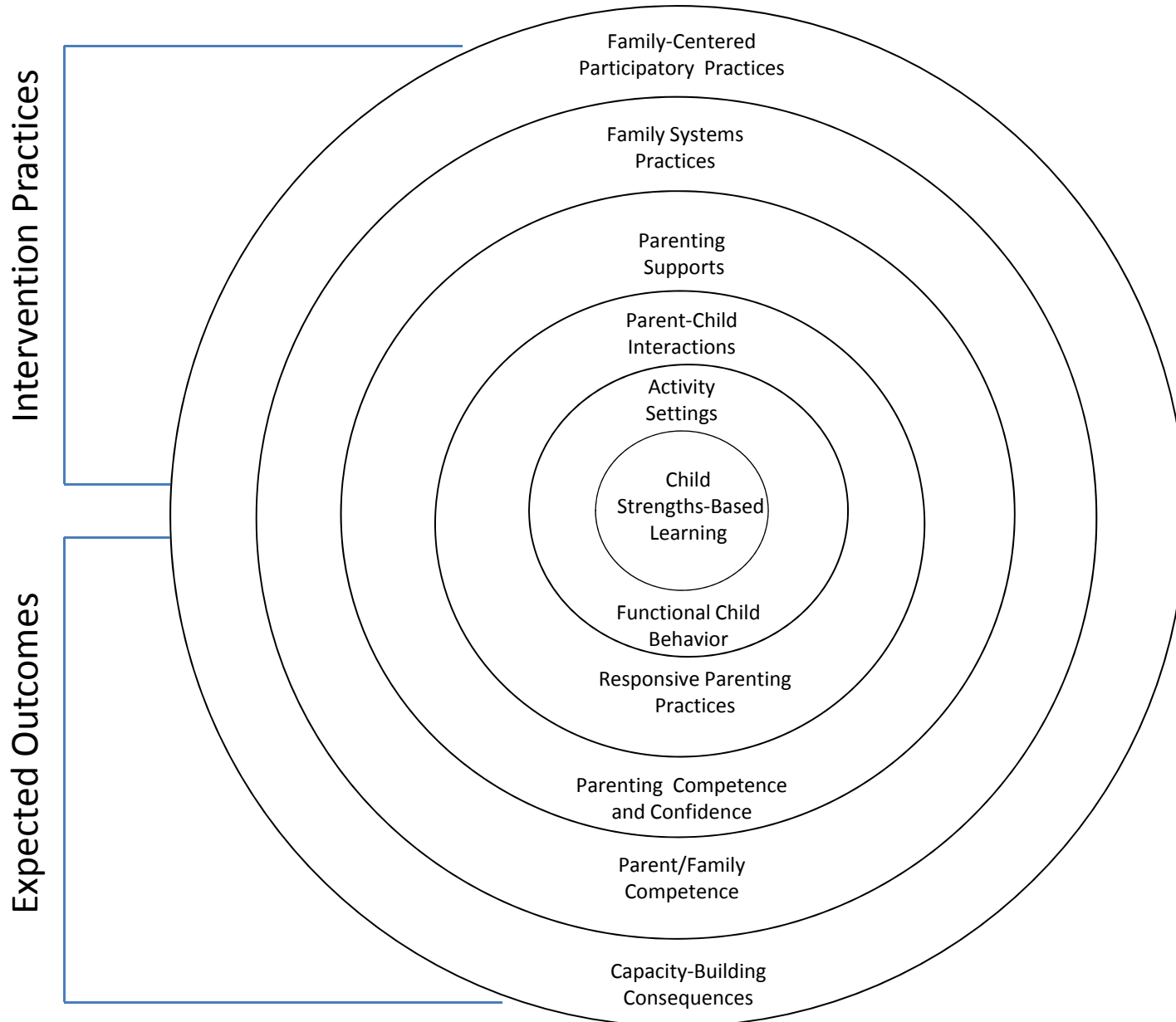
The six practices are conceptualized as a set of embedded sources of influences where interventions at any level have direct and indirect influences on changes in other levels



## Intended Benefits of the Six Practices

Strengths-Based Child Practices	→	Enhanced Child Learning
Activity Settings as Sources of Child Learning	→	Functional Child Behavior
Parent-Child Interactions	→	Responsive Parenting
Parenting Supports	→	Parent Competence/Confidence
Family Systems Practices	→	Family Member Competence
Family-Centered Participatory Practices	→	Capacity-Building Consequences

## Relationship Between the Intervention Practices and Expected Benefits



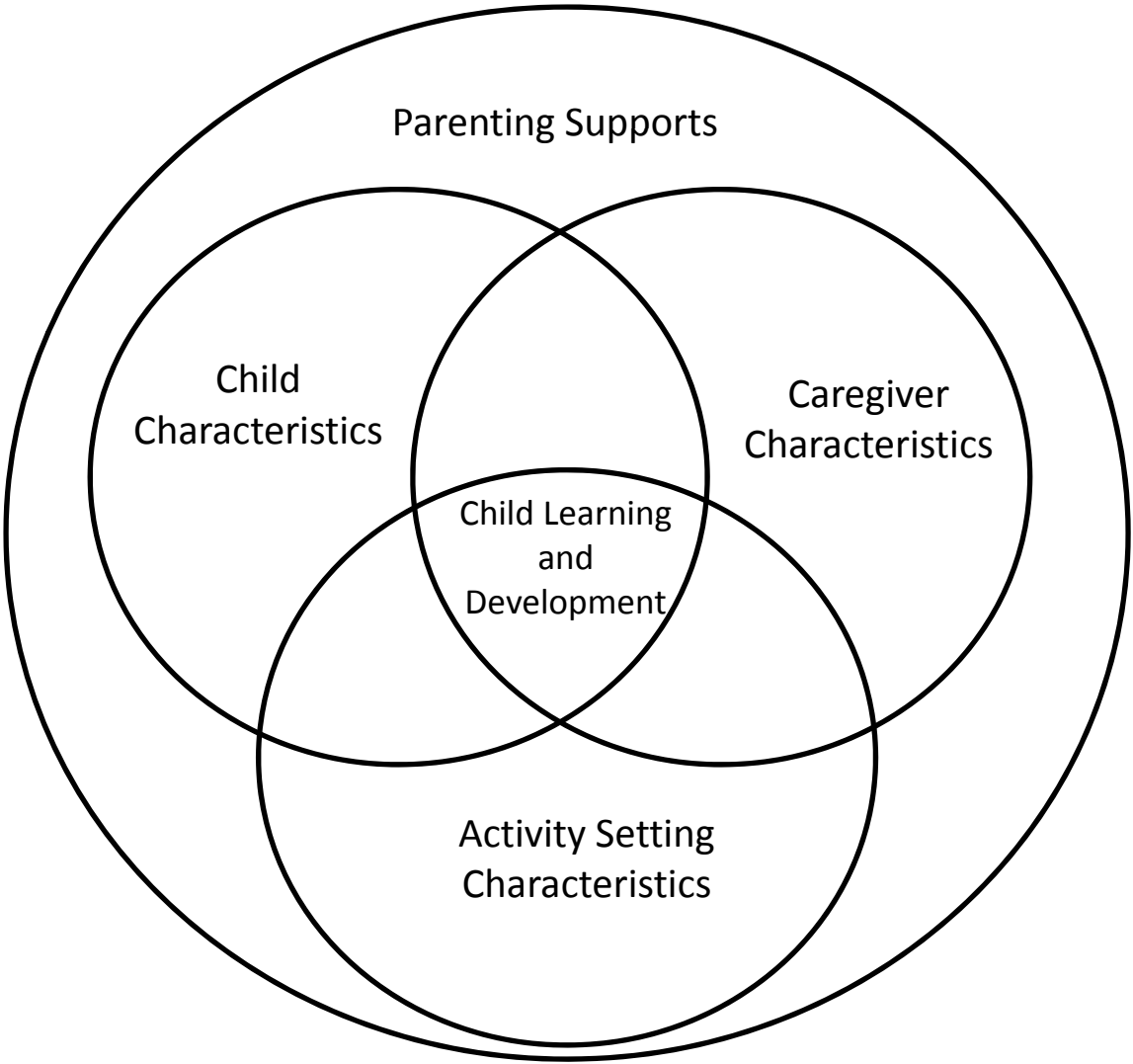
## Framework for Conceptualizing Child Learning and Development

According to Bronfenbrenner (1993), “The ***personal characteristics*** likely to be most potent in affecting the course...of development...(include) those that set in motion, sustain, and encourage processes of interaction between the [developing] person and two aspects of the ***proximal environment***: first, the ***people present*** in the setting; and second, the ***physical and symbolic features*** of the setting that invite, permit, or inhibit engagement in sustained, progressively more complex interactions with an activity in the immediate environment.” (p. 11, emphasis added)

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Bronfenbrenner, U. (1993). The ecology of cognitive development: Research models and fugitive findings. In R. H. Wozniak & K. W. Fisher (Eds.), *Development in context: Acting and thinking in specific environments* (pp. 43-44). Hillsdale, NJ: Erlbaum.

# Framework for Conceptualizing the Sources of Influence on Child Learning and Development





## Examples of Factors Influencing Child Learning and Development

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Microsystem Influences	Development-Enhancing Characteristics
Child Characteristics	Child temperament, <b>child personal interests</b> , <b>child strengths</b> , severity of child delay, type of child disability
Activity Setting Characteristics	Geography (activity locations), <b>types of everyday activities</b> , <b>situationally interesting activities</b> , material availability, activity setting features
Caregiver Characteristics	Cultural beliefs and values, parenting beliefs and attitudes, <b>caregiver interactional styles</b> , acculturation and enculturation

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Wachs, T. D. (2000). *Necessary but not sufficient: The respective roles of single and multiple influences on individual development*. Washington, DC: American Psychological Association.

## Everyday Activity Settings as Sources of Child Learning and Development

- Activity settings are made up of everyday experiences rather than a deliberate curriculum [that contain] ordinary settings in which children's social [and nonsocial] interaction and behavior occur. They are the who, what, where, when, and why of daily life (Farver, 1999, p. 102).
- The different terms used to describe everyday activities include routines, rituals, daily occupations, activities of daily living, natural environments, and activity settings. Activity settings or everyday activities are the preferred terms for describing contextually based everyday child learning because they encompass routines, rituals, celebrations, natural environments, and other settings, places, and locations where child learning occurs.

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Farver, J. A. M. (1999). Activity setting analysis: A model for examining the role of culture in development. In A. Göncü (Ed.), *Children's engagement in the world: Sociocultural perspectives* (pp. 99-127). Cambridge, England: Cambridge University Press.











## Contrasting Approaches to Everyday Child Learning

- Findings from research on infants' participation in everyday activity were used to estimate that if a child experienced only five activities everyday where each provide just three learning opportunities this would mean more than 3,000 learning opportunities per year compared to less than 150 for once a week therapy sessions (Dunst, 2007).
- Comparisons of two different approaches to young children's natural environment interventions found that using everyday activities as sources of child learning opportunities resulted in 3 to 4 more learning opportunities per activity setting compared to implementing early intervention in everyday activities (Dunst et al., 2005).

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Dunst, C. J. (2007). Early intervention with infants and toddlers with developmental disabilities. In S. L. Odom, R. H. Horner, M. Snell, & J. Blacher (Eds.), *Handbook of developmental disabilities* (pp. 161-180). New York: Guilford Press.

Dunst, C. J., Bruder, M. B., Trivette, C. M., & Hamby, D. W. (2005). Young children's natural learning environments: Contrasting approaches to early childhood intervention indicate differential learning opportunities. *Psychological Reports, 96*, 231-234.



## Child Strengths and Interests as the Building Blocks for Child Learning and Development

Child strengths and interests are two of the many child personal characteristics that are likely to engage children in interactions with other people and the nonsocial environment

- Child strengths include knowledge and behavior a child possesses and uses to initiate interactions with other persons, the physical environment, and objects in everyday activity settings
- Child personal interests include a child's likes, preferences, favorites, etc. that encourage and sustain child engagement and participation in everyday activities

## Child Strengths-Based vs. Child Deficit-Based Interventions

**Purpose:** Compare the effectiveness of a strengths-based vs. deficit-based approach to contingency learning among children with significant developmental delays and disabilities

**Study Participants:** 69 infants, toddlers, and preschoolers 20 months of age on average functioning on average at 5 months of age

**Outcome Measures:** Six different measures of child learning opportunities, child response-contingent behavior, and learning efficiency

**Methodology:** Randomized controlled design study of children assigned to either type of intervention

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Raab, M., Dunst, C. J., & Hamby, D. W. (2016). Effectiveness of contrasting approaches to response-contingent learning among children with significant developmental delays and disabilities. *Research and Practice for Persons with Severe Disabilities, 41(1)*, 36-51.

## Two Types of Intervention

### ***Strengths-Based Practices***

An investigator-developed checklist was used to record the occurrence and frequency of child behavior, including, but not limited to, head, body, arm, leg, fist, and hand movements; vocalizations; and directed gaze and visual fixation but not used intentionally to produce reinforcing or interesting effects. Behavior that a child produced frequently or for considerable durations of time but not used intentionally were selected as intervention targets.

### ***Deficit-Based Practices***

The children in the deficit-based group were administered the birth to 3-year-old *Assessment, Evaluation and Programming Systems Scales* to identify missing skills operationalized as behavior at or just above the ceiling level in each domain on the scale. Results were used to select different child behavior in each domain as the intervention targets.

## Response-Contingent Learning Games

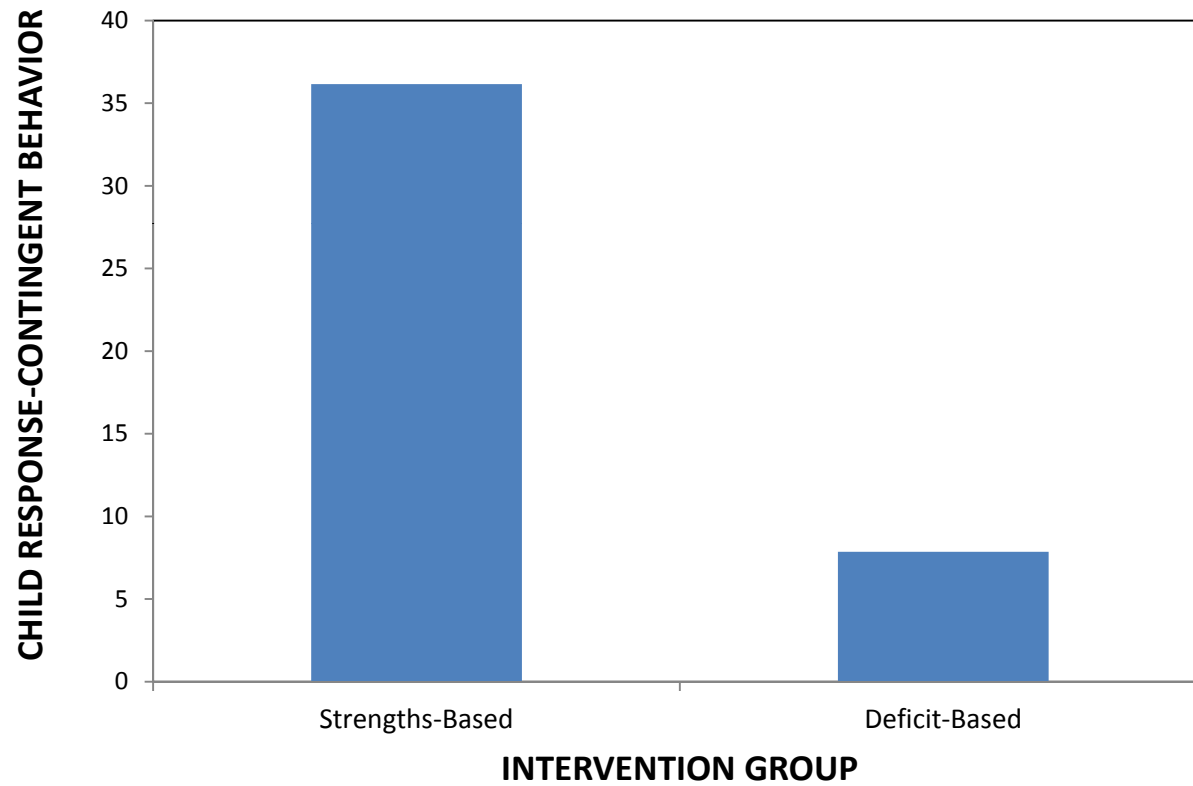
The same types of response-contingent learning games for children in both intervention groups were used to promote the children's use of targeted behavior to elicit or produce interesting or reinforcing consequences. Learning games included targeted operant behavior that either resulted in reinforcing consequences (e.g., swiping at a mobile producing movement or sound) or were reinforced by a caregiver (e.g., an adult talking to a child each time he or she looked at the adult's face).

## Main Results

After just 8 weeks of intervention, the strengths-based group outperformed the deficit-based group in terms of:

- Number of learning games played with the children
- Number of learning trials afforded the children
- Number of response-contingent behavior used to produce reinforcing consequences
- Average number of response-contingent behavior per game
- Efficiency of child learning opportunities (response-contingent behavior per number of learning trials)

## Average Number of Behavior Per Game



## Role of Children's Interests in Everyday Learning

- One child characteristic that has consistently emerged from research and practice as a person factor influencing everyday learning is a child's personal interests (preferences, choices, desires, likes, etc.)
- One activity setting characteristic that has consistently emerged as setting factor influencing children's everyday learning is the situationally-interesting features of everyday activity settings
- Incorporating either personal or situational interests into everyday child learning has been found to be associated with optimal child benefits

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Dunst, C. J., & Raab, M. (2012). Interest-based child participation in everyday learning activities. In N. M. Seel (Ed.), *Encyclopedia of the sciences of learning* (pp. 1621-1623). New York: Springer.



“Intense Engagement”





“Preferred Activities”

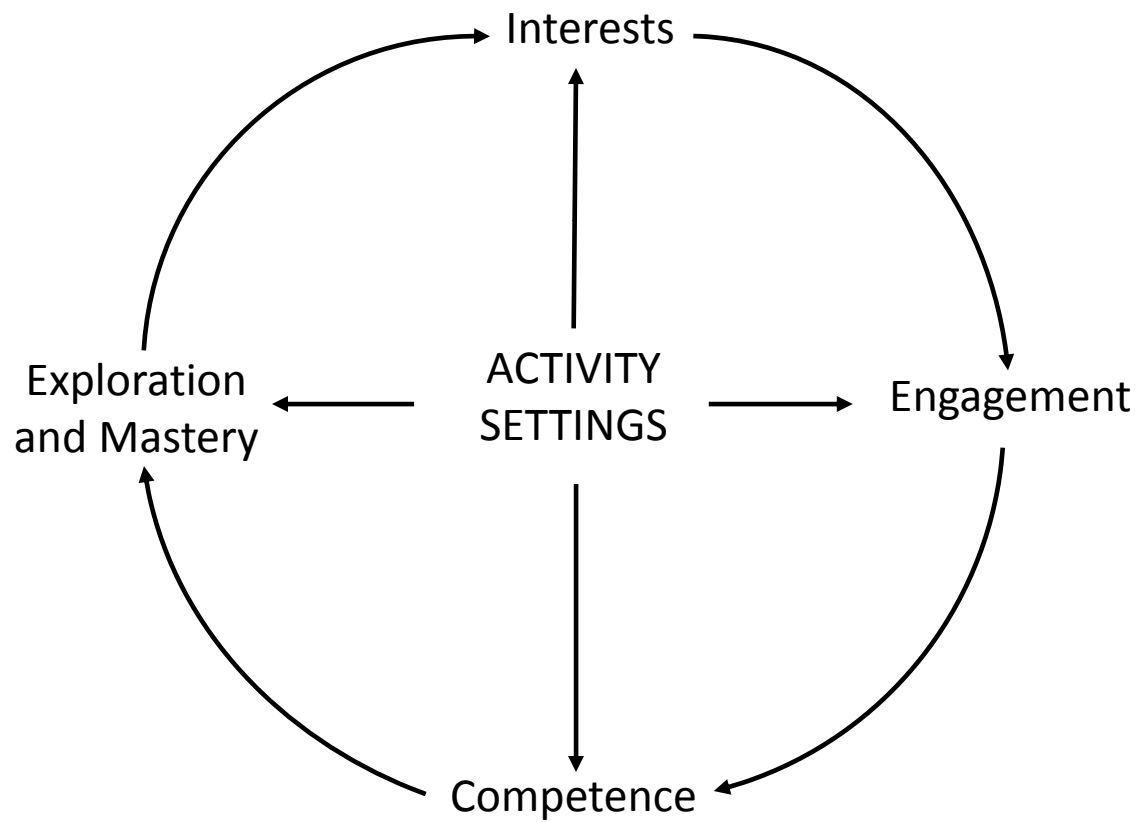


“Challenging Activities”



“Excitement”

## Interest-Based Everyday Child Learning



## Contrasting Types of Interventions for Engaging Children in Everyday Learning Activities

**Purpose:** Compare the relative effectiveness of interest-based everyday learning vs. non interest-based everyday child learning.

**Study Participants:** 50 infants, toddlers, and preschoolers with identified disabilities living in six United States. The children were randomly assigned to groups at six different research sites, three for each intervention group.

**Outcome Measure:** Developmental Observation Checklist Scales (Language, Cognitive, Motor, Social). Child developmental age was used as the dependent measure for evaluating intervention effects.

**Methodology:** Linear growth curve modeling was used to estimate child progress associated with the two types of intervention.

## Two Types of Intervention

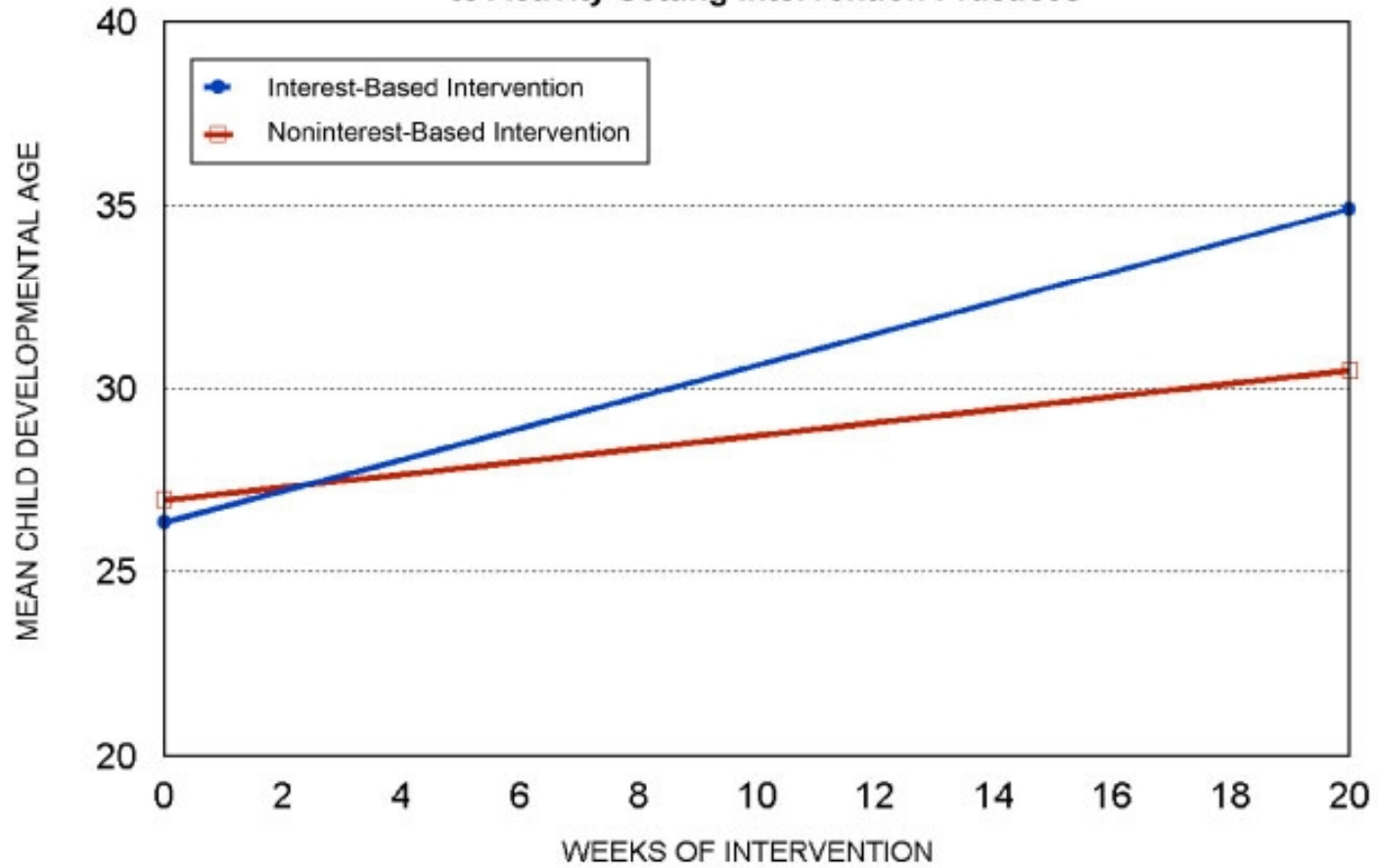
### **Interest-Based Practices**

Parents first identified their children's personal interests and the people, materials, and events that their children found situationally interesting. These interests were used to select everyday activity settings that occurred on a regular basis and which provided the children interest-based learning opportunities.

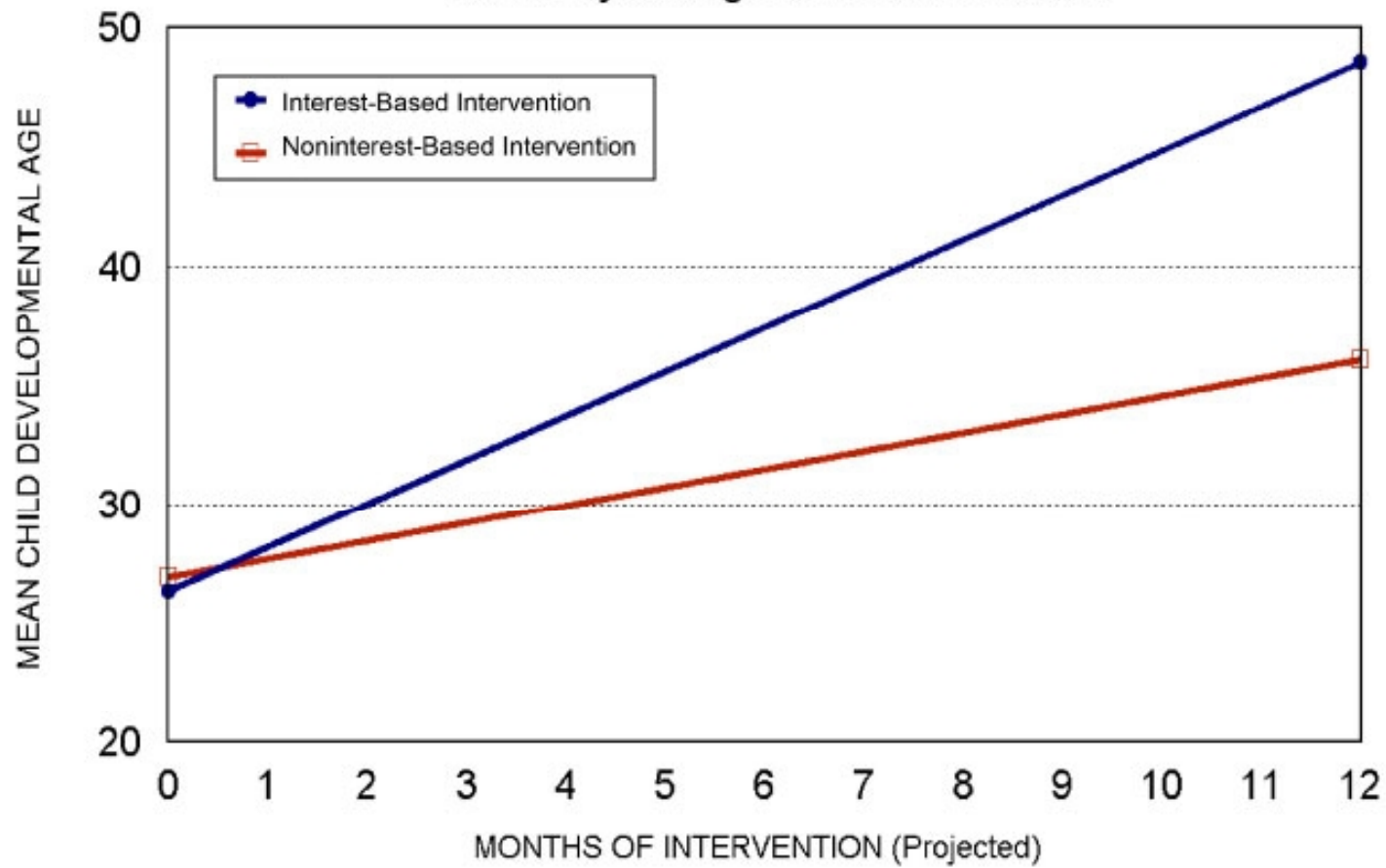
### **Non-Interest-Based Practices**

Parents first identified the behavior they wanted their children to learn. They then identified the everyday activities that were best suited for their children to learn the parent-identified behavior and increased their children's participation in the everyday activities.

**Relative Effectiveness of Two Contrasting Approaches to Activity Setting Intervention Practices**



**Projected Benefits of Two Contrasting Approaches to Activity Setting Intervention Practices**





## Adult-Child Interactions as the Context for Strengthening Child Functioning

Linda Richter (2004), as part of a review of research and practice on caregiver-child interactions in many different countries and cultures throughout the world, concluded (among other things) that:

- “***Sensitive and responsive*** caregiving is a requirement for healthy child development” (emphasis added).
- “***Nurturing and supportive*** caregiving relationships have universal features across cultures, regardless of differences in specific child rearing practices” (emphasis added).

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Richter, L. (2004). *The importance of caregiver-child interactions for the survival and healthy development of young children: A review*. Geneva, Switzerland: World Health Organization, Department of Child and Adolescent Health and Development.

## Caregiving Styles of Interaction and Naturalistic Teaching Practices

- Close inspection of the literature on caregiver styles of interaction and the naturalistic teaching literature finds considerable overlap in terms of the characteristics that are associated with optimal child behavioral and developmental outcomes.
- According to Richter (2004), interventions (both formal and informal) that promote caregivers' sensitivity and responsiveness to child behavior during everyday activities ought to positively effect child health and development.
- The intentional use of responsive and supportive interactional styles to affect child behavior has been described as incidental teaching, responsive teaching, and milieu teaching (among other descriptors).

## Selected Characteristics of Naturalistic Teaching Procedures

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### *Caregiver Characteristics*

- Sensitivity to child initiations (following the child's lead)
- Engagement-facilitating caregiver behavior
- Contingent responsiveness to child behavior
- Positive caregiver affect
- Turn taking and joint attention
- Caregiver support and encouragement

### *Child Characteristics*

- Incorporating child interests into learning opportunities
- Incorporating child strengths into learning opportunities

### *Activity Setting Characteristics*

- Situationally interesting activities
- Everyday learning opportunities

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Dunst, C. J., Raab, M., & Trivette, C.M. (2011). Characteristics of naturalistic language intervention strategies. *Journal of Speech-Language Pathology and Applied Behavior Analysis*, 5 (3/4), 8-16.

## Systematic Reviews of Caregiving Styles of Interaction and Naturalistic Teaching Practices Studies

- Reviews and meta-analyses of studies investigating the relationships between the characteristics of either caregiver interactional styles or naturalistic teaching practices indicate that the behavior and development of young children with and without disabilities or delays benefit from these kinds of practices.
- The particular caregiver behavior that “stand out” as being particularly important include caregiver sensitivity to child cues (following the child’s lead), contingent responsiveness to child initiations, parent-child joint attention, and the rhythmicity of parent-child exchanges (e.g., your turn-my turn games).

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Dunst, C. J., & Kassow, D. Z. (2008). Caregiver sensitivity, contingent social responsiveness, and secure infant attachment. *Journal of Early and Intensive Behavior Intervention, 5*, 40-56.

Nievar, M. A., & Becker, B. J. (2008). Sensitivity as a privileged predictor of attachment: A second perspective on De Wolff and van IJzendoorn's meta-analysis. *Social Development, 17*, 102-114.

Raab, M., Dunst, C. J., Johnson, M., & Hamby, D. W. (2013). Influences of a responsive interactional style on young children's language acquisition. *Everyday Child Language Learning Reports, (4)*, 1-23. Available at: [http://www.cecli.org/download/ECLLReport\\_4\\_Responsive.pdf](http://www.cecli.org/download/ECLLReport_4_Responsive.pdf).

Trivette, C. M. (2007). *Influence of caregiver responsiveness on the development of young children with or at risk for developmental disabilities* (Winterberry Research Syntheses Vol. 1, No. 12). Asheville, NC: Winterberry Press.







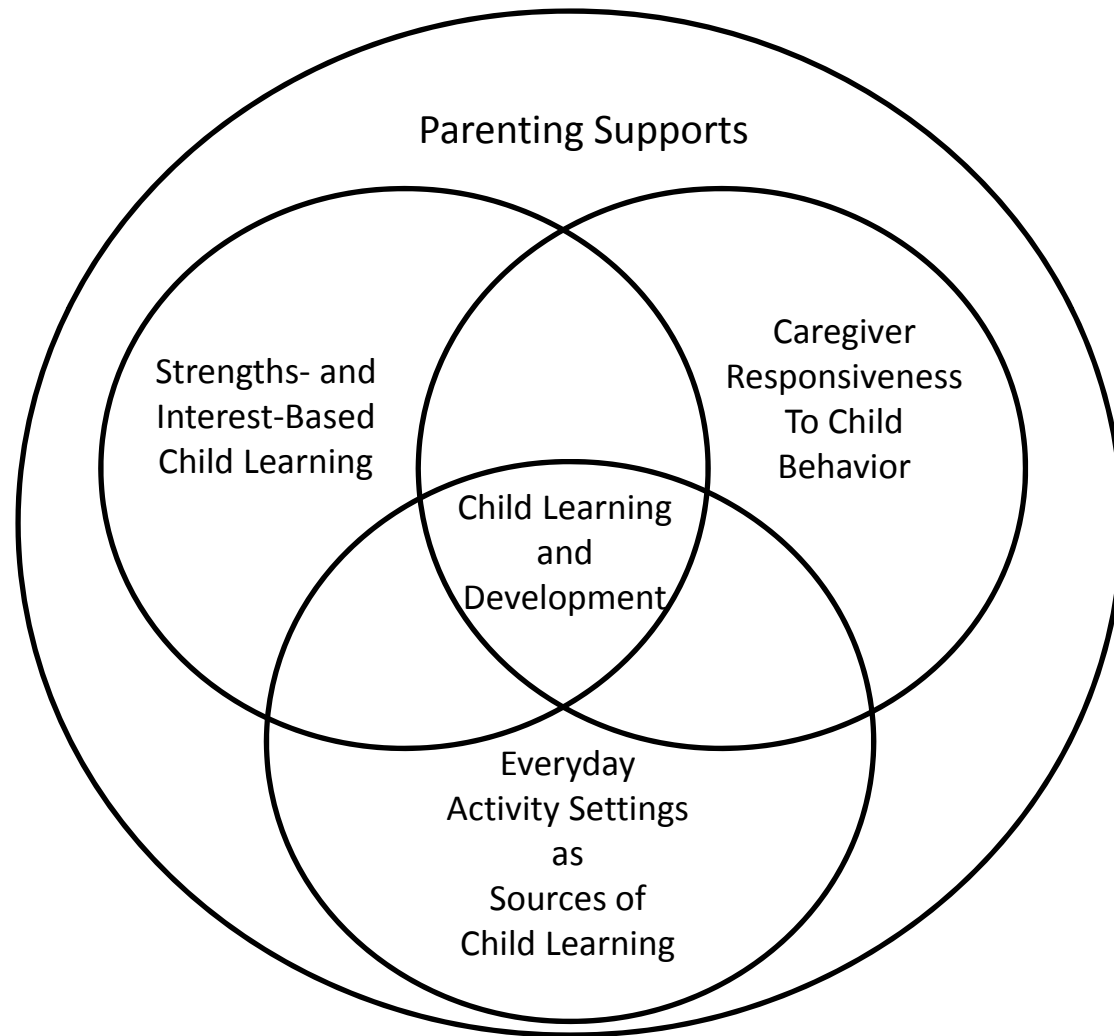








## Parenting Supports, Parent-Mediated Child Learning, and Parent Confidence and Competence



## Caregiver Confidence and Competence Associated with the Use of Caregiver-Mediated Intervention Practices

**Purpose:** Determine the extent to which the use of caregiver-mediated everyday child learning was associated with improvements in caregiver skills, competence, and confidence

**Study Participants:** Three mothers and one grandmother of preschool aged children with disabilities or developmental delays

**Outcomes:** Measures of parenting behavior (skills) and parenting self-efficacy beliefs (confidence and competence)

**Methodology:** Multiple baseline design across study participants

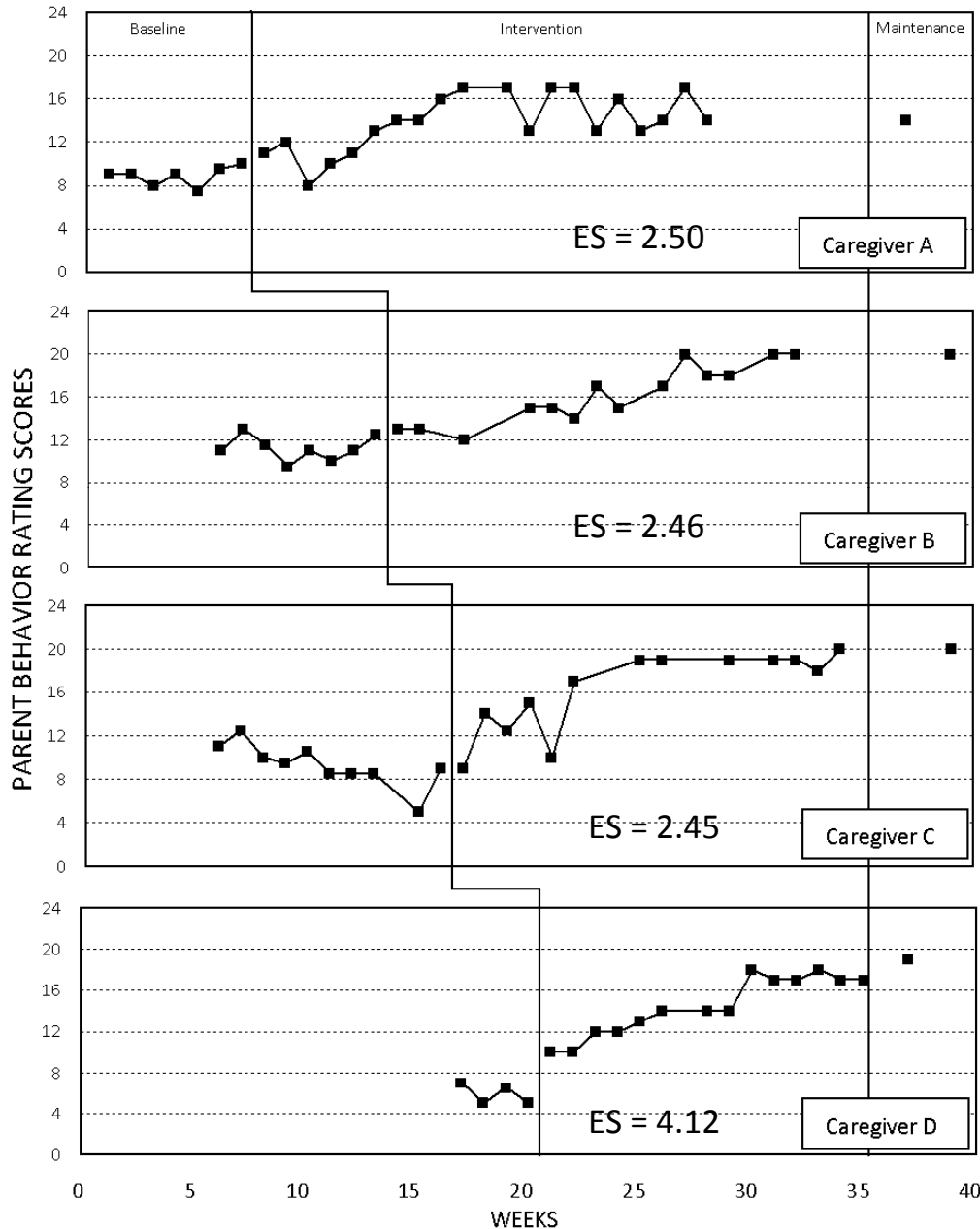
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Swanson, J., Raab, M., & Dunst, C.J. (2011). Strengthening family capacity to provide young children everyday natural learning opportunities. *Journal of Early Childhood Research*, 9(1), 66-80.

## Caregiver-Mediated Early Childhood Intervention Practices

- Study participants used child interest-based everyday activities as sources of child learning opportunities where the participants supported and encouraged child learning in the activities using responsive teaching procedures.
- Participants identified their children's interests, the everyday activities that were sources of interest-based learning opportunities, and the caregiver behavior that was used to sustain child engagement in interest-based everyday child learning.
- An early childhood practitioner used family capacity-building participatory practices and participatory parenting experiences and opportunities to support and encourage the caregivers' use of the natural environment and responsive teaching practices.

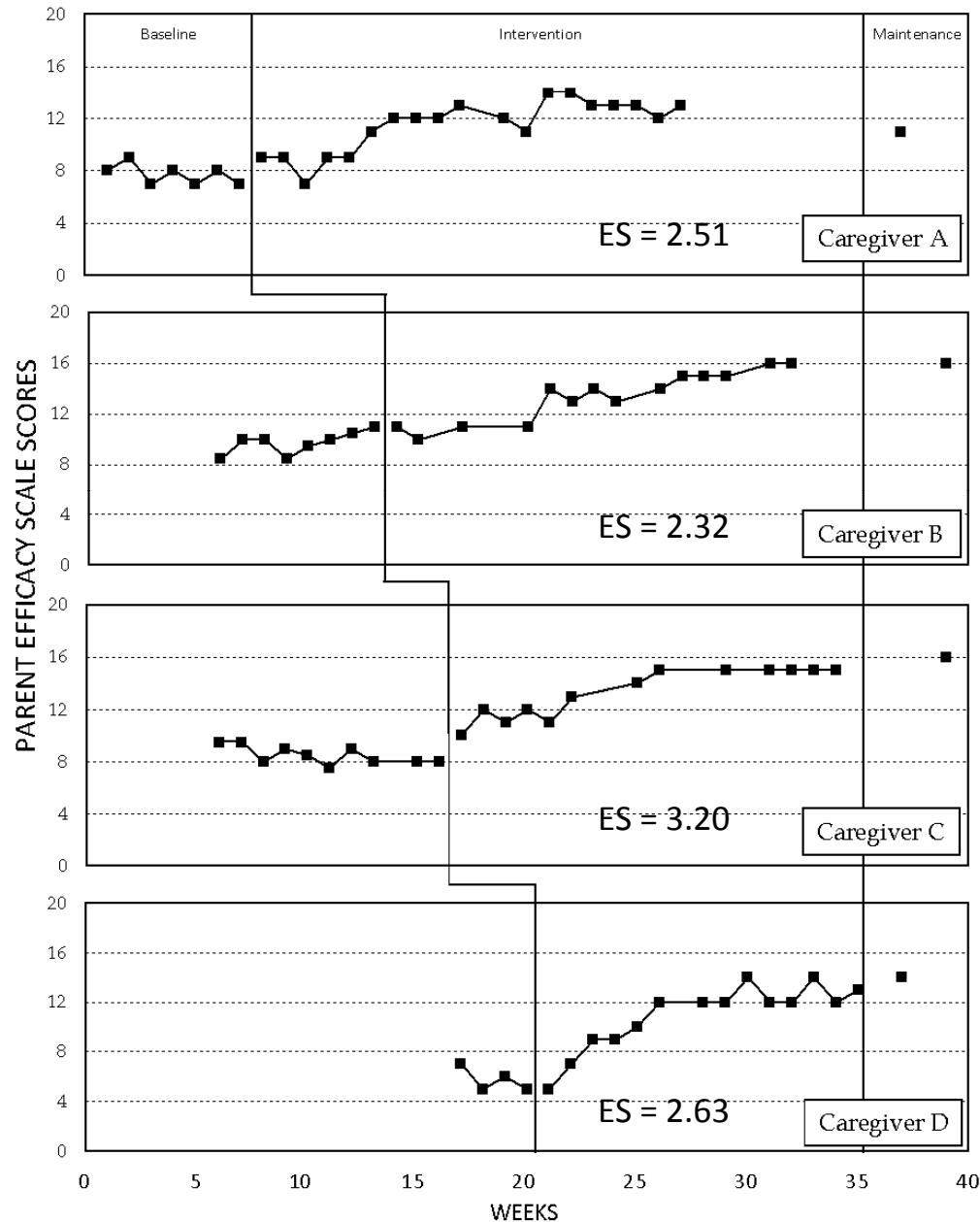
# Parenting Skills



Adoption and use of everyday activities as sources of interest-based child learning opportunities strengthened and promoted parents' skills in using the natural learning environment practices

(NOTE. ES = Estimated Cohen's *d* effect size for the baseline vs. intervention phase differences)

## Parenting Confidence and Competence



Findings also showed that promoting caregivers' use of everyday activities as sources of interest-based child learning opportunities had the effect of strengthening parenting self-efficacy competence and confidence beliefs

(NOTE. ES = Estimated Cohen's *d* effect size for the baseline vs. intervention phase differences)

## Relationships Between Social Supports, Resources, Parent Well-Being and Parenting

“Whether parents can perform effectively in their child-rearing roles within the family depends on the role demands, stresses, and supports emanating from other settings....Parent’ evaluation of their own capacity to function, as well as their view of their children, are related to such external factors as flexibility of job schedules, adequacy of child care arrangements, the presence of friends and neighbors who can help out in large and small emergencies, the quality of health and social services, and neighborhood safety. The availability of supportive settings is, in turn, a function of their existence and frequency in a given culture or subculture.” (Bronfenbrenner, 1979, p. 7).

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Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.



## Relationship Between Supports, Resources, and Early Childhood Intervention

“Intervention programs that place major emphasis on involving parents directly in activities fostering their children’s development are likely to have constructive impact at any age, but the earlier such activities are begun, and the longer they are continued, the greater the benefit to the children. One major problem still remains....[Many] families live under such oppressive circumstances that they are neither willing nor able to participate in the activities required by a parent intervention program. Inadequate health care, poor housing, lack of education, low income, and the necessity for full-time work...rob parents of the [psychological] energy to spend time with their children (p. 449).”

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Bronfenbrenner, U. (1975). Is early intervention effective? In B. Z. Friedlander, G. M. Sterritt, & G. E. Kirk (Eds.), *Exceptional infant: Vol. 3. Assessment and intervention* (pp. 449-475). New York: Brunner/Mazel.

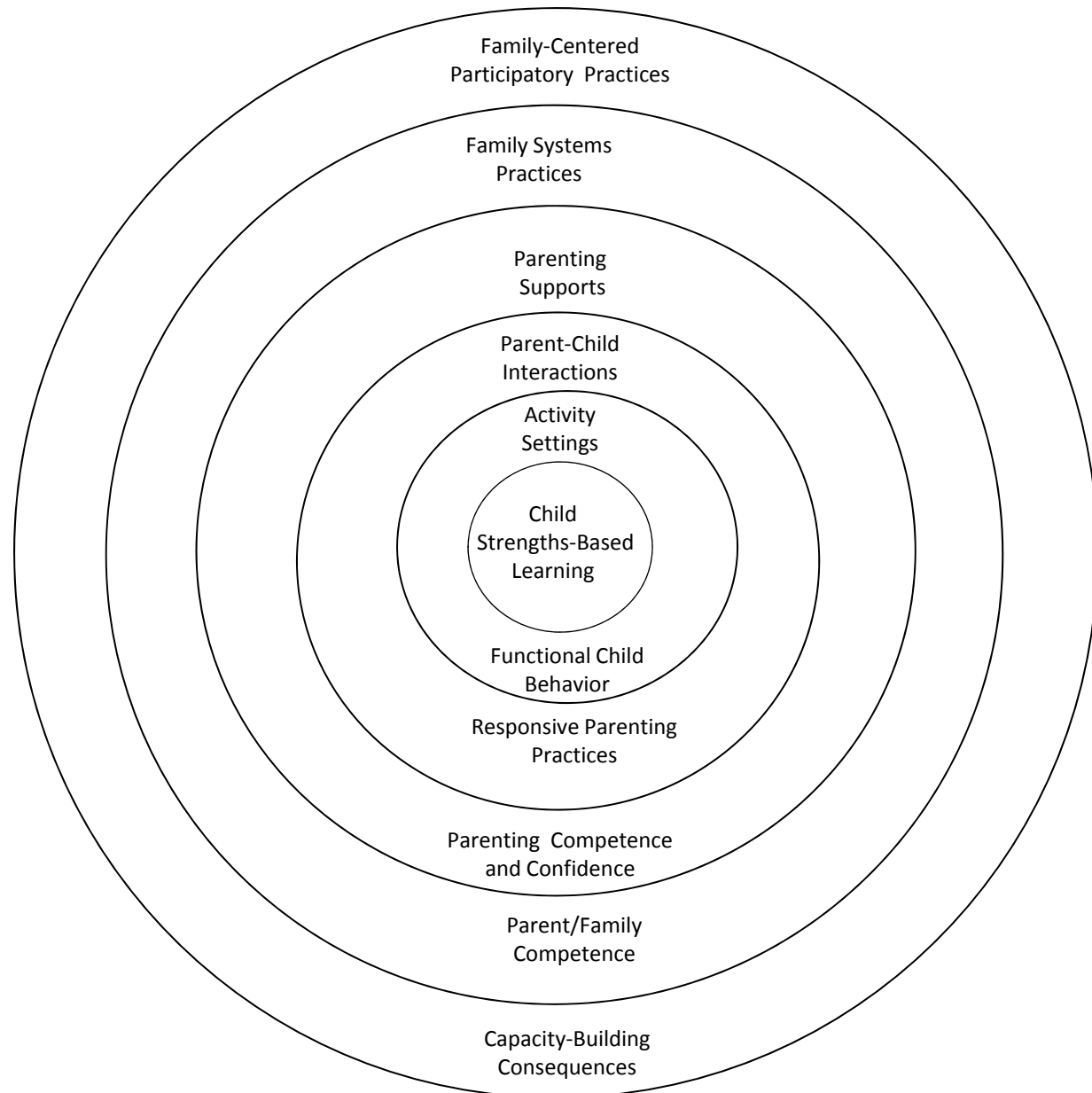
## Relationship Between Social Supports, Family Resources, and Parent Physical and Psychological Well-Being

- Parents are more likely to provide their children development-enhancing learning opportunities and interact with their children in responsive ways if their well-being is not compromised
- Research on the relationship between social support and parent and family well-being shows that well-being is enhanced and stress, anxiety, and other psychological disorders are lessened by the availability of needed supports and resources
- Results from a meta-analytic structural equation modeling study (Trivette et al., 2010) found that pathways of influence can be traced from social supports to parent well-being to positive parent-child interactions to changes in child development

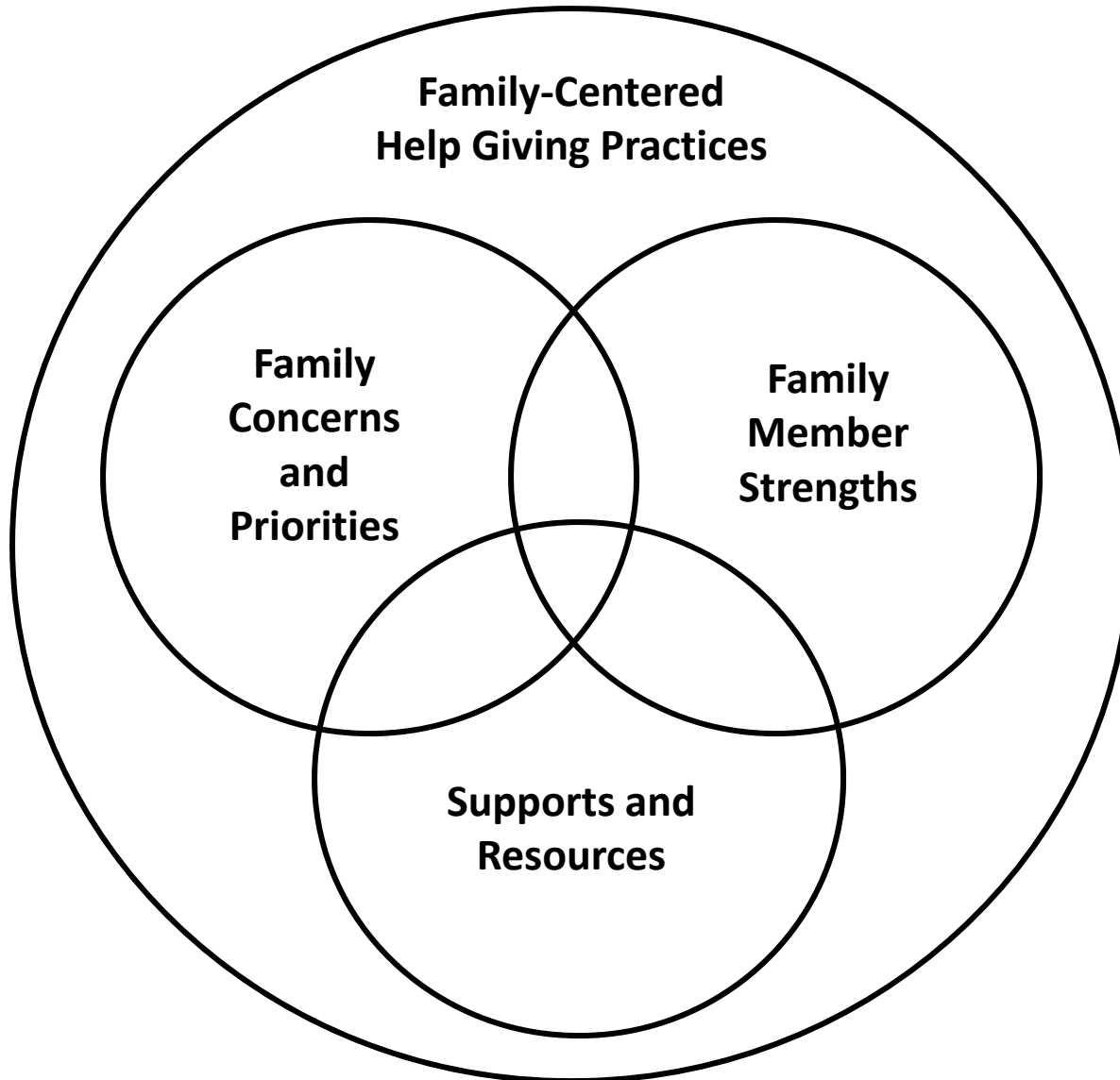
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Trivette, C. M., Dunst, C. J., & Hamby, D. W. (2010). Influences of family-systems intervention practices on parent-child interactions and child development. *Topics in Early Childhood Special Education, 30*, 3-19.

Family-centered practices are more likely to indirectly affect parent well-being and parent-child interactions mediated by parenting confidence and competence



# Family Systems Intervention Practices



## Main Focus of Each of the Model Components

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Concerns and priorities are viewed as determinants of whether and how people spend time and energy obtaining supports and resources

Family strengths include the abilities and interests of family members used to engage in desired activities and to obtain needed supports and resources

Supports and resources include the different types of information, assistance, experiences, opportunities, etc. for addressing concerns and priorities

Capacity-building help giving includes practices that strengthen the ability of family members to obtain supports and resources or engage in desired activity

## Family-Centered Capacity-Building Help Giving Practices

- Research conducted by investigators in different countries indicates that family-centered help giving is comprised of both relational (relationship-building) and participatory (capacity-building) practices that are related to family strengthening benefits and outcomes.
- Recent research “points to” particular characteristics of participatory help giving as necessary if practitioner interventions are necessary to have capacity-building consequences.

## Capacity-Building Help Giving Practices

- Relational help giving practices include early childhood practitioner knowledge and skills in their area(s) of professional preparation, their abilities to establish interpersonal and collaborative relationships with families, and their abilities to support and strengthen family capacity
- Capacity-building help giving practices focus on actively involving parents and other family members in informed decision-making and procurement of supports and resources, or engagement in desired activity, based on their choices

## Family-Centered Participatory Help Giving Practices

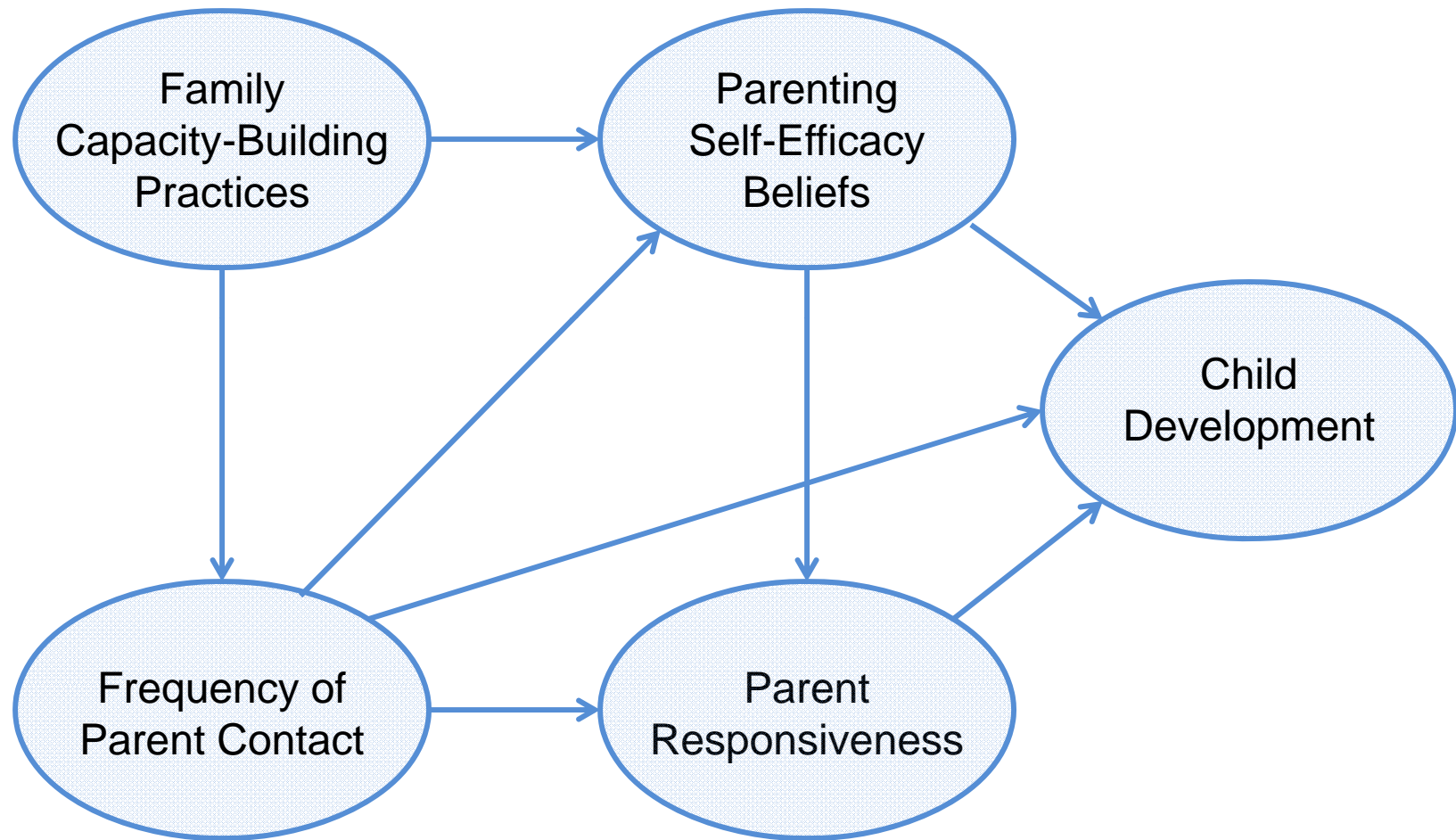
Family-centered participatory help giving practices include (a) the methods and procedures used by early childhood practitioners to (b) actively engage family members in obtaining needed supports and resources or engaging in different activities that (c) improve family functioning in ways that (d) enhance and strengthen parent, family, and child competence and confidence



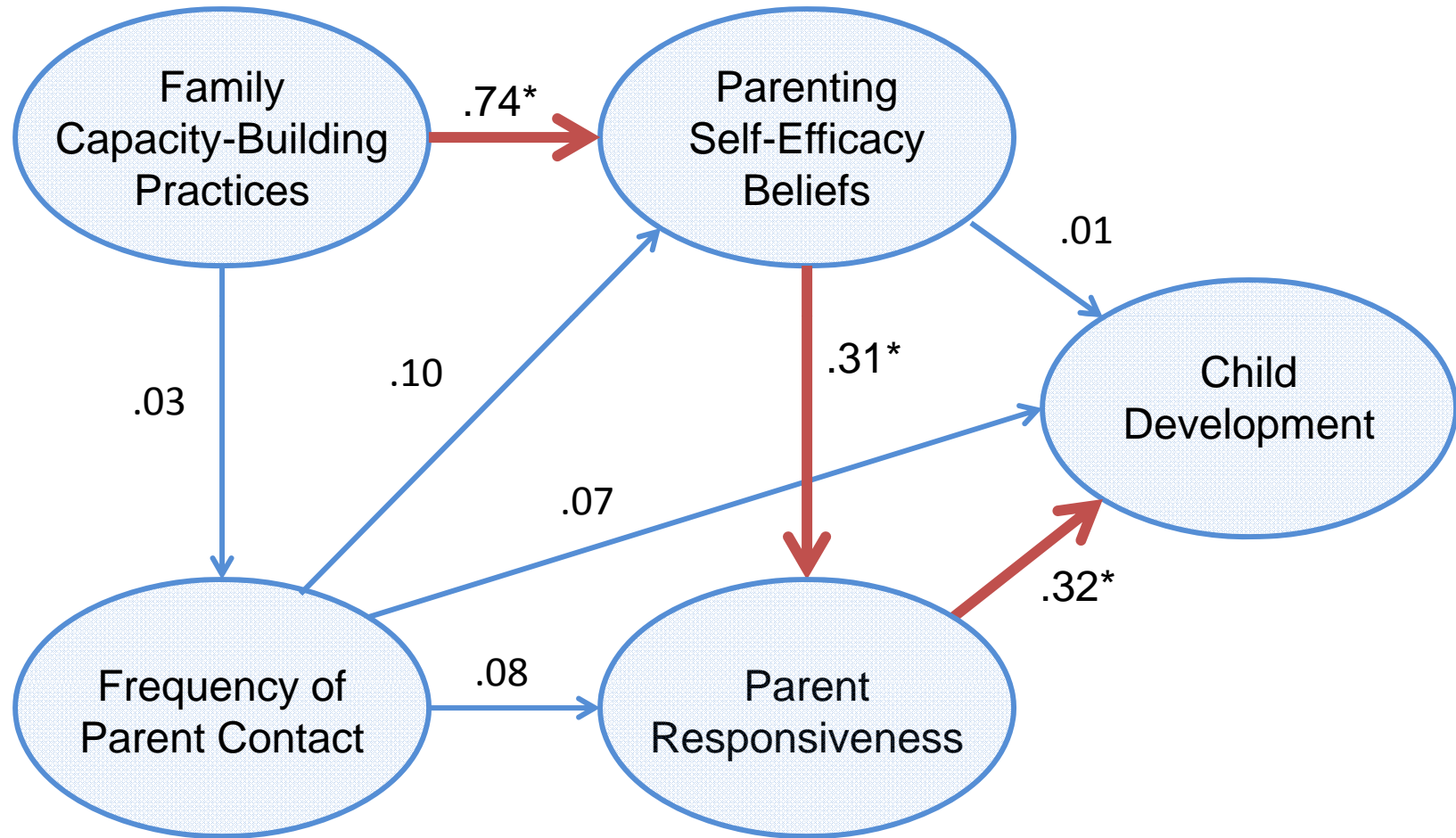
## Influences of Family Capacity-Building Practices on Parenting and Child Outcomes

- 17 studies including 10,000+ infants, toddlers, and preschoolers with identified disabilities or delays and their parents
- Secondary analyses of a subset of measures were conducted for testing the relationships among the variables in our family capacity-building model
- The measures included family capacity-building practices (participatory help giving), frequency of parent-practitioner contacts, parenting self-efficacy beliefs, parent responsiveness to child behavior during parent-child interactions, and child development (cognitive and language development)
- Meta-analytic structural equation modeling was used to analyze the relationships among the study variables

## Hypothesized Relationships Among the Variables in the Model



## Pathways of Influence in the Capacity-Building Model



\* p < .0001.

## Conclusions

- The practices that constitute an internally consistent set of “interventions” are all informed by research evidence on the relationships between the practices at different levels of influence and different child, parent, and family outcomes.
- The common denominator of the practices are an emphasis on capacity-building characteristics and consequences.
- Research on the pathways of influence between the different practices and outcomes indicate that the effects of family-centered and family systems intervention practices can be traced to different child outcomes.
- The extent to which the sets of practices are applicable to different therapy and educational interventions have been demonstrated in a number of studies and projects.

PowerPoint available at:  
[www.puckett.org/presentations.php](http://www.puckett.org/presentations.php)