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A Research Synthesis of Resource-Based Intervention Practice Studies

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ABSTRACT

A research synthesis of the effects of resource-based intervention practices on children with developmental disabilities and their families is reported. Two hundred twenty-one (221) sources were examined, 11 of which had relevant qualitative or quantitative data on 2,511 study participants. Six sources had data from which 87 effect sizes were calculated for 1,100 study participants. The average Cohen's *d* effect sizes for all measures combined was 1.01 (CI = 0.90 – 1.12). Results indicated that resource-based intervention practices are associated with positive outcomes for children with developmental disabilities and their families. Findings are discussed in terms of the need for additional research on the characteristics and consequences of resource-based intervention practices.

INTRODUCTION

The purpose of this practice-based research synthesis was to ascertain the degree to which the use of resource-based intervention practices is associated with positive outcomes for children with developmental disabilities and their parents and families. Resource-based intervention practices constitute a set of strategies that focus on mobilization and provision of *resources and supports* to individuals and families to achieve desired outcomes. Resource-based intervention practices are asset- and community-based, and both build and strengthen individual, family, and community capacity (Dunst et al., 1994; Trivette et al., 1997). The specific resource-based intervention practices model that was the basis of this research synthesis was developed by Dunst, Trivette, and Deal (1994; Trivette, Dunst, & Deal, 1997).

The conduct of the synthesis was guided by a framework that focused on the degree to which variations in resource-based intervention practices are associated with variations in outcomes for children with developmental disabilities and their parents and families (Dunst et al., 1994; Trivette et al., 1997). This approach differs from more traditional meta-analyses by "systematically examining and unpacking the characteristics of practices that are related to differences in their outcomes or consequences" (Dunst, Trivette, & Cutspec, 2002, p. 1).

BACKGROUND

The conceptual foundations for resource-based intervention practices include Sarason's work on the use of informal resource networks as an alternative to traditional deficit-based and service-based approaches (Sarason, Carroll, Maton, Cohen, & Lorentz, 1988; Sarason & Lorentz, 1979); Bronfenbrenner's (1979) assertion that person, environment, and systems variables account for variations in child and family functioning; Hobbs's (1975) contention that social and community resources should strengthen family functioning; Heller's emphasis on the importance of choice and decision-making about important life issues by individuals with developmental disabilities (Heller, Miller, Hsieh, & Sterns, 2000); and Dunst's integrated framework of early childhood intervention and family support, which focuses on practices "that are associated with development-enhancing and family-strengthening consequences" (Dunst, 2000, p. 18).

Description of the Practice

The resource-based intervention practices model constituting the focus of analysis (Dunst et al., 1994; Trivette et al., 1997) includes five key characteristics (asset-based practices, a synergistic paradigm, use of community-centered practices, mobilization of informal and formal resources, and inside-out solutions). *Asset-based,* or strengths-based practices, build on existing family member capabilities and promote acquisition of new abilities (Curran, 1983; Dunst, Trivette, & Mott, 1994; Kretzmann & McKnight, 1993; McKnight, 1987; Otto, 1962, 1975). A synergistic paradigm focuses on the inherent ability of individuals, families, and communities to use personal resources to accomplish desired outcomes in ways that are empowering and are likely to be sustained (Dunst, Trivette, & Deal, 1988; Hobbs et al., 1984; Katz, 1984; Rappaport, Swift, & Hess, 1984). The *use of informal and formal resources* emphasizes the importance of a wide range of supports as crucial to the successful achievement of desired outcomes for children, parents, and families (Bronfenbrenner, 1979; Cochran & Woolever, 1983; Gourash, 1978; Hobbs et al., 1984; Kretzmann, McKnight, & Puntunney1998; McKnight, 1980, 1987; 1987; McKnight & Kretzmann, 1990). The *use of community-centered practices* emphasizes the use of supports and resources that are physically located in local communities, build on resources and supports that exist in those communities, and define solutions primarily in terms of community-based resources (Dunst, 2000; Kretzmann & McKnight, 1993; McKnight, 1987; Sarason & Lorentz, 1979; Turner, McKnight, & Kretzmann, 1999) . Inside-out solutions focus on priorities and concerns of individuals, families, and communities; agendas and outcomes that are consumer-driven; and practices that respect the customs, values, and mores of local communities and groups (Dunst & Trivette, 1988; Sarason, Carroll, Maton, Cohen, & Lorentz, 1977; Sarason & Lorentz, 1979; Swift, 1984; Wu, 2002). The reader is referred to Mott (2005b) for a more detailed description of the conceptual and empirical foundations of resource-based intervention practices, and to Mott (2005a) for sources of information related to resource-based intervention practices.

SEARCH STRATEGY

Search Terms

Identification of relevant studies was accomplished using the following search terms: *resource-based, resource, support, family support, community, community-building, community-based, informal resource, informal support, asset-based, strength-based, family-centered, capacity-building, and social capital.* The search was delimited by adding the terms *early intervention* or *early childhood* as a Boolean condition. The search was limited further by adding the terms *interest, priority, consumer-driven,* and *empowerment* because initial search results included citations from non-relevant fields (e.g., economics or business).

Sources

A computer-assisted bibliographic search of databases was conducted using Psychological Abstracts (PsycINFO), Educational Resources Information Center (ERIC), Social Sciences Citation Index (SSCI), Sociological Abstracts, and MEDLINE as the primary sources of relevant literature. In addition, the reference sections of relevant sources were hand searched to identify additional studies.

Selection Criteria

Studies were included in the synthesis if they met the following criteria: (1) the studies examined resource-based intervention practices as defined above, (2) the studies examined one or more aspects of the five resource-based intervention characteristics described above, (3) the studies focused primarily on children birth through eight years of age; and (4) the studies included data linking practices to outcomes for children with

developmental disabilities, their parents, and/or their families. Studies included in seminal articles were also included (Dunst et al., 1994; Trivette et al., 1997).

SEARCH RESULTS

Eleven (11) studies met the selection criteria. This included one doctoral dissertation, one monograph, and nine journal articles and book chapters. Nine of the studies were quantitative investigations and two were qualitative investigations. Six of the studies included effect size data or data from which effect sizes could be calculated.

Participants

Table 1 shows the sample sizes and participant characteristics in the 11 studies. The studies included 2,511 parents and other caregivers of 2,441 children birth through eight years old. The majority of the children had developmental disabilities or were at risk for developmental disabilities (96%). One study did not specify the number of children with developmental disabilities. Few studies reported children's gender, ethnicity, or race.

Research Methods

Table 2 includes a brief summary of methods, data analysis, and outcomes from each of the studies. Most studies (64%) used surveys, including surveys from two extant database studies. A mixed methodology was used in one study, which included a survey, interviews, and observations of families. A qualitative research design was used in two studies. An experimental design was used in one study.

Table 1
Summary of Sample Characteristics for Resource-Based Intervention Practices Studies

Study	Sample Size	Sample Characteristics
Dunst & Leet (1987)	45	Mothers of preschool-aged children participating in an early intervention program.
Dunst et al. (1986)	137	Parents (96 mothers, 41 fathers) of preschool children participating in an early intervention program for children with disabilities, developmental delays, or those at-risk for delays (38 retarded, 29 physically impaired, 29 developmentally at-risk)
Dunst et al. (1989)	48	Families (43 mothers, 19 fathers) with a child who had a disability or an individual adult with a disability (21 individuals with disabilities, 14 at-risk, 13 "contrast"). The families were from poor socioeconomic backgrounds and rearing a preschool or school-aged child, families caring for a dependent adult, or an individual adult with limited physical, financial, and other basic resources.
Dunst et al. (1993)	22	Parents of children with developmental disabilities participating in community-based human services programs in 11 different states.
Gilley (1995)	24	Families with low income in Australia, each with at least one child under eight years of age, 7 of whom were children with disabilities (inlcuding Down Syndrome, severe asthma, brain damage, and developmental delay)
Mott (in press)	64	Parents of children participating in family resource center activities in NC.
Mott & Dunst (2006)	811	Parents of children participating in a variety of early intervention programs in PA.
Raab (1994)	30	Families of children with disabilities participating in an early intervention program, all of whom indicated a need for child care.
Trivette & Dunst (1992)	88	Mothers of infants and preschoolers with mental retardation, physical disabilities, or developmentally at risk, all participants in an early intervention program. Childrens mean age = 35.98 months. Mother's mean age = 28.61 years.
Trivette et al. (1997)	1,281	Parents of children participating in a variety of early intervention programs in PA.
Wu (2002)	10	Families (4 Hispanic, 6 African-American) of 11 children (4 Hispanic, 7 African-American) who were deaf/hard of hearing, aged birth through 7, in the Oakland, CA area.

Table 2
Summary of Methods and Outcomes for the Resource-Based Intervention Practices (RBIP) Studies

Study	Measures	Data Analysis	Outcomes
Dunst & Leet (1987)	Family Resource Scale, Health and Well-Being Index, and Personal Allocation Scale. Correlations were calculated between total FRS score and selected subset scores and mother's personal well-being and commitment to intervention, with mothers' age, education level, income, and SES partialled	Correlations	RBIP measure and subscale scores were positively correlated with both parent positive well-being and parent commitment to intervention
Dunst et al. (1986)	Family Support Scale, Questionnaire on Resources and Stress, Parent-Child Interaction Rating Scale. Heirarchical multiple regression analyses by sets were used to analyze the data.	Hierarchical Mutiple Regression Analyses	More supportive social networks were positively associated with increased number and frequency of parent-child play opportunities and child development
Dunst et al. (1989)	Resource Exchange Scale, Family Resource Scale, Support Functions Scale, and Provision of Resources Scale. Changes in number of needs met, percentage of needs met, and percentage of independent exchanges were measured using ANOVA.	ANOVAs	Product needs in the RBIP treatment groups decreased relative to the control group, and the percentage of independent exchanges increased.
Dunst et al. (1993)	Qualitative approach, including interviews, survey findings, and direct observations. Gamma and correlations were used to measure the relationship between case manager/program practices (rated on a continuum from least to most consistent with family support principles, including RBIP) and family outcomes, as rated by families on a continuum from highly positive to highly negative.	Gamma and Correlations	Practices consistent with family support principles, including RBIP, were associated with better family outcomes.
Gilley (1995)	The study used a qualitative approach, examining the relationship between parents' verbal descriptions of their resources and outcomes.	Descriptive	Key values of RBIP were viewed as valuable for both consumers and providers of services.
Mott (in press)	Extant database analysis, with correlations computed between items selected as proxy measures of each of the five key characteristics of RBIP and child and parent outcomes.	Correlations	Each of the 5 RBIP charac-teristics was positively as-sociated with child learning opportunities, parent confi-dence, parent competence, parent enjoyment of child, parent ability to get desired information and support, parent personal influence getting information/ advice, and parent overall control getting resources/support.

Table 2, continued

Study	Measures	Data Analysis	Outcomes
Mott & Dunst (2006)	Extant database analysis, with correlations computed between items selected proxy measures of each of the five key characteristics of RBIP and child and parent outcomes.	Linear trend analysis & Correlations	The reported use of RBIP was positively associated with parent sense of control, parent satisfaction, parenting supports, parent positive wellbeing, and reported child progress.
Raab (1994)	Telephone surveys of families randomly assigned to two groups (resource-based and service-based models) were analyzed using growth modeling.	Growth Modeling	Parents in the resource-based group demonstrated positive changes across time, including changes in the number of people caring for their children, frequency of provision of child care, appraisals of how successful attempts to obtain child care were, perceived control over child care procurement experiences, and overall satisfaction with child care.
Trivette & Dunst (1992)	Family Support Scale, Parent Role Scale, Questionnaire on Resources and Stress, and the Parent-Child Play Scale. The relationship between intrafamily and extrafamily support and parent and family functioning was analyzed using hierarchical multiple regression analyses	Hierarchical Mutliple Regression Analyses	Intrafamily and extrafamily support had mediational influences on parent and family functioning and parental perceptions of child behavior beyond that attributable to other explainer variables.
Trivette et al. (1997)	Survey of early intervention program practices, including the resource-based nature of these practices and the outcomes associated with them. Relationship between RBIP practices and child and parent benefits was examined using ANOVAs.	ANOVAs	Strong relationship between RBIP and reported child progress and parent's personal control appraisals.
Wu (2002)	The study used a qualitative approach, examining the relationship between parents' verbal descriptions of the extent to which practices were resource-based and their outcomes.	Descriptive	RBIP approach was viewed as helpful to parents to identify and select resources.

Practices

Nine studies (82%) investigated the relationship between an aggregate measure of resource-based intervention practices and individual, parent, and/or family outcomes (Dunst & Leet, 1987; Dunst, Trivette, & Cross, 1986a; Dunst, Trivette, Gordon, & Pletcher, 1989; Dunst, Trivette, Gordon, & Starnes, 1993; Gilley, 1995; Raab, 1994; Trivette & Dunst, 1992; Trivette et al., 1997; Wu, 2002). Two studies investigated the relationship between each of the five key resource-based intervention practices characteristics (asset-based practices, a synergistic paradigm, use of community-centered practices, mobilization of informal and formal resources, and inside-out solutions to families' concerns and priorities) and individual, parent, and/or family outcomes (Mott, in press; Mott & Dunst, 2006).

Data Analysis

Six studies included effect sizes or data from which effect sizes could be calculated (Dunst & Leet, 1987; Dunst, Trivette, & Cross, 1986b; Dunst et al., 1993; Mott, in press; Mott & Dunst, 2006; Raab, 1994). Three studies included quantitative data but it was not possible to compute effect sizes from available information. Two of these studies (Dunst et al., 1989; Trivette et al., 1997) used ANOVAs and one used hierarchical multiple regression to analyze the data (Trivette & Dunst, 1992). Two studies included anecdotal data, primarily based on field notes from individual or group meetings with study participants (Gilley, 1995; Wu, 2002).

Outcome Measures

Six studies (55%) included measures of parent behaviors (e.g., well-being) or parents' judgments of benefits to their children (Dunst & Leet, 1987; Dunst et al., 1986a; Mott, in press; Mott & Dunst, 2006; Raab, 1994; Trivette et al., 1997). Three studies (27%) included measures of adequacy of family resources (e.g., time to spend with their children or the family having money for necessities such as food and shelter) (Dunst et al., 1989; Dunst et al., 1993; Gilley, 1995). One study included measures of parent knowledge of child development (Wu, 2002), and another study included a combination measure of parent and family outcomes, as well as parents' judgments of child benefits (Trivette & Dunst, 1992).

SYNTHESIS FINDINGS

The complete set of effect sizes for the relationship between resource-based intervention practices and the outcomes in the studies included in the syntheses are included in Appendix A. The findings reported next are for the average sizes of effects from the different studies. Figure 1 shows the mean effect sizes and 95% confidence intervals for the effects of the influences of resource-based intervention practices on child, parent, and family outcomes where each of the five resource-based intervention practices characteristics was measured separately. All of the resource-based intervention practices measures were associated with positive benefits for all the outcome measures examined together. *Asset-based practices* and *inside-out solutions* had the largest average effect sizes, and *informal and formal supports and resources* and the *synergistic paradigm* measures had large but smaller average effect sizes.

Figure 2 shows the mean effect sizes and confidence intervals for the effects of resource-based intervention practices on child, parent, and family outcomes for all measures combined, an aggregate measure of resource-based intervention practices, and for proxy measures of resource-based intervention practices. All three measures of resource-based intervention practices were related to the outcome measures in an expectant manner.

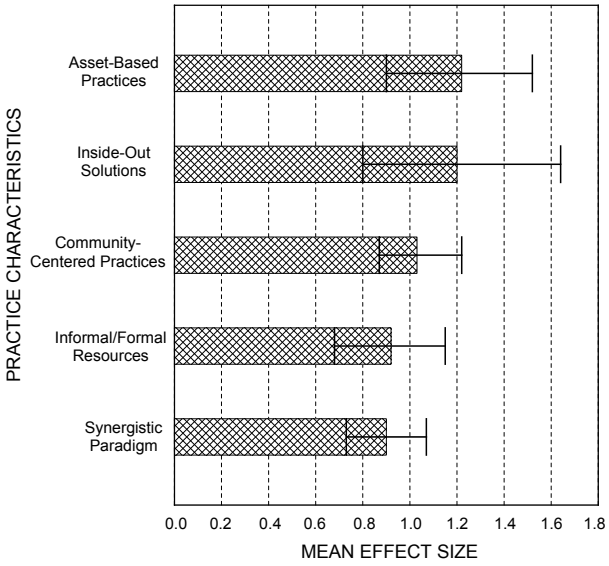

Figure 1. Mean effect sizes (bars) and 95% confidence intervals (lines) for the influences of the resource-based practices measures on child, parent, and family outcomes for each of the five resource-based characteristics.

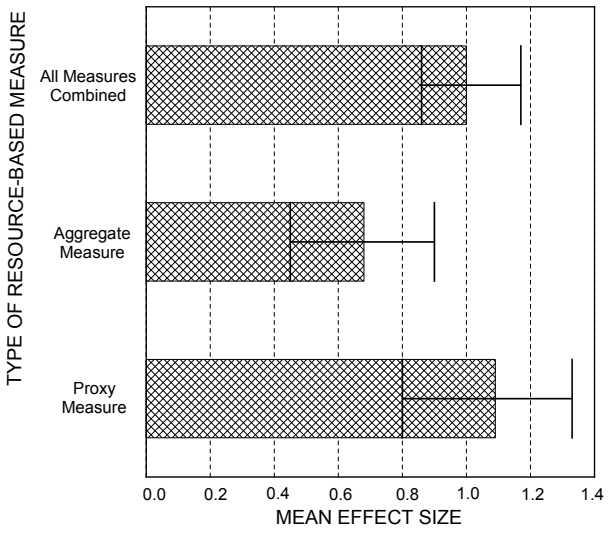

Figure 2. Mean effect sizes (bars) and 95% confidence intervals (lines) for the influences of three types of resources-based practices measures on child, parent, and family outcomes.

The effect size results for the studies organized according to service delivery setting, age of the family member with a disability, study methodology, location of the study, and outcome measures are shown in Table 3. Effect sizes were consistently large, regardless of the specific characteristics of the studies. Findings indicated

Table 3
Effect Sizes for the Relationship Between Resource-Based Intervention Practices and Child, Parent, and Family Outcomes

	Number			Cohen's *d*	
Study Characteristics	Studies	Sample Size	Effect Sizes	Mean	95% Confidence Interval
All Measures Combined	6	1100	87	1.01	0.90-1.12
Services Setting					
Early Intervention	4	1014	51	0.85	0.72-0.98
Other Human Services	2	86	36	1.23	1.06-1.40
Age of Family Member with a Disability (Years)					
0 to 5	3	203	26	0.89	0.69-1.09
0 to 8	2	875	60	1.07	0.94-1.20
1 to 60	1	22	1	0.62	—
Methodology					
Extant Database Analysis	2	875	60	1.07	0.94-1.20
Surveys	2	182	20	0.92	0.67-1.17
Experimental Design	1	21	6	0.77	0.67-0.87
Qualitative Study	1	22	1	0.62	—
Location					
NC	4	267	61	1.09	0.95-1.23
PA	1	811	25	0.82	0.67-0.97
Multiple States	1	22	1	0.62	—
Outcomes Measured					
Parent/Family	5	963	73	1.06	0.94-1.18
Child	3	1012	14	0.76	0.48-1.04

that none of these factors moderated the relationship between resource-based intervention practices and the study outcomes.

Rival Explanations

Rival explanations (Yin, 2000) and possible threats to internal validity (Campbell & Stanley, 1963; Cook & Campbell, 1979) could at least partially explain the findings from the analyses reported in this paper. Additionally, because of the small number of studies included in this synthesis, the conclusions should be considered tentative but nonetheless suggestive.

One possible threat to internal validity is instrumentation. This is the case because many of the studies examined data regarding both independent and dependent variables using the same instrument or set of instruments. Additionally, instrumentation may have influenced observed effects in most of the studies, which relied on parent surveys as the primary source of data. Some studies, notably Gilley (1995) and Wu (2002), relied on observations made solely by the investigators.

Another possible threat to internal validity is selection bias, which may have contributed to observed effects in the Wu (2002) study because participants were selected based on their prior relationship with the investigator, as well as based on the presence of both low family income and child hearing impairment. The other studies either used random assignment of participants

(Dunst et al., 1993; Raab, 1994) or used participants as their own controls. However, the samples may not be representative of the populations studied because of participant self-selected in nearly all the studies.

CONCLUSIONS

Findings from this research synthesis indicated that resource-based intervention practices were associated with positive outcomes for children, parents, and families. Benefits to the children included, but were not limited to, parent-reported child developmental progress, increased child and parent/child learning opportunities, and increased parental commitment to early intervention. Benefits to the parents included, but were not limited to, parenting confidence and competence, social support, parenting satisfaction, positive wellbeing, and personal control appraisals. Benefits to the families included, but were not limited, to intrafamily and extrafamily support and increased independence in obtaining resources.

Findings were found to be similar regardless of whether resource-based intervention practices were measured either as an aggregate measure or each of the five key characteristics was measured separately. Findings were also similar regardless of the data collection methodology that was used in the studies (surveys, extant database analysis, qualitative study, experiment design) and regardless of the contexts and targets of intervention.

Implications for Practice

The evidence gleaned from this synthesis points to the benefits of resource-based intervention practices to children, parents, and families. The major implication of this research synthesis is that early childhood practitioners' use of resource-based intervention practices is likely to result in positive child, parent, and family benefits.

The characteristics of resource-based intervention practices are consistent with principles of family support, which have guided the field of early childhood and family support intervention for several decades (e.g., Dunst, 2005; Family Support America, 2001). Findings are also consistent with the supports-based paradigm which has been adopted in the field of developmental disabilities in the past decade, that emphasizes resources and supports that promote individuals' full participation in family and community life (National Institute on Disability and Rehabilitation Research, 2000).

Resource-based intervention practices are also highly consistent with the support-oriented definition of mental retardation which has been adopted by the American Association on Mental Retardation (Luckasson et al., 2002; Luckasson et al., 1992) that emphasizes the use of natural supports as an "efficient and effective way to maximize habilitation services to individuals with disabilities" (Luckasson et al., 1992, p. 101). According to AAMR, supports are defined as "*resources* and strategies that promote the interests and causes of individuals with or without disabilities; that enable them to access *resources*, information, and relationships inherent within integrated work and living environments; and that result in their enhanced *independence/interdependence, productivity, community integration*, and satisfaction" (Luckasson et al., 1992, p. 101, emphasis added).

Several tools are available to guide early childhood practitioners in their use of resource-based intervention practices. These include a set of resource-based intervention practice checklists (Mott, 2006a) based on a Delphi study of experts on resource-based practices (Mott, 2006b). The checklists are designed to promote practitioner understanding and use of resource-based intervention practices. These tools include indicators for community resource mapping, mobilizing sources of support and resources, and community capacity building.

Based on our review and synthesis of available studies, the need for additional research on resource-based intervention practices is indicated, including both experimental studies and case studies designed to assess the effects of resource-based intervention practices. Studies are also needed that are designed to measure the relative importance of each of the five key characteristics of resource-based intervention practices, measure the relative benefits of resource-based intervention practices compared to a service-based approach to intervention, and to identify the specific practitioner competencies and strategies that are likely to have the greatest positive consequences for children, parents, and families. Findings from these studies should help determine if resource-based intervention practices have either or both primary or value-added benefits.

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Appendix A
Effect Sizes for Resource-Based Intervention Practices Studies

Dunst and Leet (1987)

Predictor Variables	Sample Size	Effect Sizes	
		Personal Well-being	Commitment to Intervention
Resource-based intervention practices[1]	45	1.20	1.60
Food and shelter[2]	45	0.45	1.11
Financial resources[2]	45	0.47	0.79
Time for family[2]	45	1.83	1.27
Extrafamily support[2]	45	2.24	1.27
Childcare[2]	45	0.47	1.24
Specialized child resources[2]	45	0.62	0.79
Luxuries[2]	45	1.08	1.24

Dunst, Trivette, and Cross (1986)

Predictor Variable	Sample Size	Effect Sizes			
		Number of Parent-Child Learning Opportunities	Frequency of Parent-Child Learning Opportunities	Change in Child's Developmental Quotient	Change in Child's Mental Age
Resource-based intervention practices[3]	137	0.26	0.25	0.05	0.19

Dunst, Trivette, Gordon, and Starnes (1993)

Predictor Variable	Sample Size	Effect Size
		Family Outcomes
Resource-based intervention practices	22	0.62

Appendix A, continued.

Mott (in press)

Predictor Variables	Sample Size	Effect Sizes: Child Learning Opportunities	Parenting Confidence	Parenting Competence	Parenting Enjoyment	Parent Ability to Obtain Desired Information and Support	Parent Personal Influence Obtaining Information/ Advice	Parent Overall Control Obtaining Resources/ Support
Asset-Based Practices	64	1.54	1.10	0.93	0.70	2.42	2.02	1.67
Synergistic Paradigm	64	0.68	0.93	0.82	0.70	1.07	1.32	1.01
Informal and Formal Resources	64	0.95	1.01	0.92	0.82	1.66	1.80	0.85
Community-Centered Practices	64	1.19	1.13	1.04	0.87	1.50	1.46	1.16
Inside-Out Solutions	64	2.07	0.80	0.56	0.43	2.34	2.20	2.02

Mott and Dunst (2006)

Predictor Variables	Sample Size	Effect Sizes: Child Development	Parent Well-being	Parent Support	Parent Satisfaction	Parent Sense of Control
Asset-Based Practices	784	0.80	0.16	1.19	1.32	1.25
Synergistic Paradigm	811	0.65	0.18	1.15	1.01	1.04
Informal and Formal Resources	811	0.63	0.16	0.70	0.68	0.65
Community-Centered Practices	811	0.72	0.22	1.19	1.19	1.09
Inside-Out Solutions	811	0.70	0.12	1.09	1.19	1.32

Appendix A, continued.

Raab (1994)

Predictor Variable	Sample Size	Effect Sizes					
		Parent Perceived Control Over Child Care Procurement	Parent Perception of Ease of Child Care Procurement	Parent Perception of Overall Success Obtaining Child Care	Parent Satisfaction with Child Care Procurement Experiences	Parent Satisfaction with Child Care Received	Parent Confidence About Obtaining Child Care on Short Notice
Resource-based intervention practices[3]	21	0.91	0.81	0.86	0.84	0.70	0.53