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META-ANALYSIS OF FAMILY-CENTERED HELPGIVING PRACTICES RESEARCH

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A meta-analysis of 47 studies investigating the relationship between family-centered helpgiving practices and parent, family, and child behavior and functioning is reported. The studies included more than 11,000 participants from seven different countries. Data analysis was guided by a practice-based theory of family-centered helpgiving that hypothesized direct effects of relational and participatory helpgiving practices on self-efficacy beliefs and parent, family, and child outcomes. Results showed that the largest majority of outcomes were related to helpgiving practices with the strongest influences on outcomes most proximal and contextual to help giver/help receiver exchanges. Findings are placed in the context of a broader-based social systems framework of early childhood intervention and family support. ©2007 Wiley-Liss, Inc. MRDD Research Reviews 2007;13:370–378.

Key Words: family-centered practices; relational helpgiving practices; participatory helpgiving practices; self-efficacy beliefs; program satisfaction; parenting capabilities; parent well-being; family functioning; child behavior; meta-analysis

The terms family-centered care, family-centered practices, family-centered services, and family-centered helpgiving have been used interchangeably to refer to an approach to working with families that honors and respects their values and choices and which includes the provision of supports necessary to strengthen family functioning. A family-centered approach is characterized by practices that treat families with dignity and respect; information sharing so families can make informed decisions; family choice regarding their involvement in and provision of services; and parent/professional collaborations and partnerships as the context for family-program relations [Dunst, 2002].

The foundations for family-centered practices are value and belief statements about how professional help givers should interact with family members as part of family involvement in human services, education, health care, and other kinds of helpgiving programs and organizations [Dokecki, 1983; Hobbs et al., 1984; Center on Human Policy, 1986]. Family-centered practices have become a practice-of-choice in early childhood intervention programs [Duwa et al., 1993], family support programs [Weissbourd, 1990], programs serving persons with mental retardation and developmental disabilities [Leal, 1999; Law et al., 2005], hospitals [Hanson et al., 1994; Ballweg, 2001], medical practices [Schulz et al., 2004], and other pediatric programs and settings [Shelton and Stepanek, 1994; Lindeke et al., 2002].

The call for adoption and use of family-centered practices can be traced to the 1950s [e.g., Birt, 1956]. It was, however, a Surgeon General's report [1979] that brought family-centered care to the forefront of contemporary thinking about how families should be involved in the care and treatment of their children with special health care needs. That same year Shelton et al. [1987] articulated the core elements of family-centered practices. Family-centered care is now recognized as a key component of a broad-based approach to working with children and their families [e.g., American Academy of Pediatrics, 1992; Dunst et al., 1994; Sia et al., 2002]. The value of family-centered practices has, however, not gone unchallenged [Feldman et al., 1999; Mahoney et al., 1999]. Critics claim that there is limited evidence to support the use of family-centered practices.

This article includes a meta-analysis of research on the relationship between family-centered helpgiving and different aspects of parent, family, and child behavior and functioning. The meta-analysis was guided by a practice-based theory of family-centered helpgiving [Dunst et al., 2006a]. According to the theory, there are both direct and indirect influences of two-dimensions of helpgiving practices (relational and participatory) on help receiver self-efficacy beliefs and parent, family, and child outcomes. Relational helpgiving includes practices typically associated with good clinical practice (e.g., active listening, compassion, empathy, and respect) and help giver positive beliefs about family strengths and capabilities. Listening to a family's concerns and asking for clarification or elaboration about what was said is an example of a relational helpgiving practice. Participatory helpgiving includes practices that are individualized, flexible, and responsive to family concerns and priorities, and which involve informed choices and family involvement in achieving desired goals and outcomes. Engaging a family member in learning how to find information needed to make an informed decision about care for her child is an example of a participatory helpgiving practice. Our research has consistently found that factor analyses of scale items we have used to assess family-centered practices produces clus-

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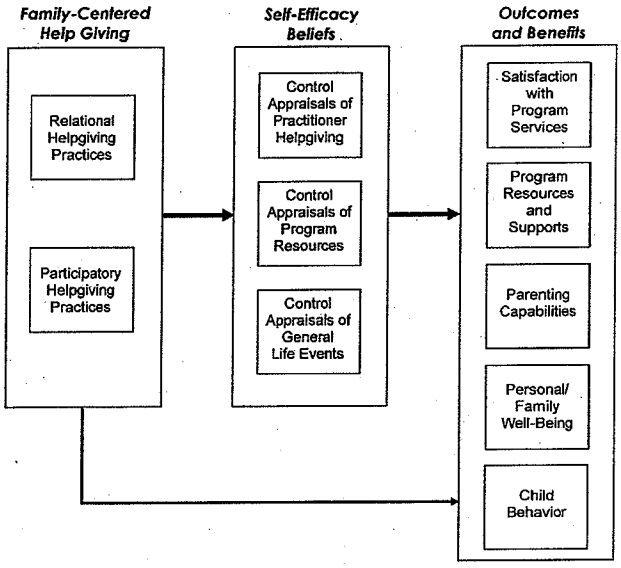

Fig. 1. Practice-based theory of family-centered helpgiving depicting the direct and indirect influences of helpgiving on self-efficacy beliefs and parent, family, and child behavior and functioning.

ters of these two types of helpgiving [Dunst and Trivette, 1996; Trivette and Dunst, 1998]. Our findings also indicate that there are many helpgivers who are good at using relational helpgiving practices but are not so good using participatory helpgiving practices. In contrast, there are few helpgivers who are good at using participatory helpgiving practices and not also good at using relational helpgiving.

The practice-based theory of family-centered helpgiving is shown graphically in Figure 1. Family-centered helpgiving is hypothesized to be directly related to both self-efficacy beliefs and parent, family, and child behavior and functioning, and indirectly related to parent, family, and child behavior and functioning mediated by self-efficacy beliefs. The theory also postulates that self-efficacy beliefs are directly related to parent, family, and child outcomes in a manner consistent with prior research [Bandura, 1997]. The relationship between helpgiving practices and parent, family, and child behavior and functioning is expected to vary depending upon the focus of helpgiver/help receiver exchanges.

The strength of the relationship between family-centered helpgiving and parent, family, and child behavior and functioning is predicted to be strongest when the outcome measures are most *proximal* and *contextual* to the focus of help giver/help receiver exchanges and less strongly related to outcome measures more *distal* to the focus of help giver/help receiver exchanges. Outcomes are considered proximal and contextual when the targets of behavioral assessment are participant appraisals of benefits directly related to the focus of help giver and/or program practices (e.g., perceived control over the provision of program resources). Outcomes are considered distal when the targets of appraisal are indirectly related to the focus of program practices (e.g., general family well-being). Findings from many different kinds of studies show that covariation between an independent and dependent variable are strongest when the targets of appraisal on outcome measures include indicators that are specifically hypothesized to be influenced by an intervention variable [see e.g., Bugental et al., 1998; Pajares et al., 2001].

Dunst et al., [2006a] recently completed a meta-analysis of 18 family-centered helpgiving practices studies all conducted in one early childhood intervention and family support program testing the hypothesized relationships of the practice-based theory of family-centered helpgiving. The 18 studies included 1,100 program participants. Relational and participatory helpgiving practices were measured by the *Enabling Practices Scale* [Dempsey, 1995], *Family-Centered Practices Scale* [Dunst et al., 2006b], or *Helpgiving Practices Scale* [Trivette and Dunst, 1994]. The outcomes included different measures of self-efficacy beliefs, program participant satisfaction, parenting behavior, parent and family well-being, social supports and resources, and child behavior and functioning. Results showed that family-centered helpgiving had both direct and indirect influences on the outcomes most *proximal* and *contextual* to the focus of the early childhood intervention and family support program practices, and that self-efficacy beliefs had a direct effect on the same outcomes. The outcomes that were most strongly related to family-centered helpgiving were self-efficacy beliefs involving different aspects of program participant involvement, satisfaction with program staff and services, parenting capabilities, child behavior and functioning, and program-related child and parent supports. Smaller, but nonetheless discernable influences of family-centered helpgiving and self-efficacy beliefs were found for selected aspects of parent and family well-being and the helpfulness of social supports provided by informal and formal social network members.

The meta-analysis reported in this article included studies that related variations in family-centered helpgiving to variations in parent, family, or child outcomes. The focus of analysis was the overall influence of family-centered helpgiving on parent, family, and child behavior and functioning, the differential influences of relational and participatory helpgiving on the study outcomes, and the differential influences of family-centered helpgiving practices on different measures of the same construct (e.g., proximal vs. distal self-efficacy beliefs). We conclude by placing family-centered helpgiving in the context of a broader-based social system framework where helpgiving practices are one of a number of factors influencing parent, family, and child behavior and functioning. (Insufficient information was included in most research reports to test either the direct effects of self-efficacy beliefs on the outcomes or the mediated effects of helpgiving practices). We also describe the implications of the meta-analysis for improving the helpgiving practices of professionals working with young children and their families.

FAMILY-CENTERED RESEARCH STUDIES

Studies were identified using *family* with *centered* or *centred*, *family-centered*, and *family-centred* as search terms. The Psychological Abstracts Online, Educational Resources Information Center (ERIC), MEDLINE, Academic Search Elite, CINAHL, Social Science Citation Index, Health Source, and Dissertation Abstracts were searched for studies. These main searches were supplemented by searches of the Cochrane Collaboration databases, Ingenta, World Cat, and

Google Scholar. Hand searches of seminal studies and papers were also conducted to locate additional studies as were the reference sections of all retrieved articles, chapters, and books.

Studies were included if either or both relational or participatory dimensions of family-centered helpgiving were assessed, one or more aspects of parent, family, or child behavior was measured, and the correlations between measures were reported or could be calculated from information in the research reports. Pearson's r was used as the effect size of the relationship between variables [Rosenthal, 1994]. Procedures described by Shadish and Haddock [1994] were used to weight the effect sizes because of differences in the study sample sizes. The average effect sizes were used for determining the strength of the relationship between family-centered helpgiving and the study outcomes and the 95% confidence intervals were used for substantive interpretation. A confidence interval not including zero indicates that the average effect size is statistically significant [Hedges, 1994].

The Z-test was used to ascertain if there was significant covariation between family-centered helpgiving and the parent, family, and child outcomes, and the Q-test was used to test for between outcomes differences in the sizes of effects [Hedges, 1994]. The Z-test is a measure of whether or not the average effect size is statistically greater than zero. The Q-test is "analogous to the omnibus test for variation in group means in a one-way ANOVA" [Hedges, 1994, p. 290].

Thirty-eight research reports were located that included data from 47 studies or samples of study participants. The studies were conducted by 21 researchers or research teams in the United States (71%), Canada (15%), Australia (6%), and the Netherlands, Portugal, India, and Sweden (8%).

Exhibit. Studies Included in the Meta-Analysis

Allen RI. 1996. The family-centered behavior scales: a report on the validation study.
Barbee-Dixon KD. 2001. Parental perceptions of family-centeredness and the effectiveness of early-intervention programs.
Boyd K, Dunst CJ. 1993. Effects of helpgiving behavior on a family's sense of control and well-being.
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Dempsey I, Dunst CJ. 2004. Helpgiving styles and parent empowerment in families with a young child with a disability.
Dempsey I, Foreman P, Sharma N, Khanna D, Arora P. 2007. Correlates of parental empowerment in families with a member with a disability in Australia and India.
Dunst CJ. 1999. Placing parent education in conceptual and empirical context.
Dunst CJ, Boyd K, Trivette CM, Hamby DW. 2002. Family-oriented program models and professional helpgiving practices.
Dunst CJ, Brookfield J. 1998. Epstein J. Family-centered early intervention and child, parent and family benefits: final report.
Dunst CJ, Trivette CM. 2001a. Benefits associated with family resource center practices.
Dunst CJ. Trivette CM. 2001b. Parenting supports and resources, helpgiving practices, and parenting competence.
Dunst CJ, Trivette CM. 2005. Measuring and evaluating family support program quality.
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Dunst CJ, Trivette CM, Starnes AL, Hamby DW, Gordon NJ. 1993. Building and evaluating family support initiatives: a national study of programs for persons with developmental disabilities.
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Lewis CC, Pantell RH, Sharp L. 1991. Increasing patient knowledge, satisfaction, and involvement: randomized trial of a communication intervention.
O'Neil ME, Palisano RJ, Westcott SL. 2001. Relationship of therapists' attitudes, children's motor ability, and parenting stress to mothers' perceptions of therapists' behaviors during early intervention.
Pereira AP. 2003. Práticas centradas na família: identificação de comportamentos para uma prática de qualidade no Districto de Braga.
Petr CG, Allen RI. 1997. Family-centered professional behavior: frequency and importance to parents.
Reich S, Bickman L, Heflinger CA. 2004. Covariates of self-efficacy: caregiver characteristics related to mental health services self-efficacy.
Robinson GM. 2005. Predictors of empowerment among parents of school-age children with disabilities: The role of family-centered behavior.
Romer EF, Umbreit J. 1998. The effects of family-centered service coordination: a social validity study.
Sandler AD, Casar S. 2000. The Functional Outcomes Study: the effects of managed care on the quality care and outcomes for children with developmental disorders.
Thompson L, Lobb C, Elling R, Herman S, Jurkiewicz T, Hulleza C. 1997. Pathways to family empowerment: effects of family-centered delivery of early intervention services.
Trivette CM, Dunst CJ, Boyd K, Hamby DW. 1995. Family-oriented program models, helpgiving practices, and parental control appraisals.
Trivette CM, Dunst CJ, Hamby DW. 1996a. Characteristics and consequences of help-giving practices in contrasting human services programs.
Trivette CM, Dunst CJ, Hamby DW. 1996b. Factors associated with perceived control appraisals in a family-centered early intervention program.
Trivette CM, Dunst CJ, Hamby DW, LaPointe NJ. 1996c. Key elements of empowerment and their implications for early intervention.
Trute B, Hiebert-Murphy D. 2007. The implications of "working alliance" for the measurement and evaluation of family-centered practice in childhood disability services.
van Riper M. 1999. Maternal perceptions of family-provider relationships and well-being in families of children with Down syndrome.
van Riper M. 2001. Family-provider relationships and well-being in families with pre-term infants in the NICU.
van Schie PEM, Sieves RC, Ketehar M, Vermeer A. 2004. The Measure of Processes of Care (MPOC): validation of the Dutch translation.

See the reference section for complete citations for all the studies included in the synthesis.

Table 1. Family-Centered Practices Scales Used in the Studies

Scales	Number of Studies	Independent Variable[a]		
		Relational Practices	Participatory Practices	Total Scale Score
Helpgiving practices scale	14	10	10	4
Measure of process of care	10	8	8	2
Enabling practices scale	6	3	3	3
Family-centered behavior scale	6	1	1	5
Family-centered practices scale	3	3	3	0
Family/provider relationship scale	2	0	0	2
Family-centered helpgiving scale	1	0	0	1
Family-centeredness scale	1	0	0	1
Family/professional collaboration scale	1	1	1	0
Parent/professional collaboration scale	1	0	1	0
Physician attribute scale	1	1	0	0
Investigator developed measures	3	0	0	3

[a]Number of subscale scores and total scale scores used as independent measures of family-centered helpgiving practices.

Information about the study participants, the family-centered practices and outcome measures, and the effect sizes for the relationships between measures can be obtained from the first author.

The total number of study participants was 11,187. The average sample size per study was 235 (SD = 364, Range = 9–2,265). Participant gender was reported in 42 studies. Eighty-nine percent of the participants were mothers. The average age of the participants ranged between 25 and 41 years (Range = 15–68 for all studies). The average number of formal years of education completed by the participants ranged between 8 and 16 (Range = 0–25 for all studies).

The race or ethnicity of the study participants was reported in 34 studies. The largest majority (86%) were white or Caucasian of European descent. Seven percent were African American, 2% were Latino, 1% was Asian, and 1% was Native American or First Nations. Three percent had other ethnicities. One study had a sample that were all East Indian [Dempsey et al., 2001, Sample 3] and one study had a sample that were all Portuguese [Pereira, 2003].

The average age of the participants' children ranged between 7 and 157 months (Range = birth to 20 years for all studies). Child gender was reported in 23 studies. Sixty-one percent were male and 39% were female. Child diagnosis was reported in 38 studies. Sixty-five percent of the children had a developmental disability or identified condition (e.g., Down syndrome, cerebral palsy), 11% had a developmental delay, 6% were at-risk for poor outcomes, 8% had mental health related disorders, and 9% were typically developing.

The study participants were involved in or receiving services from early intervention programs, preschool special education programs, elementary schools, family support programs, mental health programs, neonatal intensive care units, specialty clinics, rehabilitation centers, or physician practices. The helpgivers whose family-centered practices were the focus of study participant judgments included early childhood practitioners, educators, nurses, physicians, therapists, rehabilitation specialists, and service coordinators.

The instruments most frequently used to measure family-centered helpgiving were the *Helpgiving Practices Scale* [Trivette and Dunst, 1994], *Measure of Process of Care* [King et al., 1996], *Enabling Practices Scale* [Dempsey, 1995], *Family-Centered Behavior Scale* [Petr and Allen, 1995], and *Family-Centered Practices Scale* [Dunst et al., 2006b]. Table 1 lists all the family-centered practices scales used in the studies and shows the number of relational, participatory, and total scale scores that were used as family-centered helpgiving practices measures. The majority of the instruments are multi-item scales where different helpgiving practices are assessed by a help receiver using Likert scales. Whether subscales measured either relational or participatory helpgiving was determined from either factor analyses included in the research reports or inspection of the item content of the subscales. Which family-centered measure subscales were coded as relational or participatory practices can be obtained from the first author.

The outcome measures included self-efficacy beliefs, participant satisfaction, parenting behavior, personal and family well-being, social support, and child behavior and functioning. The self-efficacy measures included perceived control over the help provided by a helpgiver, perceived control over the help provided by the program for whom a helpgiver worked, and perceived control over life events not the focus of the help receiver/helpgiver relationships. The participant satisfaction measures included satisfaction with the helpgiving staff and satisfaction with the helpgiving program. The parenting behavior measures included parenting competence, parenting confidence, and parenting enjoyment. The well-being measures included negative and positive psychological health and family functioning. The social support measures included child and parent supports provided to program participants by a helpgiver or his or her program. The child functioning measures included parent judgments of child negative behavior, child positive behavior, and child progress, and child development and functioning.

Each outcome measure in every study was coded on an *a priori* basis as either a proximal or distal dependent variable. An outcome measure was coded as proximal if the target of program participant appraisals was a benefit related to or associated with a helpgiver or his or her program (e.g., the provision of advice or guidance in response to a help seeker request). An outcome measure was coded as distal if the target of appraisal included no reference to the helpgiver or his or her program (e.g., family quality of life). The percent of outcomes in each domain that were coded as proximal in descending order were participant satisfaction with the helpgiver or his or her program (100%), social support and resources provided by the helpgivers or their programs (100%), self-efficacy beliefs (64%), child behavior and functioning (17%), personal and family well-being (8%), and parenting behavior (0%).

SYNTHESIS RESULTS

Family-Centered Helpgiving Practices

Figure 2 shows the average effect sizes and confidence intervals for the overall relationship between family-centered helpgiving practices and the six categories of outcomes. The relational, participatory, and total scale scores taken together were the independent variables in the six sets of analyses. The different outcome measures in each outcome domain taken together were the dependent variables. The relationships between family-centered helpgiving and the outcomes were statistically significant in all six analyses, Zs = 9.07–126.84, $P < 0.0001$. Family-centered helpgiving was, however, differentially related to the outcomes as evidenced by the stair-

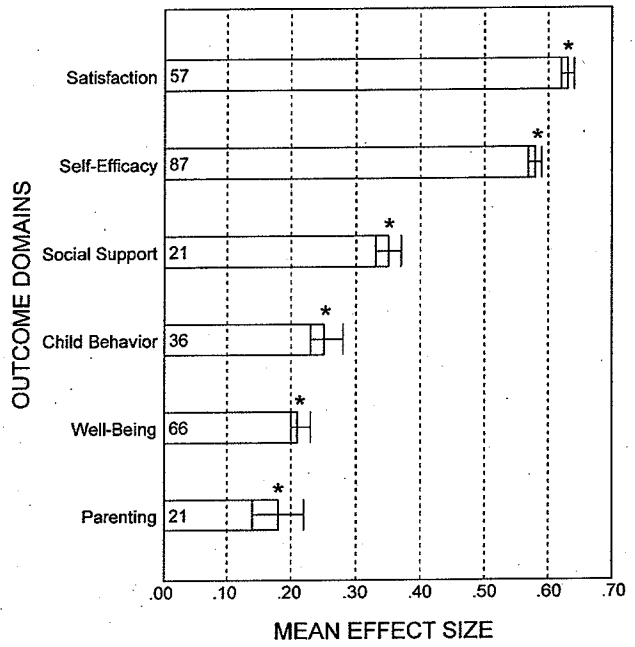

Fig. 2. Influences of family-centered helpgiving practices in the six domains of parent, family, and child behavior and functioning. (Note: The numbers in the bars are the number of effect sizes included in the analyses.) *Zs = 9.07–126.84, $P < 0.00001$.

stepped relationship between the independent and dependent measures.

Two of the three outcomes most strongly related to family-centered helpgiving were ones most proximal and contextual to the study participants involvement in a helpgiving relationship (satisfaction with program practitioners and services and self-efficacy beliefs), Zs = 94.91 and 124.84, $P < 0.0001$ respectively). The provision of child and parent supports from the help giver or his or her program was also significantly related to family-centered helpgiving, Z = 33.97, $P < 0.0001$. In all three sets of analyses, the more family-centered the practices, the more the participants were satisfied with the practitioners and their programs, had stronger self-efficacy beliefs, and the more helpful they judged the supports and resources provided by the helpgiver and their programs.

The three outcome measures more *distal* to family-centered helpgiving (child behavior and functioning, personal/family well-being, and parenting behavior) were all statistically related to the independent variable, Zs = 20.53, 26.20, and 9.07, $P < 0.0001$, respectively, albeit not nearly as strongly. The results nonetheless indicate that the ways in which helpgivers interact and treat families influences to some degree judgments of their own behavior, that of their family, and their children's behavior.

Relational Versus Participatory Practices

The influences of relational and participatory helpgiving practices on the outcomes are shown in Table 2. There was statistically significant covariation between the two types of family-centered helpgiving and the outcome measures in 41 of the 42 Z statistic analyses. The outcome categories are ordered on the table according to the proximal and distal relationship to family-centered helpgiving. It can be seen that the strength of the relationship between relational and participatory helpgiving and the outcomes both between and within categories are very consistent with predictions based on our practice-based theory of family-centered helpgiving [Dunst et al., 2006a].

Whether or not either relational or participatory helpgiving practices were more strongly related to the outcome measures was determined by a series of between type of helpgiving practices comparisons. The 21 between type of helpgiving (relational vs. participatory) practices Q statistic analyses produced seven significant differences. The size of effect for relational helpgiving and satisfaction with program staff (ES = 0.67) and all the satisfaction measures combined (ES = 0.64) was larger than the effect sizes between participatory helpgiving and these same outcomes (ESs = 0.38 and 0.59, respectively). In contrast, the sizes of effect for the relationship between participatory helpgiving and the other five outcomes (life events control, satisfaction with program, child positive behavior functioning, family well-being, and parenting behavior) were larger than the effect sizes for the influences of relational helpgiving on these same outcomes. The fact that participatory (compared to relational) helpgiving was more strongly related to more outcomes was expected because research has consistently found that active learner participation in acquiring new knowledge and skills is more likely to have capacity-building effects [e.g., Donovan et al., 1999; Wilson, 2006].

Within Outcome Domain Comparisons

The extent to which relational and participatory helpgiving were differentially related to the outcome measures within categories was determined by a series of between outcome measures comparisons. Family-centered helpgiving was differentially related to the outcome measures within domains in 6 of the 12 analyses (see Table 2). Relational and participatory helpgiving were both differentially related to the three self-efficacy belief measures, Qs = 117.69 and 126.95, $P < 0.00001$. In both analyses, the strength of the relationship between helpgiving practices and the two proximal control measures (practitioner control and program control) was about twice as strong as the relationship with the distal control measures (life events control) as expected. Both relational and participatory helpgiving were also differentially related to the two social support and resources measures, Qs = 4.87 and 8.58, Ps < 0.03 and 0.01. In both analyses, relational and participatory helpgiving were more strongly related to participants' ratings of the helpfulness of program supports and resources (ESs = 0.47 and 0.52, respectively) compared to the actual provision of child and parent supports (ESs = 0.26 and 0.37, respectively).

Participatory helpgiving was more strongly related to both satisfaction with both program services (ES = 0.67) compared to satisfaction with the helpgivers (ES = 0.38), $Q = 141.60$, $P < 0.0001$, and program participants' ratings of positive child behavior (ES = 0.34) compared to child behavior competence (ES = 0.18), $Q = 9.16$, $P < 0.01$. In contrast, relational helpgiving was more strongly related to personal well-being (ES = 0.27) compared to

Table 2. Effect Sizes for the Relationship Between Relational and Participatory Helpgiving Practices and the Outcome Measures

	Relational Helpgiving Practices					Participatory Helpgiving Practices					
	Number			Effect Size[a]		Number			Effect Size[a]		Between Practices Comparison
Outcome Measures	Studies	Sample Size	Effect Size	Mean	95% CI	Studies	Sample Size	Effect Size	Mean	95% CI	Q^b
Participant satisfaction											
All measures combined	10	2128	24	0.64****	0.62–0.65	9	2053	13	0.59****	0.56–0.61	13.67***
Satisfaction with staff	3	601	4	0.67****	0.63–0.72	2	526	5	0.38****	0.34–0.42	97.61****
Satisfaction with program	8	1598	20	0.63****	0.62–0.65	8	1598	8	0.67****	0.65–0.70	7.09**
Self efficacy beliefs											
All measures combined	16	1765	32	0.61****	0.59–0.63	17	2015	43	0.59****	0.57–0.61	1.61
Practitioner control	10	1368	10	0.62****	0.59–0.65	10	1368	11	0.62****	0.59–0.66	0.08
Program control	8	754	10	0.70****	0.66–0.73	8	754	13	0.67****	0.64–0.70	1.63
Life events control	8	675	12	0.32****	0.26–0.38	9	913	19	0.39****	0.35–0.43	3.97*
Program resources											
All measures combined	3	347	6	0.36****	0.30–0.43	3	347	6	0.44****	0.38–0.51	2.78
Parent/child supports	2	181	4	0.26****	0.17–0.36	2	181	4	0.37****	0.28–0.46	2.74
Program helpfulness	2	252	2	0.47****	0.37–0.56	2	252	2	0.52****	0.43–0.61	0.54
Child behavior											
All measures combined	3	345	19	0.24****	0.20–0.29	3	345	12	0.27****	0.22–0.32	0.48
Positive child behavior	3	345	8	0.25****	0.19–0.31	3	345	5	0.34****	0.27–0.41	4.29*
Negative child behavior	1	93	8	0.25****	0.18–0.31	1	93	4	0.20****	0.11–0.30	0.46
Behavioral competence	2	252	3	0.24****	0.14–0.34	2	252	3	0.18***	0.08–0.28	0.69
Well-being											
All measures combined	10	1543	30	0.26****	0.24–0.29	10	1543	20	0.27****	0.23–0.30	0.05
Personal well-being	10	1543	26	0.27****	0.25–0.30	10	1543	16	0.26****	0.22–0.30	0.18
Family well-being	2	245	4	0.18****	0.11–0.27	2	245	4	0.29****	0.23–0.37	3.81*
Parenting behavior											
All measures combined	3	331	8	0.13****	0.07–0.19	3	331	11	0.21****	0.16–0.27	4.06*
Confidence	3	331	3	0.16**	0.06–0.27	3	331	4	0.26****	0.18–0.35	2.23
Competence	2	236	2	0.05	−0.07–0.18	2	236	3	0.11*	0.01–0.21	0.50
Enjoyment	3	331	3	0.15**	0.05–0.26	3	331	4	0.24****	0.16–0.32	1.62

*$P < 0.05$, **$P < 0.01$, ***$P < 0.001$, ****$P < 0.0001$.
[a]Significance Z-test for covariation between helpgiving practices and the outcome measures.
[b]Between type of helpgiving practices Q test of statistical significance (Hedges, 1994).

family well-being (ES = 0.18), $Q = 4.02$, $P < 0.05$. The latter is an example of a within domain proximal/distal difference, where the target of appraisals of one's own behavior (personal well-being) shows a stronger relationship with family-centered practices compared to appraisals of other's behavior (family well-being).

DISCUSSION

Findings from our meta-analysis showed that both relational and participatory family-centered practices were related to parent, family, and child behavior and functioning in a manner highly consistent with the theory guiding the conduct and interpretation of the three sets of analyses [Dunst et al., 2006a]. The strongest relationships with family-centered practices were with outcomes most proximal and contextual to the focus of help receiver/helpgiver exchanges. More distal outcomes also were related to family-centered helpgiving albeit not nearly as strong.

We were able to conduct only main or direct effect analyses of family-centered helpgiving because many of the research reports did not include correlation tables that could have been used to test for the indirect influences of relational and participatory helpgiving. This is a common problem in meta-analyses [Shadish and Sweeney, 1991]. It is unfortunate that we could not do mediated analyses because in another research synthesis [Dunst et al., 2006a] we were able to test for the indirect effects of helpgiving and found that more distal outcomes were influenced by family-centered practices and particularly by participatory helpgiving. For example, parenting behavior was completely mediated by self-efficacy beliefs, where family-centered practices influenced control appraisals and control appraisals in turn influenced parenting confidence, competence, and enjoyment. In other analyses, family-centered helpgiving had both direct and indirect effects on the same kinds of outcomes included in this meta-analysis (e.g., helpfulness of program supports and resources). The next generation of family-centered research could add substantially to our understanding of how this approach to working with families influences parent, family, or child functioning by explicitly including mediator variables and conducting effects decomposition analyses [Kline, 2005] to ascertain both the direct and indirect effects of family-centered helpgiving on dependent variables of interest. Structural equation modeling would seem especially useful for this purpose, and there are now methods for aggregating results from these kinds of analyses for conducting even more sophisticated meta-analysis [Shadish and Sweeney, 1991].

It is of special importance to note the nature of the relationship between family-centered helpgiving and the child outcome measures in this and our other meta-analysis [Dunst et al., 2006a]. Critics of family-centered practices [e.g., Baird and Peterson, 1997; Mahoney et al., 1999] often argue that this approach to working with families "leaves out the child" and in the process fails to consider interventions that specifically target child learning and development. Findings from both our meta-analyses show that parents' judgments of their child's behavior (more positive and less negative) are influenced by family-centered practices. We believe this is the case because family-centered practices are strengths-based, and the practices help focus family member attention on positive child qualities. This was especially true for the influence of participatory helpgiving on positive child behavior.

In our other meta-analysis we found that family-centered practices were not directly related to child development outcomes but rather indirectly mediated by self-efficacy beliefs. We believe this is the case because family-centered practices have empowerment type effects (e.g., strengthened efficacy beliefs), and that parents who feel empowered about their parenting capabilities are more likely to provide their children development-enhancing learning opportunities [Teti and Gelfand, 1991; Coleman et al., 2002]. There is no reason to believe or expect that family-centered practices would be directly related to child development outcomes. Child focused or parent/child focused interventions are what is done and family-centered practices are how the interventions are implemented. The latter is expected to influence the ways in which the former is carried out.

The implications of our meta-analysis for practice are perhaps best understood by first considering the extent to which family-centered helpgiving would be expected to be related to different outcomes. Family-centered practices are only one of a number of factors that would be expected to contribute to improved child, parent, and family behavior and functioning. Placed in the context of a family system approach to intervention [Dunst et al., 1988, 1994; Dunst, 2000, 2004], it is "part of the equation" of a broader-based approach to early childhood intervention and family support that considers many different environmental factors as determinants and mediators of desired outcomes. In statistical terms, family-centered practices should account for some but not all the variance in outcomes considered important program benefits.

The broad-based applicability of family-centered practices is understood by considering the settings in which the studies included in our meta-analysis were conducted and the settings in which family-centered helpgiving is now used by professionals. The settings in which the studies were conducted included, but were not limited to, pediatric practices, NICUs, mental health programs, early childhood intervention programs, specialty clinics, rehabilitation centers, and public schools. Findings showed that the strength of the relationship between family-centered helpgiving and the same or similar outcomes were much the same in the different settings, indicating that the practices operate in the same way when used by professionals from different disciplines in different kinds of programs.

Family-centered practices and care are now used widely in many different kinds of programs and organizations working with young children and their families, and especially children with special health care needs and identified disabilities and their families [e.g., Shelton and Stepanek, 1994; Sweeney, 1997; Henneman and Cardin, 2002; Lewandoski and Pierce, 2002; American Academy of Pediatrics Committee on Hospital Care, 2003]. Findings from our meta-analyses help inform this way of working with families by placing equal emphasis on the use of relational and participatory helpgiving practices. The latter is generally practiced less often by professionals [Dunst and Trivette, 2005] but is a more important determinant of parent, family, and child behavioral functioning and especially outcomes mediated by self-efficacy beliefs [Dunst et al., 2006a]. Incorporating family choice and decision-making, and knowledge and skill development, into how professionals work with families would most likely have value-added benefits.

We conclude the paper by commenting on the quality of the studies in our meta-analysis. The largest majority of the studies were correlational investigations where variations in help re-

ceivers' judgments of the helpgiving practices of helpgivers were related to variations in measures of parent, family, or child behavior and functioning. The problems with inferring causality from correlational data are well-known, but as Cohen et al. [2003] note, you cannot have causation with correlation. Notwithstanding this point, caution is warranted in claiming family-centered helpgiving caused observed and reported differences. The most that probably can be said is that use of family-centered helpgiving is associated with more positive and less negative parent, family, and child behavior and functioning. Having said that, the fact that the study outcomes covaried with family-centered helpgiving in investigators so diverse as the ones included in our meta-analysis makes the findings particularly robust. Replications of the results across measures, across countries, across helpgivers, across populations of participants, and across settings, strengthens the conclusion that family-centered helpgiving matters in terms of program participant benefits. The use of family-centered practices therefore would seem both warranted and indicated in programs working with children and their parents and other family members. ■

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Appendix

Study Sample Sizes, Location of Study, Family-Centered Practices and Outcome Measures and the Study Effect Sizes

Study	Sample Size	Country	Family-Centered Practices Measures	Outcome Measure		Effect Sizes[b]
				Scale	Construct	
Barbee-Dixon (2001)	60	US	Family Centered Behavior Scale (Allen et al., 1995) Total Scale Score	Guidubaldi & Cleminshaw (1994)	Parenting Enjoyment Parenting Confidence	.12 .13
DeChillo et al. (1994)	455	US	Family/Professional Collaboration Scale (DeChillo et al., 1994) Accessing Services (P)[a] Sharing Information (P) Supportive Understanding (R) Utilizing Feedback (P)	Investigator Developed Scale	Satisfaction (Services)	.09, .11, .16, .67
Dempsey & Dunst (2004, Sample 1)	67	US	Enabling Practices Scale (Dempsey, 1995) Autonomy (P) Collaboration (P) Comfort (R)	Koren et al. (1992)	Self-Efficacy Beliefs Competence (General) Knowledge (General) Self-Efficacy (Program) Systems Advocacy (General)	 .30, .43, .47 .40, .44, .45 .28, .37, .46 .20, .28, .31
Dempsey & Dunst (2004, Sample 2)	54	Australia	Enabling Practices Scale (Dempsey, 1995) Autonomy (P) Collaboration (P) Comfort (R)	Koren et al. (1992)	Self-Efficacy Beliefs Competence (General) Knowledge (General) Self-Efficacy (Program) Systems Advocacy (General)	 .28, .30, .46 .32, .33, .53 .14, .22, .35 .08, .19, .21
Dempsey et al. (2001, Sample 1)	71	Australia	Enabling Practices Scale (Dempsey, 1995) Total Scale Score	Investigator Developed Scale	Satisfaction (Program)	.47
Dempsey et al. (2001, Sample 2)	28	Australia	Enabling Practices Scale (Dempsey, 1995) Total Scale Score	Investigator Developed Scale	Satisfaction (Program)	.53
Dempsey et al. (2001, Sample 3)	100	India	Enabling Practices Scale (Dempsey, 1995) Total Scale Score	Investigator Developed Scale	Satisfaction (Program)	.46
Dunst (1999)	575	US	Family-Centered Practices Scale (Short Form) (Dunst et al., 2006b) Total Scale Score	Dunst et al. (2006b) Dunst et al. (2006b) Investigator Developed Scale	Personal Control (Staff) Program Satisfaction Parenting Supports Child Development Formal Program Informal Program	.57 .64 .31 .18 .15
				Investigator Developed Scale Bradburn (1969)	Perceived Child Progress Personal Well-Being Positive Affect Negative Affect	.13 .15 .14

Appendix, continued

Study	Sample Size	Country	Family-Centered Practices Measures	Outcome Measure: Scale	Outcome Measure: Construct	Effect Sizes
Dunst et al. (1998)	250	US	Family-Centered Practices Scale (Short Form) (Dunst et al., 2006b) Total Scale Score	Dunst et al. (2006b)	Personal Control (Staff)	.70
				Dunst et al. (2006b)	Personal Control (Program)	.38
					Personal Control (Life Events)	.18
				Dunst et al. (2006b)	Satisfaction (Program)	.73
				Bradburn (1969)	Personal Well Being	
					Positive Affect	.09
					Negative Affect	.08
				Radloff (1977)	Parent Depression	.12
				McCubbin et al. (1981)	Family Well Being (Negative)	.02
				Investigator Developed Scale	Perceived Child Progress	.30
				Investigator Developed Scale	Parenting Supports	
					Child Development	.51
					Formal Program	.33
					Informal Program	.40
Dunst & Trivette (2001a)	166	US	Helpgiving Practices Scale Modified (Dunst et al., 2006b)	Dunst et al. (2006b)	Personal Control (Staff)	.46, .48
			Relational	Dunst et al. (2006b)	Satisfaction (Program)	.41, .55
			Participatory	Dunst et al. (2006b)	Program Benefits (Helpfulness)	.45, .50
				Dunst et al. (2006b)	Perceived Child Progress	
					Child Exploration	.39, .41
					Preacademic Performance	.39, .40
Dunst & Trivette (2001b, Sample 1)	537	US	Family-Centered Helpgiving Scale (Dunst et al., 2006b)	Investigator Developed Scale	Parent Choice/Control (Supports)	.34
Dunst & Trivette (2005)	64	US	Family-Centered Practices Scale - Extended Dunst et al. (2006b)	Dunst et al. (2006b)	Satisfaction (Staff)	.78, .83
					Satisfaction (Services)	.40, .48
			Relational	Dunst et al. (2006b)	Loyalty (Program)	.55, .57
			Participatory	Dunst et al. (2006b)	Parent Efficacy	.55, .66
Dunst et al. (1994, Sample 2), Boyd & Dunst (1993)	141	US	Helpgiving Practices Scale (Dunst et al., 2006b)	Dunst et al. (2006b)	Personal Control (Staff)	.74, .78
			Relational	Dunst et al. (2006b)	Personal Control (Program)	.78, .80
			Participatory		Personal Control (Life events)	-.02, -.02
				Bradburn (1969)	Personal Well Being	
					Positive Affect	-.01, -.02
					Negative Affect	-.04, .01
Dunst et al. (1994, Sample 3)	1,110	US	Family-Centered Practices Scale (Short Form) (Dunst et al., 2006b) Total Scale Score	Dunst et al. (2006b)	Personal Control (Staff)	.63
				Dunst et al. (2006b)	Program Satisfaction	.69
				Bradburn (1969)	Personal Well Being	
					Positive Affect	.10
					Negative Affect	.01
				Investigator Developed Scale	Parenting Supports	
					Child Development	.47
					Formal Program	.30
					Informal Program	.30
				Investigator Developed Scale	Perceived Child Progress	.31
Dunst et al. (1996, 2002, Sample 1)	220	US	Helpgiving Practices Scale (Dunst et al., 2006b)	Dunst et al. (2006b)	Personal Control (Staff)	.59, .63
			Relational			
			Participatory			

Appendix, continued

Study	Sample Size	Country	Family-Centered Practices Measures	Outcome Measure: Scale	Outcome Measure: Construct	Effect Sizes
Dunst et al. (2002, Sample 2), Boyd and Dunst (1993)	45	US	Helpgiving Practices Scale (Modified Version) (Dunst et al., 2006b)	Dunst et al. (2006b)	Personal Control (Staff)	.55, .79
			Relational	Dunst et al. (2006b)	Personal Control (Program)	.64, .72
			Participatory		Personal Control (Life events)	.37, .46
				Bradburn (1969)	Personal Well Being	
					Positive Affect	.12, .14
					Negative Affect	.34, .35
Dunst et al. (1993)	22	US	Investigator Developed Protocol	Investigator Developed Scale	Family Functioning	.62
Dunst et al. (2006a, Sample 1)	95	US	Family-Centered Practices Scale- Short Form (Dunst et al., 2006b)	Dunst et al. (2006b)	Child Learning Opportunities	.26, .39
					Parenting Supports	.17, .32
			Relational	Dunst et al. (2006b)	Efficacy Appraisals (Staff)	.41, .47
			Participatory	Dunst et al. (2006b)	Parenting Confidence	.16, .34
					Parenting Enjoyment	.11, .31
Dunst et al. (2006a, Sample 2)	86	US	Family-Centered Practices Scale - Long Form (Dunst et al., 2006b)	Dunst et al. (2006b)	Child Learning Opportunities	.29, .29
					Parenting Supports	.33, .46
			Relational	Dunst et al. (2006b)	Efficacy Appraisals (Program)	.67, .70
			Participatory	Dunst et al. (2006b)	Outcome Expectations (Program)	.67, .72
				Dunst et al. (2006b)	Program Helpfulness	.50, .54
				Dunst et al. (2006b)	Parenting Confidence	.30, .34
					Parenting Competence	.22, .22
					Parenting Enjoyment	.16, .20
				Dunst et al. (2006b)	Child Literacy	
					Emergent Literacy	-.03, .08
					Early Literacy	-.05, -.15
				Dunst et al. (2006b)	Child Learning	.66, .67
Everett (2001)	82	US	Family-Centered Behavior Scale (Allen et al., 1995)	Larsen et al. (1979)	Satisfaction (Program)	.64
				Deal et al. (1988)	Family Functioning	.35
			Total Scale Score	Sparrow et al. (1984)	Child Adaptive Behavior	.15
				Abidin (1995)	Parent Stress	.20
Granat et al. (2002)	2,265	Sweden	Measure of Process of Care (King et al., 1996)	Investigator Developed Measure	Satisfaction (Program)	.67
			Total Scale Score			
Humphries & Dunst (2003)	150	US	Enabling Practices Scale (Dempsey, 1995)	Dunst et al. (2006b)	Personal Control (Program)	.46, .66, .68
			Autonomy (P)	Dunst et al. (2006b)	Personal Control (Staff)	.47, .57, .65
			Collaboration (P)	Dunst et al. (2006b)	Parenting Competence	-.01, -.05, .16
			Comfort (R)		Parenting Confidence	.07, .14, .26
					Parenting Enjoyment	.17, .21, .24
Judge (1997)	69	US	Helpgiving Practices Scale - Short Form (Dunst et al., 2006b)	Dunst et al. (2006b)	Personal Control (Program)	.57
				Dunst et al. (2006b)	Personal Control (Staff)	.53
			Total Scale Score			
G. King et al. (1999), S. King et al. (2004, Sample 1)	164	Canada	Measure of Processes of Care (King et al., 1996)	Larsen et al. (1979)	Satisfaction (Program)	.34, .60
			Providing General Information (R)	King et al. (1995)	Parent Stress (Program)	.26, .54
			Providing Support (P)	McCubbin (1991)	Parent Functioning	
					Family Integration	.20, .37
					Maintain Social Support	.16, .19
					Understanding Health Care	.21, .38
				Derogatis (1992)	Parent Distress	.03, .11
				Radloff (1977)	Parent Depression	.09, .12

Appendix, continued

Study	Sample Size	Country	Family-Centered Practices Measures	Outcome Measure: Scale	Outcome Measure: Construct	Effect Sizes
S. King et al. (1996, 2004, Sample 2)	653	Canada	Measure of Processes of Care (King et al., 1996) Coordinated/Comprehensive Care (R) Enabling & Partnership (R) Providing General Information (R) Providing Specific Child Information (R) Respectful/Supportive Care (R)	King et al. (1995)	Parent Stress (Program)	.23, .25, .30, .32, .35
S. King et al. (1996, 2004, Sample 3)	151	Canada	Measure of Processes of Care (King et al., 1996) Coordinated/Comprehensive Care (R) Enabling & Partnership (P) Providing General Information (R) Providing Specific Child Information (R) Respectful/Supportive Care (R)	King et al. (1995) Larsen et al. (1979)	Parent Stress (Program) Satisfaction (Program)	.28, .43, .43, .44, .50 .40, .43, .52, .61, .64
S. King et al. (1996, 2004, Sample 4)	29	Canada	Measure of Processes of Care (King et al., 1996) Coordinated/Comprehensive Care (R) Enabling & Partnership (P) Providing General Information (R) Providing Specific Child Information (R) Respectful/Supportive Care (R)	King et al. (1995) Larsen et al. (1979)	Parent Stress (Program) Satisfaction (Program)	.47, .49, .51, .52, .55 .24, .36, .63, .65, .69
S. King et al. (2004), Law et al. (2003)	494	Canada	Measure of Processes of Care (King et al., 1996) Coordinated/Comprehensive Care (R) Enabling & Partnership (P) Providing General Information (R) Providing Specific Child Information (R) Respectful/Supportive Care (R)	Larsen et al. (1979)	Satisfaction (Program)	.54, .62, .70, .71, .72
Lewis et al. (1991)	141	US	Investigator Developed Rating Scale	Lewis et al. (1986) Rifkin et al. (1988) Stember et al. (1985)	Parent Satisfaction (Staff) Child Satisfaction (Staff) Positive Child Behavior	-0.8 .19 .28
O'Neil et al. (2001)	75	US	Measure of Processes of Care (King et al., 1996) Enabling and Partnership (P) Providing specific Information (R) Respectful/Supportive Care (R)	Abidin (1995)	Parenting Stress	.25, .28, .29
Pereira (2003)	96	Portugal	Family Centerd Behavior Scale (Allen et al., 1995) Relational Participatory	Investigator Developed Scale	Satisfaction (Program)	.19, .72
Petr & Allen (1997), Allen (1996)	443	US	Family-Centered Behavior Scale (Allen et al., 1995) Total Scale Score	Investigator Developed Scale	Satisfaction (Staff)	.52
Reich et al. (2004)	250	US	Parent-Professional Collaboration Scale (Wilson, 2000) Participatory	Bickman et al. (1991)	Self-Efficacy (General)	.60
Robinson (2005)	256	Canada	Family-Centered Behavior Scale (Allen et al., 1995) Total Scale Score	Koren et al. (1992)	Self-Efficacy Beliefs Community (General) Family (General) School (Program)	 .34 .33 .64
Romer & Umbreit (1998)	9	US	Investigator Developed Scale	Investigator Developed Measure	Satisfaction (Staff)	.88

Appendix, continued

Study	Sample Size	Country	Family-Centered Practices Measures	Outcome Measure: Scale	Outcome Measure: Construct	Effect Sizes
Sandler & Casar (2000)	93	US	Measure of Processes of Care (King et al., 1996) Coordinated/Comprehensive Care (R) Enabling & Partnership (P) Respectful/Supportive Care (R)	Ottenbacher et al. (1996)	Child Functioning Cognitive Motor Self-care	 .12, .13, .29 -.14, -.15, -.18 -.04, -.10 -.10
				Conners (1997)	Child Behavior Cognitive Problems Emotional Problems Restless/Impulsive Behavior Problems	 .13, .18, 19 .21, .21, .24 .23, .28, .29 .24, .28, .28
Thompson et al. (1997)	270	US	Family-Centeredness Scale (Herman et al., 1996) Total Scale Score	Koren et al. (1992)	Self-Efficacy (General)	.32
Trivette et al. (1995, Sample 1)	150	US	Helpgiving Practices Scale (Dunst et al., 2006b) Relational Participatory	Dunst et al. (2006b)	Personal Control (Staff)	.57, .63
Trivette et al. (1995, Sample 2)	130	US	Helpgiving Practices Scale (Dunst et al., 2006b) Relational Participatory	Dunst et al. (2006b) Dunst et al. (2006b) Bradburn (1969)	Personal Control (Staff) Personal Control (Program) Personal Control (Life Events) Personal Well Being Positive Affect Negative Affect	.71, .72 .72, .74 .10, .10 .05, .08 .03, .04
Trivette et al. (1996a), Dunst et al. (1994, Sample 1)	107	US	Helpgiving Practices Scale (Dunst et al., 2006b) Relational Participatory	Dunst et al. (2006b)	Personal Control (Staff)	.62, .70
Trivette et al. (1996b, Sample 1)	128	US	Helpgiving Practices Scale (Dunst et al., 2006b) Relational Participatory	Dunst et al. (2006b)	Personal Control (Staff)	.28, .39
Trivette et al. (1996b, Sample 2)	81	US	Helpgiving Practices Scale - Short Form (Dunst et al., 2006b) Relational Participatory	Dunst et al. (2006b) Dunst et al. (2006b) Radloff (1977) McCubbin et al. (1981)	Personal Control (Staff) Personal Control (Program) Personal Control (Life Events) Parent Depression Family Well Being (Negative)	.04, .26 .16, .24 .08, .12 .25, .29 .08, .16
Trivette et al. (1996c) Dunst et al. (1992, 1994)	74	US	Helpgiving Practices Scale (Dunst et al., 2006b) Relational Participatory	Dunst et al. (2006b) Bradburn (1969)	Personal Control (Life Events) Personal Well Being Positive Affect Negative Affect	.24, .35 .30, .31 .00, .05
Trute & Hiebert-Murphy (2007)	103	Canada	Measure of Processes of Care (King et al., 1996) Total Scale Score Family-Centered Behavior Scale (Allen et al., 1995) Total Scale Score	Larsen et al. (1979)	Parent Satisfaction (Program)	.47, 49
Van Riper (1999)	89	US	Family-Provider Relationship Instrument (Van Riper, 1999) Total Scale Score	Ryff (1989) Radloff (1977) Skinner et al. (1983) Investigator Developed Measure	Parent Well-Being Parent Depression Family Functioning Satisfaction (Staff)	.28 .18 .36 .43

Appendix, continued

Study	Sample Size	Country	Family-Centered Practices Measures	Outcome Measure		Effect Sizes
				Scale	Construct	
Van Riper (2001)	55	US	Family-Provider Relationship Instrument (Van Riper, 1999) Total Scale Score	Ryff (1989) Skinner et al. (1983) Investigator Developed Measure	Parent Well-Being Family Functioning Satisfaction (Staff)	.32 .23 .53
van Schie et al. (2004)	427	Nether-lands	Measure of Processes of Care (King et al., 1996) Coordinated/Comprehensive Care (R) Enabling & Partnership (P) Providing General Information (R) Providing Specific Child Information (R) Respectful/Supportive Care (P)	Larsen et al. (1979)	Satisfaction (Program)	.39, .56, .68, .72, .73

[a]R = Subscale coded relational helpgiving practices and P = subscale coded participatory helpgiving practices.

[b]Effect sizes for the relationship between the different measures of family-centered helpgiving and the outcome measures. The effect sizes for outcome measures of poor functioning were reversed for the meta-analysis.