

# **Family Systems Early Intervention: Research Methodologies and Findings**

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Monash University, Peninsula Campus, Australia, March 19, 2014

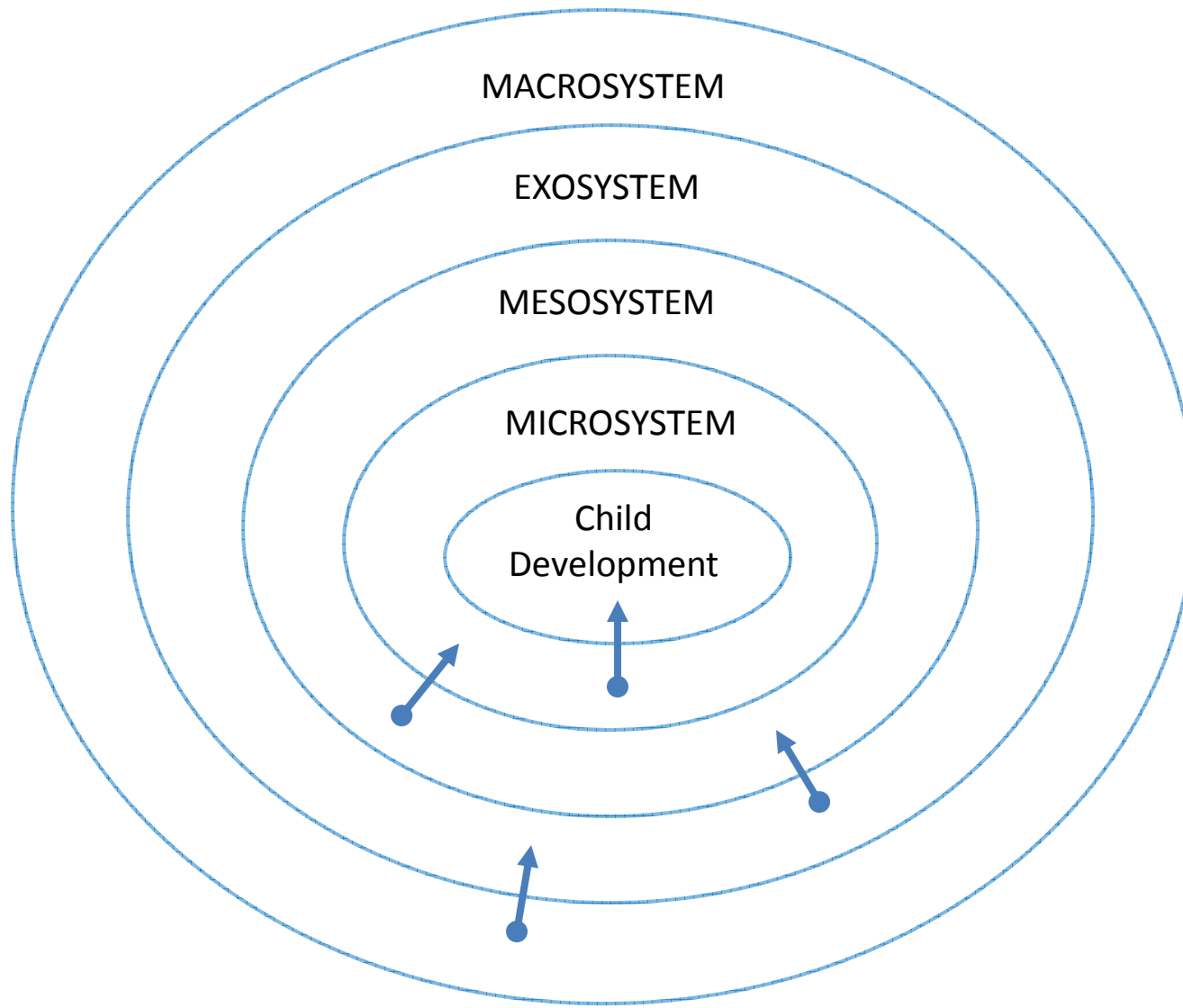
## Purpose of the Seminar

- Describe the types of research that have been conducted to evaluate basic tenets of the family systems intervention model
- Describe the challenges and opportunities in conducting research on family systems intervention practices
- Describe findings from several studies and meta-analyses of the relationships between family systems intervention practices and parent, family, and child outcomes

## Types of Studies That Have Been Conducted to Date

- Studies of the relationship between measures at one of Bronfenbrenner's systems levels and child, parent, and family outcomes
- Meta-analyses of research on the relationships between different family systems intervention model practices and child, parent, and family outcomes
- Structural equation model studies of the pathways of influence between different family systems intervention model practices and child, parent, and family outcomes
- Meta-analytic structural equation model studies of the pathways between and relationships among the family systems intervention model practices and different child, parent, and family outcomes

# Examples of System Level Research Studies



# Examples of Systems Theory Research Studies

## *Microsystem Study*

Influences of parenting interactional styles on child behaviour and development

## *Mesosystem Study*

Influences of different types of social support from informal and formal network social members on parent stress and well-being

## *Exosystem Study*

Influences of different types of early childhood help giving practices on parents' beliefs about their parenting confidence and competence

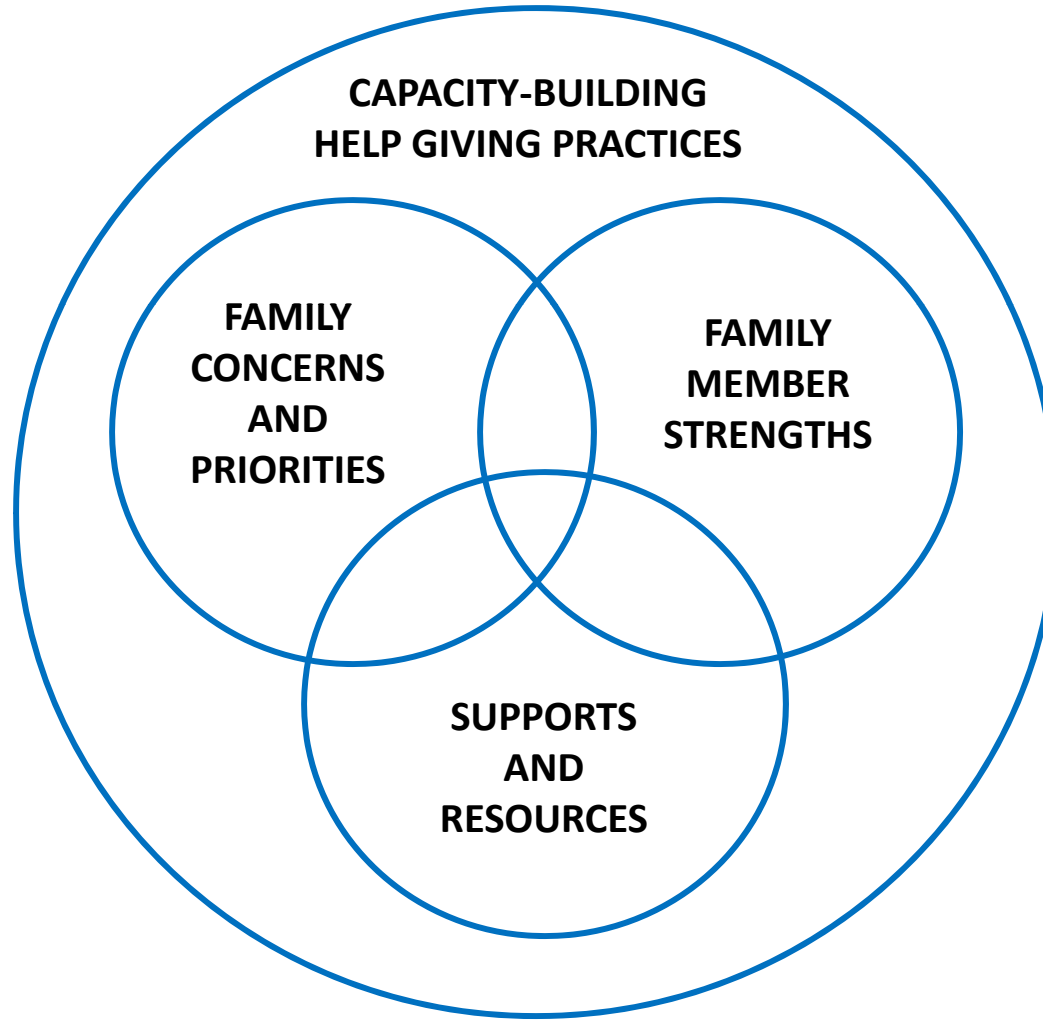
## *Macrosystem Study*

Influences of public policy and federal and state government laws on early childhood intervention practices

## A Few Challenges Conducting Research on the Family Systems Intervention Model

- The more complex the systems theory and the more complex the hypothesized relationships among the variables in the theory, the less applicable are more traditional research methodologies
- The attempt to try to capture “real life” variations in the supports and experiences of families and the influences of that variation on child, parent, and family outcomes *a la* Bronfenbrenner’s *Experiments by Nature*
- The need to include the most relevant variables in a study and to specify the natures of the relationships among the variables

# Research Syntheses on the Family Systems Intervention Practices



## Family Systems Model Studies

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Model Component	Number of Studies	Number of Participants
Concerns and Priorities	32	7,781
Family Strengths	32	2,924
Social Supports and Resources	79	10,932
Help Giving Practices	52	12,211

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# Independent Measures Used in the Synthesis Studies

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Model Component	Independent Measures
Concerns and Priorities	Family Resource Scale, Family Needs Scale
Family Strengths	Family Functioning Style Scale, Family Hardiness Index
Social Supports	Family Support Scale, Support Functions Scale
Help Giving Practices	Helpgiving Practices Scale, Measure of Process of Care, Family-Centred Practices Scale, Enabling Practices Scale (+9 other scales)

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# Dependent Measures Included in the Synthesis Studies

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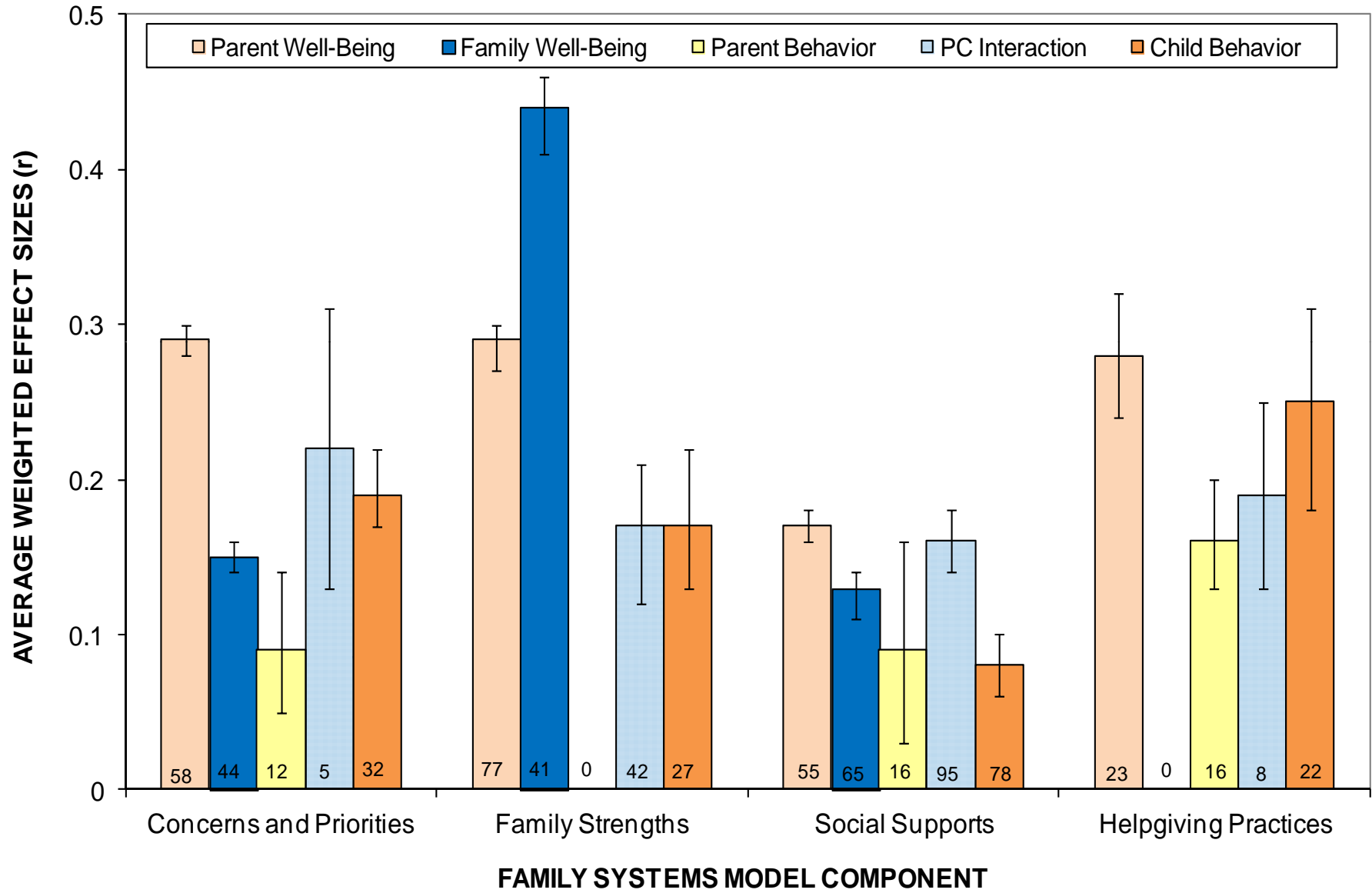
Outcome Domains	Outcome Measures (Selected Examples)
Self Efficacy Beliefs	Family Empowerment Scale, Personal Assessment of Control Scale
Parent Well-Being	Psychological Well-Being Index, Parenting Stress Index, CES-D
Family Well-Being	Family Environment Scale, FACES, Self Report Functioning Scale
Parent/Family Coping	Coping Strategies Inventory, F-COPES, Ways of Coping Scale
Life Events	Parent Daily Hassles Scale, Family Inventory of Life Events
Parenting Behavior	Parenting Competence Scale, Everyday Parenting Scale
Parent-Child Interactions	Parent-Child Relationship Scale, Parent Styles of Interaction Scale
Child Behavior	Conners Parent Rating Scale, Child Behaviour Checklist
Child Development	Bayley Scales of Infant Development, Vineland, Battelle, Adaptive Behaviour Inventory for Children

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## Method of Analysis

- The weighted average correlations among the independent and dependent variables were used as the effect sizes for the relationships between the family systems model practices and the study outcomes
- The 95% confidence intervals for the effect sizes were used to determine (a) the precision of the weighted average correlations and (b) if the correlations differed significantly from zero

# Selected Findings



# Meta-Analysis of Family-Centred Help Giving Practices Research

- Assess the extent to and manner in which the use of family-centred help giving practices are directly and indirectly related to (a) parent involvement in their children's learning and early education, (b) parenting confidence and competence, (c) parent and family well-being, and (d) child behaviour and development ***mediated by parents' self-efficacy beliefs***
- Self-efficacy beliefs were the focus of evaluating the indirect effects of help giving practices based on findings from my own and other studies of the importance of these types of beliefs in terms of influencing parents' behaviour

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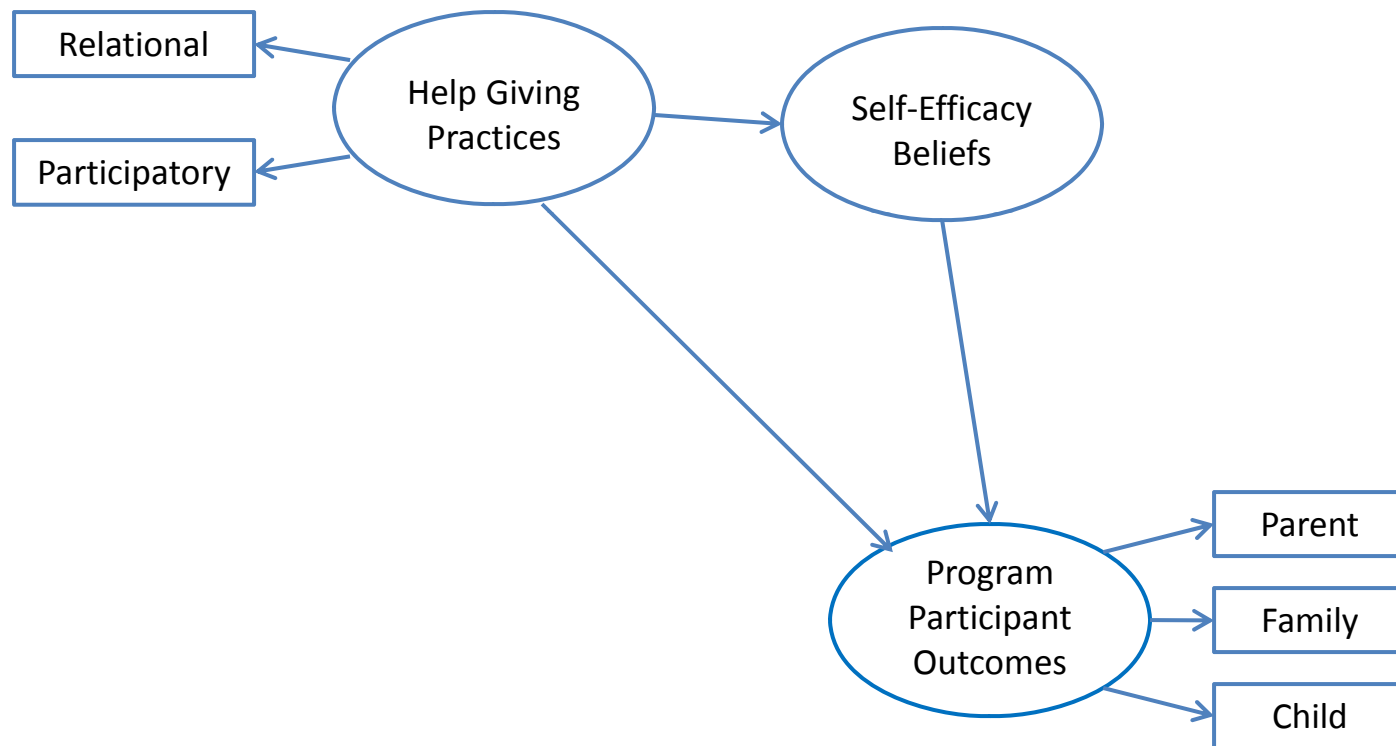
Dunst, C.J., Trivette, C.M., & Hamby, D.W. (2007). Meta-analysis of family-centred help-giving practices research. *Mental Retardation and Developmental Disabilities Research Reviews*, 13, 370-378.

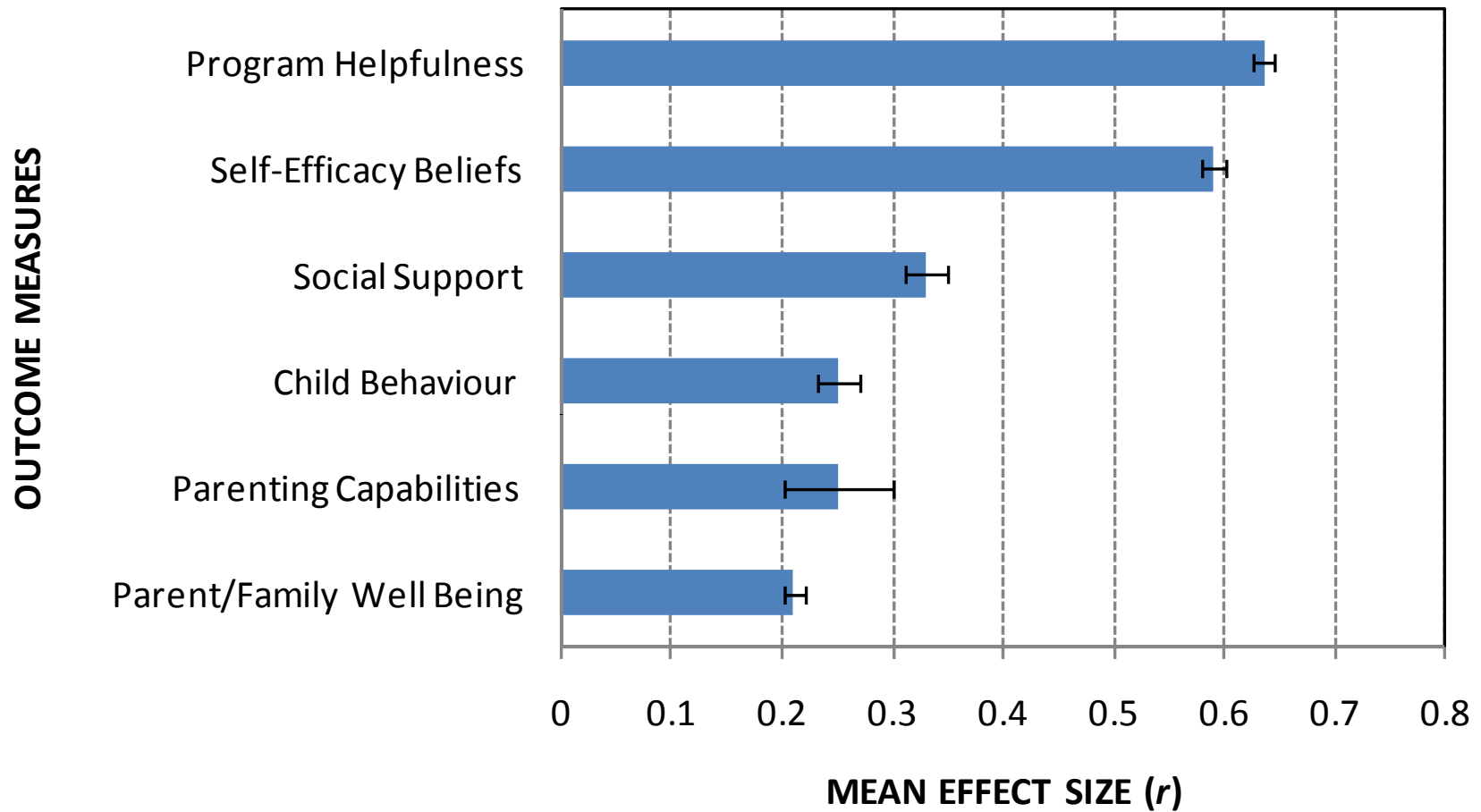
Dunst, C.J., Trivette, C.M., & Hamby, D.W. (2008). *Research synthesis and meta-analysis of studies of family-centred practices*. Asheville, NC: Winterberry Press.

## Studies Included in the Meta-Analysis

- 52 studies conducted by 23 researchers or research teams in 7 different countries
- 12,211 study participants whose children were involved in early intervention programs, preschool special education programs, elementary schools, family support programs, mental health programs, neonatal intensive care units, specialty clinics, rehabilitation centres, or physician practices
- The parents' children had an average age of 71 months at the time the studies were conducted
- Sixty-one percent of the children had a developmental disability or identified condition (e.g., Down syndrome, cerebral palsy). 12% had a developmental delay, 6% were at risk for poor outcomes, 8% had mental health related disabilities and 13% were typically developing.

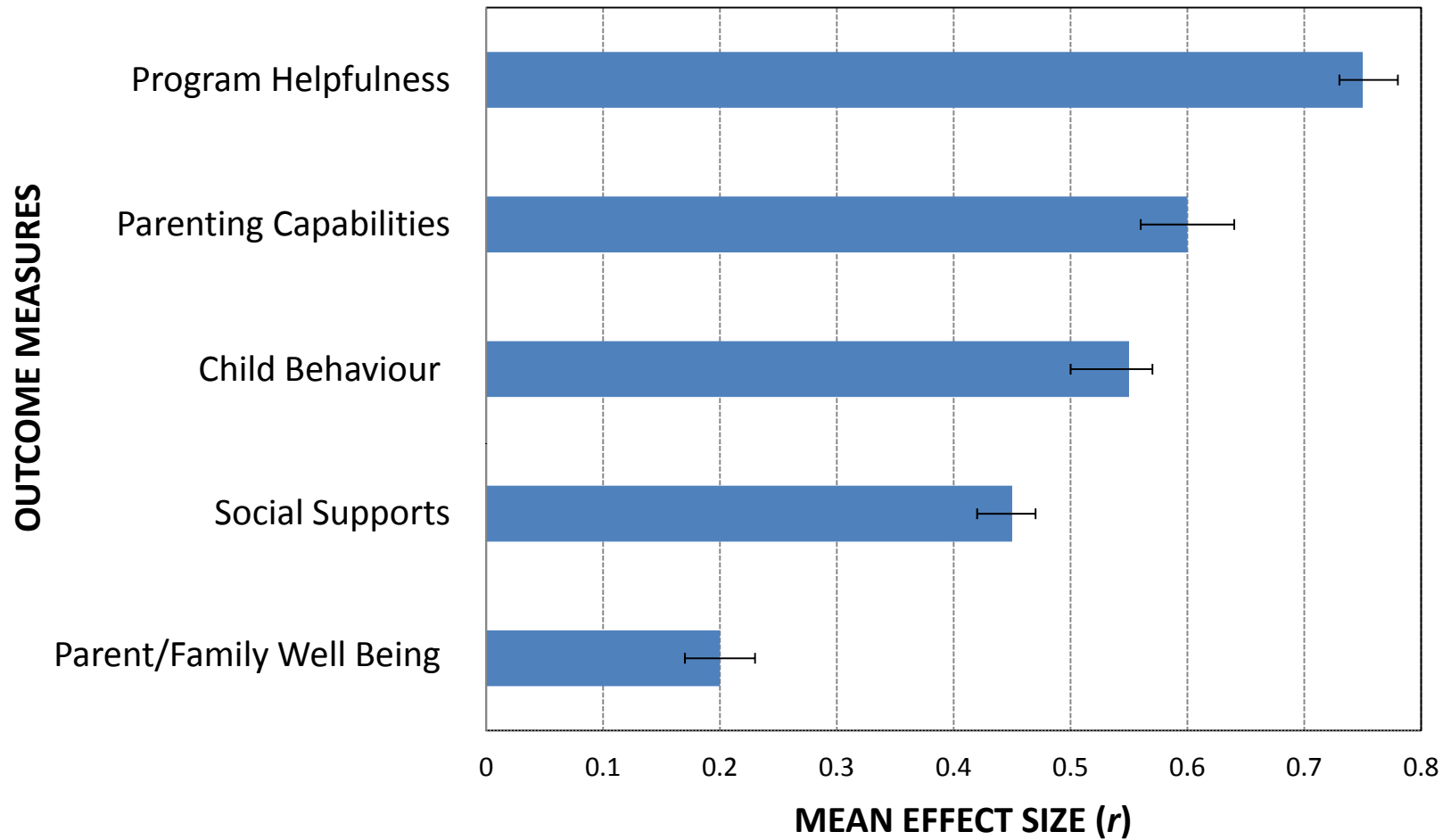
# Framework for Investigating the Influences of Help Giving Practices on Parent, Family, and Child Outcomes



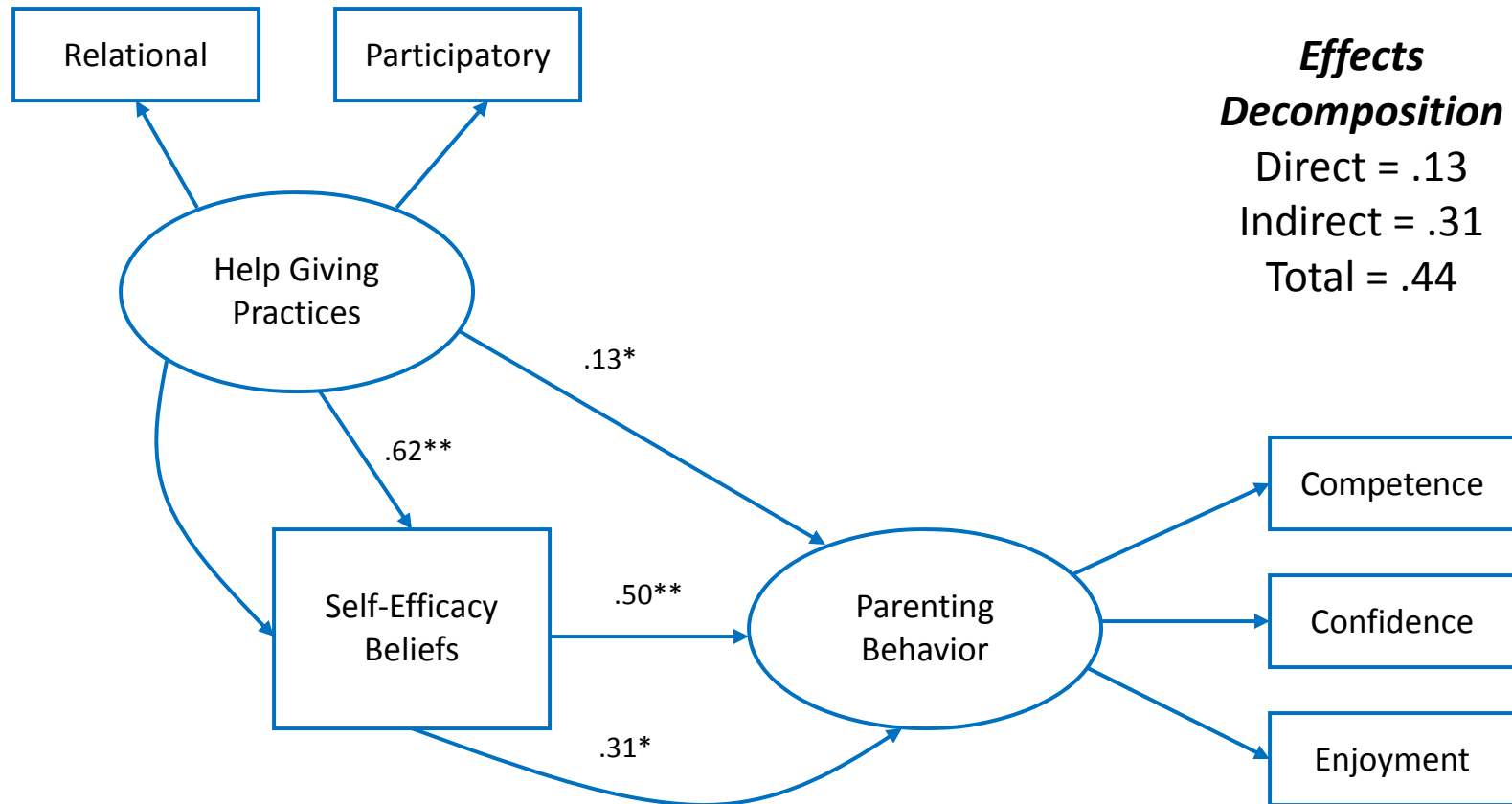


**Direct Effects of Help Giving Practices on  
Parent, Family, and Child Behavior and Functioning**





**Direct Effects of Self-Efficacy Beliefs on  
Parent, Family, and Child Behaviour and Functioning**



## Direct and Indirect Effect of Help Giving Practices on Parenting Behaviour

(NOTE. Straight lines are direct effects, curved line is indirect effect)

# Evaluating the Indirect Influences of Help Giving Practices on Parenting Behaviour

Carl J. Dunst

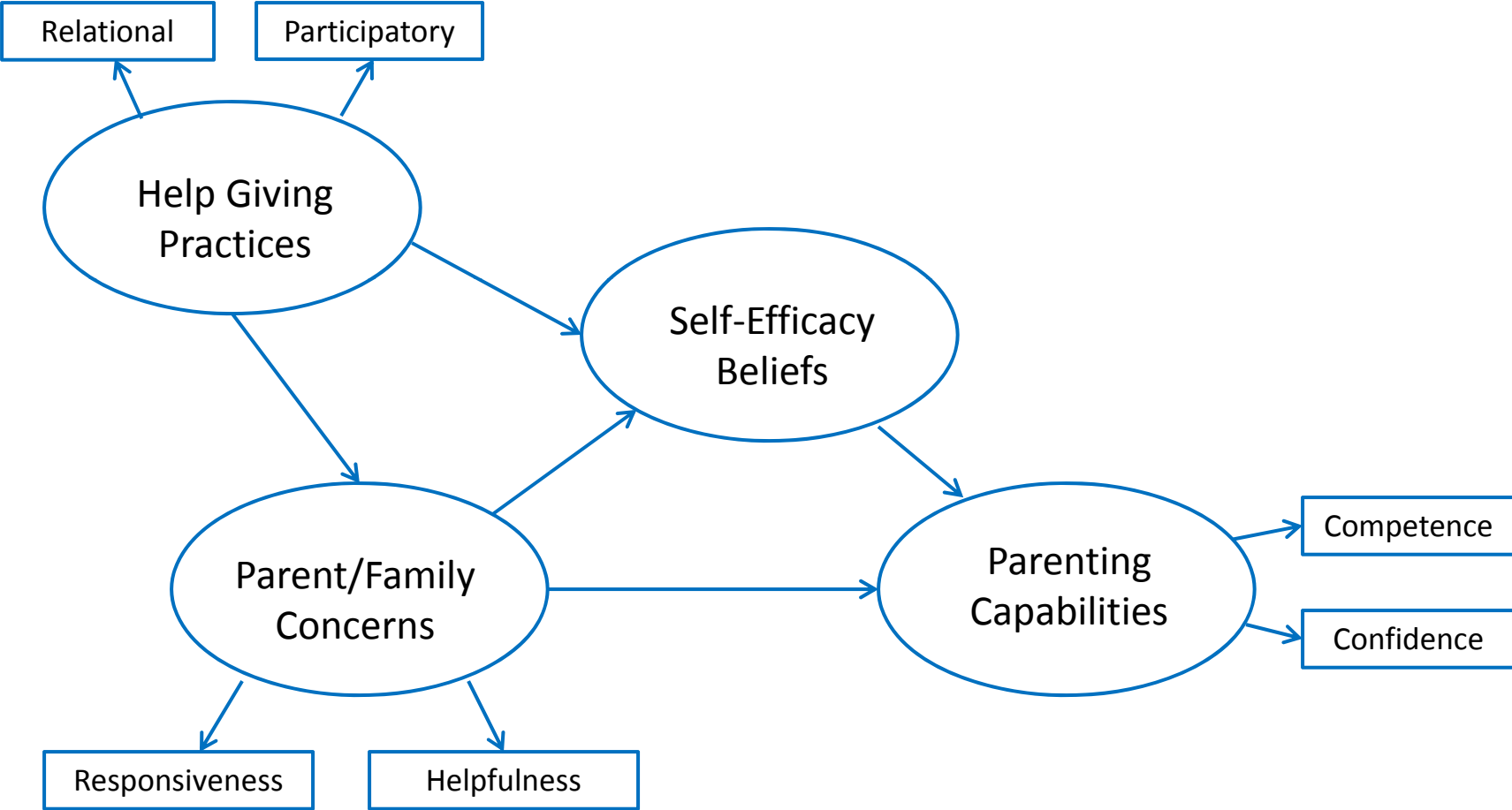
Carol M. Trivette

*Participants:* 100 parents of young children with and without disabilities participating in community-based family resource programs

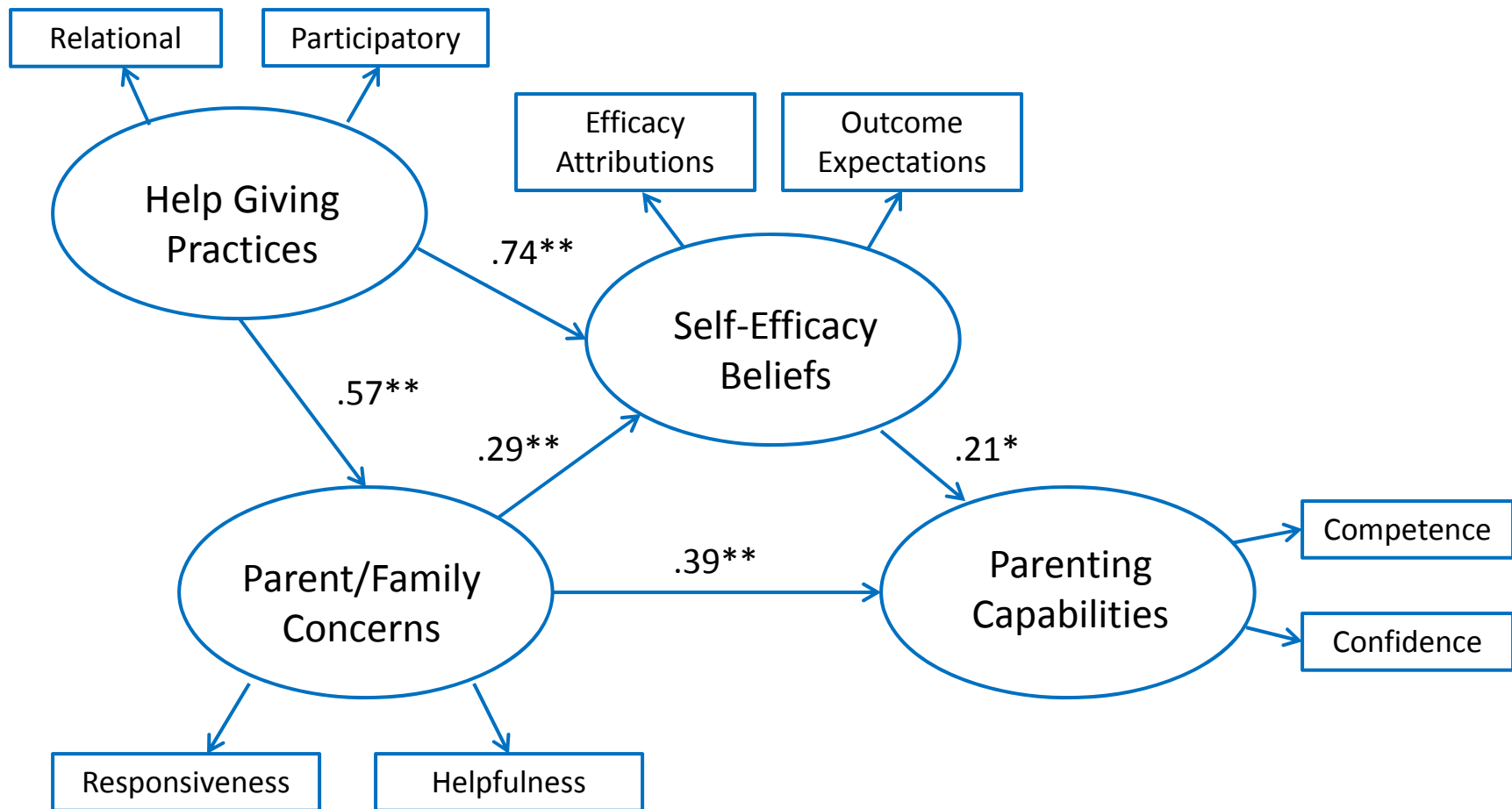
*Measures:* Relational and participatory help giving, practitioner responsiveness to family concerns, parents' judgments of the helpfulness of practitioner advice and guidance, parent self-efficacy beliefs, and parenting competence and confidence

*Method of Analysis:* Structural equation modelling for testing the hypothesized relationships among the variables in the model

# Model for Evaluating the Indirect Effects of Help Giving Practices on Parenting Competence and Confidence

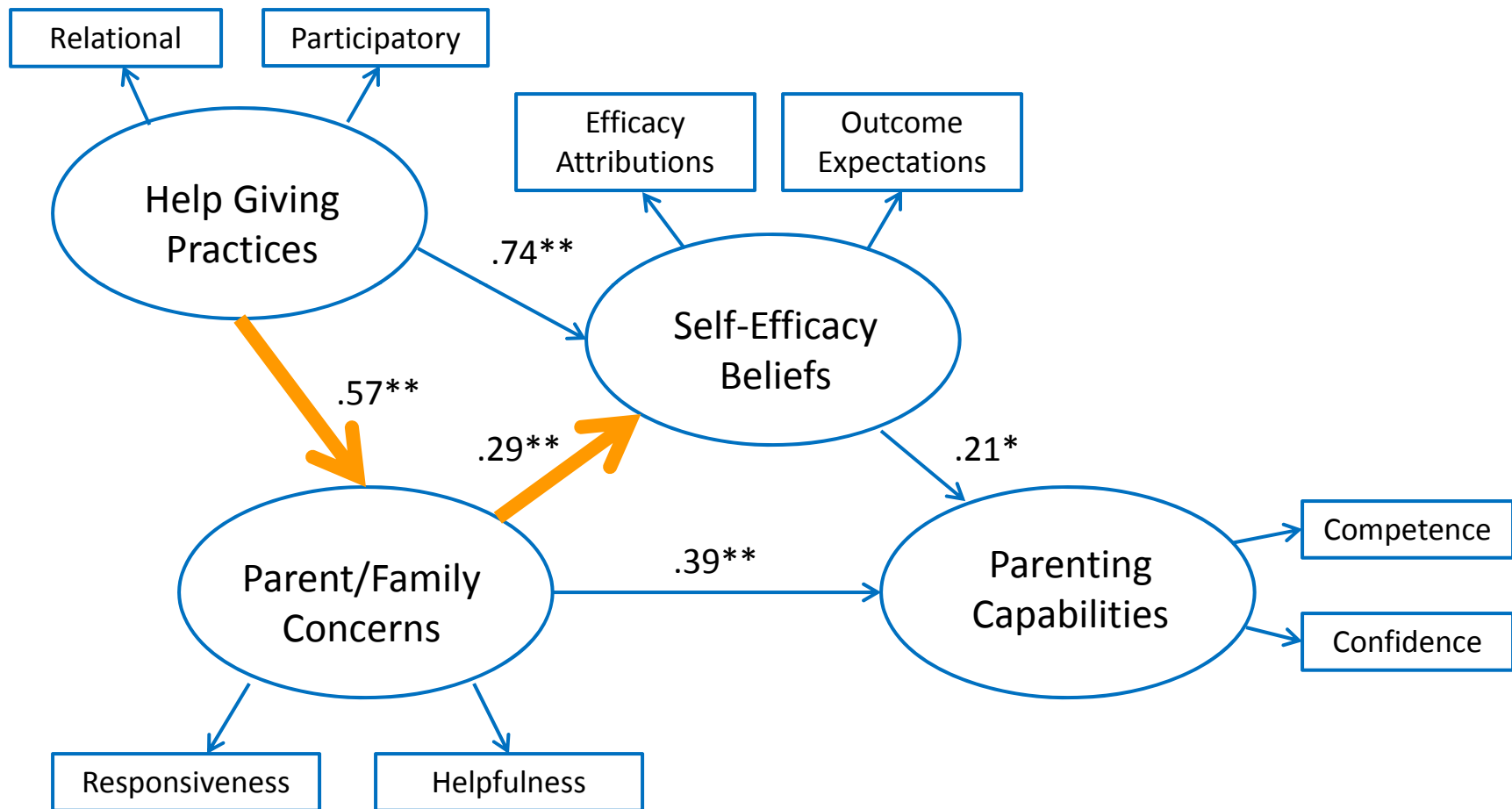


## Standardized Parameter Estimates for the Relationships Among Measures in the Model



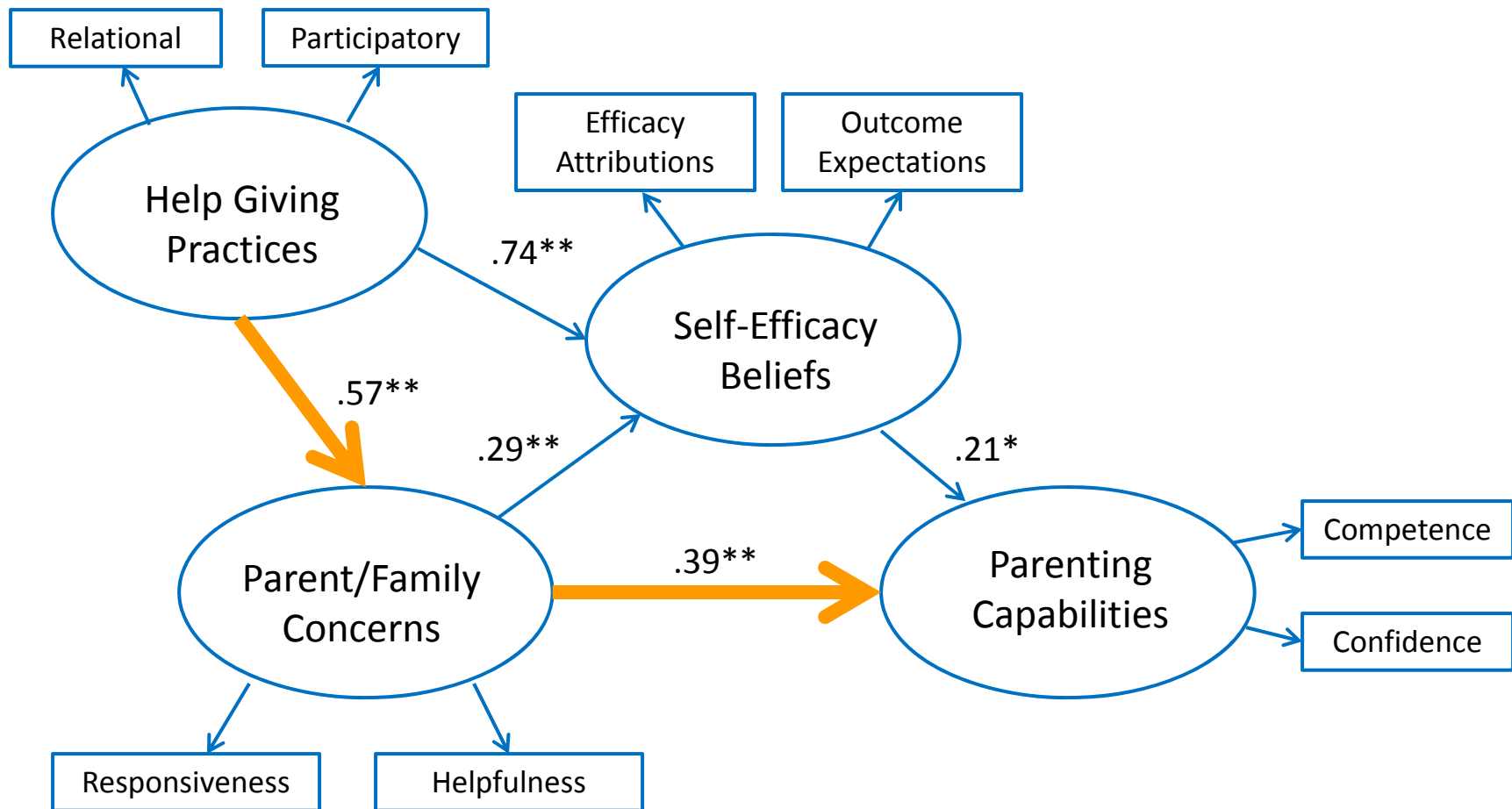
\*p < .05 \*\* p < .001.

## Standardized Parameter Estimates for the Relationships Among Measures in the Model



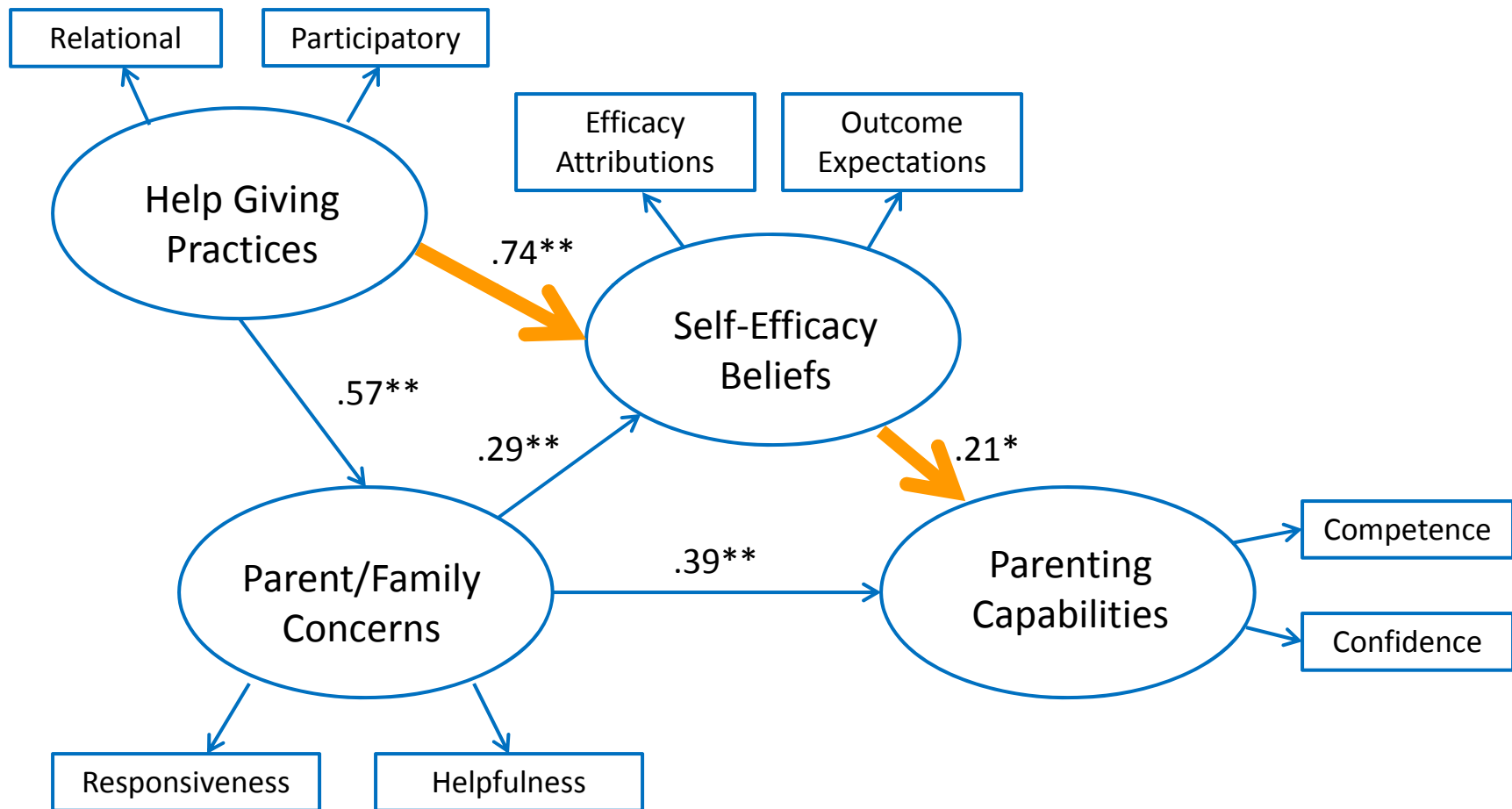
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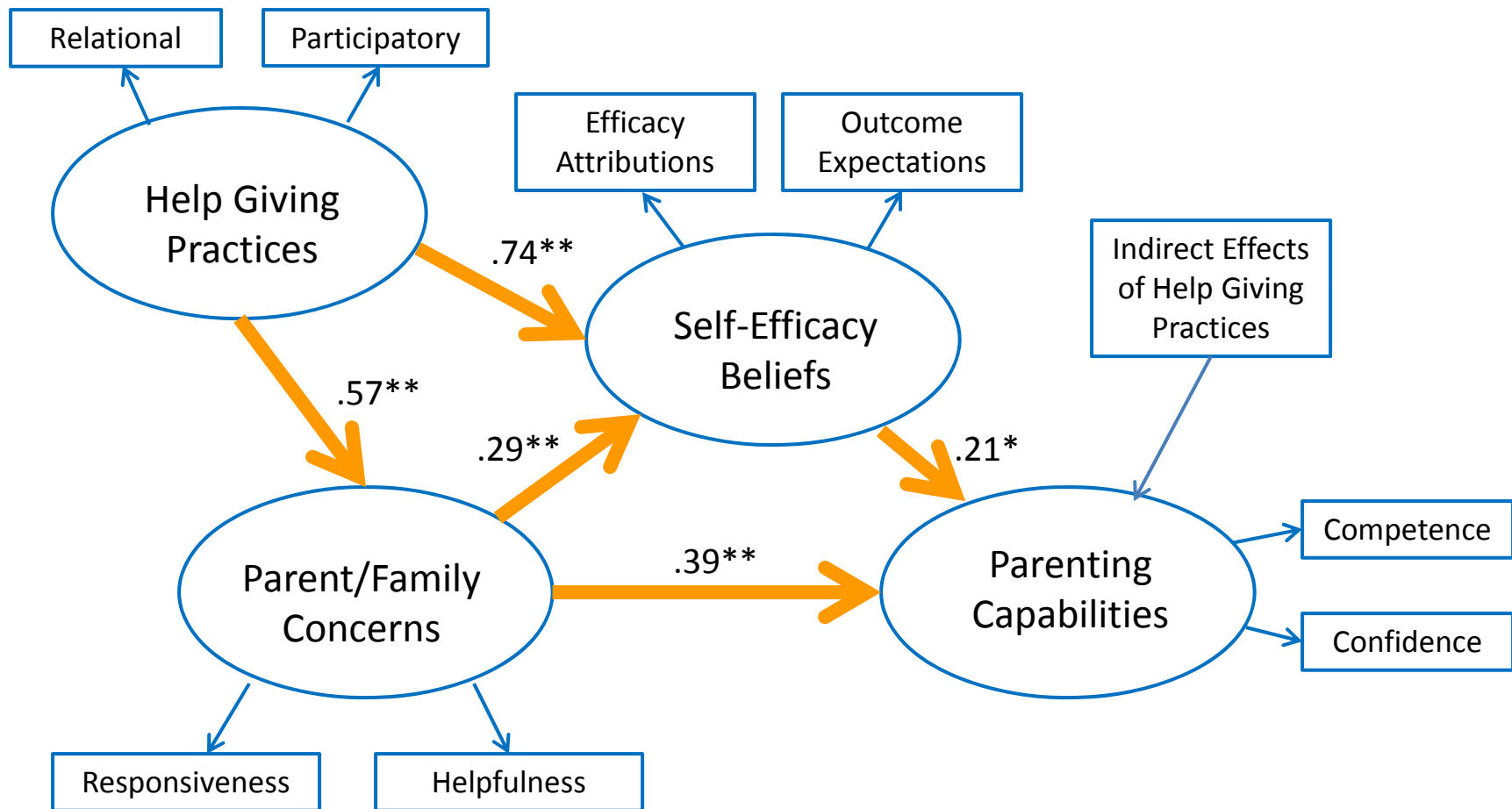
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## Standardized Parameter Estimates for the Relationships Among Measures in the Model



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

# Meta-Analytic Structural Equation Modelling Research Synthesis

*Studies:* Eight studies that included measures allowing us to trace the effects of capacity-building family-centred practices and family-systems intervention practices on parent-child interactions and child development

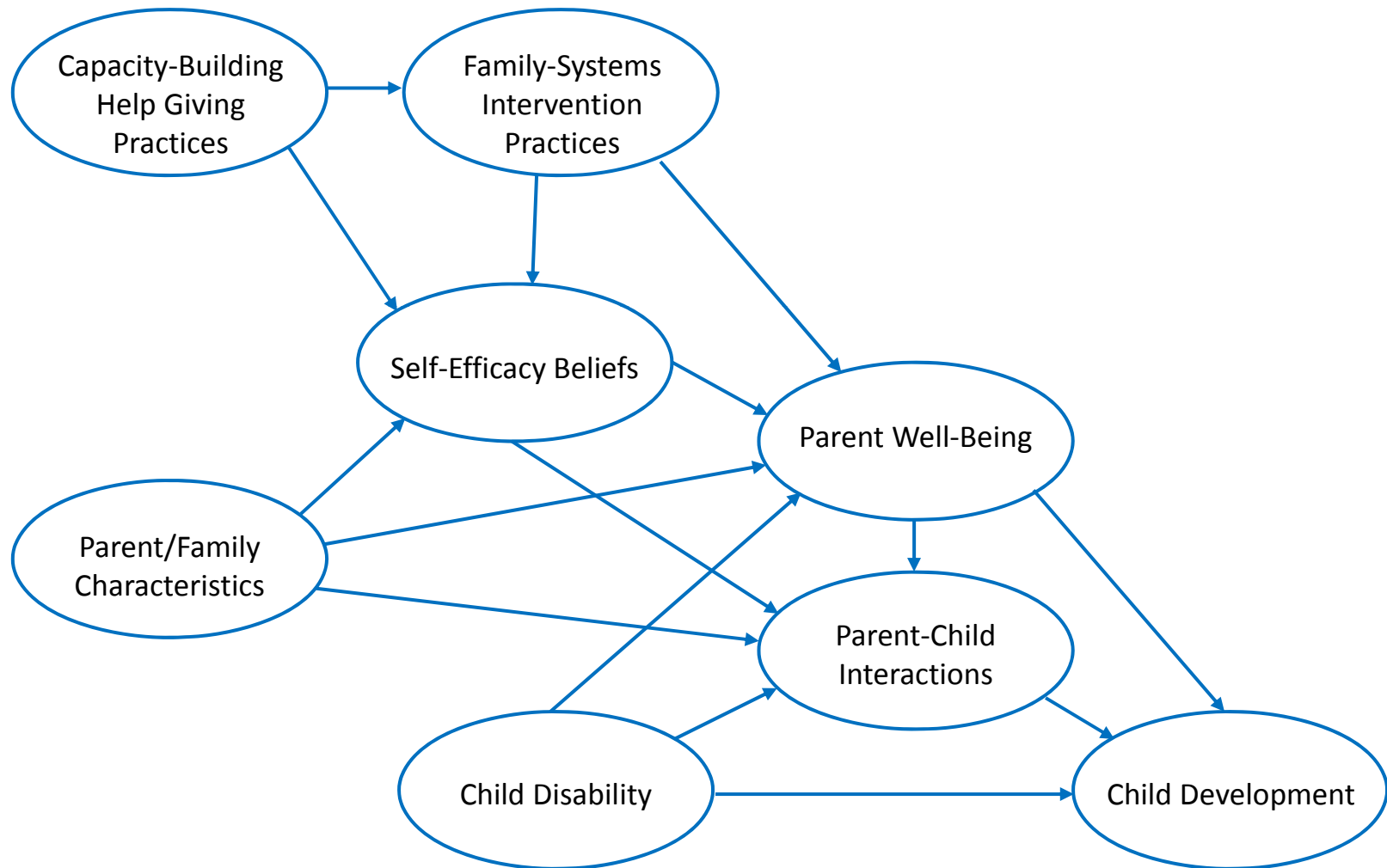
*Sample:* 910 preschoolers and their parents involved in different kinds of early childhood intervention and family support programs

*Hypothesis:* The influences of family-centred and family-systems intervention practices on parent-child interactions and child development would be indirect and mediated by both self-efficacy beliefs and parent well-being

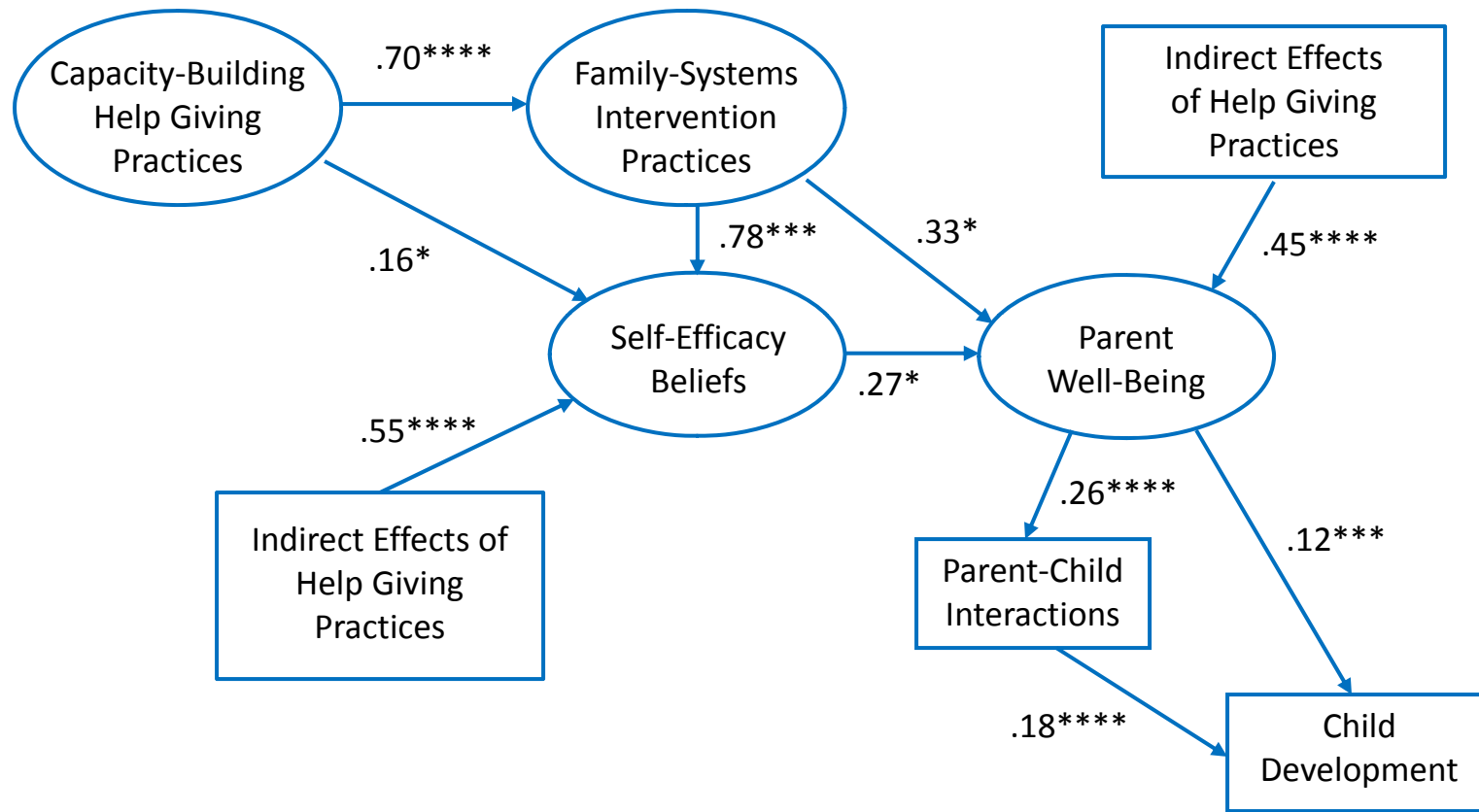
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Trivette, C.M., Dunst, C.J., & Hamby, D.W. (2010). Influences of family-systems intervention practices on parent-child interactions and child development. *Topics in Early Childhood Special Education*, 2010, 30, 3-19.

# Model for Assessing the Effects of Different Predictor Variables on Parent-Child Interactions and Child Development

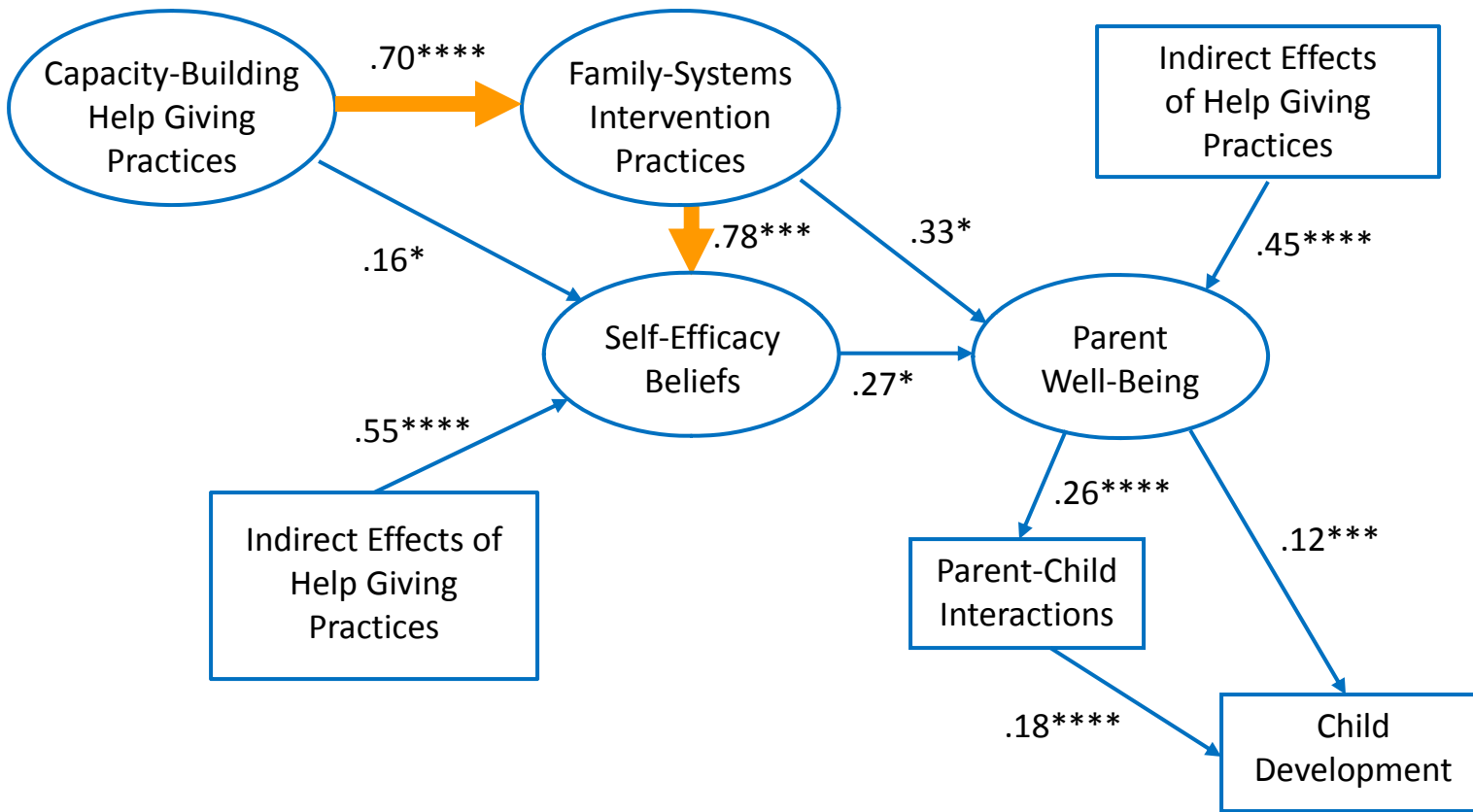


# Meta-Analytic Structural Equation Modelling Results



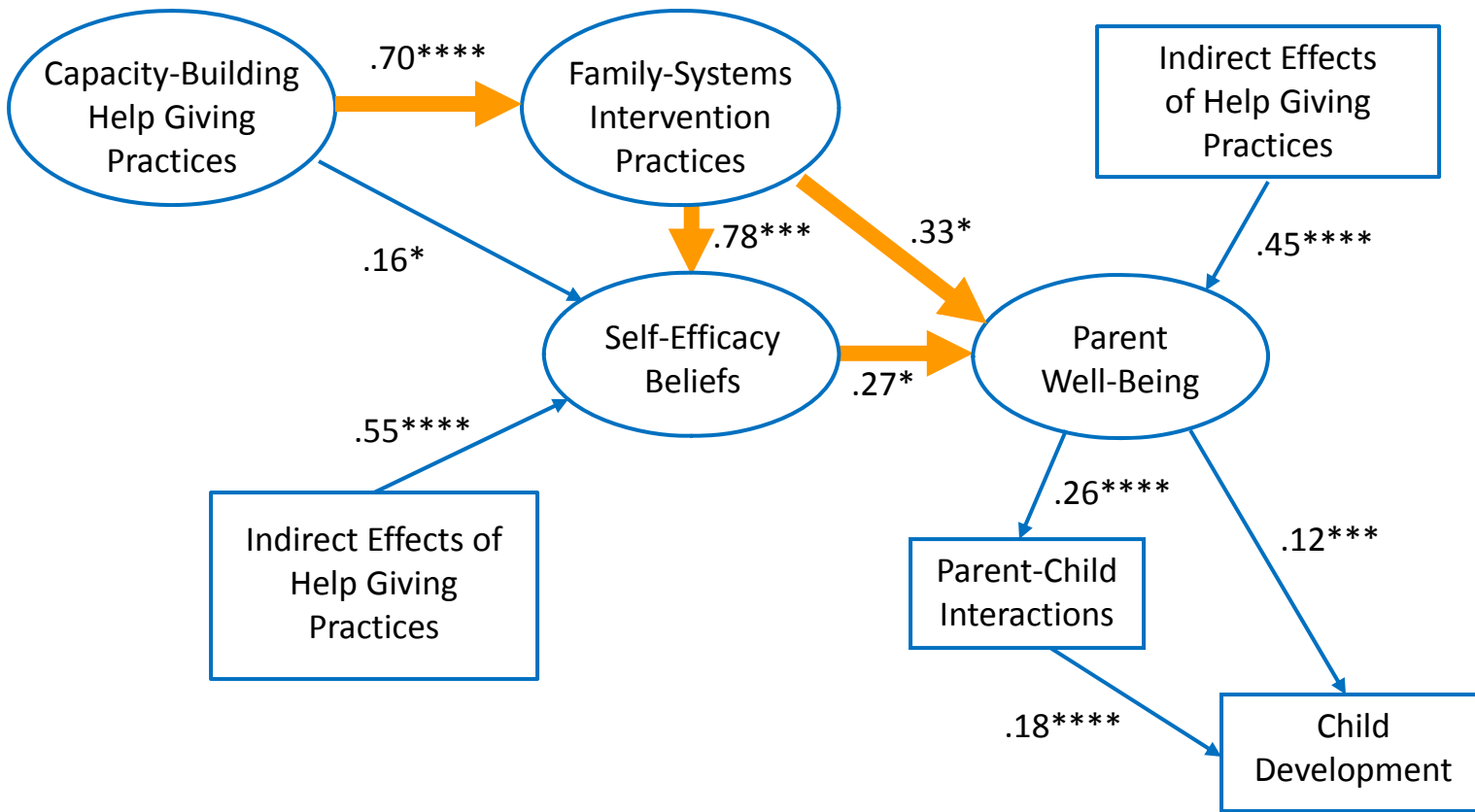
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . \*\*\*\*  $p < .0001$ .

## Meta-Analytic Structural Equation Modeling Results



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# Meta-Analytic Structural Equation Modeling Results



\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . \*\*\*\*  $p < .0001$ .

# Meta-Analytic Structural Equation Modelling of Family Capacity-Building Early Intervention Practices on Parent and Child Outcomes

Carl J. Dunst   Melinda Raab   Deborah W. Hamby   Carol M. Trivette

**Studies:** 59 studies of parents and their infants and toddlers with disabilities or developmental delays involved in early childhood intervention programs

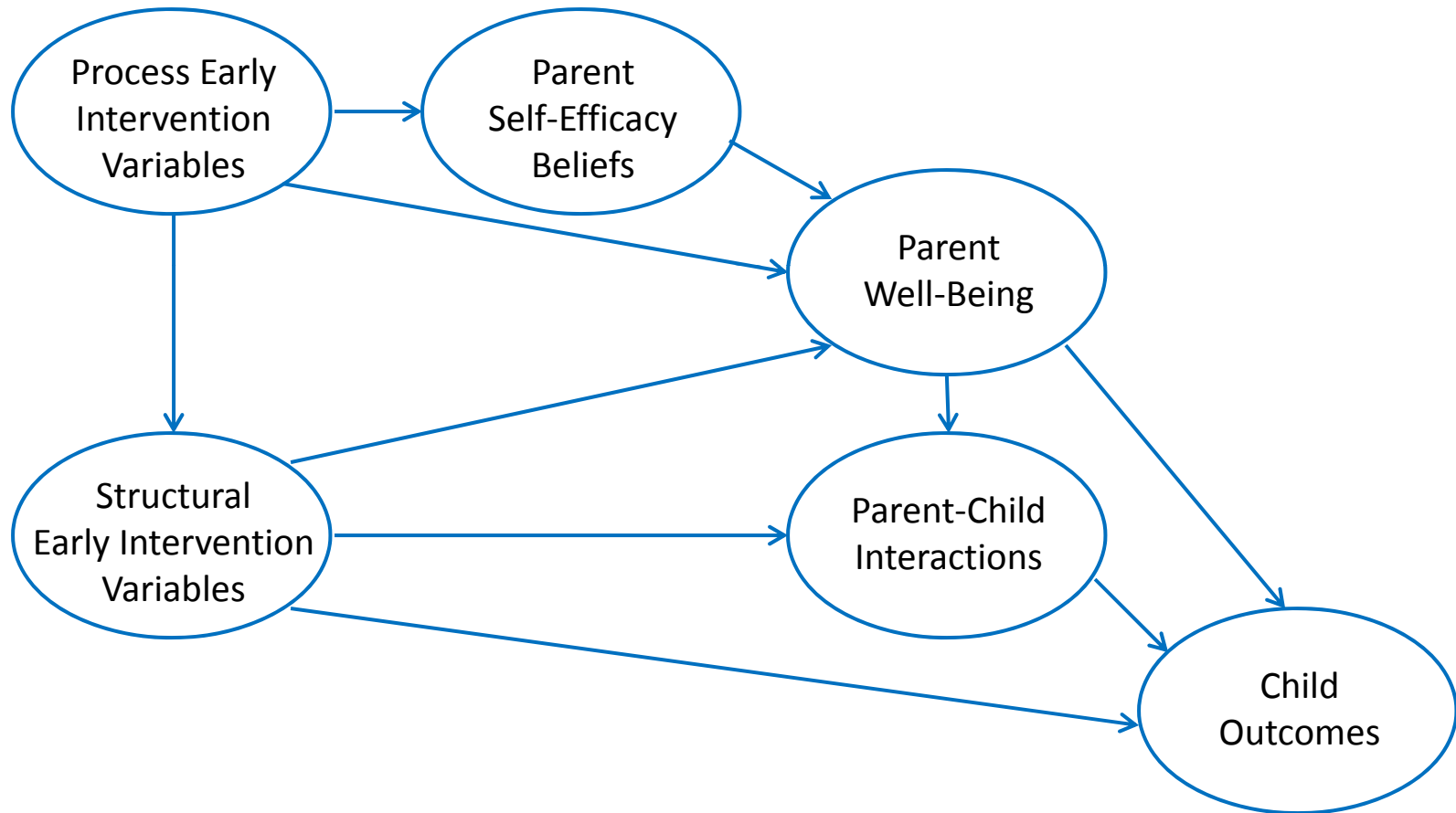
**Sample:** The final sample size for the MASEM is expected to include more than 15,000 parents and children.

**Hypotheses:** (1) Early intervention provided in a family-centred manner will have more positive effects on parent outcomes. (2) Family-centred practices will be indirectly related to parent well-being and parent-child outcomes mediated by self-efficacy beliefs. (3) Parenting self-efficacy beliefs will be directly related to parent-child interactions and indirectly related to child outcomes mediated by parent well-being.

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<sup>a</sup>Institute for Education Sciences Development Grant (study in progress).

# Model for Evaluating the Influences of Process and Structural Early Intervention of Parent, Parent-Child, and Child Outcomes





## Variables Included in the Model and Analyses

- Parent/Family Background Variables
- Child Background Variables
- Early Intervention Structural Variables
- Early Intervention Process Variables
- Parent Self-Efficacy Beliefs
- Parent Stress and Well-Being
- Parent-Child Interactions
- Child Behavioural Outcomes
- Child Developmental Outcomes

# Early Intervention Variables

## *Structural Variables*

- Child age at the start of intervention, length of intervention
- Type of child services (special instruction/education, speech and language pathology, occupational therapy, physical therapy)
- Hours of child intervention, frequency of child intervention, intensity of child services
- Length of parent involvement, frequency of parent contact with early intervention staff

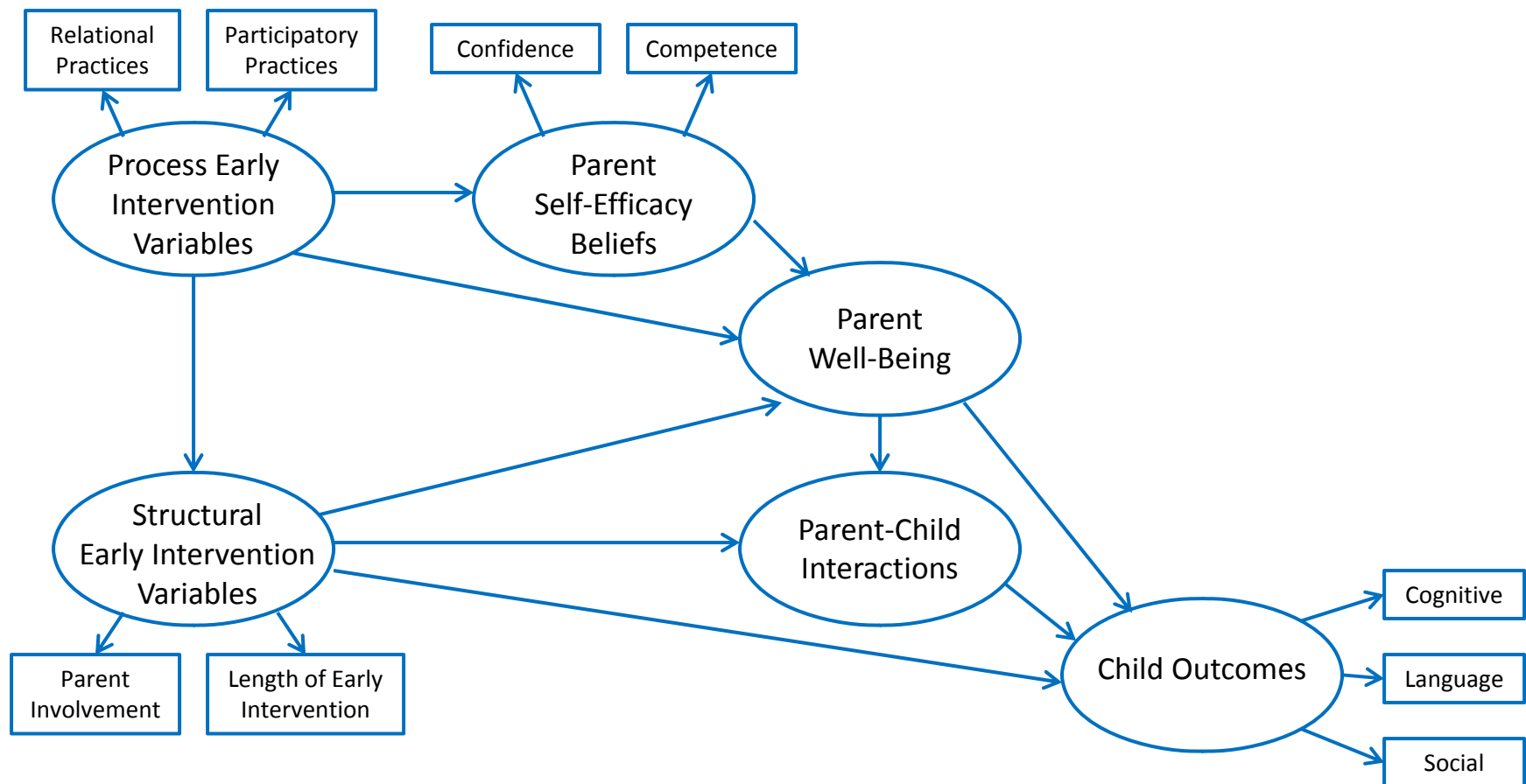
## *Process Variables*

- Family-centred practices, working alliance, relational help giving practices, participatory help giving practices

## Types of Planned Analyses

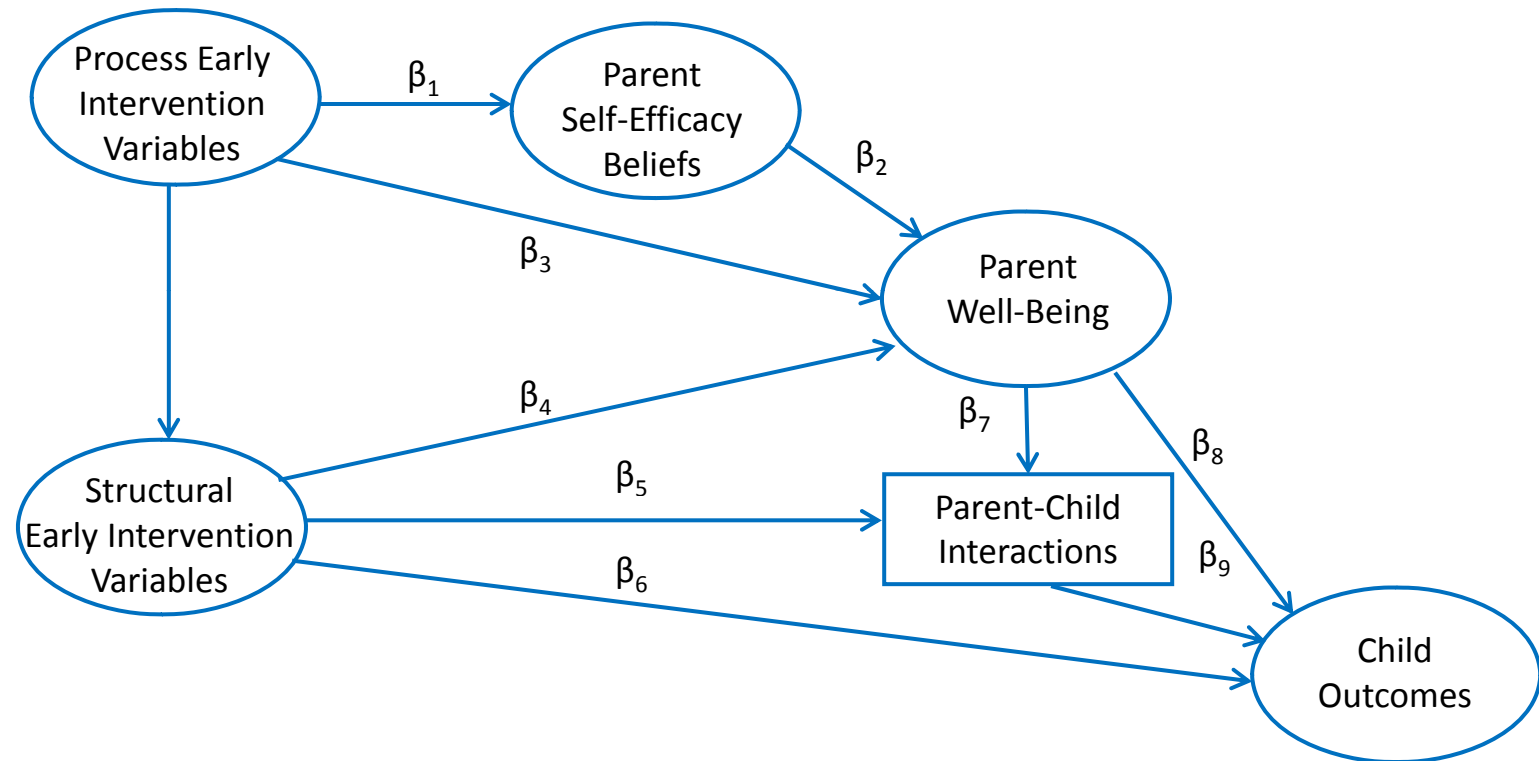
- Direct effects of the process and structural early intervention variables on the parent measures (self-efficacy beliefs, parent well-being, parent-child interaction)
- Indirect effects of the process early intervention measures on the parent measures mediated by the structural early intervention measures
- The mediated relationships among variables in the SEM model to identify pathways of influence
- The moderating effects of parent, family, and child background variables on the relationships between the other variables in the model

## Direct Effects of Early Intervention on the Parent and Parent-Child Outcomes



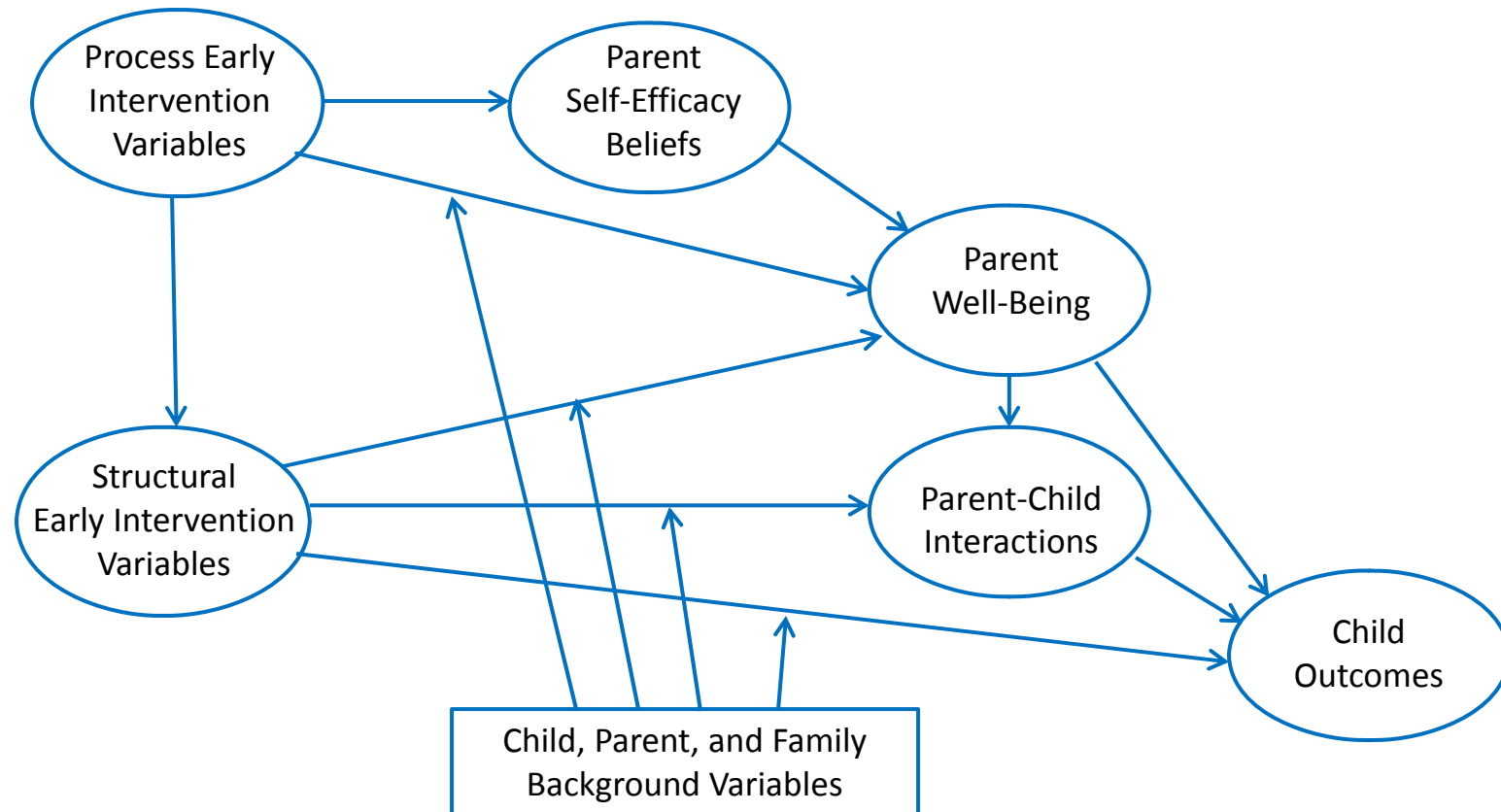
- Early intervention can be assessed as either or both measured and latent variables
- Any of the other constructs in the model can also be assessed as either measured or latent variables including the child behavioral and developmental outcomes

## Indirect Effects of Early Intervention on the Study Outcomes



- Indirect or mediated effects are estimated from the products of two or more direct effects
- The indirect effect of process early intervention variables on parent well-being, for example, are determined from the product of  $\beta_1 \times \beta_2$ .

## Moderators of the Relationships Between Early Intervention and the Study Outcomes



- Moderator analyses “tell us” if the relationships between any two variables in the model are different at different levels of moderator variables (e.g., low SES vs. high SES)
- These types of analyses can help identify the conditions under which process and structural early intervention variables have similar or different consequences

## Conclusions

- Evaluation of basic tenets of social systems and family systems theory has necessitated the use of different types of research methodologies
- Research findings to date generally provide support for the hypothesized relationships between the variables of “interest” in the family systems model and child, parent, and family outcomes
- Many of the relationships in the family systems model are mediational in nature rather than direct as has been suggested by other researchers and practitioners
- Findings from our research on family-centred practices, capacity-building help giving practices, and other practitioner interactional styles indicate that **how** other interventions are provided matters a great deal if the interventions are likely to have optimal positive benefits

**PowerPoint presentation is available at  
[www.puckett.org](http://www.puckett.org)**