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Staff supported parental involvement in
effective early interventions for
at-risk children –
a systematic research review

Peter Berliner & Bente Jensen (Eds.)

VIDA RESEARCH REVIEW

STAFF SUPPORTED PARENTAL
INVOLVEMENT IN EFFECTIVE
EARLY INTERVENTIONS FOR
AT-RISK CHILDREN –
A SYSTEMATIC RESEARCH REVIEW¹

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ABSTRACT

The article presents a review of international research on the effect of early interventions with parental involvement. Ten international and national databases were searched. Hits were supplemented with references from the review group. The search process found 1933 unique references, which were subsequently screened for relevance. Seventy-eight references, which reported on 27 different studies, were relevant for the conceptual focus of the mapping. These 27 studies were re-described and data were extracted from them. They were also examined for evidence weight (high, medium, low) in a double peer review system. Thirteen interventions with evidence-based positive effects on the cognitive, emotional, and social development of the children were identified. The interventions were then described in terms of curriculum, theoretical framework, empirical basis, and methods of parental involvement. The study shows that parents are involved through a variety of activities, which include: (1) educators visit the homes and provide guidance for parents and their children there; (2) parents conduct specific activities with the children at home and or in the institution; (3) parents participate in activities with other parents, and (4) parents participate in activities with the group of children in the day care center. Only four studies (examining three interventions) of the 13 studies investigate the effect of parental involvement in particular. Thus, it cannot be concluded that parental involvement is a decisive factor for the positive effects in the remaining ten interventions. However, the review shows that parental involvement, when day care center staff or other facilitators assist the parents, seems to have a positive effect when combined with an intervention in the day care center.

INTRODUCTION

The idea of trying to improve the life opportunities of at-risk children through early interventions in preschool has a rather long history, both in practice and in research into early childhood interventions (Lascarides, 2000). In this review we will focus entirely on the effects of early childhood interventions with parental involvement. This is a new perspective in the research on early childhood interventions. Parental involvement means that parents are involved in the intervention as active participants rather than being seen as a risk factor in the social ecological environment of the child.

The study aims at increasing our knowledge of the effects of early childhood interventions with parental involvement. Furthermore, it includes the contribution of parental involvement in the effects of intervention programs.

We have not found any other study or review with this focus and methodology. This review can therefore strengthen our knowledge of the effect of parental involvement in early childhood intervention. The Scandinavian context of early childhood education and care (ECEC) may differ from other contexts in that the service of ECEC is provided by the state for almost all children as part of a particular type of welfare state: the Nordic model (Andersen et al. 2007; Esping-Andersen, 1990). In this Nordic Model, ECEC is seen as part of a policy providing more gender equity in work and social positions. ECEC is provided for all children, not just for at-risk children, and independently of the income of the parents, to ensure equal opportunities for all (Meyers & Gormick, 2003).

METHODOLOGY

The criterion for inclusion of studies in the review is that the studies are based on randomly controlled trials. Our review encompassed the following steps:

A. CONCEPTUAL CLARIFICATION:

In the review, we identify *at-risk children* as children living in families impacted by poverty (absolute or relative), unemployment, a limited level of education, dependency on social services, and divorce.

A distinction was made between *children in general and at-risk children*. Programs for children with diagnosed behavioral or psychiatric problems or physical handicaps were not included in the review. Most of the studies described programs for selected at-risk children rather than for all children in a neighborhood. We only found three studies on programs in the last category (*Dialogic Reading*, *DLM Early Childhood Express supplemented with Open Court reading Pre-K*, and *Project Ease – Early Access to Success in Education*).

Programs with parental involvement include interventions in which parents in direct interplay with preschool educators actively contribute to the development of the children in the early intervention program through engagement in activities. The involvement of the parents includes a variety of very different levels of active participation as well as different contexts, i.e. in the institution with the children or in groups for parents or in the homes.

Effect is measured as cognitive, social, and emotional development of the child. Furthermore, this is indirectly measured longitudinally through the socio-economic status of the children as grown-ups later in life – including income, social status, educational level, crime rate, and health.

Research studies are here defined as randomized controlled trials, controlled non-randomized trials, and systematic reviews.

B. SEARCHING AND SCREENING

The study included programs for children between 0 and 6 years of age. Research published between 1989 and 2010 was included in the study.⁷

The search was limited to Europe, North America, Australia, and New Zealand and to English, French, and German. Scandinavian studies were included on equal terms in the study as we were looking for the overall research based knowledge, but we did not find any Scandinavian RCT studies on ECEC.

Ten different international and national databases (ERIC, AEI, CEI, FIS-Bildung, BEI, SSCI, Sociological Abstracts, Psychinfo, Evidensbasen, Google Scholar, and Education Research Complete) were searched with profiles following the above-mentioned definitions. Hits were supplemented with references from the review group and references found among the 1933 unique references retrieved through the search process, which were subsequently screened for relevance.

C. RE-DESCRIPTION, DATA EXTRACTION, AND ASSESSMENT OF RESEARCH QUALITY

Seventy-eight references, which reported on 27 different studies, were relevant, according to the conceptual focus of the mapping. These 27 studies were re-described and data were extracted from them. They were also examined for evidence weight (high, medium, low) in a double peer review system. In this process, The EPPI Reviewer, which is software designed for the purpose, was applied.

D. LIMITING SCOPE TO THE INTERVENTIONS WITH DOCUMENTED POSITIVE RESULTS

Of the 27 studies, four were excluded because of a low evidence weight due to the way these four studies were reported. This left us with 23 studies, which reported on 17 different interventions, i.e. ECEC programs for at-risk children. Of these 17 interventions, 13 had documented positive effects. A list of these 13 interventions and the 19 studies of them can be found in the appendix. This article presents these 13 interventions. Even though non-effective interventions may be of relevance in a broader perspective, we dedicated our present study to positive effects. Even though several interventions from other countries were considered in the process, all of the 13 interventions included were from the U.S.

⁷ Thus, Reynolds et al.'s important article from July 2011 is not included, but will be included in future updates of this review.

DESCRIPTION OF THE INTERVENTIONS

In this section we will describe the organization and activities of the early childhood interventions with positive results, i.e. enhancing children's cognitive, social, and emotional development and learning.

Six of the interventions (Project EASE, Dialog Reading, DLM Early Childhood Express of Open Court Reading, Pre-K Open Court, Bright Beginnings, Pre-K and Learning Connections) pay special attention to very specific activities aiming at enhancing children's cognitive development, particularly in reading, writing, and mathematics. In two other programs (The Incredible Years and the Peaceful Kids Early Childhood Social-Emotional Conflict (ECSEL) Resolution Program) the main focus of attention is to instruct the parents on how to teach their children conflict resolution. In all of the programs, the parents receive actual teaching and carefully described tasks to solve together with their children. The Perry Preschool program also belongs to this category of programs, as its intervention builds on a clear cognitive psychological theory concerning the children. Yet this program takes a broader approach to parental involvement as the participating at-risk families are broadly supported and the parents' meetings invite the parents into a more open reflection and learning process than any of the other programs. In most of the programs focus on teaching the parents – who subsequently exercise the skills learned in activities with the children. In most of the programs focus is on parental involvement when it comes to enhancing children's linguistic learning.

The *Project EASE* is designed to increase the frequency and quality of children's linguistic interactions. This aim is achieved through academic activities and by specifically instructing parents on how they can improve their child's linguistic development and reading skills by reading aloud and talking about what they have read. The intervention program consists of five parts. At the beginning of each part, there is a teaching session for the parents, which is followed by practi-

cal activities with the children in the day care center. Subsequently, the parents perform similar exercises with the children at home. The parents receive written guidance material to take home, and after each parents' meeting they show what they have learned by doing practical exercises with their child under the supervision of a preschool teacher. Each week the preschool teachers send written material with tasks to the parents, who must perform these tasks within the same week.

Dialogue Reading resembles the previous program. The parents are taught the principles and use of dialogic reading by means of videotapes. Subsequently, they are asked to use the method to read with their children every day. *DLM Early Childhood Express supplemented with Open Court Reading Pre-K* also resembles the other programs as the Open Court part enhances writing and reading skills and is based on collaboration between the day care center and the home. The participating parents are taught various activities to do at home with their children to enhance the children's reading and writing competences.

In the program *Bright Beginnings*, focus is also on reading and writing and includes the parents' active participation to complete guided activities at home. However, this intervention program differs from the previously mentioned programs by offering, alongside the learning perspective, a broad, overall effort to support the children and their parents at several levels. A social worker, a nurse, and a family counselor support the family. The parents sign a contract stating that they will participate in parent-preschool teacher conferences, be present at home visits, read a minimum of one hundred books to their children each year, and participate in activities in the day care center. Parents are offered help to improve their own reading and writing skills if needed.

Pre-K Mathematics comprises activities that enhance children's knowledge of and skills in mathematics. The activities are partly done in the day care center in groups managed by a preschool teacher and partly in the home by parents and children. The preschool teacher asks the parents to do homework with the children at home. Guidelines with photos show the parents how to do the activities. In addition to the small groups and home activities managed by preschool teachers, the intervention includes 27 supplementary IT-based math activities for the child.

In *Learning Connections* the parents must also do home activities with their children. The activities are closely connected to the learning activities in the day care

center. To give an example: one activity is to make a family book. The child tells a story about his or her family. Mom or Dad writes down the story and together with the child they illustrate the story with photos or drawings. Subsequently, they read aloud the book together.

The *Incredible Years* centers on how parents educate their child and helps parents to solve potential conflicts in a constructive manner, which will contribute to the child's development of social competence. The parents participate in a twelve-week program consisting of weekly meetings of 2.5 hours in groups of six to ten parents. They watch a two-minute video that deals with a specific topic relating to upbringing and the content of the video is subsequently discussed in the group. During the discussion, the group facilitator focusses on problem solving, self-control and strengthening of the parent role. This parental program includes, among other topics, guidelines on how to play with children, how to support learning in children, how to support children through encouragement, how to set boundaries for non-acceptable behavior, and how to support problem-solving in children.

The Peaceful Kids Early Childhood Social-Emotional (ECSEL) Conflict Resolution Program aims at teaching children to solve conflicts and cope with frustrations in a peaceful and constructive way at school and at home. The parental involvement comprises four workshops of two hours each. The theme of these workshops is conflict resolution. The workshop participants discuss and try to solve cases by means of the SOAR model (S: stop to think, O: open up and tell how you feel, A: ask and listen, and R: resolve together). Children's behavior is discussed and explained, and the parents receive guidance on how to handle conflicts with the child in a constructive and non-aggression generating manner.

In the *Perry Preschool intervention* parental involvement is based on two elements: weekly home visits and monthly group meetings. The home visits contribute to changing the mother's perception of her role in relation to the child's development and learning. Moreover, at the visits the preschool teacher gains insight into the child's conditions at home. The home visits help the parents to support the development of the child's cognitive skills. Furthermore, the parents and the preschool teacher join in excursions with the child to support learning results. The program includes monthly group meetings for mothers and for fathers separately. The purpose of the meetings is to create an opportunity to exchange experiences between the parents and the day care center. Special services, such as free transport and a free meal, are organized to make the parents participate in the meetings.

Another type of intervention program aims, through the kind of activities offered, at a broader involvement of parents. They also concentrate on children's social development and draw on theories that parents' care, empathy, support, commitment, and involvement all have a great effect on their children's socio-emotional development and independence. In these programs the parents receive help in handling problems and challenges related to other aspects than strictly the upbringing of the child. These may include nutritional advice or legal advice. This is to make it possible for the home to become a more supportive and development-enhancing context for the child. In some cases the family is also assisted in taking part in the local community in an active and participatory manner. This group of intervention programs counts the Abecedarian Project/Project CARE, Chicago CPC, Getting Ready, and Strong Families.

The Abecedarian Project/Project CARE is a program that targets the enhancement of the capacities of the child and the family in the broadest sense. The family is offered social and health-related support. Focus is on the entire household and the program emphasizes a dialogue between staff and parents about needs, wishes, and rights. The program takes a local community-oriented approach to the support and seeks to involve as far as possible all existing services in the local community. The intervention aims at enhancing the parents' competences as parents through social support (e.g. social counseling, dietary advice, legal matters etc.) and by supporting the parents' competences in being good role models for their children. This is achieved through workshops at the day care center and regular home visits. At the home visits the parents are instructed in various activities that can make the home a better learning environment for the child.

Likewise, the intervention program *the Chicago Child-Parent Center* involves parents in a broad collaboration as they are invited to join parents' meetings or day care center activities twice a month. The content of these meetings and activities deals with topics such as children's development, reading, school readiness, parental competences, health, safety, and nutrition. Attention is on promoting encouragement, praise, and acknowledgement to enhance self-confidence in the child and thereby promote its cognitive, social, and emotional development. Each parent participates half a day weekly in the children's day care center activities. The program also offers home visits to strengthen the parents' involvement in their children's development and education.

As part of the intervention program *Getting Ready* at-risk families are offered guidance on how parents can be supportive to their children. Parents receive

guidance from preschool teachers on how they can enhance their self-confidence as parents. Furthermore, the program entails home visits and parents' consultation evenings where preschool teachers and parents together watch video recordings of the children. The purpose of these sessions is to encourage the parents to focus on the child's strengths and reflect and discuss how developmental goals can be reached.

Strong Families: This program supports parents by providing support to the entire family through an intervention that promotes good communication between parents and children. The family is supported and assisted in solving health problems and challenges related to unemployment or other social conditions. Parenting competences are enhanced as the parents learn methods to support the development of their children. The instruction consists of 15 lessons of one to two hours.

Table 1 (following page) provides an overview of the interventions in the programs.

Table 1. Elements identified in the in the effective interventions:

Intervention	Description	Type of parental involvement			How parents learn		Focus		Program implementation		
		Educators visit homes	Parents conduct activities at home	Parents participate in activities with other parents or at the day care centre	Learning sessions at the institution	Taught or instructed at home	Cognitive skills	Social skills	Training of teachers	Collaboration between professional groups	Using a standardized curriculum
The Abecedarian project & project CARE		X	X		X	X	X	X	X	X	4 to 5 years
Bright Beginnings		X	X	X	X		X	X		X	1 year
The Chicago Child-Parent Centers		X		X	X		X	X		X	Up to 3 years
Dialogic Reading			X		Na ²		X				Na
DLM Early Childhood Express			X				X	X	X		Na
Getting Ready		X	X		X	X		X	X		5 years
The Incredible Years			X		X			X	X		12 weeks ³
Learning Connections			X		X		X		X	X	Na
ECSEL			X		X			X	X	X	5 months
Perry Preschool		X	X	X	X	X	X	X	X		2 years
Pre-K Mathematics			X				X		X		1 year
Project EASE			X		X		X			X	5 months
Strong Families		X	X		X	X		X			15 lessons

- 1 In general, the duration mentioned refers to the duration of the interaction between the parents and the institution, in cases where this is in focus. If parents afterwards conduct activities based on the program at home that are not initiated or supported by the institution, this exceeds the intervention duration stated here.
- 2 The program is developed in a range of different forms. In the study documenting effects included in the review, parents were instructed through a video.
- 3 Parents are offered a 12-week program. Preschool teachers use elements from the program until the child leaves the institution.

The various types of interventions vary in length and focus on supporting children at different age groups within the range of 0-6 years of age. The interventions involve parents through a variety of activities, which include: (1) educators visit the homes and provide guidance for parents and their children there; (2) parents conduct specific activities with the children at home and or in the institution; (3) parents participate in activities with other parents, and (4) parents participate in activities with the group of children in the day care center. Some of the programs offer practical assistance to participating parents – including transportation, childcare, and meals. A common feature of the programs is that parents are taught how to practically apply the methods used in the program to enhance the development of the children. Through learning sessions parents learn how to perform and conduct the required activities with the child at home or in the institution. In most of the programs these learning sessions include other parents. In other programs the training of the parents takes place in sessions for parents and children. The parents' participation is essential to all the programs.

The programs can be divided into two types. One type focuses mainly on cognitive skills. The other type focuses primarily on social skills. The cognitively-oriented interventions involve the parents in carrying out activities in literacy and mathematics with the children. The socially-oriented interventions engage the parents in supporting the development of social skills in the children through activities. The social programs have a more open approach to learning than the cognitive programs as they to some extent include processes of experiential learning even though the curriculum is clearly defined at the beginning of the intervention. The list below presents the content and activities that all of the interventions offer to varying degrees:

- Active involvement of the parents in the form of specific activities at home that are connected with the learning in the day care center.
- Teaching and shared reflection. The parents are instructed in the activities they are to perform with the children and they are given the opportunity to reflect on these activities (or other topics) in groups with other parents under the supervision of a preschool teacher.
- Home visits where preschool teachers take part in program relevant activities and may provide supervision and explanations in situ.
- Special support for at-risk families in order to give the parents the possibility to actively participate in the collaboration between the day care center and the home.

- Continuous evaluation of the intervention process by means of assessments of the degree of performed program activities at home.

Common to the interventions are educational efforts from the child's earliest age and based on a carefully planned curriculum, which is presented in a manual. To ensure that the work is as close as possible to the directions of the manual, the preschool teachers and others involved in the program are trained in the program through short courses, workshops, and supervised participation.

THE EFFECT OF THE PROGRAMS

The effect of the programs was measured through indicators of children's social and cognitive development. In the following we present the findings of the studies on the particular programs.

Project EASE enhances parents' ability to support their children's development. The study shows major impacts of the intervention on the children's development (Jordan, Snow & Porche, 2000).

Dialogic Reading supports the development of children's language skills and the study showed an effect of improved language skills in the participating children in comparison to the control group (Lonigan & Whitehurst, 1998).

DLM Early Childhood Express, supplemented with Open Court Reading Pre-K, also focuses on the development of language abilities, and the evaluation found an improvement of the language abilities of the participants in comparison to the control group (Preschool Curriculum Evaluation Research Consortium, 2008c).

Bright Beginnings was studied by an evaluation team (Preschool Curriculum Evaluation Research Consortium (2008)). The study showed that the participants' knowledge of letters improved in comparison to the control group.

Pre-K Mathematics aims at the improvement of math skills and the study shows major improvements in the participants in the experiment group (Klein, Starkey, Clements, Sarama & Lyer, 2008).

Learning Connections was studied by Debaryshe & Gorecki (2007). The intervention was directed towards three groups: one that received language training, one that received training in math, and a control group. The study reports the results

for the first group. This group had increased skills in both spoken and written language in comparison to the other groups.

The Incredible Years shows a clear improvement in the parenting skills of the mothers in the intervention group. The children had significantly less incidents of aggressive behavior at home and in the day care center in comparison to the control group. Especially children with a high level of deviant and aggressive behavior had a highly significant decrease in incidents of that kind of behavior in comparison to similar children in the control group (Webster-Stratton, Reid & Hammond, 2001).

The Peaceful Kids Early Childhood Social-Emotional (ECSEL) Conflict Resolution was studied by Sandy and Boardman (2000). The preschool children were divided into three groups: one in which the intervention includes children, staff, and parents, one in which the intervention is directed at staff only, and a control group. The most significant improvement of social skills was found in the first group and was supported by a significant improvement in the parents' way of supporting their children.

Perry Preschool is reported in Barnett (1985b), Heckman, Moon, Pinto, Savelyev & Yavitz (2010) and Weikart (1989). The effect on the participants' cognitive skills was indicated through participation in the educational system for the participants compared to the control group. Participants in the experiment group had a higher probability of attending high school and passing their final exams, pursuing education beyond high school, and finding a job than the control group. Later in life, 35 % of the control group were arrested as compared to 7 % of the intervention group (Schweinhart, 1993).

The Abecedarian Project and Project CARE are assessed in a number of studies (Ramey, Campbell, Burchinal, Skinner, Gardner & Ramey, 2000; Roberts, Koch, Burchinal, Bryant, Rabinowitch & Ramey, 1989; and Wasik, Ramey, Bryant & Sparling, 1990). The studies show reduced late cognitive development in the children, which means that disadvantaged children benefit the most from the interventions. The studies show that interventions that combine interventions for children and parents increase children's language competences (Roberts et al., 1989). Later in life, the children from the intervention group were less involved in criminal activities and risk taking (including smoking and substance abuse) than the children from the control group (Masse, 2002).

Chicago Child-Parent Center was studied by Reynolds (2000). The study shows significant positive impact on the level of the experimental group's educational results at age 22 in comparison to the control group. Furthermore, the study showed that this impact was higher for boys (young men) than for girls (young women).

Getting Ready aims to increase school readiness among socially disadvantaged preschool children. The program includes parental involvement with a special focus on social-emotional aspects of the transfer from preschool to school. Sheridan, Knoche, Edwards, Bovaird & Kupzyk (2010) show clear evidence of the positive impact on the participants in the program compared with the control group up to two years after they start school.

Strong Families shows a positive impact on the participants in the form of improved school results and better relations to peers and adults (Conner, 2006).

In our review we found documented positive results for cognitive development in the following nine programs: *The Abecedarian Project and Project CARE, Perry Preschool, Chicago Child-Parent Center, Learning Connections, Bright Beginnings, Pre-K Mathematics, Dialogic Reading, DLM Early Childhood Express supplemented with Open Court Reading Pre-K, and Project EASE.*

We found documented positive results in terms of individual social competences in the following eight programs: *The Abecedarian Project and Project CARE, Perry Preschool, Chicago Child-Parent Center, Getting Ready, Strong Families, The Peaceful Kids Early Childhood Social-Emotional (ECSEL) Conflict Resolution and The Incredible Years.*

THE EFFECT OF PARENTAL INVOLVEMENT IN EARLY EDUCATION

This systematic research review includes studies that examine the effects of ECEC programs. Most of the studies do not distinguish between interventions in which parents are actively involved and interventions in which they do not participate. Nevertheless, four studies have carried out interventions with and without parental involvement (covering three different interventions). The random allocation of the children and their families in these four studies makes it possible to quite reliably infer the causal effect of parental involvement in an intervention and all four studies are assessed as being of high academic and scientific standards, in terms of design, assessment, and control of attrition among respondents and in reporting the results where effects are clearly stated.

Based on three interventions it is obviously not possible to draw broad conclusions on the effect of parental involvement. However, it does enable us to get an indication of the effect of including parents under particular conditions. The following will account for the content of the interventions, outcome, and the validity of the studies.

Three different types of interventions are examined in the four studies reported and the parental involvement covers different content in each of the three interventions. In Lonigan & Whitehurst (1998) the focus is on reading in both the intervention and in the parental component. In Sandy & Boardman (2000) the intervention tries to strengthen the preschool staff's competences in conflict resolution, while parents are taught how to cooperate with the preschool institution. Moreover, they learn how to manage their children's feelings and behavior. Wasik et al. (1990) and Roberts et al. (1989) study an intervention in which the parents are visited by professional family educators/home visitors, who help them to strengthen their competences in conflict resolution in relation to their children.

In all four studies, the outcome of the interventions is measured using psychometric scales of children's cognitive and non-cognitive skills. The studies use performance-oriented instruments to measure children's skills. Lonigan & Whitehurst (1998), Wasik et al. (1990), and Roberts et al. (1989) focus on cognitive skills whereas Sandy & Boardman (2000) focus on non-cognitive skills, in particular, conflict management and social skills. In addition, Sandy & Boardman (2000) also examine instruments that day care staff and parents can use to assess child skills and behavior. The advantage of performance-oriented scales over parental/caseworker assessment is that the performance-oriented instruments are less sensitive to the teacher's or parent's sympathies or bias towards each child. On the other hand, the use of performance-oriented instruments has a more limited scope compared to more general assessment scales. For example, it may be difficult to measure the child's social skills in a performance test situation. Moreover, instruments controlled by staff (or parents) in general capture more general features of the child's competences and are less sensitive to temporary fluctuations in the child's performance and may therefore be less susceptible to measurement error.

The research question here is whether interventions with parental involvement as opposed to pure day care institution based programs show an additional significant effect of the parental involvement. In Lonigan & Whitehurst (1998) no isolated significant effect of parental involvement is found while in Sandy & Boardman (2000) a significant effect is found only in the part of the intervention where parents also participate. The two studies thus have somewhat contradictory findings. The studies of Wasik et al. (1990) and Roberts et al. (1989) are designed somewhat differently as they compare a treatment with parental involvement only to a treatment with both parental and day care center involvement. In these studies there is only a positive effect of the combined intervention and in Wasik et al. (1990), there is even a negative effect of the isolated parental treatment. Taken together we cannot say in general whether parental involvement per se has a positive effect on child skills and behaviour. However, based on the results of each of the studies it can be concluded that parental involvement, when day care center staff or other facilitators assist the parents, seems to have a positive effect when combined with an intervention in the day care center.

In the study of Sandy and Boardman (2000), we find that the combination of parental involvement and day care center interventions is superior to interventions that only takes place in the day care center. In the study of Lonigan and Whitehurst (1998), Wasik et al. (1990), and Roberts et al. (1989), we find that intensive

interventions are superior to less intensive interventions that only involve either parents or day care center staff. In table 2 we summarize information on the four studies that compared family interventions to a control group and a day care center intervention. For the four studies we report the type of interventions, outcome variables, effect size, and sample sizes in the intervention groups and the control group.

Table 2. Summaries on studies with separate effect of parental involvement

Study and treatment	Outcome	Effect size*	Sample size, intervention and control group
Lonigan & Whitehurst, 1998. Interactive shared reading intervention.	Peabody Picture Vocabulary Test (PPVT), Expressive One-Word Picture Vocabulary Test (EOWPVT), Illinois Test of Psycholinguistic Abilities (ITPA).	PPVT: no effects EOWPVT: C significantly lower than combined interventions ($p = 0.04$) for high compliance centers IPTA: C significantly lower than combined interventions ($p=0.003$). PT different from ST and SPT.	A control group (C, $n = 30$) A parental treatment only (PT, $n = 15$) A school treatment only (ST, $n = 30$) A School/parental treatment (SPT, $n = 15$)
Sandy & Boardman, 2000. The Peaceful Kid's Early Childhood Social-Emotional Conflict Resolution Program and curriculum.	The Parenting scale (PS) Pediatric symptom checklist (PSC) Social skills Rating System (SSRS)	PS: na PSC: 1.2 SSRS: 0 to 1.2 DCCSP compared to DCCS and C – effect size depending on SSRS subscale)	A day care center staff and parents group (DCCSP, $n = 108$) A day care center staff group (DCCS, $n = 73$) A control group (C, $n = 67$)
Wasik et al., 1990 A family home visiting program.	The Bayley Scales of Infant Development (BSID) (Early stage) The Stanford-Binet Intelligence Test (SBIT) (Intermediate stage) McCarthy Cognitive Index (MCI) (Late stage) The Home Observation for Measurement of the Environment (HOME)	BSID: na (IT significantly better than C, $p = 0.001$, EF significantly worse than C) SBIT: as for BSID. MCI: 0.7 (IT versus C), -0.4 (ET versus C) HOME: -0.5 (IT versus ET), 0 (IT versus C)	Intensive treatment group (IT) ($n = 62$) Extensive treatment group (ET) ($n = 24$) Control group (C) ($n = 23$)
Roberts et al., 1989. Language enriched day care program.	Lanagauge - Discourse - Structural complexity - Semantic diversity - Talkativeness	0 – 0,9 (DCIP versus C) -0,3 – 0,3 (PEI versus C).	A day care and parent intervention group (DCPI, $n = 13$) A parent education intervention group (PEI, $n = 24$) A control group (C, $n = 20$)

* No study reported effects sizes. Effects sizes are subsequently assessed from reported mean differences between treated and controls and standard deviations on the outcome variables. When standard deviations differed between controls and treated an average standard deviation across groups was used. When a mean difference between treated and controls was reported insignificant in the studies (no treatment effect) a zero effect size is reported in the table.

All of the thirteen interventions use reliable research methods to show a positive effect of parental involvement. It is only the four above-mentioned studies (examining three interventions) that seek to investigate the specific effect of parental involvement. We do not know how decisive parental involvement is as a factor behind the positive effects associated with the remaining ten interventions. Conversely, we also find that parental involvement has not removed the positive effects. It is the absence of studies that isolate the parental factor in the ten interventions that complicates conclusions at this point.

DISCUSSION

External validity concerns the validity of research results in contexts other than the original one. All of the studies were conducted in the U.S. A central question is whether the contextual factors being manipulated in the American intervention studies, for example, staffing and day care center training have already been implemented in Scandinavian day care institutions. The staffing ratios in the intervention discussed by Sandy & Boardman (2000) are actually similar to the general conditions in Danish institutions. Furthermore, the activities included in Sandy & Boardman (2000) are also very similar to the activities Danish preschool teachers already routinely perform. The American intervention studies, however, often deal with disadvantaged children and it is possible that increased focus on this group – in combination with increased parental cooperation – would also have a positive effect on disadvantaged Danish children.

There is no tradition of examining the implementation and effectiveness of educational interventions in Scandinavia. Therefore, we do not have the necessary basis to compare Scandinavian and American interventions. The intervention studies that are available are all Anglo-American, but given their research design, their validity cannot be rejected in Scandinavia.

CONCLUSION

As only four studies (examining three interventions) of the 13 studies covered here investigate the effect of parental involvement in particular, it cannot be concluded that parental involvement is a decisive factor in the positive effects in the remaining 10 interventions. However, the review shows that parental involvement, when day care center staff or other facilitators assist the parents, has a positive effect when combined with an intervention in the day care center.

The studies in this review solely concern interventions based on RCT studies (experimental design) and systematic reviews, which makes it possible to make valid conclusions concerning the effects of the interventions. We can thus determine that the interventions with parental involvement described here have an effect. Yet we cannot determine the type of effect of the parental involvement as such nor conclude which of the interventions has the greatest effect.

The analysis of the studies of the programs states that by assessing the relevance of a given intervention program, this relevance must be taken into account in relation to the context in which the program is to be implemented. Here the following three aspects are relevant: 1) the role and task of the educational staff, 2) the curriculum, i.e. the content and form of the parental involvement program when the goal is to further children's learning and well-being, and 3) forms of parental involvement, i.e. types of parental involvement that are seen as meaningful and relevant by the parents. It is particularly relevant to pay heed to the latter aspect of parental involvement in a Nordic context, where the overall value of efforts targeting at-risk groups is empowerment and rights based.

Most of the interventions take a positive, appreciatory approach, and the intensive support is not new to preschool teachers in Scandinavia. On the basis of the studies in this analysis, we find that this approach has a positive effect on promoting children's learning and creating a foundation for the children's educa-

tional progress and for their future as citizens who can stay out of crime and abuse. The children thereby achieve better life chances on a par with children who are brought up under more privileged social conditions.

REFERENCES

- Andersen, T.M., Holmström, B., Seppo Honkapohja, S., Korkman, S., Söderström, H.T. & Vartiainen, J. (2007). *The Nordic Model - Embracing globalization and sharing risks*. Helsinki: The Research Institute of the Finnish Economy (ETLA)/Taloustieto Oy.
- Barnett, W.S. (1985b). *The Perry Preschool Program and its long-term effects: A benefit-cost analysis*. Ypsilanti, Michigan: High/Scope Educational Research Foundation.
- Conner, N.W. (2006). "Making Choices" and "Strong Families": A pilot study of a preschool preventive intervention program. Chapel Hill, NC: University of North Carolina.
- DeBaryshe, B.D. & Gorecki, D.M. (2007). An experimental validation of a preschool emergent literacy curriculum. *Early Education and Development*, 18(1), 93-110.
- Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism*. Princeton: Princeton University Press.
- Heckman, J., Moon, S.H., Pinto, R., Savelyev, P. & Yavitz, A. (2010). Analyzing social experiments as implemented: A reexamination of the evidence from the High/Scope Perry Preschool Program. *Quantitative Economics*, 1(1), 1-46.
- Jordan, G.E., Snow, C.E. & Porche, M.V. (2000). The effect of a family literacy project on kindergarten students' early literacy skills. *Reading Research Quarterly*, 35(4), 524-546.
- Klein, A., Starkey, P., Clements, D., Sarama, J. & Iyer, R. (2008). Effects of a pre-kindergarten mathematics intervention: A randomized experiment. *Journal of Research on Educational Effectiveness*, 1(3), 155-178.
- Lascarides, V.C. & Hinitz, B.F. (2000) History of early childhood education. New York: Falmer Press, 2000.
- Lonigan, C.J. & Whitehurst, G.J. (1998). Relative efficacy of parent and teacher involvement in a shared-reading intervention for preschool children from low-income backgrounds. *Early Childhood Research Quarterly*, 13(2), 263-290.

- Masse, L.N. (2002). *A benefit cost analysis of the Abecedarian Early Childhood Intervention*. New Jersey: National Institute for Early Education Research.
- Meyers, M.K. & Gornick, J. (2003). Public or Private Responsibility? Early Childhood Education and Care, Inequality, and the Welfare State. *Journal of Comparative Family Studies* 34 (3), 379-411.
- Preschool Curriculum Evaluation Research Consortium (2008). Bright Beginnings and Creative Curriculum: Vanderbilt University. I: *Effects of preschool curriculum programs on school readiness* (pp. 41-54). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education.
- Preschool Curriculum Evaluation Research Consortium (2008c). Literacy Express and DLM Early Childhood Express supplemented with Open Court Reading Pre-K: Florida State University. I: *Effects of preschool curriculum programs on school readiness* (pp. 117-130). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education.
- Ramey, C.T., Campbell, F.A., Burchinal, M., Skinner, M.L., Gardner, D.M. & Ramey, S.L. (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science*, 4(1), 2-14.
- Reynolds, A.J. (2000). *Success in early intervention: The Chicago Child-Parent Centers*. Lincoln, Nebraska: University of Nebraska Press. (IT20178)
- Reynolds, A.J., Temple, J.A., Ou, S-R., Arteaga, I.A. & White, B.A.B. (2011). School-based early childhood education and age-28 well-being: Effects by timing, dosage, and subgroups. *Science*, 333 (6040), 360-364.
- Roberts, J.E., Koch, M.A., Burchinal, M.R., Bryant, D.M., Rabinowitch, S. & Ramey, C.T. (1989). Language skills of children with different preschool experiences. *Journal of Speech and Hearing Research*, 32, 773-786.
- Sandy, S.V. & Boardman, S.K. (2000). The Peaceful Kids Conflict Resolution Program. *International Journal of Conflict Management*, 11, 337-357.
- Schweinhart, L.J. (1993). What the High/Scope Perry Preschool Study reveals about developmental transitions and contextual challenges of ethnic males. Paper presented at the annual meeting of the American Psychological Association, Toronto.
- Sheridan, S.M., Knoche, L.L., Edwards, C.P., Bovaird, J.A. & Kupzyk, K.A. (2010). Parent engagement and school readiness: Effects of the Getting Ready intervention on preschool children's social-emotional competencies. *Early Education and Development*, 21(1), 125-156.
- Wasik, B.H., Ramey, C.T., Bryant, D.M. & Sparling, J.J. (1990). A longitudinal study of two early intervention strategies: Project CARE. *Child Development*, 61(6), 1682-1696.

- Webster-Stratton, C., Reid, M.J. & Hammond, M. (2001). Preventing conduct problems, promoting social competence: A parent and teacher training partnership in Head Start. *Journal of Clinical Child Psychology, 30*, 283-302.
- Weikart, D.P. (1989). *Quality preschool programs: A long-term social investment*. New York: Office of communications, Ford Foundation.

APPENDIX: THIRTEEN INTERVENTIONS WITH EFFECTS AND THE STUDIES WHICH DOCUMENTED THEM

References marked with * are main sources for a study.

ABECEDARIAN PROJECT AND PROJECT CARE:

- *Ramey, C.T., Campbell, F.A., Burchinal, M., Skinner, M.L., Gardner, D.M. & Ramey, S.L. (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science, 4*(1), 2-14.
- *Roberts, J.E., Koch, M.A., Burchinal, M.R., Bryant, D.M., Rabinowitch, S. & Ramey, C.T. (1989). Language skills of children with different preschool experiences. *Journal of Speech and Hearing Research, 32*, 773-786.
- *Wasik, B.H., Ramey, C.T., Bryant, D.M. & Sparling, J.J. (1990). A longitudinal study of two early intervention strategies: Project CARE. *Child Development, 61*(6), 1682-1696.
- Burchinal, M.R., Campbell, F.A., Bryant, D.M., Wasik, B.H. & Ramey, C.T. (1997). Early intervention and mediating processes in cognitive performance of children of low-income African American families. *Child Development, 68*(5), 935-954.
- Campbell, F.A. & Ramey, C.T. (1994). Effects of early intervention on intellectual and academic achievement: A follow-up study of children from low-income families. *Child Development, 65*(2), 684-698.
- Campbell, F.A. & Ramey, C.T. (1995). Cognitive and school outcomes for high-risk African-American students at middle adolescence: Positive effects of early intervention. *American Educational Research Journal, 32*(4), 743-772.
- Campbell, F.A., Ramey, C.T., Pungello, E., Sparling, J. & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science, 6*(1), 42-57.
- Horacek, J.H., Ramey, C.T., Campbell, F.A., Hoffmann, K.P. & Fletcher, R.H. (1987). Predicting school failure and assessing early intervention with high-risk children. *Journal of the American Academy of Child & Adolescent Psychiatry, 26*(5), 758-763.

Masse, L.N. (2002). *A benefit cost analysis of the Abecedarian Early Childhood Intervention*. New Jersey: National Institute for Early Education Research. (ITT2670083).

Ramey, C.T. & et al. (1974). *The Carolina Abecedarian Project: A longitudinal and multidisciplinary approach to the prevention of developmental retardation*. North Carolina: North Carolina University, Chapel Hill. Frank Porter Graham Center.

BRIGHT BEGINNINGS:

*What Works Clearinghouse. Early Childhood Education (2009a). Bright Beginnings. Princeton, NJ: What Works Clearinghouse.

Preschool Curriculum Evaluation Research Consortium (2008). Bright Beginnings and Creative Curriculum: Vanderbilt University. I: *Effects of preschool curriculum programs on school readiness* (pp. 41-54). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education.

THE CHICAGO CHILD-PARENT CENTERS:

*Ceglarek, S.L. (2009). *The effects of early childhood intervention on long-term health outcomes*. Madison, W: University of Wisconsin. Topitzes, J., Godes, O., Mersky, J.P., Ceglarek, S. & Reynolds, A.J. (2009). Educational success and adult health: Findings from the Chicago Longitudinal Study. *Prevention Science*, 10(2), 175-195.

*Reynolds, A.J. (2000). *Success in early intervention: The Chicago Child-Parent Centers*. Lincoln, Nebraska: University of Nebraska Press.

Conrad, K. & Eash, M. (1983). Measuring implementation and multiple outcomes in a child center compensatory education program. *American Educational Research*, 20(2), 221-236.

Conyers, L.M., Reynolds, A.J. & Ou, S.-R. (2003). The effect of early childhood intervention and subsequent special education services: Findings from the Chicago Child-Parent Centers. *Educational Evaluation and Policy Analysis*, 25(1).

Graue, E., Clements, M.A., Reynolds, A.J. & Niles, M.D. (2004). More than teacher directed or child initiated: Preschool curriculum type, parent involvement, and children's outcomes in the Child-Parent Centers. *Education Policy Analysis Archives*, 12, 1-38.

Mann, E.A. & Reynolds, A.J. (2006). Early intervention and juvenile delinquency prevention: Evidence from the Chicago Longitudinal Study. *Social Work Research*, 30(3).

- Niles, M.D., Reynolds, A.J. & Roe-Sepowitz, D. (2008). Early childhood intervention and early adolescent social and emotional competence: Second-generation evaluation evidence from the Chicago Longitudinal Study. *Educational Research, 50*(1), 55-73.
- Ou, S.-R. & Reynolds, A.J. (2006). Early childhood intervention and educational attainment: Age 22 findings from the Chicago Longitudinal Study. *Journal of Education for Students Placed at Risk (JESPAR), 11*(2), 175-198.
- Reynolds, A.J. (1994). Effects of a preschool plus follow-on intervention for children at risk. *Developmental Psychology, 30*, 787-804.
- Reynolds, A.J. (1995). One year of preschool intervention or two: Does it matter? *Early Childhood Research Quarterly, 10*, 1-31.
- Reynolds, A.J. (2002). Early childhood interventions: Knowledge, practice and policy. *Focus, 22*, 112-117.
- Reynolds, A.J., Chang, H. & Temple, J.A. (1998). Early childhood intervention and juvenile delinquency: An exploratory analysis of the Chicago Child-Parent Centers. *Evaluation Review, 22*, 341-372.
- Reynolds, A.J. & Temple, J.A. (1995). Quasi-experimental estimates of the effects of a preschool intervention: Psychometric and econometric comparisons. *Evaluation Review, 19*, 347-373.
- Reynolds, A.J. & Temple, J.A. (1998). Extended early childhood intervention and school achievement: Age thirteen findings from the Chicago Longitudinal Study. *Child Development, 69*, 231-246.
- Reynolds, A.J., Temple, J.A., Robertson, D.L. & Mann, E.A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association, 285*, 2339-2346.
- Reynolds, A.J., Temple, J.A., Robertson, D.L. & Mann, E.A. (2002). Age 21 cost-benefit analysis of the Title I Chicago Child-Parent Centers. Discussion Paper.
- Temple, J., Reynolds, A. & Miedel, W. (2000). Can early intervention prevent high school dropout? Evidence from the Chicago Child-Parent Centers. *Urban Education, 35*, 31-56.

DIALOGIC READING:

- * Lonigan, C.J. & Whitehurst, G.J. (1998). Relative efficacy of parent and teacher involvement in a shared-reading intervention for preschool children from low-income backgrounds. *Early Childhood Research Quarterly, 13*(2), 263-290. (ITT519465)
- *What Works Clearinghouse. Early Childhood Education (2007a). Dialogic Reading. Princeton, NJ: What Works Clearinghouse.

DLM EARLY CHILDHOOD EXPRESS SUPPLEMENTED WITH OPEN COURT READING PRE-K:

*Preschool Curriculum Evaluation Research Consortium (2008c). Literacy Express and DLM Early Childhood Express supplemented with Open Court Reading Pre-K: Florida State University. I: *Effects of preschool curriculum programs on school readiness* (pp. 117-130). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education.

GETTING READY:

*Sheridan, S.M., Knoche, L.L., Edwards, C.P., Bovaird, J.A. & Kupzyk, K.A. (2010). Parent engagement and school readiness: Effects of the Getting Ready intervention on preschool children's social-emotional competencies. *Early Education and Development, 21*(1), 125-156.

THE INCREDIBLE YEARS:

*Webster-Stratton, C., Reid, M.J. & Hammond, M. (2001). Preventing conduct problems, promoting social competence: A parent and teacher training partnership in Head Start. *Journal of Clinical Child Psychology, 30*, 283-302.

LEARNING CONNECTIONS:

*DeBaryshe, B.D. & Gorecki, D.M. (2007). An experimental validation of a preschool emergent literacy curriculum. *Early Education and Development, 18*(1), 93-110.

THE PEACEFUL KIDS EARLY CHILDHOOD SOCIAL-EMOTIONAL (ECSEL) CONFLICT RESOLUTION PROGRAM:

*Sandy, S.V. & Boardman, S.K. (2000). The Peaceful Kids Conflict Resolution Program. *International Journal of Conflict Management, 11*, 337-357.

Piquero, A.R., Farrington, D., Welsh B., Tremblay, R. & Jennings, W. (2008). *Effects of early family/parent training programs on antisocial behavior & delinquency*. Campbell Collaboration, 2008. (Campbell systematic reviews; 2008:11).

PERRY PRESCHOOL:

*Barnett, W.S. (1985b). The Perry Preschool Program and its long-term effects: A benefit-cost analysis. Ypsilanti, Michigan: High/Scope Educational Research Foundation.

*Heckman, J., Moon, S.H., Pinto, R., Savelyev, P. & Yavitz, A. (2010). Analyzing social experiments as implemented: A reexamination of the evidence from the High/Scope Perry Preschool Program. *Quantitative Economics, 1*(1), 1-46.

- * Weikart, D.P. (1989). *Quality preschool programs: A long-term social investment*. New York: Office of communications, Ford Foundation.
- Barnett, W.S. (1985a). Benefit-cost analysis of the Perry preschool Program and its policy implications. *Educational Evaluation and Policy Analysis*, 7, 333-342.
- Barnett, W.S. (1993). Benefit-cost analysis of preschool education: Findings from a 25-year follow-up. *American Journal of Orthopsychiatry*, 63, 500-508.
- Barnett, W.S. (1996). *Lives in the balance: Age-27 benefit-cost analysis of the High/Scope Perry Preschool Program*. Ypsilanti, Michigan: High/Scope Foundation.
- Belfield, C.R., Nores, M., Barnett, S. & Schweinhart, L.J. (2006). The High/Scope Perry Preschool Program. *Journal of Human Resources*, 41(1), 162-190.
- Berrueta-Clement, J., Schweinhart, L.J., Barnett, W.S., Epstein, A.S. & Weikart, D.P. (1984). *Changed lives: The effects of the Perry Preschool Program on youths through age 19*. Ypsilanti, Michigan: High/Scope.
- Gramlich, E. M. (1986). Evaluation of education projects: The case of the Perry Preschool Program. *Economics of Education Review*, 5, 17-24.
- Heckman, J.J., Moon, S.H., Pinto, R., Savelyev, P.A. & Yavitz, A. (2010). The rate of return to the High Scope Perry Preschool Program. *Journal of Public Economics*, 94(1-2), 114-128.
- Nores, M., Belfield, C.R., Barnett, W.S. & Schweinhart, L. (2005). Updating the economic impacts of the High/Scope Perry Preschool Program. *Educational Evaluation and Policy Analysis*, 27(3), 245-261.
- Schweinhart, L.J. (1993). What the High/Scope Perry Preschool Study reveals about developmental transitions and contextual challenges of ethnic males. Paper presented at the annual meeting of the American Psychological Association, Toronto.
- Schweinhart, L.J. (2007). Crime prevention by the High/Scope Perry Preschool Program. *Victims & Offenders*, 2(2).
- Schweinhart, L.J. & Weikart, D.P. (1989). The High/Scope Perry Preschool Study: Implications for early childhood care and education. *Prevention in Human Services*, 7, 109-132.
- Schweinhart, L.J., Barnes, H.V. & Weikart, D.P. (1993). *Significant benefits: The High/Scope Perry Preschool Study through age 27*. Ypsilanti, Michigan: High/Scope Press.
- Schweinhart, L.J., Berrueta-Clement, J.R., Barnett, W.S., Epstein, A.S. & Weikart, D.P. (1985). Effects of the Perry Preschool Program on youths through age 19: a summary. *Topics in Early Childhood Special Education Quarterly*, 5, 26-35.

- Schweinhart, L.J. & Weikart, D.P. (1980). *Young children grow up: The effects of the Perry Preschool Program on youths through age 15*. Ypsilanti, Michigan: High/Scope Press.
- Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R. & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool Study through age 40*. Ypsilanti, Michigan: High/Scope Press.
- Weber, C., Foster, P.W. & Weikart, D.P. (1978). *An economic analysis of the Ypsilanti Perry Preschool Project*. Ypsilanti, Michigan: High/Scope Educational Research Foundation.
- Weikart, D.P. (1967). *Preschool interventions: Preliminary results of the Perry Preschool Project*. Ann Arbor, Michigan: Campus Publishers.
- Weikart, D.P., Deloria, D.J., Lawser, S.A. & Wiegerink, R. (1970). *Longitudinal results of the Ypsilanti Perry Preschool Project*. Ypsilanti, Michigan: High/Scope Press.
- Weikart, D.P., Bond, J.T. & McNeil, J.T. (1978). *The Ypsilanti Perry Preschool Project: Preschool years and longitudinal results through fourth grade*. Ypsilanti, Michigan: High/Scope Press.

PRE-K MATHEMATICS:

- *What Works Clearinghouse. Early Childhood Education (2007b). Pre-K Mathematics. Princeton, NJ: What Works Clearinghouse. (ITT2649234).
- Klein, A., Starkey, P., Clements, D., Sarama, J. & Iyer, R. (2008). Effects of a pre-kindergarten mathematics intervention: A randomized experiment. *Journal of Research on Educational Effectiveness*, 1(3), 155-178.

PROJECT EASE:

- *Jordan, G.E., Snow, C.E. & Porche, M.V. (2000). The effect of a family literacy project on kindergarten students' early literacy skills. *Reading Research Quarterly*, 35(4), 524-546.

STRONG FAMILIES:

- *Conner, N.W. (2006). "Making Choices" and "Strong Families": A pilot study of a preschool preventive intervention program. Chapel Hill, NC: University of North Carolina.

VIDA

Staff supported parental involvement in effective early interventions for at-risk children – a systematic research review

This working paper from the VIDA project *Knowledge-based efforts for socially disadvantaged children in daycare – a model program* presents a review of international research on the effect of early interventions with parental involvement. The study shows that parents are involved through a variety of activities, which include: (1) educators visit the homes and provide guidance for parents and their children there; (2) parents conduct specific activities with the children at home and or in the institution; (3) parents participate in activities with other parents, and (4) parents participate in activities with the group of children in the day care center. The review shows that parental involvement, when day care center staff or other facilitators assist the parents, seems to have a positive effect when combined with an intervention in the day care center.