

Research Foundations for Applied Family Social Systems Early Childhood Intervention Practices

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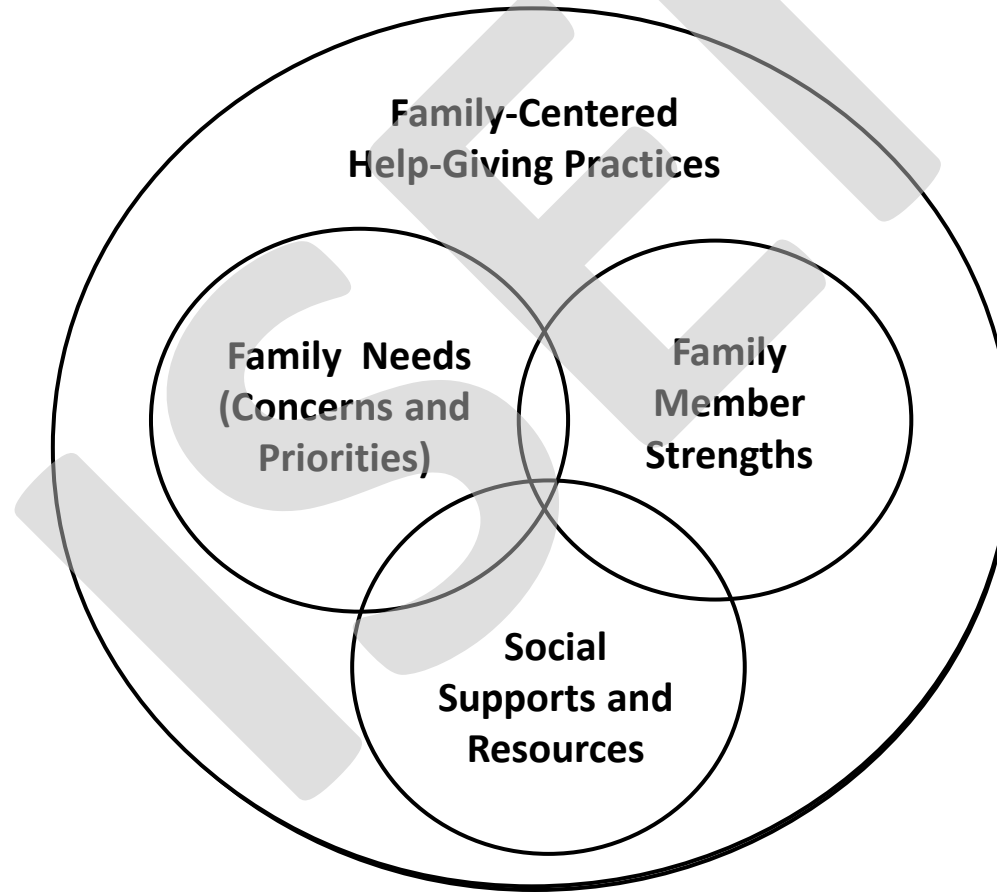
Presentation made at the 8th ISEI Early Childhood Intervention
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Purposes of the Symposium

- Describe findings from meta-analyses showing the relationships between family social systems intervention practices and (a) parents' psychological health, (b) parenting self-efficacy beliefs, (c) parents' efforts to engage their children in everyday learning opportunities, and (d) parental engagement in early childhood intervention
- Illustrate the pathways of relationships between family systems practices, parenting self-efficacy beliefs, parents' psychological well-being, and parenting practices
- Describe results from intervention studies illustrating the role that everyday family and community activities, child interests, and parenting behavior play in promoting child learning

Family Social Systems Research Studies

Applied Family Social Systems Intervention Model



Applied Family Systems Intervention Research Studies

The applied family systems intervention model research has focused on different types of evidence:

- The relationships between family systems practices (family-centered, family needs, family strengths, and family supports and resources) and parents' psychological health and well-being
- The relationships between family systems practices and parental engagement in everyday child learning and involvement in early childhood intervention
- The relationships between development-enhancing everyday family and community activities and child learning and development
- The relationships between child and family strengths (interests and abilities) and child learning and development

Research Evidence for the Relationships Between Family Social Systems Practices and Parent, Child, Parent-Child, and Family Outcomes

Three types of studies will be used to illustrate the research foundations for the relationships between family systems intervention practices and parent, child, parent-child, and family behavior and functioning:

- Meta-analyses of family systems intervention practices research (e.g., Dunst, 2022)
- Structural equation modeling studies of pathways of relationships between family systems practices and parent and child outcomes (e.g., Dunst, 2020)
- Intervention studies of the effectiveness of family systems intervention practices (Swanson et al., 2011)

Dunst, C. J. (2022). Systematic review and meta-analysis of the relationships between family social support and parenting stress, burden, beliefs, and practices. *International Journal of Health and Psychology Research*, 10(3), 1-27.

Dunst, C. J. (2020). Modeling the relationships between parent strengths, parenting efficacy beliefs, and child social-affective behavior. *International Journal of Child Development and Mental Health*, 8(2), 11-18.

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, 66-80.

**Meta-Analyses of Family Social Systems
Intervention Practices Research Studies**

Meta-Analyses of Family Social Systems Research Studies

Methodology

Meta-analysis is a procedure for combining results from different studies of the same intervention variable (e.g., family-centered practices) and the same outcome variables (e.g., parent well-being) where the combined results provide the best estimate of the strength of the relationships between the two types of measures

Purpose

Determine if the expected (hypothesized) relationships between the applied family social systems model, practices, and outcomes of interest are supported by research evidence

Meta-Analyses of the Relationships Between the Family Social Systems Practices and Parent, Family, and Child Outcomes

- More than 25 meta-analyses have been completed to determine if the hypothesized relationships between the family social systems practices and child, parent, and family outcomes are consistent with research evidence
- Most meta-analyses included measures of 3 or 4 family social systems model measures (family-centered practices, family needs, family resources, family social support & family strengths)
- The outcomes of interest included self-efficacy beliefs (e.g., parenting competence), psychological health (e.g., parenting stress and well-being), parenting practices (e.g., child engagement in everyday learning activities), and child and parent behavior

Metric for Measuring the Relationships Between the Family Social Systems Model Practices and Study Outcomes in the Meta-Analyses

- The correlation coefficient between a family systems practice (e.g., family-centered practices) and an outcome measure (e.g., parenting stress) in each study was used as the effect size for the relationships between measures
- The average effect size for the same family systems practices measure and the same outcome measure adjusted for differences in sample sizes in different studies was used as the best estimate of the overall strength of the relationship between measures
- The 95% confidence interval for the average (adjusted) effect size was used to determine the accuracy of the “best estimate” effect size. (A confidence interval not including zero indicates that the average effect size differs statistically from zero at the .05 level)

Meta-Analyses of Family-Centered Practices Research Studies

Dunst, C. J. (2025). Meta-analysis of the relationships between family systems practices and parenting beliefs and participation in early childhood learning. In S. Phillipson, W. Goff, & S. Garvis (Eds.), *Handbook on families and education: Theory, research and practice*. Edward Elgar Publishing.

Dunst, C. J., & Trivette, C. M. (2005). *Measuring and evaluating family support program quality*. Winterberry Press.

Dunst, C. J., & Trivette, C. M. (2009). Capacity-building family systems intervention practices. *Journal of Family Social Work, 12*(2), 119-143.

Dunst, C. J., Trivette, C. M., & Hamby, D. W. (2007). Meta-analysis of family-centered help-giving practices research. *Mental Retardation and Developmental Disabilities Research Reviews, 13*(4), 370-378.

Dunst, C. J., Trivette, C. M., & Hamby, D. W. (2008). *Research synthesis and meta-analysis of studies of family-centered practices*. Winterberry Press.

Meta-Analyses of Family Needs and Adequacy of Family Resources Research Studies

Dunst, C. J. (2021). Differential relationships between the adequacy of different types of family resources and psychological health and well-being: A meta-analysis. *International Journal of Health and Psychology Research*, 9(2), 1-18.

Dunst, C. J. (2021). Meta-analysis of the relationships between the adequacy of family resources and personal, family, and child well-being. *European Journal of Psychological Research*, 8(3), 35-49.

Dunst, C. J. (2021). Meta-analysis of the relationships between the adequacy of family resources and parenting beliefs and practices. *British Journal of Psychology Research*, 9(2), 56-76.

Dunst, C. J. (2022). Systematic review and meta-analysis of family needs studies: Relationships with parent, family and child functioning. *European Journal of Psychology and Educational Research*, 5(1), 11-32.

Dunst, C. J. (2022). Systematic review and meta-analysis of the relationships between the adequacy of family resources and parenting stress. *International Journal of Health and Psychology Research*, 10(1), 18-30.

Dunst, C. J., & Trivette, C. M. (2009). Capacity-building family systems intervention practices. *Journal of Family Social Work*, 12(2), 119-143.

Meta-Analyses of Family Social Support Research Studies

Dunst, C. J. (2022). Associations between perceived family social support and the psychological health of caregivers of children and adolescents: A systematic review and meta-analysis. *European Journal of Psychological Research*, 9(2), 32-57.

Dunst, C. J. (2022). Systematic review and meta-analysis of the relationships between family social support and parenting stress, burden, beliefs, and practices. *International Journal of Health and Psychology Research*, 10(3), 1-27.

Dunst, C. J. (2022). Functional social support and psychological health and functioning: A meta-analysis of studies of parents of children and adolescents with identified disabilities. *European Journal of Psychological Health*, 9(3), 62-82.

Dunst, C. J. (2023). A meta-analysis of informal and formal family social support studies: Relationships with parent and family psychological health and well-being. *International Journal of Caring Sciences*, 16(2), 514-529.

Dunst, C. J., & Trivette, C. M. (2009). Capacity-building family systems intervention practices. *Journal of Family Social Work*, 12(2), 119-143.

Meta-Analyses of Family Strengths Research Studies

Dunst, C. J. (2021). A meta-analytic investigation of the relationships between different dimensions of family strengths and personal and family well-being. *Journal of Family Research*, 33(1), 209-229.

Dunst, C. J. (2021). Family hardiness and parent and family functioning in households with children experiencing adverse life events: A meta-analysis. *International Journal of Psychological Research*, 14(2), 93-118.

Dunst, C. J. (2021). Family strengths, the circumplex model of family systems, and personal and family functioning: A meta-analysis of the relationship among study measures. *Journal of Behavior, Health & Social Issues*, 13(2), 1-19.

Dunst, C. J. (2023). Meta-analyses of the relationships between family systems practices, parents' psychological health, and parenting quality. *International Journal of Environmental Research and Public Health*, 20(18), Article 6723

Dunst, C. J. (2025). Meta-analysis of the relationships between family systems practices and parenting beliefs and participation in early childhood learning. In S. Phillipson, W. Goff, & W. S. Garvis (Eds.), *Handbook on families and education: Theory, research and practice* (pp. 90-108). Edward Elgar Publishing.

Dunst, C. J., Serrano, A. M., Mas, J. M., & Espe-Sherwindt, M. (2021). Meta-analysis of the relationships between family strengths and parent, family and child well-being. *European Journal of Applied Positive Psychology*, 2021, 5, Article 5.

Dunst, C. J., & Trivette, C. M. (2009). Capacity-building family systems intervention practices. *Journal of Family Social Work*, 12(2), 119-143.

Examples of Meta-Analysis Results for the Relationships Between Family Social Systems Practices and Selected Parent Outcomes

- General Psychological Health (Depression and Well-Being)
- Parenting-Related Psychological Health (Parenting Stress and Caregiving Burden)
- Parenting Self-Efficacy Beliefs (Confidence and Competence)
- Parental Participation in Child Learning (Engagement and Involvement)

Relationships Between the Family Social Systems Practices and Parents' General Psychological Health

| Family Systems Practices Measures | Number of Studies | Combined Sample Size | Average Effect Size | 95% Confidence Interval |
|-----------------------------------|-------------------|----------------------|---------------------|-------------------------|
| Family-Centered Practices | | | | |
| Psychological Well-Being | 7 | 554 | .23 | .17, .29 |
| Depression | 13 | 1543 | -.28 | -.24, -.32 |
| Family Needs | | | | |
| Psychological Well-Being | 6 | 573 | -.32 | -.16, -.47 |
| Depression | 5 | 606 | .39 | .33, .45 |
| Family Resources | | | | |
| Psychological Well-Being | 4 | 260 | .47 | .15, .72 |
| Depression | 14 | 2837 | -.37 | -.30, -.44 |
| Family Social Support | | | | |
| Psychological Well-Being | 18 | 1865 | .33 | .18, .48 |
| Depression | 30 | 2967 | -.27 | -.10, -.42 |
| Family Strengths | | | | |
| Psychological Well-Being | 10 | 1693 | .43 | .34, .52 |
| Depression | 8 | 825 | -.43 | -.30, -.55 |

Relationships Between the Family Social Systems Practices and Parenting Stress and Caregiving Burden

| Family Systems Practices Measures | Number of Studies | Combined Sample Size | Average Effect Size | 95% Confidence Interval |
|-----------------------------------|-------------------|----------------------|---------------------|-------------------------|
| Family-Centered Practices | | | | |
| Parenting Stress | 13 | 1543 | -.28 | -.24, -.32 |
| Caregiving Burden | 5 | 404 | -.26 | -.18, -.34 |
| Family Needs | | | | |
| Parenting Stress | 9 | 1565 | .41 | .30, .52 |
| Caregiving Burden | 11 | 2407 | .41 | .30, .51 |
| Family Resources | | | | |
| Parenting Stress | 20 | 4170 | -.42 | -.37, -.47 |
| Caregiving Burden | 8 | 965 | -.39 | -.27, -.49 |
| Family Social Support | | | | |
| Parenting Stress | 33 | 5064 | -.22 | -.20, -.24 |
| Caregiving Burden | 21 | 2389 | -.26 | -.22, -.31 |
| Family Strengths | | | | |
| Parenting Stress | 9 | 950 | -.42 | -.30, -.52 |
| Caregiving Burden | 5 | 591 | -.38 | -.20, -.53 |

Relationships Between the Family Social Systems Practices and Parenting Self-Efficacy Beliefs

| Family Systems Practices Measures | Number of Studies | Combined Sample Size | Average Effect Size | 95% Confidence Interval |
|-----------------------------------|-------------------|----------------------|---------------------|-------------------------|
| Family-Centered Practices | | | | |
| Parenting Confidence | 11 | 525 | .40 | .26, .53 |
| Parenting Competence | 13 | 2139 | .36 | .27, .44 |
| Family Needs | | | | |
| Parenting Confidence | 5 | 458 | -.34 | -.26, -.42 |
| Parenting Competence | 6 | 518 | -.39 | -.26, -.51 |
| Family Resources | | | | |
| Parenting Confidence | 6 | 1132 | .32 | .20, .44 |
| Parenting Competence | 6 | 665 | .35 | .17, .51 |
| Family Social Support | | | | |
| Parenting Confidence | 27 | 3372 | .33 | .29, .36 |
| Parenting Competence | 18 | 2413 | .38 | .34, .41 |
| Family Strengths | | | | |
| Parenting Confidence | 8 | 944 | .36 | .29, .43 |
| Parenting Competence | 10 | 205 | .43 | .38, .48 |

Relationships Between the Family Social Systems Practices and Parental Provision of Everyday Child Learning Opportunities (Engagement) and Involvement in Early Childhood Intervention

| Family Systems Practices Measures | Number of Studies | Combined Sample Size | Average Effect Size | 95% Confidence Interval |
|-----------------------------------|-------------------|----------------------|---------------------|-------------------------|
| Family-Centered Practices | | | | |
| Parental Engagement | 7 | 525 | .40 | .26, .53 |
| Parental Involvement | 11 | 2139 | .36 | .27, .44 |
| Family Needs | | | | |
| Parental Engagement | 5 | 962 | -.28 | -.23, -.33 |
| Parental Involvement | 6 | 899 | -.25 | -.20, -.30 |
| Family Resources | | | | |
| Parental Engagement | 11 | 1038 | .31 | .25, .37 |
| Parental Involvement | 5 | 546 | .42 | .22, .42 |
| Family Social Support | | | | |
| Parental Engagement | 17 | 2501 | .28 | .22, .33 |
| Parental Involvement | 14 | 1258 | .26 | .21, .31 |
| Family Strengths | | | | |
| Parental Engagement | 9 | 904 | .41 | .36, .46 |
| Parental Involvement | 7 | 1603 | .26 | .23, .28 |

Structural Equation Modeling Studies of Family Social Systems Intervention Practices Research

Structural Equation Modeling of Family Social Systems Research Studies

Methodology

Structural equation modeling is a procedure for testing the pathways of relationships between independent (e.g., capacity-building practitioner help-giving), mediating (e.g., parenting self-efficacy beliefs), and parent, child, family, and parent-child outcomes (e.g., child behavioral competence)

Purpose

Determine if the expected (hypothesized) pathways of relationships between the family social systems model practices, mediators, and outcomes of interest are supported by research evidence

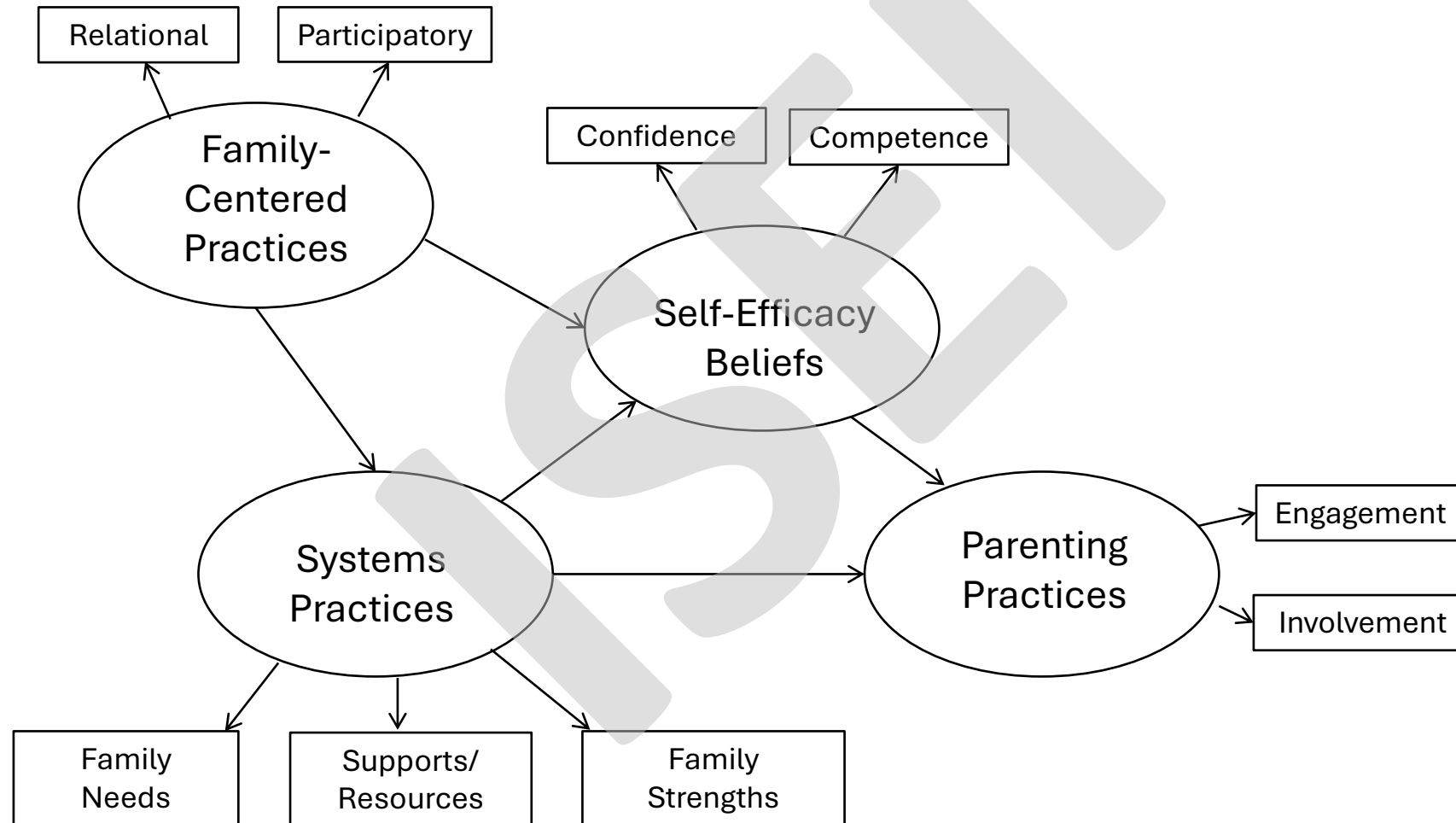
Two Types of Structural Equation Modeling Studies

- Structural equation modeling of data from a single study that includes independent (intervention), mediating, and outcome measures of interest (e.g., Dunst et al., 2007)
- Meta-analytic structural equation modeling studies that include pooled data from multiple studies of the same independent, mediating, and outcome measures of interest (e.g., Trivette et al., 2010)

Dunst, C. J., Hamby, D. W., & Brookfield, J. (2007). Modeling the effects of early childhood intervention variables on parent and family well-being. *Journal of Applied Quantitative Methods*, 2, 268-288.

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.

Example of a Structural (Path) Analysis Model



Structural Equation Modeling Studies

Dunst, C. J. (2008). *Parent and community assets as sources of young children's learning opportunities: Revised and expanded*. Winterberry Press.

Dunst, C. J. (2020). Modeling the relationships between parent strengths, parenting efficacy beliefs, and child social-affective behavior. *International Journal of Child Development and Mental Health*, 8(2), 11-18.

Dunst, C. J., Hamby, D. W., & Brookfield, J. (2007). Modeling the effects of early childhood intervention variables on parent and family well-being. *Journal of Applied Quantitative Methods*, 2, 268-288.

Dunst, C. J., Raab, M., & Hamby, D. W. (2016). Interest-based everyday child language learning. *Revista de Logopedia, Foniatria y Audiologia*, 36, 153-16.

Dunst, C. J., & Trivette, C. M. (2005). *Measuring and evaluating family support program quality*. Winterberry Press.

Mas, J. M., Dunst, C. J., Balcells-Balcells, A., Garcia-Ventura, S., Gine, C., & Canadas, M. (2019). Family-centered practices and the parental well-being of young children with disabilities and developmental delays. *Research in Developmental Disabilities*, 94, Article 103504.

Modeling the Effects of Family-Centered Practices on Parenting Self-Efficacy Beliefs

- Participants:** 100 parents of children with developmental disabilities or delays participating in community-based family resource programs. The programs were established in response to parents' requests for opportunities to interact with other parents and for their children to have opportunities to interact with other children
- Measures:** Practitioner family-centered practices; practitioner responsiveness to parents' requests and the helpfulness of practitioner advice and guidance; personal control appraisals; and parenting self-efficacy beliefs
- Method of Analysis:** Structural equation modeling for testing the hypothesized relationships among the measures in the model

Study Measures

Family-Centered Practices

Parent-reported practitioner use of relational and participatory family-centered help-giving practices

Practitioner Behavior

Practitioner responsiveness to family requests and the helpfulness of advice guidance

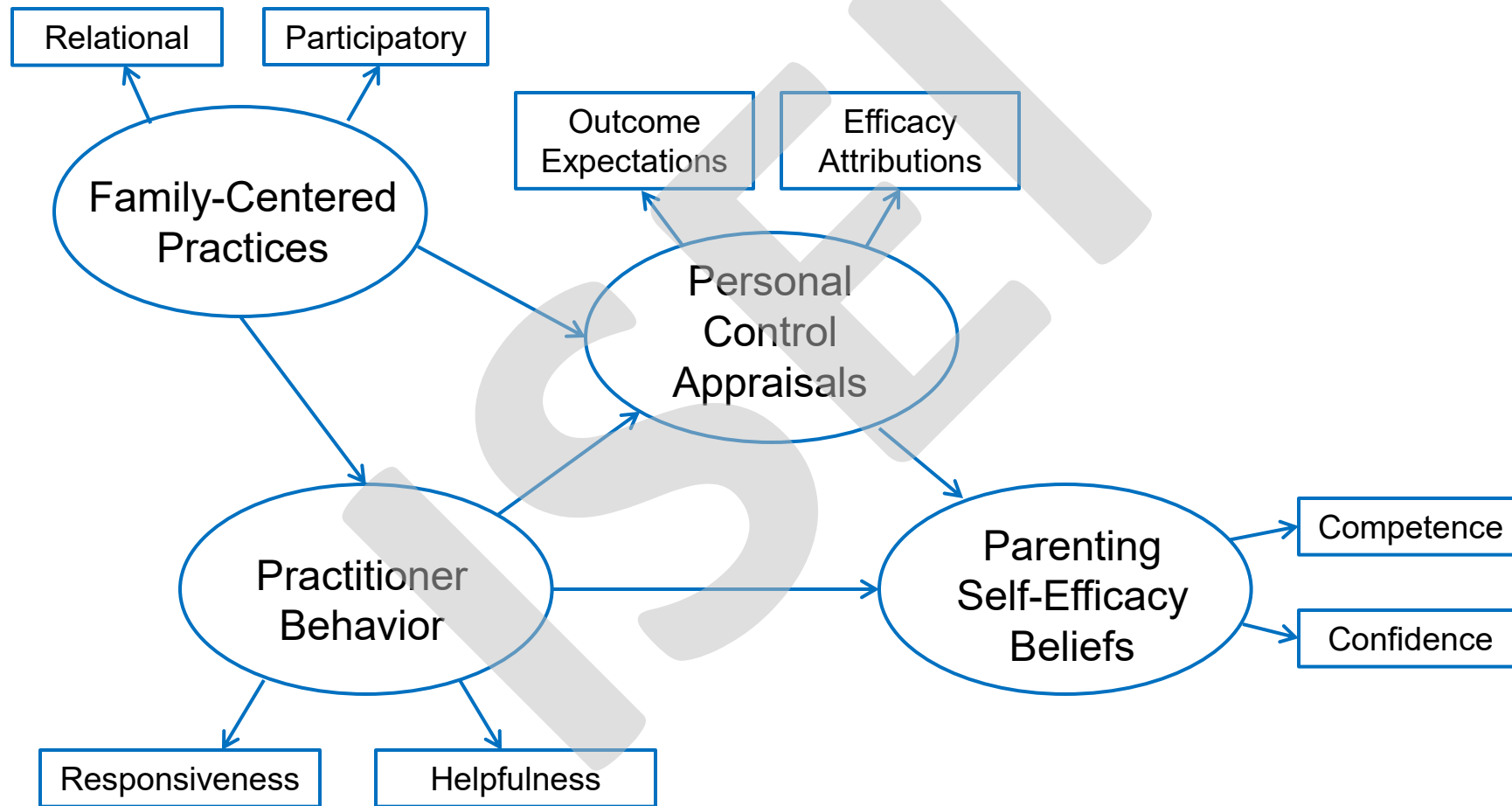
Personal Control Appraisals

Parents' beliefs that their (a) requests will have expected consequences (outcome expectations) and (b) actions were the source of practitioner behavior and responsiveness (efficacy attributions)

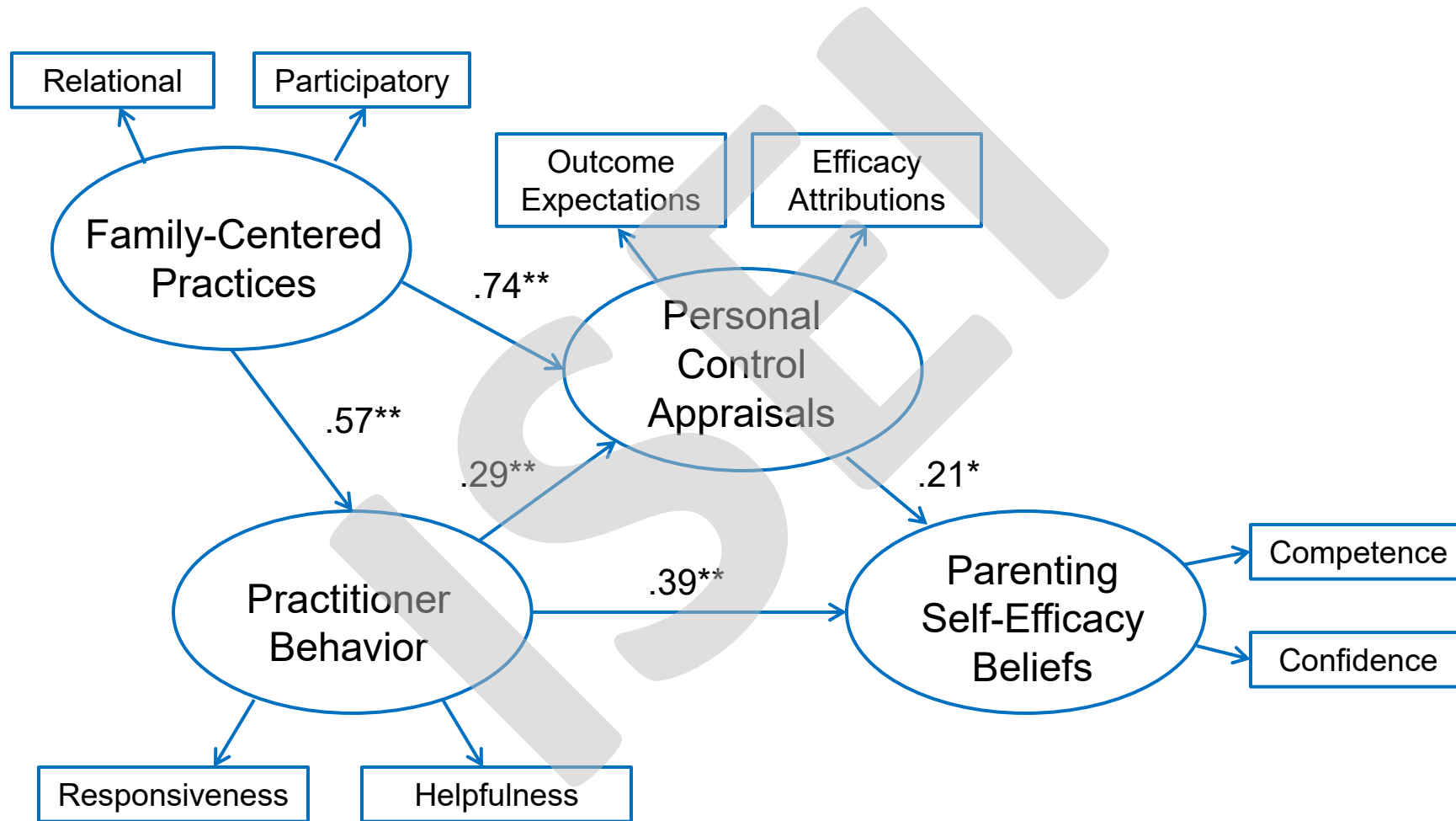
Parents' Self-Efficacy Beliefs

Parenting confidence and competence belief appraisals

Hypothesized Relationships Among the Four Sets of Measures in the Structural Equation Model

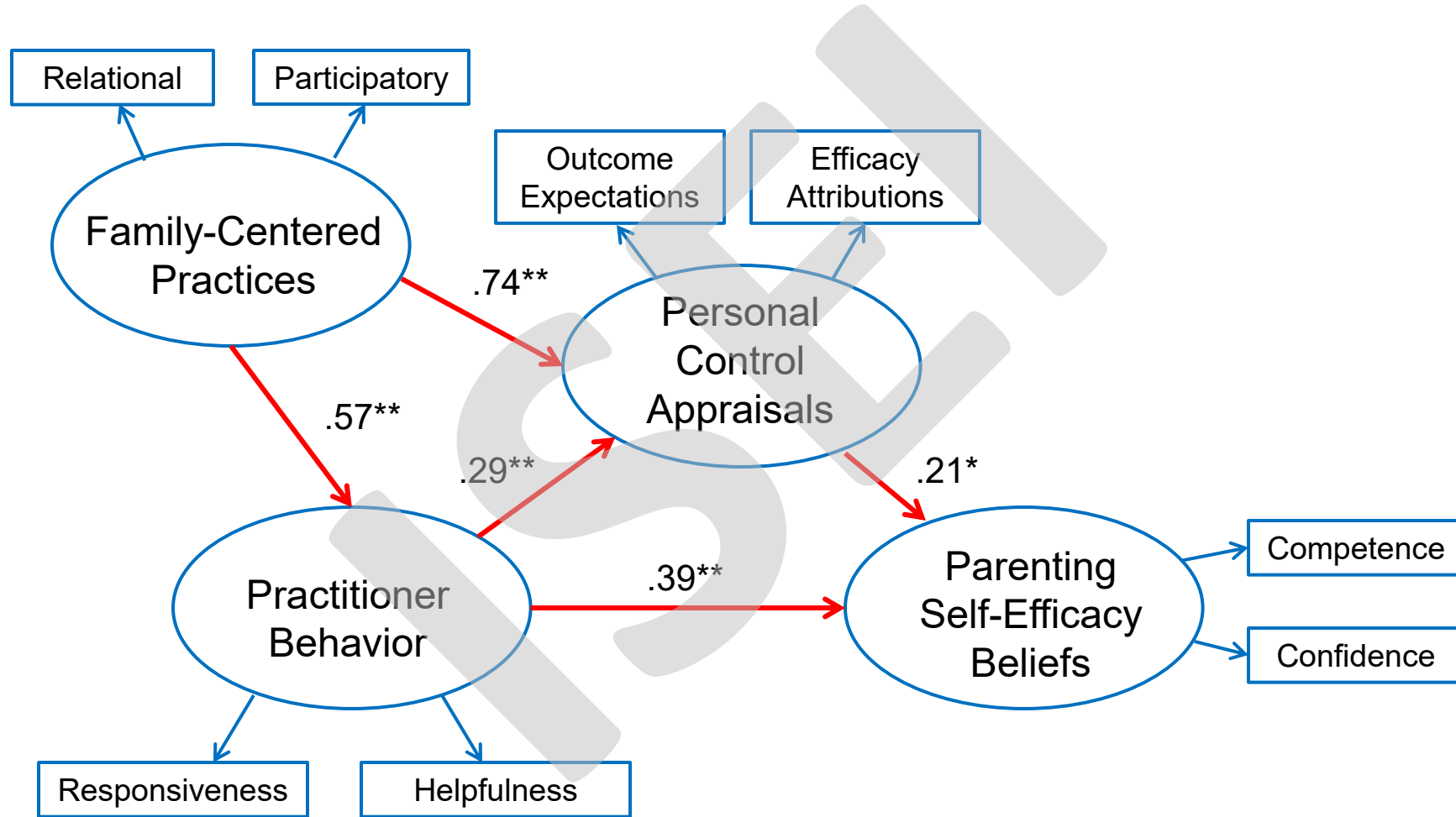


Standardized Path Coefficients for the Relationships Among the Measures in the SEM Model



* $p < .05$ ** $p < .001$.

Pathways of Influence of FCPs on Parenting Self-Efficacy Beliefs Mediated by Practitioner Behavior and Parents' Control Appraisals



* $p < .05$ ** $p < .001$.

Meta-Analytic Structural Equation Modeling (MASEM) Studies

Dunst, C. J., Hamby, D. W., & Raab, M. (2019). Modeling the relationships between practitioner capacity-building practices and the behavior and development of young children with disabilities and delays. *Educational Research and Reviews*, 14(9), 309-319.

Dunst, C. J., & Trivette, C. M. (2009). Meta-analytic structural equation modeling of the influences of family-centered care on parent and child psychological health. *International Journal of Pediatrics*, 2009, 1-9.

Dunst, C. J., & Trivette, C. M. (2010). *Evaluating the direct and indirect effects of early intervention practices using meta-analytic structural equation modeling* Presentation made at the Office of Special Education Programs Project Directors' Conference, Washington, DC. Available at: <https://puckett.org/presentations>

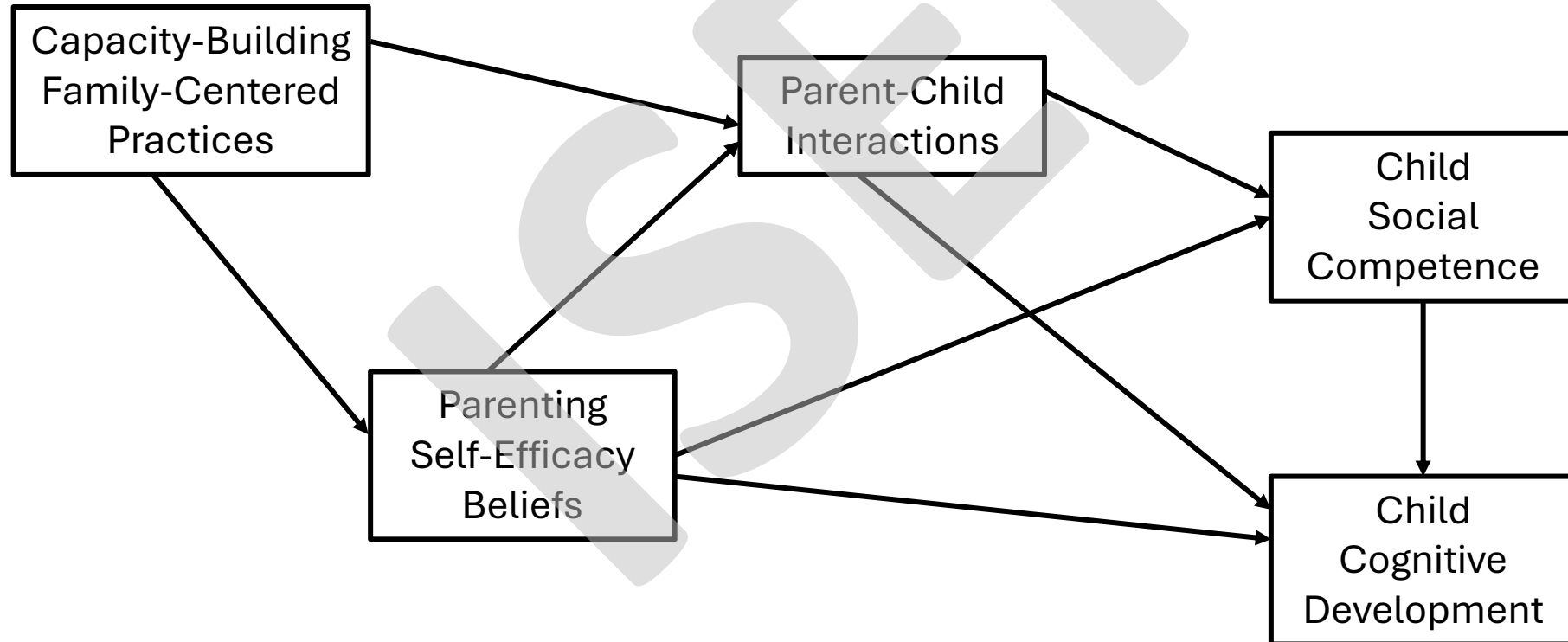
Dunst, C. J., Trivette, C. M., & Raab, M. (2013, October). *Pathways of influence of early intervention on family, parent, and child outcomes*. Presentation made at the Division for Early Childhood 29th Annual International Conference on Young Children with Special Needs and Families, San Francisco. Available at <https://puckett.org/presentations>

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.

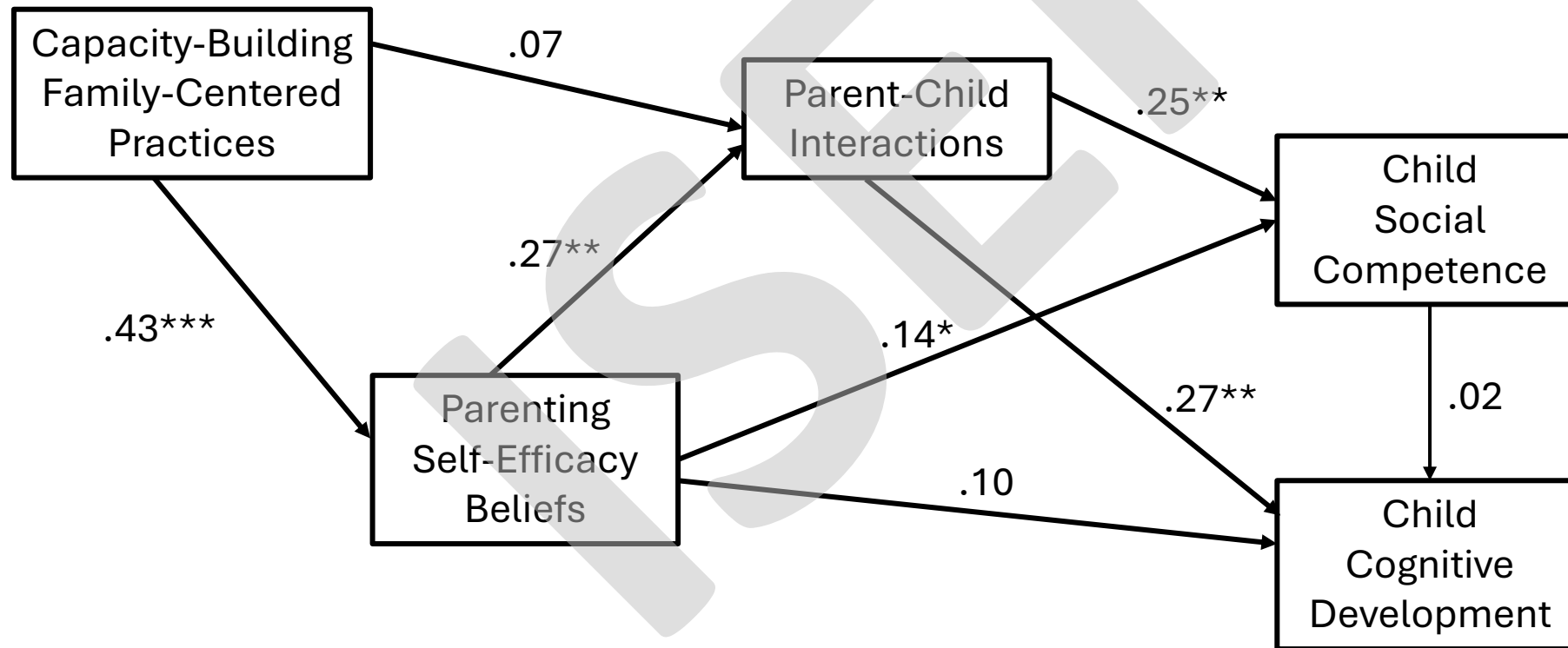
Modeling the Relationships Between Practitioner Capacity-Building Practices and the Behavior and Development of Young Children with Disabilities and Delays

| | |
|-------------------------------|---|
| Number of Studies: | 13 |
| Number of Study Participants: | 6505 parents and children |
| Study Participants: | Parents of children birth to 6 years of age with developmental disabilities or established developmental delays |
| Study Measures: | Practitioner capacity-building practices (participatory FCPs), parenting self-efficacy beliefs, parent-child interactions, child social competence, and child cognitive development |
| Method of Analysis: | Meta-analytic structural equation modeling of the pooled correlational data from the 13 studies |

Hypothesized Relationships Between the Study Measures in the MASEM Model

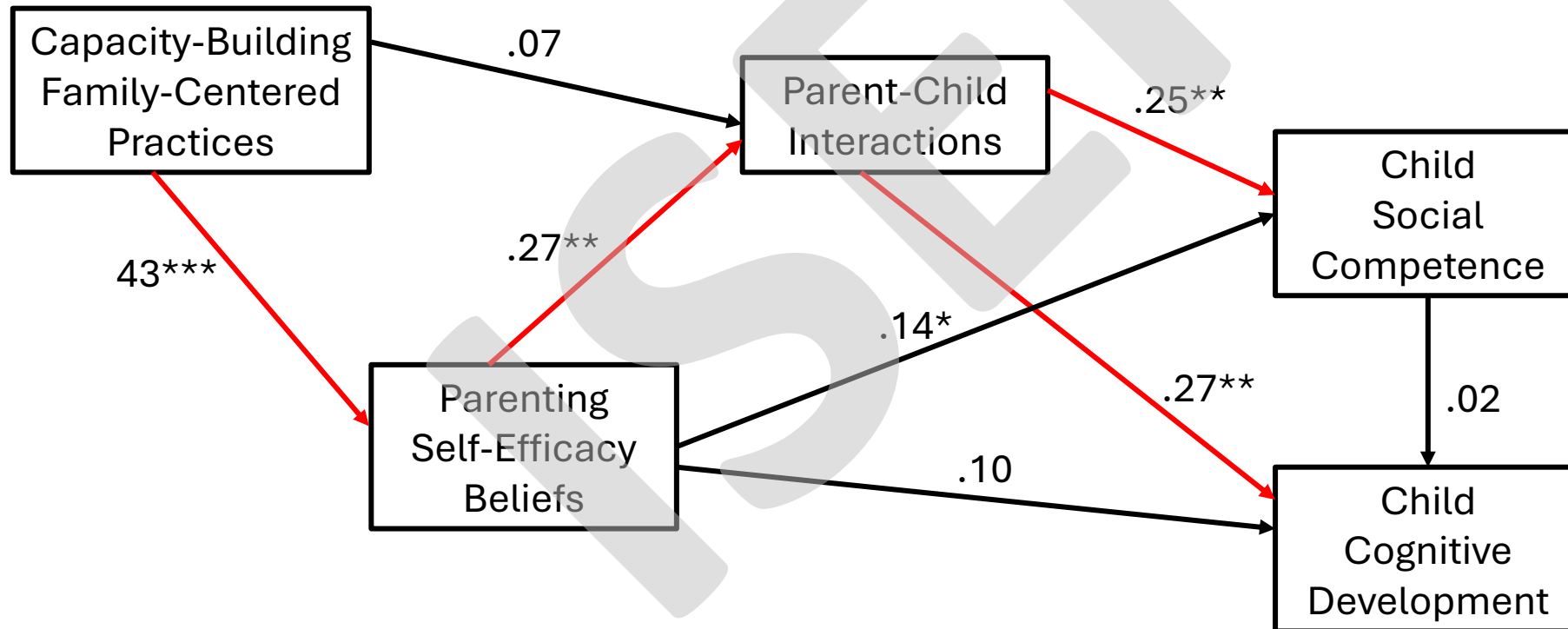


Standardized Path Coefficients for the Relationships Among the Five Measures in the MASEM Model



*p<.05 **p<.01 ***p<.001

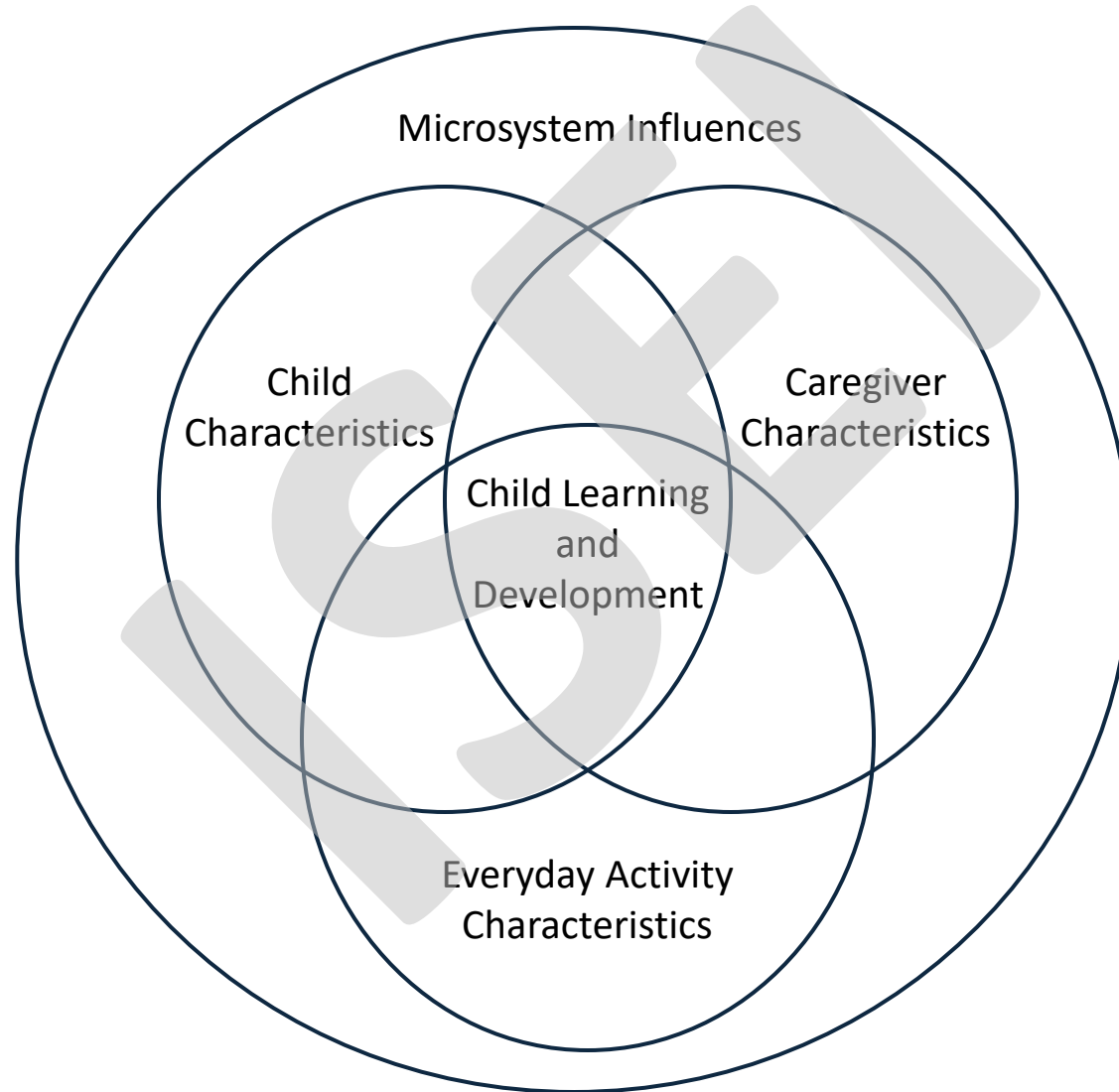
Pathways of Influence of Competency-Enhancing Practitioner Behavior on Child Social Behavior and Child Development Mediated by Parenting Self-Efficacy Beliefs



*p<.05 **p<.01 ***p<.001

**Studies of the Effects of Microsystem
Intervention Practices on Child and Parent
Behavior and Functioning**

Framework for Conceptualizing Factors Influencing Child Learning and Development



Operationalization of the Microsystems Factors Associated with Child Learning and Development

- Everyday family and community activities as the sources of context-specific child learning opportunities
- Child personal interests and situationally interesting persons, events, objects, etc. as factors contributing to child engagement and learning in everyday child learning activities
- Responsive parental interactional behavioral styles as the “teaching method” for promoting and supporting child learning in interest-based child learning activities

Types of Research Studies for Investigating Microsystem Influences on Parent, Parent-Child, and Child Behavior

- Studies of the sources of everyday child learning opportunities (e.g., Dunst et al., 2001)
- Studies of the role children's personal and situational interests play in child participation in everyday activities and child learning and development (e.g., Dunst & Raab, 2012)
- Studies of the relationships between parenting interactional behavior and child behavior and development (e.g., Dunst & Kassow, 2008)

Dunst, C. J., Bruder, M. B., Trivette, C. M., Hamby, D., Raab, M., & McLean, M. (2001). Characteristics and consequences of everyday natural learning opportunities. *Topics in Early Childhood Special Education, 21*, 68-92.

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). Springer.

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.

Research and Practice on Sources of Everyday Child Learning Opportunities

Bruder, M. B., & Dunst, C. J. (2011). Infant, toddler and preschooler inclusion in community activities. *Revista Educación Inclusiva*, 4(3), 21-34.

Dunst, C. J. (2001). Participation of young children with disabilities in community learning activities. In M. J. Guralnick (Ed.), *Early childhood inclusion: Focus on change* (pp. 307-333). Brookes Publishing Co.

Dunst, C. J. (2020). Everyday learning opportunities of young children with and without developmental disabilities. *International Journal of Early Childhood Environmental Education*, 7(3), 23-41.

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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.

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Dunst, C. J., Bruder, M. B., Trivette, C. M., Raab, M., & McLean, M. (2001). Natural learning opportunities for infants, toddlers, and preschoolers. *Young Exceptional Children*, 4(3), 18-25.

Dunst, C. J., Hamby, D. W., & Snyder, D. (2009). Preschool children's emerging participation in leisure and recreation activities. *World Leisure Journal*, 51, 219-228.

Dunst, C. J., Hamby, D. W., Trivette, C. M., Raab, M., & Bruder, M. B. (2000). Everyday family and community life and children's naturally occurring learning opportunities. *Journal of Early Intervention*, 23, 151-164.

Research and Practice on Sources of Everyday Child Learning Opportunities (continued)

Dunst, C. J., Hamby, D. W., Trivette, C. M., Raab, M., & Bruder, M. B. (2002). Young children's participation in everyday family and community activities. *Psychological Reports, 91*, 875-897.

Dunst, C. J., Herter, S., Shields, H., & Bennis, L. (2001). Mapping community-based natural learning opportunities. *Young Exceptional Children, 4*(4), 16-24.

Dunst, C. J., & Raab, M. (2004). Parents' and practitioners' perspectives of young children's everyday natural learning environments. *Psychological Reports, 93*, 251-256.

Dunst, C. J., Raab, M., Trivette, C. M., & Swanson, J. (2010). Community-based everyday child learning opportunities. In R. A. McWilliam (Ed.), *Working with families of young children with special needs* (pp. 60-92). Guilford Press.

Dunst, C. J., & Shue, P. (2005). Creating literacy-rich natural learning environments for infants, toddlers, and preschoolers. In E. M. Horn & H. Jones (Eds.), *Supporting early literacy development in young children* (pp. 15-30). Sopris West.

Dunst, C. J., Trivette, C. M., Hamby, D. W., & Bruder, M. B. (2006). Influences of contrasting natural learning environment experiences on child, parent, and family well-being. *Journal of Developmental and Physical Disabilities, 18*, 235-250.

Dunst, C. J., Trivette, C. M., Humphries, T., Raab, M., & Roper, N. (2001). Contrasting approaches to natural learning environment interventions. *Infants and Young Children, 14*(2), 48-63.

Dunst, C. J., Trivette, C. M., & Raab, M. (2014). Everyday child language learning early intervention practices. *Infants and Young Children, 27*(3), 207-219.

Raab, M., & Dunst, C. J. (2004). Early intervention practitioner approaches to natural environment interventions. *Journal of Early Intervention, 27*, 15-26.

Research and Practice on Sources of Everyday Child Learning Opportunities (continued)

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, 66-80.

Trivette, C. M., Dunst, C. J., & Hamby, D. (2004). Sources of variation in and consequences of everyday activity settings on child and parenting functioning. *Perspectives in Education*, 22(2), 17-35.

Umstead, S., Boyd, K., & Dunst, C. J. (1995). Building community resources: Enabling inclusion in community programs and activities. *Exceptional Parent*, 25(7), 36-37.

Research and Practice on Interest-Based Child Learning

Dunst, C. J. (2011). Interest-based learning as an intervention practice for very young children with autism. In R. Holcraft (Ed.), *Treatment strategies: Pediatrics* (pp. 34-39). Cambridge Research Centre.

Dunst, C. J. (2020). Parents' interests and abilities as sources of young children's everyday learning opportunities. *Journal of Family Strengths*, 20(1), Article 4.

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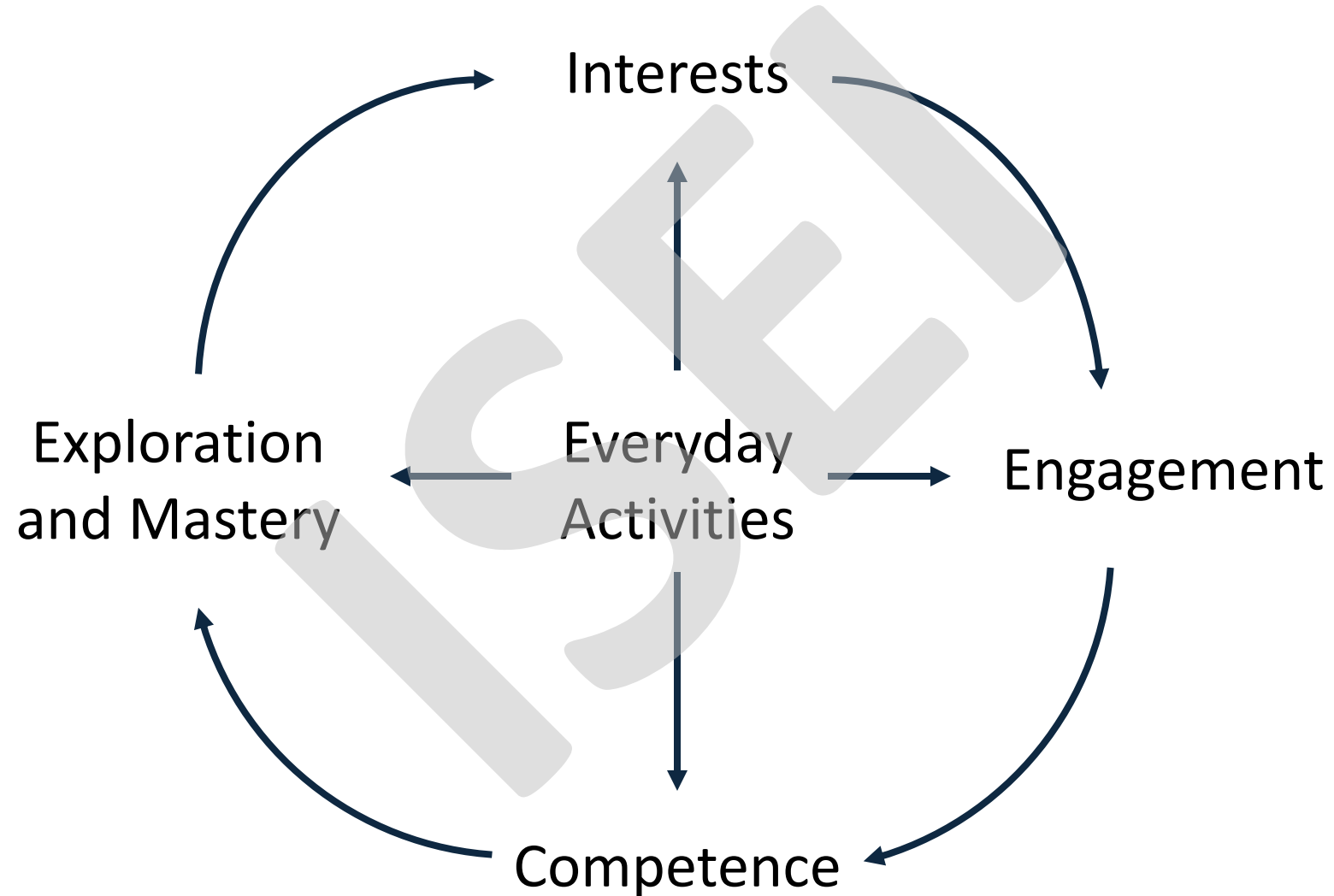
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Role of Interest-Based Everyday Child Learning



Types of Interests

- ***Personal Interests***

Personal interests include the preferences, choices, desires, etc. of a person that influence participation or engagement in different activities, events, or behavior that a person finds enjoyable

- ***Situational Interests***

Situational interests refer to the “interestingness” of people, objects, events, etc., that gain and maintain a person’s attention, and “draw” the person into engagement or participation in activities

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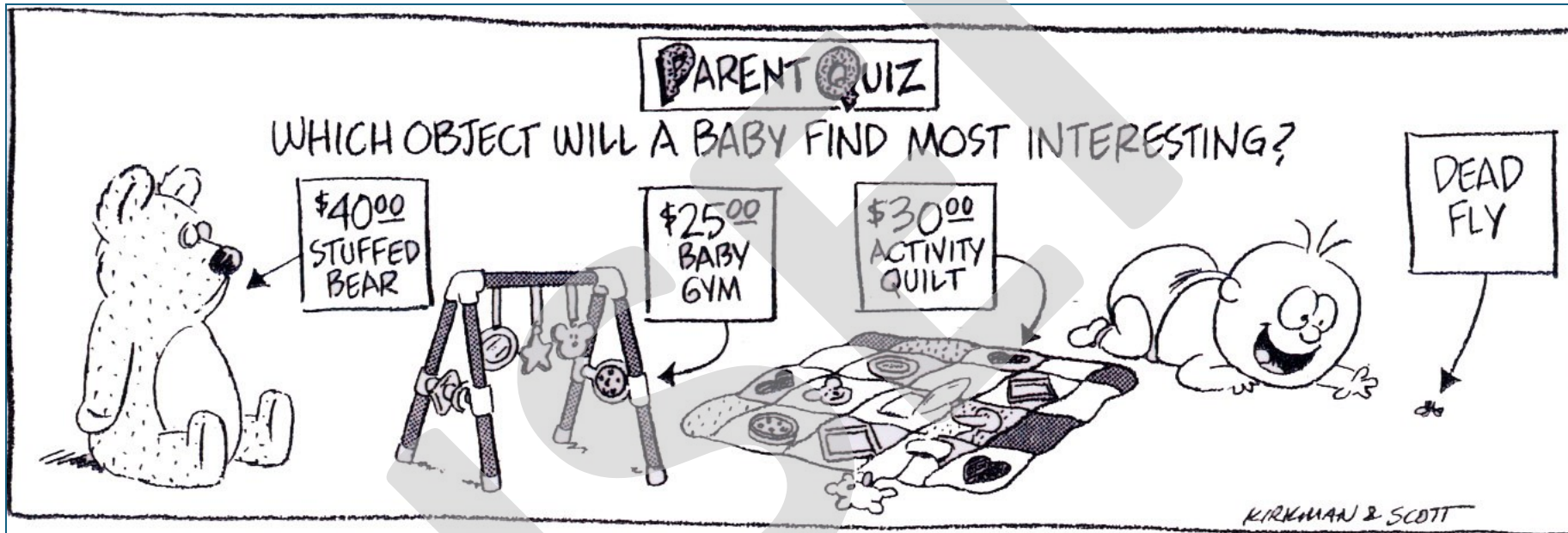
Example of a
Personal
Interest

DENNIS THE MENACE/Hank Ketcham



"I HAD A CHOICE BETWEEN STAYING
CLEAN OR HAVIN' FUN."

Example of a Situational Interest



Examples of Microsystem Intervention Practices Research

- Effects of Interest-Based Child Participation in Everyday Family and Community Activities on Child Development
- Use of Strengths-Based Response-Contingent Learning Games for Promoting Child Engagement and Interactions with the Social and Nonsocial Environment

Contrasting Types of Intervention for Increasing Child Participation in Interest-Based Everyday Activities and Child Development

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

Study Participants: 50 infants, toddlers, and preschoolers with identified disabilities and their parents living in six different United States. The six sites were randomly assigned to three interest-based and three non-interest-based intervention groups

Outcome Measure: Developmental Observation Checklist Scales (Language, Cognitive, Motor, Social). The children's developmental ages (in months) were used to measure child progress

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

The Contrasting 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 identify everyday family and community activities that occurred on a frequent 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 where the parents increased their children's participation in the everyday activities

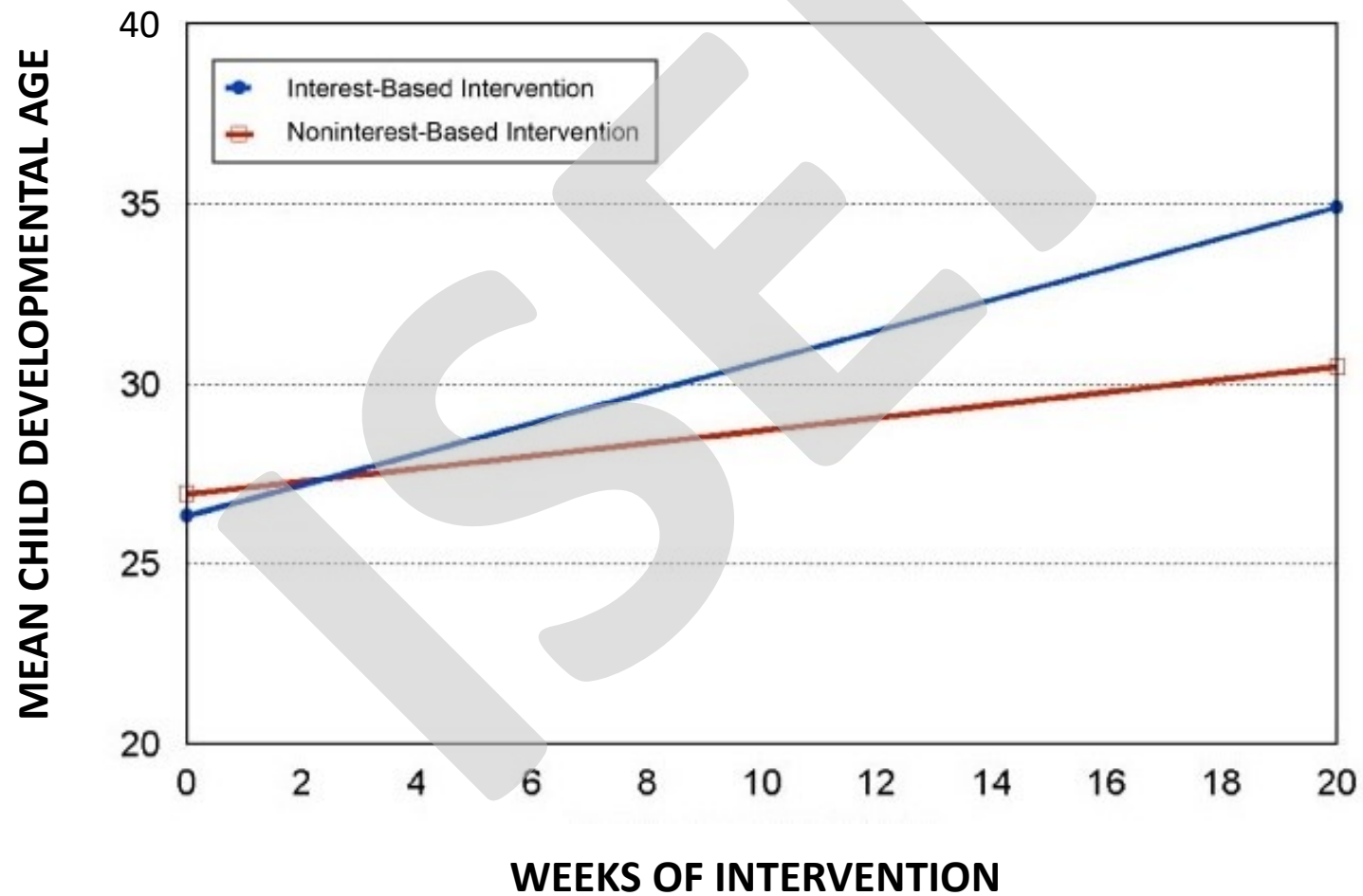
Parents' Roles in Children's Engagement in Everyday Learning Activities

- Parents in both the interest-based and non-interest-based intervention groups used naturalistic responsive teaching (Dunst et al., 2012) as the instructional method for supporting and strengthening child engagement in the everyday activities and to reinforce child production of context-specific child behavioral competencies
- The particular procedure included seven key features (Raab & Dunst, 2009) based on research evidence where each feature individually and in combination is related to increased child competence while engaged in everyday activities

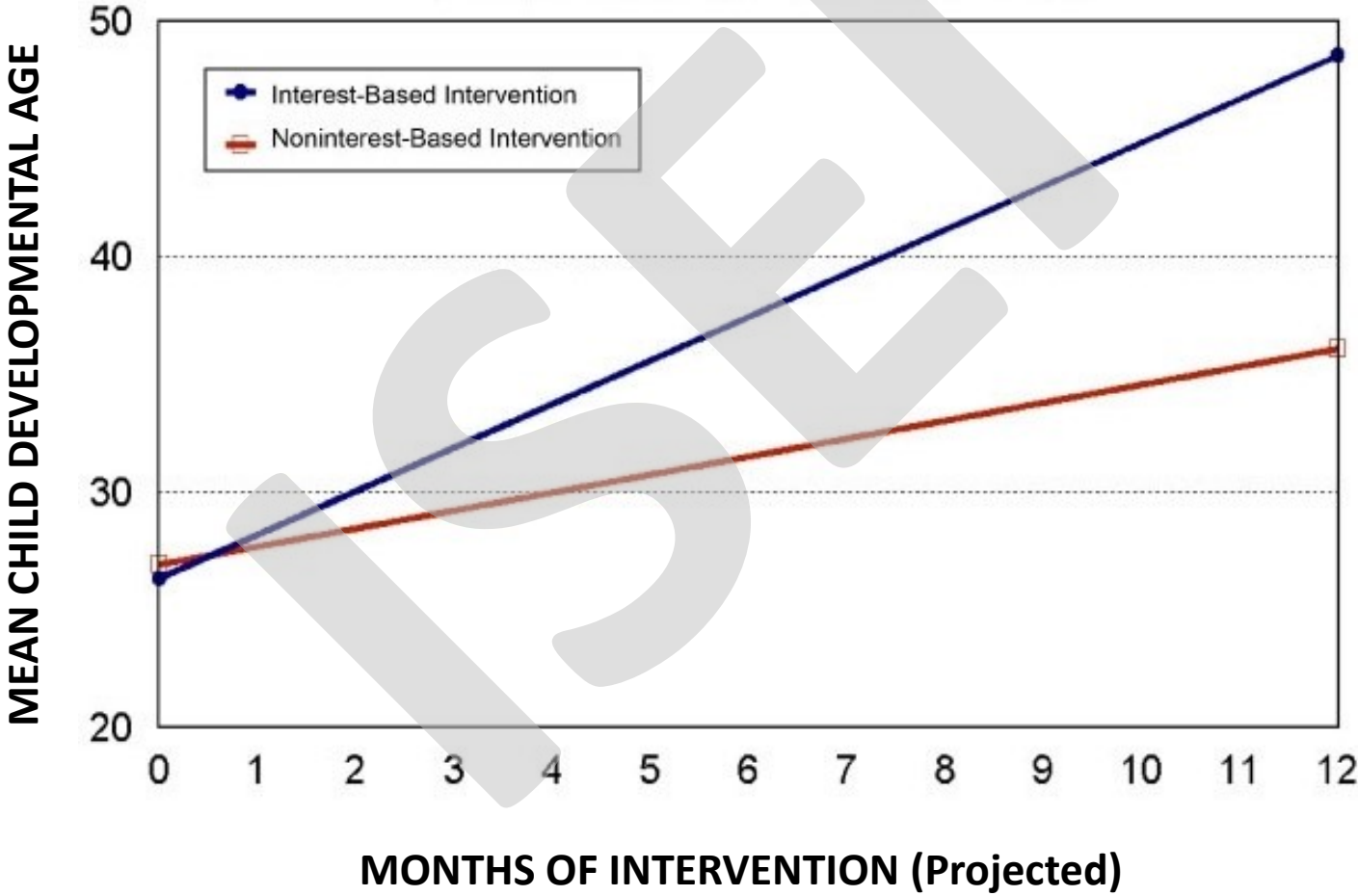
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Relative Effectiveness of Two Contrasting Approaches to Everyday Activity Intervention Practices



Projected Benefits of Two Contrasting Approaches to Everyday Activity Intervention Practices



Relative Effectiveness of the Two Types of Interventions

- During the five months of intervention, children in the interest-based group made eight months of developmental progress. In contrast, the children in the non-interest-based group made four months of developmental progress
- The non-interest-based intervention would have been considered effective if the interest-based group results were not available for comparison
- The projected benefits of interest-based child learning compared to non-interest-based child learning indicate that the former type of everyday child learning is much more effective than the latter type of everyday child learning

Benefits of Interest-Based Everyday Child Learning Opportunities

- Incorporating children's interests into everyday child learning activities increases the likelihood of sustained child engagement in the activities
- Sustained engagement provided parents and other caregivers with increased opportunities to use responsive interactional practices to reinforce and promote child competence while children are engaged in everyday learning activities
- Increased child competence provides children the opportunity to use newly acquired behavior to increase interactions with people and material in the environment

Child Response-Contingent Learning Games

- Melinda Raab and I initiated a line of research and practice in the mid-1980s to evaluate the effectiveness of response-contingent learning games for promoting the acquisition of children's abilities to initiate and sustain interactions with people and the nonsocial environment. ***The intervention practices were developed specifically for children who did not intentionally use behavior to elicit environmental consequences***
- Response-contingent learning games are characterized by behavior-based contingencies where a child's behavior results in interesting environmental consequences (e.g., touching a mobile to produce movement or sound) or a reinforcing event (e.g., tickling a child's tummy in response to the child smiling at or vocalizing to an adult)

Extended Benefits of Response-Contingent Child Learning Games

The line of research and practice was guided by a microsystem framework (Dunst et al., 2010) where the benefits of response-contingent learning games were not limited to increased child competence but also the extended benefits to the children and the persons (parents, teachers) engaging the children in the learning games:

- The extended child benefits included (a) the social-emotional behavior (smiling, laughter, vocalizations, excitement) displayed in response to contingency recognition and (b) the collateral social-emotional behavior displayed by the child when not playing the learning games
- The extended adult benefits included (a) the social-affective behavior and verbalizations displayed by the adults during the learning games in response to a child's contingency behavior and (b) the social-affective behavior and verbalizations displayed following the completion of a learning game that focused specifically on a child's increased competence

Dunst, C. J., Raab, M., Trivette, C. M., Wilson, L. L., Hamby, D. W., & Parkey, C. (2010). Extended child and caregiver benefits of behavior-based child contingency learning games. *Intellectual and Developmental Disabilities, 48*, 259-270.

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Raab, M., Dunst, C. J., & Hamby, D. W. (2017). Efficacy trial of contrasting approaches to the response-contingent learning of young children with significant developmental delays and multiple disabilities. *Journal of Educational and Developmental Psychology, 7*(1), 12-28.

Raab, M., Dunst, C. J., & Hamby, D. W. (2018). Multilevel linear modeling of the response-contingent learning of young children with significant developmental delays. *Research in Developmental Disabilities, 81*, 113-121.

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Child Asset-Based vs. Child Needs-Based Response-Contingent Learning Games Interventions

Purpose: Compare the relative effectiveness of an asset-based vs. needs-based approach to contingency learning among children with significant developmental delays and disabilities

Study Participants: Parents (mostly mothers) of 71 infants and toddlers with identified disabilities (mean age = 17 months) functioning at four months of age developmentally

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

Extended Child and Parent Benefit Measures: Child concomitant and collateral social-emotional behavior and parent concomitant and collateral social-emotional behavior

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

Selected Characteristics of the Child and Parent Participants

| Participant Characteristics | Asset-Based Group | | Needs-Based Group | |
|-------------------------------|-------------------|-------|-------------------|-------|
| | Mean | SD | Mean | SD |
| Child Characteristics | | | | |
| Chronological Age (Months) | 17.61 | 12.57 | 17.36 | 8.70 |
| Developmental Age (Months) | 4.56 | 2.99 | 4.41 | 2.46 |
| Developmental Quotient | 36.33 | 26.23 | 30.48 | 18.69 |
| Parent Characteristics | | | | |
| Parent Age (Years) | 32.18 | 7.57 | 31.78 | 8.40 |
| Years of School Completed | 14.05 | 1.71 | 13.48 | 1.46 |
| Family Socioeconomic Status | 36.16 | 15.01 | 33.85 | 9.13 |

The Two Contrasting Types of Intervention

Asset-Based (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, 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.

Needs-Based (Deficit-Based) Practices

The children in the needs-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 parent- and practitioner-identified child behavior in each domain as the intervention targets.

Response-Contingent Learning Games

- The same types of response-contingent learning games were used in both intervention groups to promote the children's use of targeted behavior to elicit or produce interesting or reinforcing consequences. Learning games included behavior that either resulted in reinforcing consequences (e.g., batting at a mobile to produce movement or sound) or were reinforced by a parent (e.g., a parent tickling a child's tummy each time he or she looked at the adult's face)
- Response-contingent learning games were characterized by behavior-based contingencies where the availability of a reinforcement or the production of an interesting consequence was dependent (contingent) on a child's production of a targeted behavior (Tarabulsy et al., 1996)

Tarabulsy, G. M., Tessier, R., & Kappas, A. (1996). Contingency detection and the contingent organization of behavior in interactions: Implications for socioemotional development in infancy. *Psychological Bulletin*, 120, 25-41.

Child Learning Measures

- Number of learning games afforded a child by a parent
- Number of child learning opportunities (trials) afforded by a parent per learning game
- Number of child contingency behavior per game having environmental effects
- Average number of child contingency behavior per game having environmental effects
- Percentage of learning trials per game having environmental effects (learning efficiency)

Child and Parent Social-Emotional Measures

Child Measures

- Concomitant social-emotional behavior (smiling, laughter, vocalizations, excitement) displayed during a learning game in response to child behavior having environmental effects (contingency detection and awareness)
- Child social-emotional collateral behavior displayed by the child when not engaged in the response-contingent learning games

Parent Measures

- Concomitant social-emotional behavior (smiling, laughter, verbalizations) during the child learning games specifically in response to the increased child response-contingent competence resulting from the learning games
- Collateral social-emotional behavior (e.g., positive verbal comments made in response to a parent's ability to affect child learning) when a child was not engaged in the learning games

Major Findings for the Two Types of Contrasting Intervention Practices

After just 8 weeks of intervention, the asset-based intervention group outperformed the needs-based intervention group in terms of:

- Number of learning games parents played with their children
- Number of learning opportunities parents afforded their children in the different learning games
- Number of child response-contingent behavior used to produce reinforcing consequences in the learning games
- Average number of child response-contingent behavior per learning game
- Efficiency of the child learning opportunities (response-contingent behavior per number of learning trials)
- Child social-emotional behavior produced in response to contingency detection
- Parental social-affective behavior produced in response to increased child competence

Efficacy Trial of Contrasting Approaches to Response-Contingent Child Learning Publications

Dunst, C. J., Raab, M., & Hamby, D. W. (2017). Contrasting approaches to the response-contingent learning of young children with significant delays and their social-emotional consequences. *Research in Developmental Disabilities, 63*, 67-73.

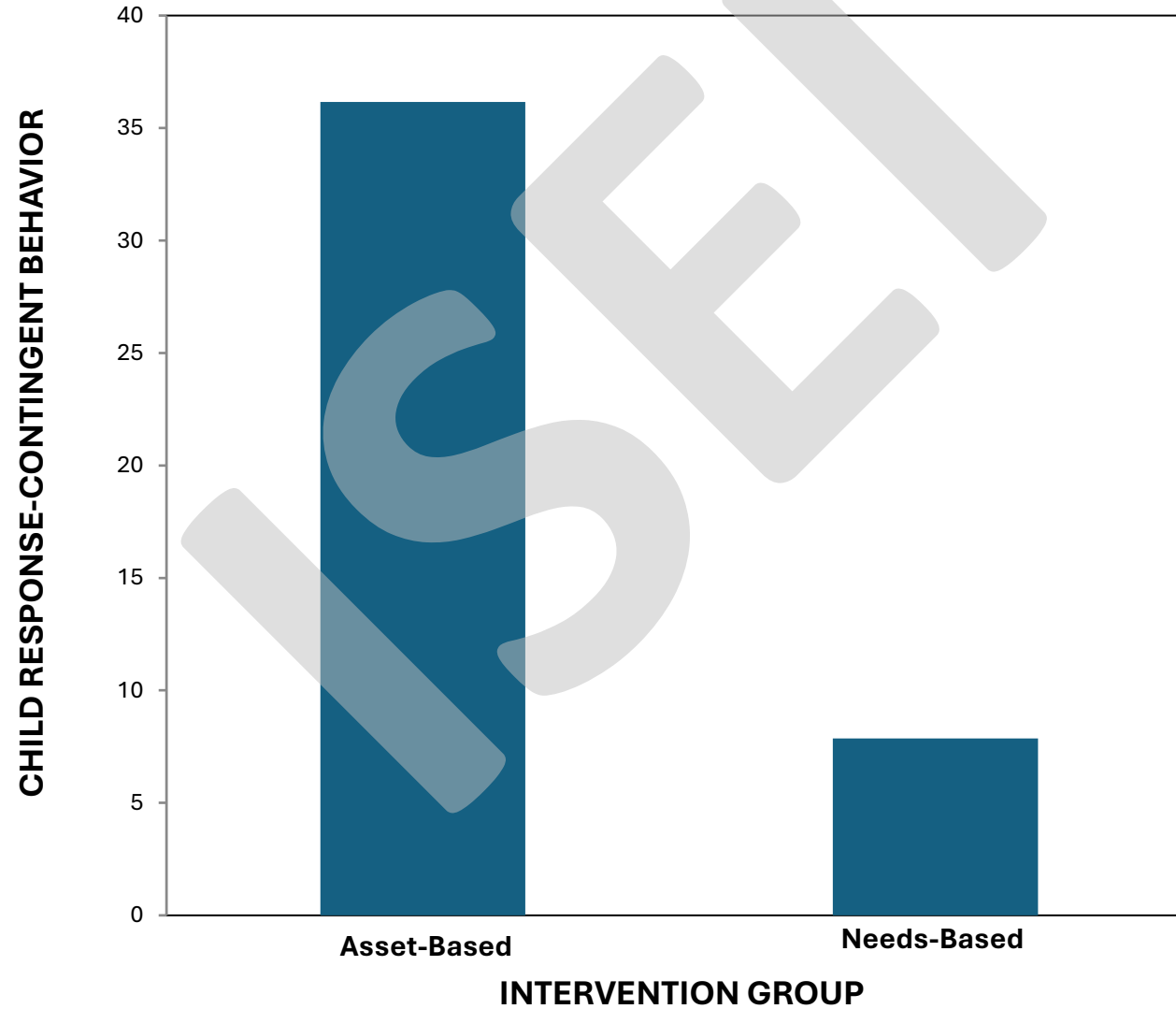
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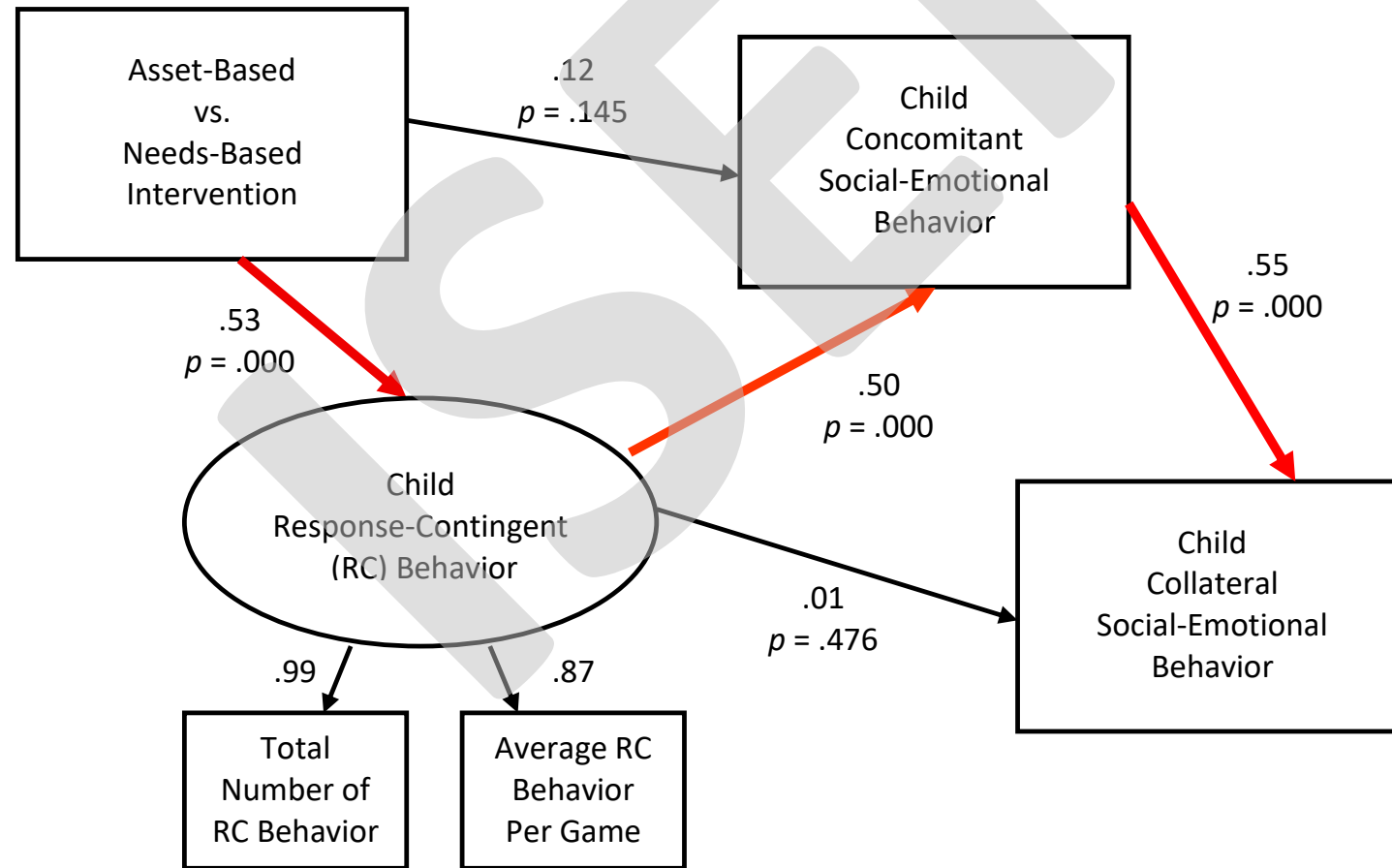
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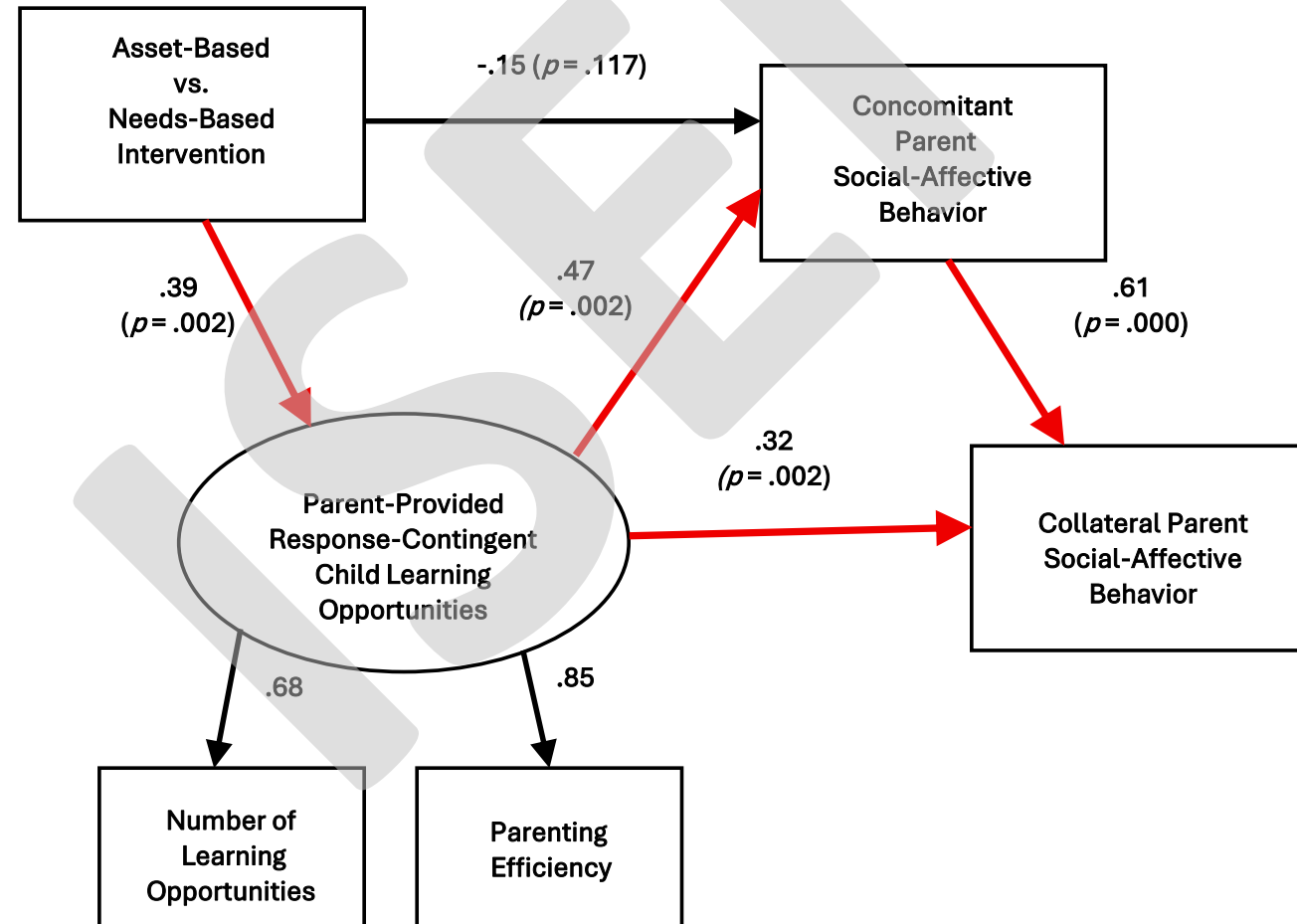
Average Number of Child Response-Contingent Behavior Per Learning Game



Pathways of Influence of the Two Types of Child Response-Contingent Learning Games on Child Concomitant and Collateral Social-Emotional Behavior



Pathways of Influence of the Two Types of Child Response-Contingent Child Learning Games on Parents' Social-Affective Behavior



Benefits of Response-Contingent Learning Games

- Using existing child behavior as the building blocks for promoting the acquisition of new child competencies is an efficient strategy for working with children who do not intentionally use behavior to produce social or nonsocial environmental consequences
- Increased child use of behavior resulting from response-contingent learning games is associated with both child and parent extended benefits
- Parental benefits include an increased sense of competence in terms of engaging their children in learning opportunities that result in observable child learning

Take-Aways From the Applied Family Systems Intervention Model Research

- Research findings from the different types of family systems studies have produced evidence consistent with the expected (hypothesized) relationships between the family systems practices and outcomes of interest
- The evidence-based relationships between the family systems practices and both parent and child outcomes provide the foundation for a family systems approach to early childhood intervention

Interested in More Information About the Applied Family Systems Model, Research, and Practice?

- The PowerPoint presentation is available on ResearchGate (<https://www.researchgate.net>). Search for the PP using the title of the presentation (Research foundations for applied family social systems early childhood intervention practices)
- Additional information about the family systems model, research, and practice is also available on Research Gate (<https://www.researchgate.net/profile/Carl-Dunst>) and on the Puckett Institute website (<https://puckett.org>)
- Please feel free to email me (cdunst@puckett.org) for any references cited in the PowerPoint that you are not able to locate either on ResearchGate or the Puckett Institute website



Questions and Comments

ISSUE