

## TNO report

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# Child adjustment in divorced families: Can we successfully intervene with Dutch 6- to 8-year-olds?

## Feasibility study Children of Divorce Intervention Program (CODIP) in the Netherlands

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## Abstract

In the Netherlands, about 70,000 children are involved in their parents' divorce or separation each year while still living at their parents' home (Spruijt, 2007). Research points out that children of divorce perform worse in school, have more behavioral problems, score lower on psychological and emotional wellbeing, have a lower self-esteem, and have more problematic social relationships than children of intact families (e.g. Amato & Keith, 1991; Spruijt, 2007). In the Netherlands, preventive support for these children of divorce is limited. Moreover, available support is rather local, mostly not proven effective, and primarily focused on children aged eight or nine years and older. Evidence-based preventive intervention for Dutch children of divorce is therefore very much needed, particularly for children under nine years of age for whom in particular support is currently lacking.

The Children of Divorce Intervention Program (CODIP) is an evidence-based intervention to prevent divorce related problems in children, developed in the USA and applied in several countries. In this program, children discuss their divorce-related feelings, deal with unrealistic perceptions and attitudes regarding the divorce, and enhance their coping capacities. In a supportive environment, participating children are trained in cognitive behavior strategies and inherent coping skills. Positive effects of CODIP were found (based on self-report, parental report as well as teacher report) in quasi-experimental and experimental studies in the United States regarding internalizing and externalizing problems. These effects were maintained during follow-up, two years after the intervention (Alpert-Gillis et al., 1989; Pedro-Carroll & Alpert-Gillis, 1997; Pedro-Carroll, Alpert-Gillis, & Cowen, 1992; Pedro-Carroll & Cowen, 1985; Pedro-Carroll, Sutton, & Wyman, 1999).

This project encompasses the adaption of CODIP to the Dutch setting – starting with the 15 session module for second and third grade children of divorce – and the assessment of the feasibility of this adapted version (i.e., 'CODIP-NL'). Objectives of the study were threefold: 1) translating and adapting the CODIP module for grades 2 and 3 to the specific characteristics of Dutch intermediate and end users; 2) examining the feasibility of introducing CODIP in the Dutch setting; and 3) gaining insight in the likelihood of replicating the positive effects of CODIP as proven in other countries. To reach the first objective, the program was fully adapted to the Dutch setting by an experienced team of academically schooled psychologists, educational specialists and supervisors. To reach the second and third objectives, an extensive pilot study was conducted.

The pilot study consisted of four CODIP-NL support groups, provided to a total of 23 children. Children, parents and trainers received questionnaires pre and post intervention, to evaluate the implementation of CODIP-NL as well as child adjustment.

Results showed that the program could indeed be adapted to the Dutch setting in an acceptable format. The majority of children liked the adapted program and regarded the group as a safe place to discuss their feelings. Children had made friends and found new ways to solve problems. Child perceptions of their own adjustment were high, but did not increase over time. Dutch pretest scores were higher than those of US program and control groups. Dutch posttest scores equaled

those of US CODIP program participants and were still higher than those of control groups from US research.

Parents were also enthusiastic about CODIP-NL. The majority of parents had perceived positive responses of their child to the intervention, and found that their child was positively changed by participation in CODIP-NL. Father-reported child adjustment data (on 57% of the children) did not show any significant differences between pre- and posttest. Mother-reported child behavior problems tended to decrease between pre- and posttest. Moreover, comparison of mother-reported child positive functioning scores of the pre- and posttest revealed a small but statistically non-significant effect. The increase in mother-reported child functioning was smaller than the increases reported in US studies among children participating in CODIP, but exceeded those of US divorce controls and children from intact families.

Finally, trainers of the first four pilot groups reported that they liked working with this new intervention. Moreover, they reported strong effects of CODIP-NL on positive functioning of the children and on total behavioral problems (decreased). Sixty-one percent of participating children showed a meaningful increase in their overall functioning as reported by their trainer.

In sum, this study constitutes a first step in the implementation of CODIP in the Netherlands. We found modest but promising first results indicating that participation in CODIP-NL can be an effective and much appreciated way to contribute to the prevention of divorce related problems in 6 to 8 years old children. In line with this, we feel that this study constitutes a strong base for a future full assessment of the effectiveness of CODIP-NL in a randomized controlled trial.

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# 1 Introduction

In the Netherlands, an estimated number of 70,000 at home living children are involved in parental divorce or separation each year (Spruijt, 2007). This estimation consists of 57,000 children younger than 18 years of age, and 13,000 aged 18 years and older. The parental separations concerned include termination of both common-law relationships as well as long-standing live-in partnerships. In the past, it was rather easily assumed that children fare better with separated parents than with constantly fighting parents staying together. However, children appear to encounter notably negative consequences of their parents' divorce. For them, parental divorce is an unwanted, uncontrollable, and often unexpected life event (Herbert, 2002; Hodges, 1991; La Greca, 1992) typically following a history of conflict. It often leads to less contact with, and less emotional support from one or both parents. Moreover, in some cases the child has to move to a different municipality and/or school. For most children it is an enormously challenging, if not overwhelming situation, leading to problems such as self-blame, misconceptions, inaccurate attributions, fears of abandonment, and feelings of isolation (see Figure 1.1; proximate problems). These problems in turn relate to other (more distal) difficulties such as internalizing and externalizing behavioral problems (Kurdek & Berg, 1983, 1987; Sandler, Tein, & West, 1994). Amato and Keith's (1991) meta-analysis shows that children of divorce achieve worse in school, have more behavioral problems, score lower on psychological and emotional wellbeing, have a lower self-esteem, and display more problems in social relationships than children growing up in intact families (see also Figure 1.1; distal problems in childhood). Although most children of divorce develop reasonably well in the long term the individual and societal costs of a minor problematic group can be large. Research points to a range of problems that endure into adulthood: increased absence from school, early school drop-out, and sick-leave; psychological problems; depression, increased levels of smoking, and heavy drinking among women; younger marriages, teenage parenthood, and out-of-wedlock children; problematic relationships and divorce in own relationships (e.g., McLanahan & Bumpass, 1988; Van der Valk & Spruijt, 2004; Wauterickx, Gouwy, & Bracke, 2006).

## 1.1 The Dutch lacuna: no evidence-based interventions

In the Netherlands, there are currently no effective evidence-based prevention programs for children of divorce available (cf., [www.jeugdinterventies.nl](http://www.jeugdinterventies.nl)). Vermeij, Van der Wel, and Krooneman (2005) provided an inventory on Dutch after divorce support programs. This showed that there was hardly any preventive support for children of divorce available. Moreover, available support was highly fragmented and spread across various organizations. Most of this concerned rather local or isolated initiatives, in particular support groups, websites, brochures, and opportunities for individual (telephone) consultation. These were primarily aimed at children aged at least about eight or nine years. None of the available initiatives had been shown to be effective in a well-designed experimental study. Accordingly, there is a need for an evidence-based prevention program for children of divorce in the Netherlands, first and foremost for children under nine years of age. The US Children of Divorce Intervention Program (CODIP) could be a solution to fill this Dutch lacuna, and is therefore the topic of this feasibility study.

## 1.2 The Children of Divorce Intervention Program (CODIP)

Objective of the current study was to make the CODIP module for grades 2 and 3 children (ages 6-8), applicable for the Dutch situation and to test it in an extensive pilot study to such extent that a decision about national implementation can be made. CODIP is a prevention program aiming at the prevention of problematic development of children at risk because of their parents' divorce. Clinical aspects of CODIP are shaped by developmental theory, which focuses on age-based reactions to parental divorce and intervention approaches tailored to children's developmental characteristics. CODIP is based on theories of resilience. These suggest that wellness can be promoted by protective factors that provide supportive scaffolding for children experiencing difficult times (Vygotsky, 1978). The key is to foster supportive outreach and reduce risk across systems that affect children, including schools, courts, communities, and families (Pedro-Carroll, 2001). Moreover, CODIP is also based on a transitional-events model that emphasizes the stressful challenges and changes associated with marital disruption in families (Felner, Farber, & Primavera, 1983; Sandler, Tein, Metha, Wolchick, & Ayers, 2000).

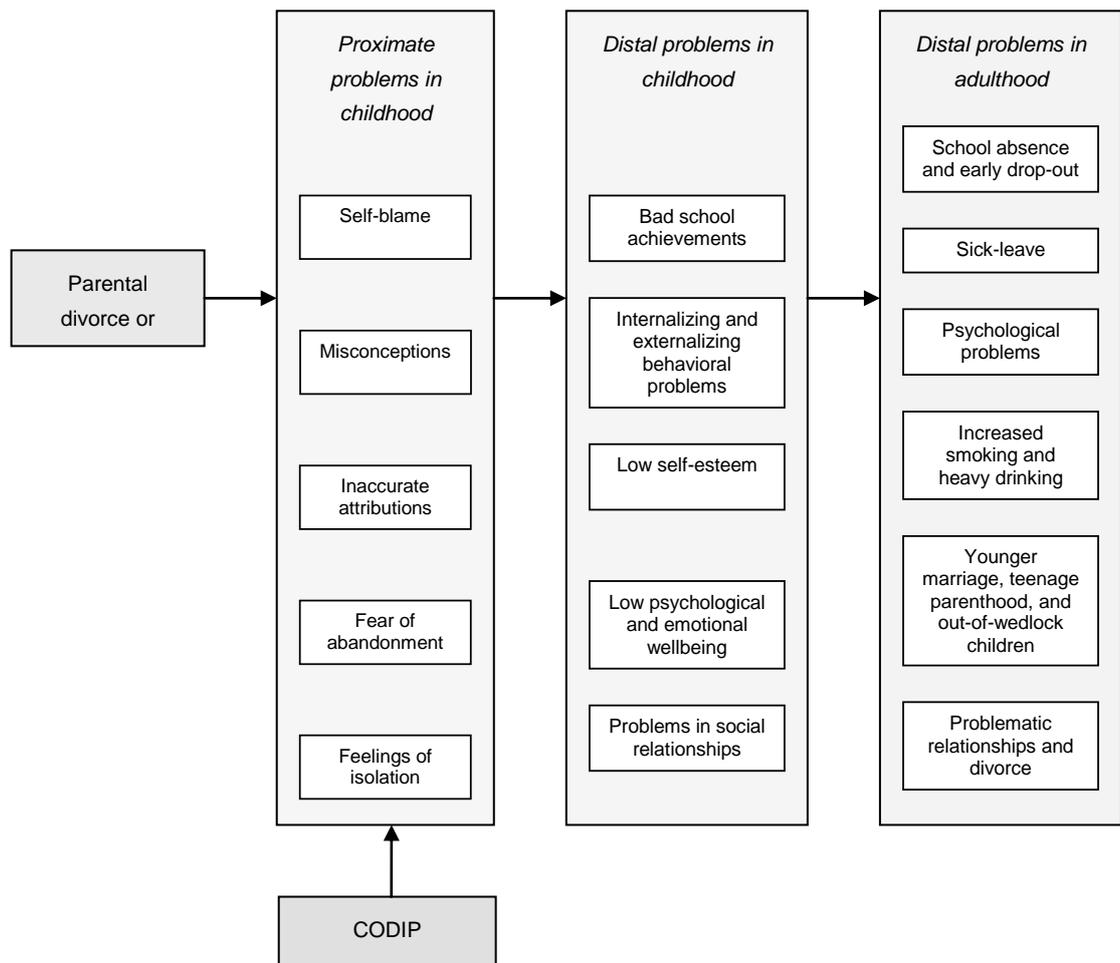


Figure 1.1: Systematic representation of the problem definition of this study, including an indication of proximate and distal consequences of parental divorce, and the model of intervention (CODIP).

CODIP focuses on proximate divorce-related problems of children of divorce by enhancing their effective coping styles, clarifying misconceptions, framing realistic appraisals of control, and providing accurate attributions for parental problems (see Figure 1.1). To achieve this, a supportive group environment is created in which children learn to deal with their feelings about and perceptions of the divorce. Games and activities are designed to enhance coping skills and self-esteem. Active coping – involving problem solving skills and positive thinking – was found to increase children's feelings of confidence in their ability to cope and lead to greater resilience among children (Sandler et al., 1994, 2000). Accordingly, CODIP builds on the assumption that timely support for children of divorce, focusing on acute effects of the divorce, can bring about considerably positive effects in the short and long term. More information on the objectives and contents of CODIP is provided in Chapter 2.

Experimental studies (with quasi-experimental or pre-post with matched controls, and randomized controlled designs) showed positive effects of CODIP (based on self-reports, parent and teacher reports) on internalizing and externalizing problems for children of different ages and demographic backgrounds (e.g., Alpert-Gillis et al., 1989; Pedro-Carroll et al., 1992, 1999; Pedro-Carroll & Cowen, 1985). Effects persisted over a 2-years follow-up. Furthermore, the intervention resulted in increased competence and better adjustment of participating children to the new family situation. One study examined divorce related cognitions and also found positive effects on this outcome (Pedro-Carroll et al., 1992).

CODIP is thus extensively evaluated and internationally proven to be effective. Therewith CODIP could be an evidence-based solution to fill the Dutch lacuna regarding evidence-based prevention programs for children of divorce, preventing behavioral, psychological and emotional problems of children in the short term as well as lowering individual and societal costs in the long term.

### 1.3 Study objectives

The effectiveness of CODIP as proven in the United States and elsewhere supports the introduction of CODIP in Dutch preventative practice. However, reproducibility of its suitability and effectiveness in a different country and setting is not automatic. A fundamental problem in adapting an intervention to another country is the generalizability of the findings on effectiveness from other countries (Cuijpers, De Graaf, & Bohlmeijer, 2005; Klein Velderman, Hosman, & Paulussen, 2007). Fundamental differences between countries may hamper generalizability. For example, applied to the Dutch setting, a program from elsewhere might require an implementation structure that does not fit into the Dutch context or 'care-as-usual'. A control group in a US study might differ strongly from the 'care-as-usual' in the NL (Cuijpers et al., 2005). Moreover, relevant aspects of financing, management, and policy may differ markedly between the Netherlands and the United States. Therefore, the introduction of CODIP in a new country and setting, in this case in Dutch practice, needs careful consideration.

Thus, although attuned to developmental levels of children, CODIP was not attuned to the specific needs of Dutch children, and up to now, the feasibility of effectively introducing CODIP in the Netherlands had not been studied. This project encompasses the adaptation of CODIP to the Dutch setting, and the assessment of

the feasibility of this adapted version. Therewith the current study had three objectives:

- 1) Translation and adaptation of the CODIP module for second and third grades children to the specific characteristics of Dutch intermediate and end users;
- 2) Testing the feasibility of introducing this adapted CODIP module in the Dutch setting;
- 3) Determining the feasibility of replicating the positive and desired effects of CODIP as proven in the United States.

In order not to lose the core principles of the original program, the process of adapting, testing, and introducing CODIP in the NL took place in two stages. Stage 1 related to the first study goal. The CODIP module for second and third grades children was translated and adapted for six to eight years old Dutch children of divorce. We called this adapted version “Dappere Dino’s”, which means ‘Daring’ or ‘Courageous’ Dinosaurs referring to a board game used in the program. (From hereof, in this report, we refer to the Dutch version of the program as ‘CODIP-NL’). Also, in this first stage, we focused on preparing an implementation pilot: the train-the-trainer program was developed, initial trainers<sup>1</sup> were trained, and a system was developed for supervision. The second study stage concerned an empirical stage: A pilot study was conducted in order to provide answers to the second and third study goals, regarding the feasibility of implementing the CODIP-NL module and the possibility of replicating positive intervention effects of CODIP as proven in studies abroad.

In sum, this study is the first one to provide information about the preconditions for introducing CODIP for second and third grades children in the Netherlands and about the feasibility of this CODIP-NL program in the Dutch setting.

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<sup>1</sup> Throughout this report, we refer to professional trainers or group leaders of the CODIP(-NL) groups as ‘trainers’.

## 2 The intervention: CODIP program characteristics

As was introduced in Chapter 1, CODIP is a preventive group program that emphasizes support and skill building for children of divorce. It contains components dealing with children's feelings about and perceptions of the divorce as well as games and activities designed to enhance coping skills and self-esteem.

### 2.1 Objectives of CODIP

CODIP has five basic objectives, directly targeting proximate negative child outcomes of parental divorce (Figure 1.1; see also Pedro-Carroll & Jones, 2005):

1) Providing a supportive group environment:

A fundamental underpinning of CODIP groups is to provide a safe, supportive environment for children. Contact with peers who have gone through comparable experiences helps participating children to reduce their sense of isolation and develop a sense of companionship and trust. Therefore a safe, accepting environment is established in which children can respond at their own pace. To do so, CODIP meetings should be scheduled consistently and conducted in an area that offers privacy. Experience with CODIP also stresses that confidentiality is essential (Pedro-Carroll, 1997, p. 218).

2) Facilitating identification and appropriate expression of feelings:

CODIP seeks to enhance the participants' ability to identify and appropriately express a range of emotions that are associated to the divorce. A variety of play techniques are used to help children identify a range of emotions, including the interactive use of books, pictures of facial expression, and the active participation of a group puppet. To facilitate identification and appropriate expression of feelings, trainers are encouraged to maintain a safe group environment where all feelings are accepted. Foremost, trainers must carefully balance the need for children to express their feelings while moderating the dose of emotionally laden material with more neutral experiences (Pedro-Carroll & Jones, 2005).

3) Promoting accurate understanding of divorce-related concepts and clarifying divorce-related misconceptions:

A third CODIP goal is to help children separate their strong divorce-related fears from reality. Because feelings of guilt and responsibility for the separation and hopes and wishes for reconciliation pose an emotional burden for children, clarifying misconceptions is an essential part of the intervention. In CODIP structured puppet play is used to help clarify divorce-related misconceptions. Besides, "Daring Dinosaurs", a board game developed specifically for CODIP, contains cards that reflect misconceptions children often have about the reasons for family problems, with opportunities for group discussion and puppet play to clarify common reasons for self-blame (see also Pedro-Carroll & Jones, 2005).

4) Enhancing coping skills:

Several CODIP sessions are devoted to training social problem solving, communication skills, and the appropriate expression of anger, using age-appropriate games and techniques to encourage skill acquisition and generalization. Specifically, children are taught to differentiate between problems

they can, and problems they cannot control. This key distinction helps them to master the psychological task of disengaging from inter-parental conflicts and to redirect their energies into age-appropriate pursuits.

- 5) Enhancing children's perceptions of self and family and reinforcement of coping skills:

This final program objective emphasizes positive qualities of children and families. Several self-esteem building exercises are used to highlight the children's positive qualities. For example, in the grades 2 and 3 module each child completes an 'I am special' book detailing his/her characteristics, likes, feelings, wishes, and place in the group and family. Sessions in regard to this fifth objective strive to heighten children's awareness and acceptance of non-traditional family structures and of positive post-divorce family changes that may have occurred.

## 2.2 Inclusion criteria

To qualify for CODIP, a child must:

- a) Be within the targeted age range for a specific module (6-8 years in this study; see below);
- b) Have parents who at one time lived together and are now separated (including termination of both common-law relationships as well as long-standing live-in partnership);
- c) Have written parental consent, and;
- d) Be capable of functioning adequately in a group (i.e., show no evidence of serious aggressive behaviors or severe emotional problems that warrant more intensive services).

These selection criteria are particularly important for the following reason: The inclusion of children who are not appropriate for the group (e.g., because of serious aggressive behaviors) can be frustrating for all parties because it can lead to managing the child's inappropriate behavior becoming the major focus, rather than managing the program's central divorce-related objectives. In other words, CODIP is designed as a preventive intervention, not as intensive group therapy for serious emotional difficulties (Pedro-Carroll & Jones, 2005, p. 65). Children with serious behavior problems should be referred to more intensive support programs. In line with this, Alpert-Gillis and colleagues (1989) decided for their evaluation of the CODIP grades 2 and 3 module in the United States, that children were only to be included when not currently in therapy or receiving other mental health services.

## 2.3 Child ages

Pedro-Carroll and her colleagues have developed 4 versions of CODIP: a version for kindergarten and 1<sup>st</sup> grade youngsters (ages 5 and 6), one for early latency children (grades 2 and 3; ages 7 and 8), one for older latency children (grades 4-6; ages 9-12), and one for early adolescents (grades 7 and 8; ages 13 and 14). Although the goals and objectives embedded in the CODIP programs remain relatively constant, these versions contain varying topics and techniques according to the developmental differences of the four age groups. For instance, groups for younger children are smaller and take 45 minutes contrasting to sessions of one hour for older children. To start with, this study focuses on CODIP for second and third grade (early latency) children.

The rationale behind the choice for this particular age group (early latency children: 7 and 8 years of age) as a first step in this trajectory of introducing CODIP in the Netherlands was as follows:

- Together with the module for grades 4-6 children, this grades 2 and 3 module was the first developed by Pedro-Carroll and colleagues in the 1980s. Therefore, we could build on extensive practical and evaluative experience in regard to this specific module.
- As opposed to kindergarten and 1st grade children, early latency children have increased cognitive capacities. According to Piaget, children from about seven years of age make the important transition from preoperational thinking to more advanced concrete operational thought. Children of this age become better at logical, systematic thinking using multiple pieces of information. In addition, they become much more capable of perceiving underlying reality despite superficial appearance (Sroufe et al., 1996). Although their thinking still has many immature aspects, elementary school children's increased cognitive capacities enable them to grasp more of the concepts regarding divorce and separation that are part of the module.
- Children in grades 2 and 3 have started to learn how to read and write, which enables them to join in some of the CODIP games and activities – such as composing an 'I am special book' – more easily than younger children.

In the Netherlands, CODIP for grades 2 and 3 focuses on children from 'groep 3' (mean age 6.5 years) and 'groep 4' (mean age 7.5 years). Note that the most well-known Dutch interventions for children of divorce, that is, KIES and JES!, focus on children aged eight or nine years and over (see also Paragraph 1.1). CODIP can thus serve as a welcome supplement to these and similar interventions currently available in the Netherlands.

The grades 2 and 3 CODIP module was designed to address psychological reactions and developmental characteristics, primarily of 7- and 8-year-olds. Children of divorce, at this age, often react to parental divorce with intense sadness. Multiple fears, feelings of deprivation, fantasies of parental reconciliation, a sense of loss with regard to the family as it once was, anger, guilt and misconceptions are also common.

The original American CODIP module for grades 2 and 3 children consists of 15 weekly group sessions of 45 minutes each. These CODIP module sessions are organized in 4 primary parts: 1) Establishing the group, feelings, families, and family changes; 2) Developing coping skills; 3) Child-parent relationships; and 4) Children's perceptions of themselves and their families. The module tends to work best (Pedro-Carroll, 1997) with 4 to 7 group members.

The Children's Institute has developed 4 procedure manuals for conducting the support groups, tailored to the developmental needs of children based on above mentioned grade levels. These manuals offer trainers clear guidelines for their work and are well structured: First an introduction is given about the intervention program and its goals. Next, the authors give a module overview and information about program implementation, including a) train-the-trainer, b) group facilitation techniques, and c) group process issues. The main part of the manual consists of information about the module sessions. For each session, goals, procedure and needed materials are listed and subsequently illuminated. The program procedure is written out very precisely, naming concrete acts, giving sample quotations, and

providing with review questions, closing remarks, and/or notes to the trainers. Copies of written program materials such as 'the I am special book', and a 'Certificate of Achievement' for the child are also given in the manual. Play is a significant element of the program. The procedure manuals are consequently accompanied by, for example, the 'Feeling Faces' poster and the 'Daring Dinosaurs game'.

#### **2.4 Parent involvement**

Although CODIP is aimed directly and primarily at children, parents are involved in all stages of the intervention. Prior to the start of the CODIP group sessions, parents are invited to attend an interview on admission where they receive information on the content of CODIP and the reaction CODIP can evoke in children. Also, during the intervention, parents receive written information and advice in regard to their children and the divorce, and at the end of the CODIP sessions, the parents will attend an one-to-one evaluation meeting with the trainer of the group. By means of this parental involvement, the parents are advised on how to support their child, which will enhance the chance of expanding effects to and maintaining them in the home situation.

## 3 Methods

As described in the Introduction (Chapter 1), this study consisted of two study stages: Stage 1 relating to the translation and adaptation of the CODIP grades 2-3 module to Dutch intermediate and end users, and Stage 2 relating to the empirical stage (i.e., the pilot study) regarding the feasibility of implementing the CODIP-NL module and the possibility of replicating positive intervention effects of CODIP as proven in studies abroad.

This study was approved by the Medical Ethical Board of the Leiden University Medical Center (LUMC; reference P09.083; received in Stage 1).

### 3.1 STAGE 1: Translation and adaptation

Thorough translations of the well developed CODIP program materials (Children's Institute; see Chapter 2), were the basis of a first Dutch version of the manual and other written materials. PI Research conducted the first draft translations of all written program materials (e.g., procedure manual for the trainers, Daring Dinosaurs game cards, Feeling Faces poster, I am special book, Social Problem Solving cartoon). First translations from English into Dutch were as literally as possible. Some expressions were reconsidered or altered when a literal translation was not appropriate.

In order to prevent that translated and adapted CODIP materials deviated from the core elements that constitute the effectiveness of the original program, the conceptual outline of the program was articulated. This outline depicted underlying theoretical principles of the program from which concrete program activities can be derived, using earlier publications about CODIP, and was developed in close collaboration with JoAnne Pedro-Carroll, PhD, who is founder and developer of CODIP in the United States. CODIP was to be adapted, e.g., in order to meet the characteristics of the Dutch user population, only as far as the adaptations stayed in line with the theories (for change) that constituted the original program. The conceptual outline and consultation of Dr. Pedro-Carroll were leading during the process of adapting the US-version of CODIP to the Dutch user population.

Hence, based on the translated materials and adhering to this conceptual outline the first versions of the Dutch program materials were designed (PI Research and TNO). Program materials were designed to be attractive to intermediate users (organizations and trainers expected to expose children to the program) as well as end users (participating children of divorce). For reading or picture books used in the original US-version of CODIP, possible alternatives were sought or de novo designed.

In addition, a draft implementation plan was developed, including conditions for the practical realization of CODIP (e.g. train-the-trainer, supervision), characteristics of the trainers and executive organization(s), and a questionnaire for monitoring program fidelity. Although CODIP can be implemented in a variety of settings, such as mental health centers, community centers, private practitioners' offices, after-school care programs, and court-connected service groups (Pedro-Carroll, 2005), in the current study we focused on implementation in settings of preventive child mental health care. Prevention workers in these organizations have a higher

educational degree (bachelors, academic) than in (some) other organizations. Their degrees are in the field of behavioral sciences such as psychology, child and family studies, social work, or a related discipline. They have knowledge about normal and maladaptive cognitive and socio-emotional development of children. They are experienced in conducting support groups, for instance for children of parents with psychiatric disorders or for children of divorce. In the latter case, these programs were not evidence-based.

Professionals from the two pilot organizations participating in the current study, were asked to comment on the first draft of the Dutch procedure manual.

### **Train-the-trainer**

To facilitate our pilot study, two trainers per organization (i.e., in two pilot organizations; in The Hague and Gouda; see below) were trained to conduct groups according to the adapted CODIP-NL manual (Version 1). CODIP developers state that provision of a training to conduct groups is optional, but highly recommended. Train-the-trainer and supervision in the United States (as led by Dr. Pedro-Carroll and the Children's Institute) consists of four 1.5 hours preparatory training sessions before the program starts, and consultation and supervision meetings throughout the intervention period, as far as needed. Attention is paid to the impact of divorce, developmental characteristics and common reactions of this age-group, the rationale for intervention, moderating factors in adjustment to divorce, group processes and facilitating techniques, and preview and discussion of module materials.

Alike, a structured training of trainers ( $n = 4$ ) preceded the provision of support groups in the current pilot study. This training consisted of 3.5 days. Day one focused on the impact of divorce on children, developmental characteristics and common reactions of this age group, the rationale for intervention, and the current objectives and procedures of the feasibility study. Day two, three, and four (half a day) focused on the application of group facilitating techniques, and a preview and discussion of program materials. Dr. Pedro-Carroll attended the first two days of this training (October 2009) and introduced the trainers to the program and to a selection of the program materials and intervention techniques.

## **3.2 STAGE 2: Pilot study**

### **Procedure**

The pilot groups were organized by two pilot organizations (De Jutters in The Hague, and Rivierduinen in Gouda). Each organization was responsible for conducting two CODIP-NL groups: one starting January 2010 (pilot round 1), and one starting September 2010 (pilot round 2). Thus, a total of four CODIP-NL groups constituted this pilot study.

CODIP-NL pilot groups ( $n = 4$ ) met at the child mental health care institute for 15 weekly, 45-minute CODIP-NL sessions after school time. Each group was co-led by two mental health care professionals or one mental health care professional and a school social worker.

### *Data collection*

To reach the study objectives as formulated in the Introduction, the pilot study focused on two aspects. A first aspect was the process evaluation. Children, both

parents and trainers received questionnaires after the intervention (post), including evaluative questionnaires. Trainers also kept a logbook after each intervention session (see below).

A second focus of the pilot study concerned the feasibility of replicating positive effects on adjustment and socio-emotional development as proven before in the US. To measure these aspects, we included evaluation questionnaires that were also used by the Children's Institute in US studies, supplemented by additional questions. Child adjustment measures were compared, pre, (halfway) and post participation, regarding child, parent, and trainer-reported child adjustment measures. Children and both parents received questionnaires before the start (pre) and after the intervention (post). At the start of the intervention, trainers did not yet know the children well enough to score them on their competences and behaviors. Therefore, trainer ratings for CODIP-NL children were done after session four (pre), after the eighth session (halfway), and after the final session (post).

We initially trained four trainers (two per pilot organization). Due to circumstances, only two of these four initially trained trainers (one for De Jutters and one for Rivierduinen) continuously led a group of children in both pilot rounds (January and September 2010). First, due to anticipated change of setting in one of the two pilot municipalities (The Hague area), in the second pilot round, one initially trained trainer was substituted by an additional trainer that received a short CODIP-NL training. That is, De Jutters anticipated on a change of setting after this pilot study. For reasons of policy and financing, in this municipality, implementation will be continued by school social work in the school setting instead of what was done now in the mental health care setting. Therefore, the CODIP-NL pilot group in round 2 was co-led with a school social work professional.

Second, due to illness of one of the initially trained trainers (i.e., Rivierduinen), a professional worker without specific CODIP-NL training assisted during some of the sessions. In all cases, questionnaires were filled out by the two co-leading trainers per child. We only present data obtained from the two trained trainers (i.e., one for each organization) that led a group in the first as well as second pilot round.

### **Subjects**

The study included 23 children, supported in 4 pilot groups (5 or 6 children each): 2 in Gouda, and 2 in The Hague. As in Alpert-Gillis et al. (1989), and as in the original US-version of CODIP (see Chapter 2), criteria for inclusion in the CODIP-NL program were:

- a) Parent separation or divorce;
- b) Children not currently in therapy or receiving other mental health services, and;
- c) Written parent consent.

Costs of the intervention were paid by a grant from ZonMw, and participation was therefore free of charge for children and their parents. Financing were available for only four pilot groups. Therefore, availability of this program was not broadly advertised (e.g., on the youth mental health care website or by means of written information). Participants were reached through prevailing communication between youth mental health care professionals and their clients or partners in the field. The 23 participants were included through social work ('(school)maatschappelijk werk',  $n = 9$ ), youth social care office ('Bureau Jeugdzorg',  $n = 8$ ), youth mental health care ('GGZ-jeugd',  $n = 3$ ), preventive child healthcare

('Jeugdgezondheidszorg',  $n = 1$ ), school, a local support program ('Opvoeden in de buurt',  $n = 1$ ), or mother directly ( $n = 1$ ).

## Measures

### *Process evaluation*

With regard to the first focus on the process evaluation, trainers as well as participating children and their parents were asked to fill out questionnaires focusing on various parts of the intervention (e.g., duration, group size, materials, and content) and effectiveness as experienced.

- *Child report*

*Comments About Group* (Pedro-Carroll, personal communication, March 2007). – This 8-item questionnaire asked children about how they felt about being part of the CODIP-NL group. The first question asked them to mention the two or three most important things that the group had meant for them (open-ended question). The second question consequently asked them to tell things about the group that they would change (open-ended question). Last, 6 items question whether the children felt they had profited from CODIP-NL in certain areas (e.g., 'I made some new friends in our group', or 'I learned some new ways to solve problems in our group'). These 6 items were rated on a 4-point Likert scale, ranging from (1) very true to (4) not true at all. This questionnaire was filled out by children after the CODIP-NL support group had ended (posttest).

In addition to the US CODIP evaluative questionnaire (Comments About Group, above), at the posttest, the children were asked some additional evaluative questions, specifically addressing several intervention aspects (e.g., duration, group size, materials, content).

- *Parent report*

At the posttest, parents were sent a list for parents about the program as developed by Pedro-Carroll and colleagues (Pedro-Carroll & Cowen, 1985): This questionnaire asks parents about how their child may have changed since the program began. The questionnaire starts with 6 close-ended items (e.g., 'Since the program began, my child 'talks about his/her feelings', or 'is able to handle problem situations'), to be rated on a 5-point scale ranging from (1) much less to (5) much more.

Additionally, three open-ended questions ask 'In what ways have your child's feelings and behavior changed since the program began?', 'What were your child's reactions to his/ her 'special' group?', and 'What were your reactions to the program? To the parent newsletter?'

In addition to the US CODIP evaluative questionnaire (see above), at the posttest, parents were asked some additional evaluative questions, specifically addressing several intervention aspects (e.g., duration, group size, materials, content).

- *Trainer report*

*Logbooks*. – After each intervention session, trainers filled out a logbook. In this logbook, they first registered date of session, possible absence of children, and the amount of time they spent on preparation. Second, an open-ended question asked them to give an overall description of this session. Third, the objectives of this session were listed. For each objective, trainers scored if they felt they had reached this objective: yes, partly, no. Similarly they were asked to state for each session activity if these were put into practice: yes as described, yes but deviated from

manual instruction, no. When deviated from instruction, they were asked to explain how and why. Finally, trainers were asked to reflect on session materials: were materials used and if so, were these regarded as positive, neutral or negative. Again trainers were asked for an explanation. In future use, these logbooks can also serve as a method for monitoring program fidelity.

In addition to the logbooks, at the posttest, the trainers were asked some additional evaluative questions, specifically addressing several intervention aspects (e.g., duration, group size, materials, content), training and supervision.

#### *Treatment fidelity*

As part of pilot implementation of CODIP-NL, trainers were supervised four times by means of telephone conferences. The four trainers as well as professional supervisors from PI Research and researchers from TNO took part in these supervision sessions. During the sessions, main program topics and general questions of the trainers were discussed by the group. In addition, two live group supervisions took place, again attended by the trainers, supervisors and researchers, to discuss and reflect on the group sessions thus far. These live supervision sessions included more in-depth reconstructions of the intervention sessions: How did it go? What was the general feeling about things like program activities, group process, child adjustment, and so on? What possible questions existed in regard to the implementation of the intervention? Were there any difficult situations during the sessions? Written reports were made of all supervision sessions, resulting in a first thorough evaluation of the implementation of CODIP-NL.

In addition, in each group, trainers were asked to film the Daring Dinosaurs Board game. Video observations were used to look at program fidelity during the intervention process and to design an instrument to assess program fidelity in future use. In their role as supervisors, PI Research project members have rated one of these films to reflect on treatment fidelity of one of the trainers involved. The Fidelity of Implementation Rating System (FIMP; Knutson, Forgatch, & Rains, 2003), that is, the Dutch version BMUI (*Beoordelingssysteem Methodische Integriteit Uitvoering*) was used to rate dimensions of trainer skills. Aspects of rating were:

- Knowledge of CODIP-NL (e.g., applies principles and model; demonstrates integration of CODIP-NL tools);
- Structure (e.g., follows an agenda; manages orderly flow; leads without dominating; uses sensitive pacing and timing);
- Teaching (e.g., verbally provides rationales; engages children in activities; provides enough information; sets up models in role play)
- Process skills (e.g., maintains balance; connects with storyline; uses variety of tools);
- Overall quality (e.g., demonstrates knowledge of CODIP-NL; accomplishes goals; children's satisfaction).

This instrument is part of the future quality system of CODIP-NL.

Finally, during a group meeting after implementation of CODIP-NL in pilot round 2, a focus group interview was held with the trainers, in order to review program process on the whole; to highlight and discuss possible practical problems for future implementation; and to focus on possible changes needed or optional in a second version of CODIP-NL. Dr. Pedro-Carroll attended this joint meeting to share her expertise with the Dutch researchers, supervisors, and trainers.

### *Evaluation of effects*

Pretesting on child adjustment measures by child self-report was done at the start of session one: if necessary assisted by a TNO junior researcher. Similarly post testing on the same measures was done at the end of the last intervention session. Parents received their pretest questionnaire at the intake and were sent the posttest questionnaire after the final session. Group leader ratings were completed after sessions 4 (pre), 8 (half way) and 15 (post).

Seven measures, completed by children, parents, and trainers, were used to evaluate program outcomes:

- *Child report*

*Children's Family Adjustment Scale (CFAS, developed and previously used by the Children's Institute; Alpert-Gillis et al., 1989)* – This 16-item questionnaire, adapted from Sterling (1986), measures children's feelings about families (e.g., 'I feel very sad when I think about my family'); parents (e.g., 'I worry about my parents leaving me'); themselves (e.g., 'I feel good about me'); and coping skills (e.g., 'I can think of lots of ways to solve problems'). Items are rated on a 3-point scale: (1) no, (2) sometimes, and (3) yes. High total scores indicate better adjustment. In previous US studies, the CFAS had a 2-week test retest reliability of .62 and an alpha of .62 (Alpert-Gillis et al., 1989). Alpha at the pretest in the current study was low, .32.<sup>2</sup> The posttest alpha was .63.

- *Parent report*

*Parent Evaluation Form (PEF, developed and previously used by the Children's Institute; Alpert-Gillis et al., 1989)* – This 24-item questionnaire measures parents' views of children's feelings (e.g., 'Feels responsible for family problems if they occur'); behavior (e.g., 'Gets along well with other children'); and problem solving skills (e.g., 'Tries to solve own problems'). Items are rated on a 4-point Likert scale, ranging from (1) very true to (4) not true at all. High PEF sum scores indicate better adjustment. In previous US studies, the PEF had an alpha of .84 and a 2-week test-retest reliability of .72 (Alpert-Gillis et al., 1989). The alpha of mother-reported PEF in the current study held .89 at the pretest and .84 at the posttest, and for fathers .80 and .90 respectively.

*Strengths and Difficulties Questionnaire Parent Form (SDQ PF; Goodman, 1997)* –

This brief behavioral screening questionnaire consists of 25 items assessing psychological adaptation of children. It generates scores for conduct problems, hyperactivity, emotional symptoms, peer problems, and prosocial behavior. All but the last are summed to generate a total difficulties score. The parent or teacher form for ages 4-16 was used. For 7 to 12 year-olds the SDQ parent form has a sensitivity score of 0.86 and specificity of 0.90 using a clinical score on the Child Behavior Checklist (Dutch version; Verhulst & Koot, 1996) as criterion, based on a cut off point of 12 (Vogels et al., 2005).

*Daily Hassles (Kanner, Coyne, Schaffer, & Lazarus, 1981)*. – This 25-item questionnaire measures hassles parents experience in daily life. It was used in this study to assess possible gains in the parent domain. Parents register the

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<sup>2</sup> Factor analysis based on the 16 CFAS items indicated that 20.2 percent of the variance was accounted for by the first factor, supporting the assumption of unidimensionality (Reckase, 1979).

occurrence and severity of 25 daily life hassles on a 5-point scale, ranging from (0) none, to (4) extreme trouble, and a time frame of 'last week'. An average intensity score was computed and presented in this report. Higher scores indicate more severe daily life hassles experienced. The Cronbach's alphas of the mother-reported Daily Hassles were .87 at the pretest and .72 at the posttest, and for fathers .90 at the pre- as well as posttest.

*Center for Epidemiological Studies Depression Scale (CES-D; Bouma, Ranchor, Sanderman, & Van Sonderen, 1995).* – The CES-D scale is a short self-report scale, consisting of 20 items, designed to measure depressive symptomatology. The items of the scale are symptoms associated with depression which have been used in previously validated longer scales. The CES-D is scored from 0 to 60 (all 20 symptoms coded 0 to 3 depending on their frequency during the week prior to data collection). Parents with scores above 16 are regarded as 'possible cases' (Bouma et al., 1995). Although designed to measure depressive symptomatology in community populations, the CES-D is found to be a sensitive predictor of diagnosed depression. The CES-D was only used at the pretest. The Cronbach's alphas of the CES-D at the pretest were .90 for mothers and .97 for fathers.

- *Trainer report*

*Group Leader Evaluation Form (GLEF; developed and previously used by the Children's Institute; Alpert-Gillis et al., 1989)* – This 23-item questionnaire assesses children's strengths or competences (11 items), as well as problems that children of divorce experience (12 items). An overall adjustment score is constructed based on both competences as well as problems.

Items relate to, for instance, children's perception of divorce (e.g., 'Believes he/she can bring parents back together'); ability to deal with feelings (e.g., 'Expresses feelings appropriately'); interpersonal functioning (e.g., 'Is supportive when other group members are troubled'); and problem-solving skills (e.g., 'Recognizes differences between problems he/she can and cannot solve'). Trainers rate each item on a 4-point Likert scale, ranging from (1) very true to (4) not true at all. High scores indicate better adjustment. In previous US studies, the GLEF had a 2-week test-retest reliability of .92 and an alpha of .92 (Alpert-Gillis et al., 1989). Cronbach's alphas in the current study were .90 halfway (after Session 8), and .93 at the posttest.

*Strengths and Difficulties Questionnaire Teacher Form (SDQ TF)* – In addition to the GLEF, teachers filled out the teacher form of the SDQ. As the SDQ PF (see above), this 25-item questionnaire assesses psychological adaptation of children and generates scores for conduct problems, hyperactivity, emotional symptoms, peer problems, and prosocial behavior.

## **Analyses**

We chose to conduct an extensive pilot study consisting of multiple  $n = 1$  studies as the most suitable design to shed light on the feasibility of the CODIP-NL module in this early phase. Typical of  $n = 1$  or case studies is that the conditions of the research objective (in this case the child participating in CODIP-NL) are described at several moments in time. Mostly, multiple assessments take place to get more insights in the course of changes caused by the intervention. A specific version is the repeated case study. In that case, results from a previous study are tested by repeating research with new cases. If results are replicated, one can assume with

increasing decisiveness that the intervention causes these changes ([www.jeugdinterventies.nl](http://www.jeugdinterventies.nl); Veerman & Van Yperen, 2007). This last version corresponds mostly with the present study. In our pilot, we repeated the research in the United States that constitutes the evidence-base of CODIP. If results show trends in similar directions, we can prove feasibility of CODIP-NL. The results may constitute hypotheses about effectiveness of CODIP in the NL that will need to be experimentally tested in a subsequent RCT.

To analyze the results of our pilot study we chose a simple (statistical) design. The process of implementing CODIP-NL in the pilot organizations is described qualitatively by discussing the open ended questions, and quantitatively by conducting frequency counts. Paired *t*-tests were employed to assess differences between pre- and posttests (i.e., the impact evaluation). This was done for the adjustment measures rated by children (CFAS), mothers (PEF, SDQ PF, competence questionnaire, and Daily Hassles) and trainers (GLEF and SDQ TF).

In addition, we inspected the differences in sex and the correlations with age for both pre- and posttests. This could shed light on the extent to which the adapted CODIP-NL module is more or less suitable for children of certain ages or sex. Differences in pre- and posttests scores between boys and girls were inspected by use of *t*-tests. Additionally, Pearson correlation coefficients were calculated between each adjustment measure score and children's age, for both pre- and posttest, to evaluate associations with child age.

In this study, statistical significance is presented at the two-tailed 5 percent level ( $p < .05$ ). Because the statistical power of our design was limited, we shed light on statistically significant differences at the 10 percent level (equaling one-tailed  $p < .05$  results) as trends in our findings.

Also, Reliable Change Indices (RCIs; Jacobson et al., 1984) were used in addition to the more conventional *t*-tests. These were computed for results on the CFAS, PEF, and GLEF. In doing so, focus lies on proportions of cases changed in the pilot study. "The Reliable Change Index portion of Jacobson's (Jacobson et al., 1984; Jacobson & Truax, 1991) procedure for determining clinically significant change provides a supplemental means of analysis to comparisons of group means in outcome research with preventive interventions" (Hawley, 1995, p.278). This procedure allowed us to examine the frequency with which meaningful change in the pilot groups occurred. A RCI is computed by dividing the difference between the pre- and posttest scores by the standard error of the difference between these two scores. If the absolute RCI ( $|RCI|$ ) is greater than 1.96, then the difference is reliable, a change of that magnitude would not be expected due to the unreliability of the measure. Conversely, if the  $|RCI|$  score is 1.96 or less then the change is not considered to be reliable, it could have occurred just due to the reliability of the measure. The reliability of the measure used to compute the standard error is the test-retest reliability of the scale under consideration. In the current pilot study, test-retest coefficients as found in previous US studies were used (mentioned in the description of instruments above).

To answer the third objective, about replicating the positive effects as found in the US, *t*-tests were used to compare mean pre- and posttest CFAS, PEF, and GLEF scores from this study with those as reported in Alpert-Gillis et al. (1989). In that study, CODIP participants (US program,  $n = 50$ ) were recruited through program

announcements in school newsletters and contacts with families by school professionals. Control (US Divorce controls,  $n = 47$ ) and comparison subjects (US Intact controls,  $n = 75$ ) were recruited by a letter describing a study of child development and family life. The three US samples did not differ in sex, grade, racial composition or (i.e., in the two divorce subgroups) time since parental separation.

For the CFAS, Dutch scores were compared with data of US children participating in CODIP as well as US divorce controls and intact controls. Alike, mother-reported PEF scores from the current study were compared with those of US program participants, divorce controls and intact controls. Finally, the Dutch overall GLEF scores were compared with those of US CODIP group participants.

Usage of effect sizes (Cohen's  $d$ ) offers us the possibility to compare the magnitude of differences between pre- and posttest measures. That is, effect sizes facilitate the interpretation of the substantive, as opposed to the statistical, significance of these results. Cohen's  $d$  is defined as the difference between two means divided by a standard deviation for the data. Positive values indicate optimistic results of the intervention over time. An effect size of 0.00 means no effect, a  $d$  of 0.20 points to a small effect,  $d$  of 0.50 to a medium effect, and  $d$  of 0.80 to a large effect (Cohen, 1969). Dutch as well as US effect sizes will be reported in the Results chapter.

## 4 Results

In this chapter, first the pilot study sample is described. Next, we highlight some of the results of the process evaluation. Finally, results of the impact evaluation are presented.

### 4.1 Sample

A total of 11 boys and 12 girls participated in this study. They were five to nine years old ( $M = 7$ ,  $SD = 1$ ). Trainer-reported data was available on all 23 participating children (complete SDQ pre- and posttest data on 22 children). Complete mother-reported pre- and posttest data was available on 20 of the 23 participating children (87%; complete Daily Hassles data on 18 mothers), and father-reported pre- and posttest data was available on 13 children (57%). At the pretest, a large amount of parents appeared to have depressive symptoms. Before their child participated in CODIP-NL, a total of 18 mothers (90%) scored above the CES-D cutoff of 16 (pretest  $M = 16.5$ ,  $SD = 10.3$ ). This held true for six fathers (46%). The length of time parents had been living separately at the time of data collection differed strongly: from four months up to over six years. Moreover, one pair of parents still lived together in the same house, but no longer as partners. Not in all cases, common-law relationships had officially been terminated (i.e., juridical procedures were in some cases ongoing).

### 4.2 Process evaluation

#### Child-Reported Process Variables

The children were positive about the intervention in general. Most children liked the atmosphere in the group: results of the evaluative questions showed that 91 percent of participating children 'liked' CODIP-NL. The children mentioned several ways in which they had profited from the intervention: CODIP-NL had helped them to understand their feelings (78%) and made them feel less lonely (70%). Eighty-three percent of the children reported to have made some new friends in the group, and a similar percentage of children found some new ways to solve problems. Eighty-seven percent of the children regarded the group as a safe place to talk about their feelings. Most children were convinced that other children in the group regarded their feelings as important (70%).

Little over half of all children (52%) regarded the amount of sessions (i.e., 15) as good (52%). Thirty percent of the children would have liked more sessions and 17 percent would have liked less sessions. Most children thought that the length of sessions (i.e., 45 minutes) was good (39%), whereas eight children (35%) thought these were too short, and six thought these were too long (25%).

Games and materials were liked by the participating children. All children liked the Daring Dinosaurs board game played during two of the intervention sessions. Seventy percent of the children enjoyed the books trainers read to them most of the times. The puppet plays were liked most of the times by 19 out of 23 children (83%).

**Parent-reported process variables**

As were the participating children, their parents (mothers and fathers) were generally enthusiastic about CODIP-NL. Eighty-two percent of the parents agreed that their child had responded positively to participation in CODIP-NL. Seventy-one percent of the parents reported one or more ways in which their child had positively changed since the program began:

- Talks more about his/her feelings (54%);
- Talks more about changes in the family (38%);
- Feels him-/herself more comfortable about the divorce (35%);
- Asks for support more often (27%);
- Is able to handle problem situations (24%).

The evaluative questionnaire furthermore revealed that most parents were satisfied about the amount of sessions that constituted CODIP-NL (72%; 14% too long; 14% too short). Similarly, most parents thought the length of the sessions was good (89%; 9% too long; 3% too short).

Parents received three newsletters with written information about the intervention: one before the start of the intervention, one after the fifth session, and one after the last one. These newsletters were read by most parents (83%), and 93 percent of the parents regarded these as useful.

In the questionnaire we asked parents if they would have liked a meeting for parents. Fifty-six percent of the parents reported that they would, but 44 percent of parents regarded this as unnecessary.

**Trainer-reported process variables**

Trainer reports focused on the training and supervision trainers received, as well as the intervention process. The trainers reported that they had received sufficient training, and that they very much appreciated the opportunity to practice role play during the training. The amount of supervision was also appreciated. The supervision sessions were regarded as a good platform for exchanging their experiences with other trainers.

Overall, the appreciation of materials was positive: the program materials were liked and regarded as practical.

From the logbooks as well as the focus group interview after the second pilot study round, we received specific suggestions for altering certain program materials. For instance, twenty-seven 'Feeling faces' (on a poster and in a grab-bag) were used in the curriculum. Some of these feelings did not meet the cognitive capacities of children in this age group. The trainers suggested to reduce the amount of feelings used, or make sub groups of selected feelings. Also, sessions of one of the groups had been interrupted by Christmas time and New Year. This led children to be more distracted from the focus of the intervention. Trainers suggested to take this in account into future planning of the (amount of sessions in the) intervention.

Two of the trainers regarded the amount of sessions as fine, whereas the other two suggested to reduce the amount of sessions. This taken into account, and because it will be hard to find structural financing for a 15-session curriculum in Dutch practice, the room for downscaling was discussed with the trainers as well as Dr. Pedro-Carroll, resulting in concrete ideas in that direction. Based on our study results (process evaluation), some final changes were made in the program outline, the supervision scheme and module for training trainers, and procedure manual

text. Among things, these changes entailed the reduction of fifteen to twelve sessions in the second version of CODIP-NL (Klein Velderman et al., 2011).

### Treatment Fidelity

Three TNO researchers looked at two films made of the Daring Dinosaurs Board game, to explore possibilities for instruments to monitor program fidelity in future research. The 'Erickson rating scale for maternal sensitivity and supportiveness' (Egeland et al., 1990) was used as a framework for observation. The researchers looked at 'supportive presence' of the trainer and co-trainer in regard to the children and to each other. The same was done regarding the trainer's and co-trainer's 'intrusiveness'. This led to 8 scores on 1 to 7 scale. It appeared well possible to reach agreement between (previously trained) coders.

Table 4.1: Treatment fidelity codings of Darin Dinosaurs Board game observations based on The Erickson rating scale for maternal sensitivity and supportiveness.

Erickson Scale: With regard to:	Supportive presence		Intrusiveness	
	Children	(Co-)trainer	Children	(Co-)trainer
Pilot Round 1				
Trainer	6	5	3	2
Co-trainer	5	5	4	2
Mean	5.5	5	3.5	2
Pilot Round 2				
Trainer	6.5	5	2	2
Co-trainer	5	5	3.5	3
Mean	5.75	5	2.75	2.5

Table 4.1 summarizes scores for supportive presence and intrusiveness of two pairs of trainer and co-trainer filmed during a Daring Dinosaurs Board game. It shows that average scores for supportive presence with regard to the children in the group, as well as the other trainer co-leading the group, were between five and six. A score of five means that the trainer provided good support, reassurance and confidence in the children's or (co-)trainer's ability, but she faltered in this at times when the children or (co-)trainer especially could have used more support. Or, the trainer was universally supportive but gave no evidence of modulation to the children's or (co-)trainer's needs. A score of six means that the trainer established herself as supportive and encouraging toward the children or (co-)trainer and continued to provide support when the children or (co-)trainer needed it (there may have been some lapses in her support).

Average intrusiveness scores were between two and three. This means that the trainers (2) generally intervened appropriately, but may have shown subtle signs of being intrusive. The children or (co-)trainer did not perceive these as intrusive and did not go off task. Or (3) a few times, the trainer stepped in before children or (co-)trainer required help. These behaviors were of low intensity. She for instance redirected a child to take turn in the board game before the child had the opportunity to explore what he or she was doing at that time or before dialogue with another child had finished.

Although therewith the Erickson rating scales seemed a possibility for use as an instrument to monitor program fidelity in future research, alternative possibilities were also explored. The Erickson scales were originally designed to observe

mother-child dyads in structured play, not to observe group-based interaction. In contrast, a rating system originally developed for the School children and their families project (Cowan & Cowan, 1992) was developed for coding more than one parent and child at the same time. Kunseler (2010) described an adaptation of that rating system used to rate maternal interaction behaviors (e.g., pleasure in parental role, warmth, structure provided, and negative affect) and child interactive behaviors (e.g., enthusiasm, symbolic play, activity level, and frustration) during a family picnic game. Inter-coder reliabilities were acceptable (i.e., mean intraclass correlation of .70, range .64 - .89,  $n = 12$ ; single rater, absolute agreement). These, and for instance other scales used for observation in daycare settings may be adapted for future use in research on CODIP-NL.

### 4.3 Evaluation of effects

#### Self-reported child adjustment

Figure 4.1 summarizes pre and posttest CFAS scores reported by the participating children in the four pilot study groups ( $n = 23$ ). Children did not show statistically significant increases ( $M_{diff.} = .05$ ,  $SD = .40$ ) in their CFAS adjustment scores between the pre- ( $M = 2.36$ ,  $SD = 0.31$ ) and posttest ( $M = 2.40$ ,  $SD = 0.28$ ),  $t(22) = -0.56$ ,  $p = .58$ ,  $d = 0.14$ . For three out of the 23 children, it held true that  $|RCI| > 1.96$ . However, it should be stressed that in only one of these cases (i.e., 4%), it concerned a reliable effect in the expected direction ( $RCI > 1.96$ ), that is, an increase in CFAS adjustment (i.e., meaningful change) over time.

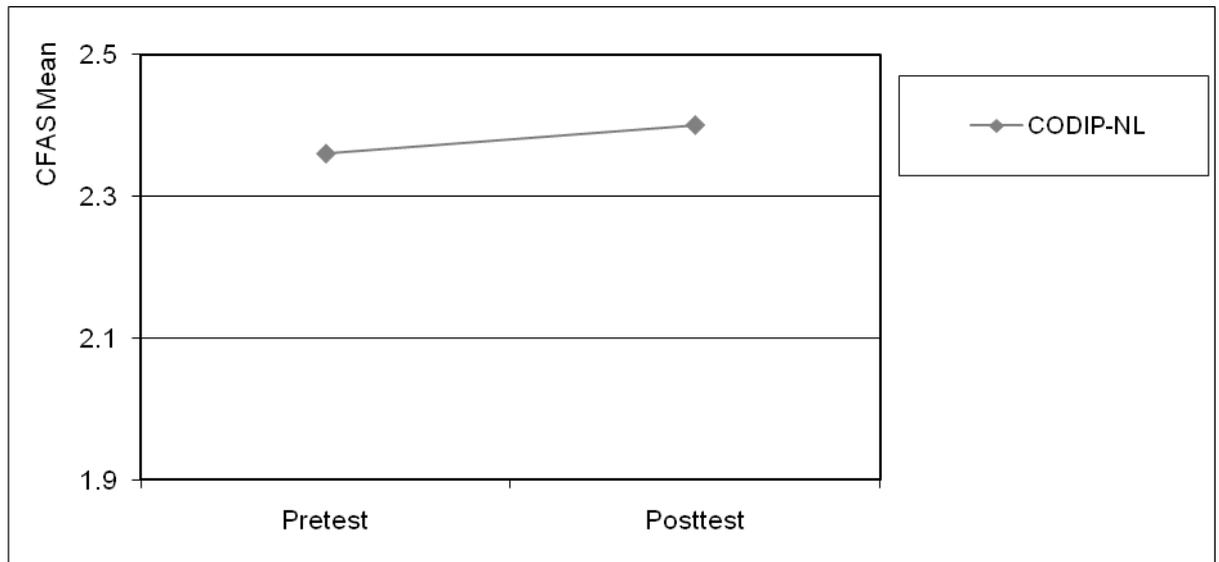


Figure 4.1: Average pre- and post-test Child Family Adjustment Scale (CFAS) scores of CODIP-NL pilot study participants ( $n = 23$ ).

CFAS scores were irrespective of children's sex or age: No differences were found between CFAS pretest scores for boys ( $n = 11$ ,  $M = 2.45$ ,  $SD = 0.22$ ) and girls ( $n = 12$ ,  $M = 2.26$ ,  $SD = 0.35$ ;  $p = .14$ ), and the same held true at the posttest ( $M_{boys} = 2.41$ ,  $SD_{boys} = 0.27$ ;  $M_{girls} = 2.40$ ,  $SD_{girls} = 0.31$ ;  $p = .91$ ). Correlations between average CFAS scores and child age ( $r_{pretest} = -.24$ ;  $r_{posttest} = -.05$ ) were statistically non-significant (two-sided  $p > .05$ ).

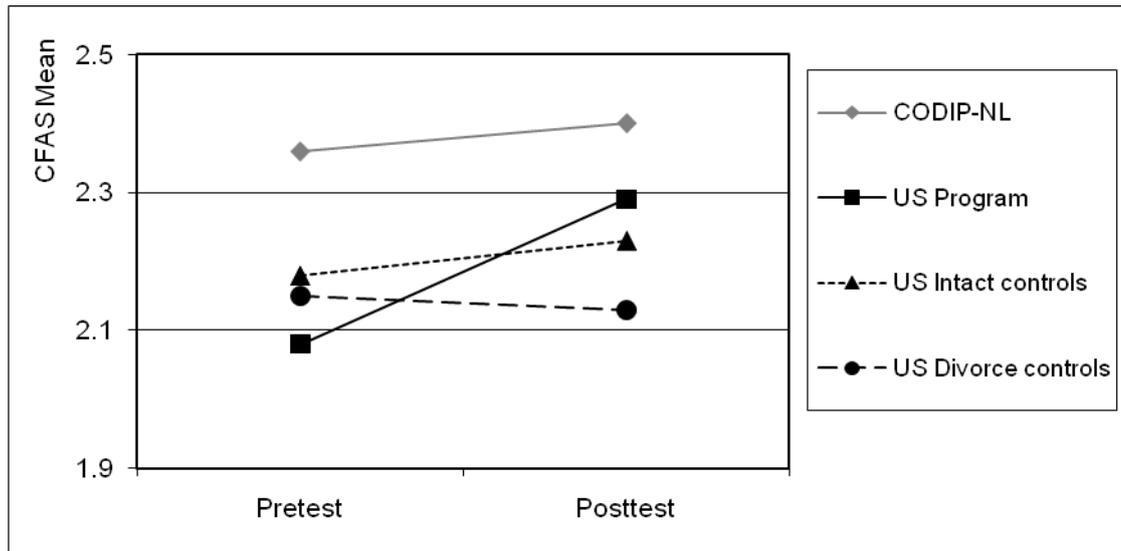


Figure 4.2: Average pre- and post-test Child Family Adjustment Scale (CFAS) scores of CODIP-NL pilot study participants ( $n = 23$ ), and US comparison groups (Alpert-Gillis, Pedro-Carroll, & Cowen, 1989).

Figure 4.2 compares the Dutch CFAS scores with results of children in previous research in the US (Alpert-Gillis et al., 1989). It shows that children in the current study start at higher levels ( $p < .05$ ) than US children participating in CODIP (US Program) and than US children from intact families (US intact controls) or from divorced families but not participating in CODIP (US divorce controls). Recall that higher scores indicate higher child adjustment.

In the US, a strong time effect was found for the US program group ( $d = 0.87$ ; compare:  $d = 0.22$  for US intact controls, and  $d = -0.08$  for US divorce controls respectively). Dutch posttest scores statistically resembled scores of children participating in the program in the US study ( $p = .12$ ), but still statistically significantly exceeded those of US children from intact families and divorce controls in that study ( $p < .05$ ).

#### Parent-reported child adjustment

Figure 4.3 depicts the pre- and posttest PEF scores reported by mothers ( $n = 20$ ) and fathers ( $n = 13$ ) of children participating in CODIP-NL. No significant differences existed between mother- and father reported child adjustment. However, non-responses was higher for fathers than for mothers. From hereof, we therefore primarily focus on the more complete maternal reports ( $n = 20$ ).

Pre- and post-test PEF scores reported by mothers were irrespective of child sex (two-sided  $p > .10$  in all cases). Pretest PEF scores tended to be somewhat lower for older children,  $r_{pretest} = -.40$  ( $p = .06$ ). However, the pretest as well as posttest associations between PEF-scores and child age were statistically non-significant at the  $p < .05$  level ( $r_{posttest} = .34$ ,  $p = .15$ ).

Increases in PEF scores reported by mothers were not statistically significant,  $t(19) = -1.64$ ,  $p = .12$ ,  $d = 0.39$  (see Table 4.2). In addition, no child held a positive reliable effect (i.e.,  $RCI > 1.96$ ) on the mother-reported PEF.

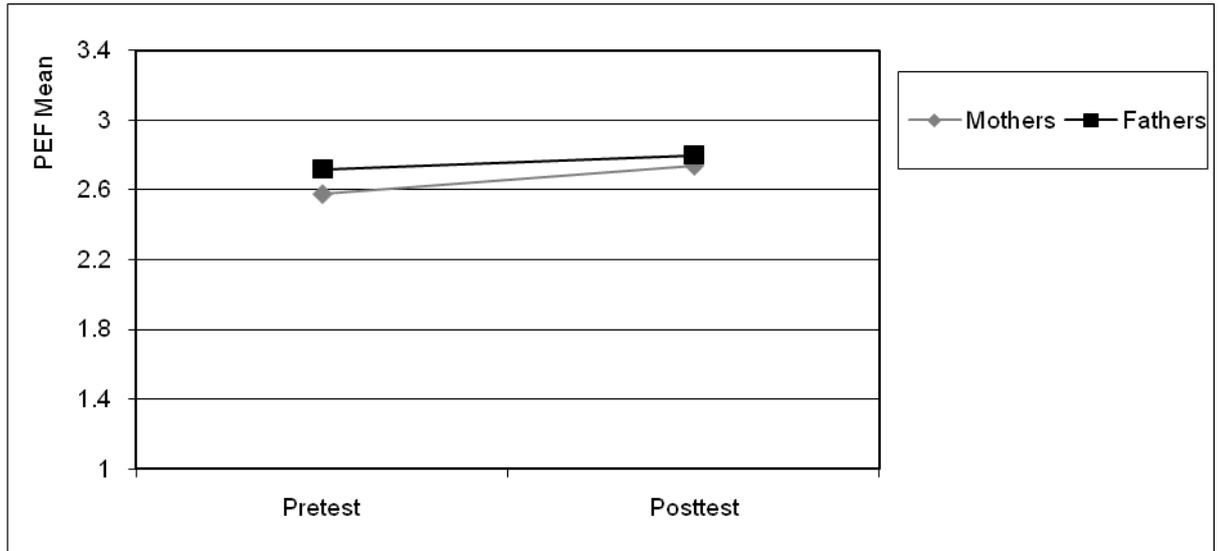


Figure 4.3: Average pre- and post-test Parent Evaluation Form (PEF) scores of CODIP-NL pilot study participants, as reported by mothers ( $n = 20$ ) and fathers ( $n = 13$ ).

Figure 4.4 compares the Dutch PEF scores (as reported by mothers) with results of children in previous US research (Alpert-Gillis et al., 1989). At the pretest, American parents of children participating in CODIP (US Program) scored their children's adjustment significantly lower than Dutch mothers did,  $p = .04$ . Dutch scores statistically resembled those of the US Intact ( $p = .78$ ) and Divorce controls ( $p = .22$ ).

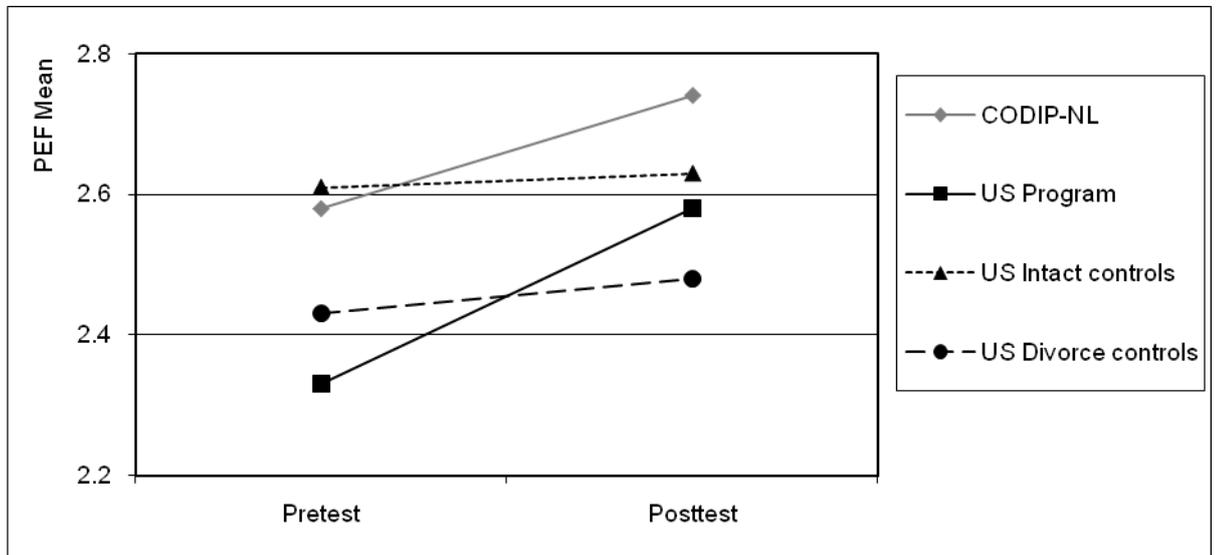


Figure 4.4: Average pre- and post-test Parent Evaluation Form (PEF) scores of CODIP-NL pilot study participants ( $n = 20$ ; mother-report), and US comparison groups (Alpert-Gillis, Pedro-Carroll, & Cowen, 1989).

In the US, CODIP had resulted in a medium effect on PEF scores,  $d = 0.64$  (compared to  $d = 0.06$  and  $0.12$  for US intact and divorce controls respectively). At the posttest, scores of the Dutch program group still exceeded those of the US

Divorce controls ( $p = .01$ ), but showed no statistically significant difference with those of the US Program ( $p = .11$ ) as well as Intact controls ( $p = .23$ ).

Besides child adjustment as measured with the Parent Evaluation Form, mothers reported on their daily hassles and on child behavioral problems (SDQ). Table 4.2 displays the mean scores and standard deviations of the pre- and posttest adjustment scores (scored by mothers), differences between pre- and posttests, as well as the results of the paired  $t$ -tests.

Table 4.2: Paired  $t$ -test results on the pre- and posttest differences of adjustment measures rated by mothers.

Measure	N	Pretest		Posttest		Diff. post-pretest		RCI >1.96		df	p
		M	SD	M	SD	M	SD	n (%)	t		
PEF	20	2.58	.46	2.74	.35	0.15	0.41	0 (0)	-1.64	19	.12
Daily Hassles	18	2.63	.43	2.49	.30	-0.13	0.37		1.50	17	.15
SDQ:	20										
Emotionality		3.95	2.59	3.40	2.56	-0.55	1.88		1.31	19	.21
Conduct problems		3.25	3.06	2.40	1.73	-0.85	2.46		1.55	19	.14
Hyperactivity		4.30	2.79	3.65	2.39	-0.65	2.03		1.43	19	.17
Peer problems		2.30	1.98	2.10	2.29	-0.20	1.88		0.48	19	.64
Prosocial behavior		8.05	2.16	8.25	1.92	0.20	1.58		-0.57	19	.58
Total difficulties		13.80	7.17	11.55	6.53	-2.25	4.94		2.04	19	.06

Abbreviations: Diff. post-pretest = Difference from pre- to posttest, PEF = Parent Evaluation Form, SDQ = Strengths and Difficulties Questionnaire.

No pre- and posttest difference in mothers' daily hassles was found ( $M = -0.13$ ,  $SD = 0.37$ ,  $p = .15$ ;  $d = 0.38$ ). Mother-reported total problems children (SDQ Total difficulties) tended to decrease after child participation in CODIP-NL ( $M = -2.25$ ,  $SD = 4.94$ ,  $p = .06$ ; i.e., a small effect,  $d = 0.33$ ). The mean score for SDQ Total difficulties at the posttest was just below the clinical cut-off of 12. None of the differences in adjustment scores between the pre- and posttest was found to be statistically significant ( $p > .05$ , 2-sided).

The 13 paternal scores of SDQ total difficulties remained stable between the pretest ( $M = 10.46$ ,  $SD = 5.71$ ) and posttest ( $M = 10.46$ ,  $SD = 8.08$ ). Note that the average father-reported SDQ Total difficulties lay below the clinical cut-off of 12.

### Trainer-reported child adjustment

Trainer-reported child adjustment increased between pre- and posttest ( $M = 0.46$ ,  $SD = 0.49$ ), see Table 4.3. The pre- ( $M = 2.60$ ,  $SD = 0.37$ ) and post-test ( $M = 3.07$ ,  $SD = 0.53$ ) GLEF overall adjustment scores were irrespective of child sex ( $p = .91$  and  $p = .50$  at the pre- and posttest respectively). Besides, associations with child age were non-significant at the pretest ( $r = .15$ ,  $p = .49$ ) as well as posttest ( $r = -.27$ ,  $p = .21$ ).

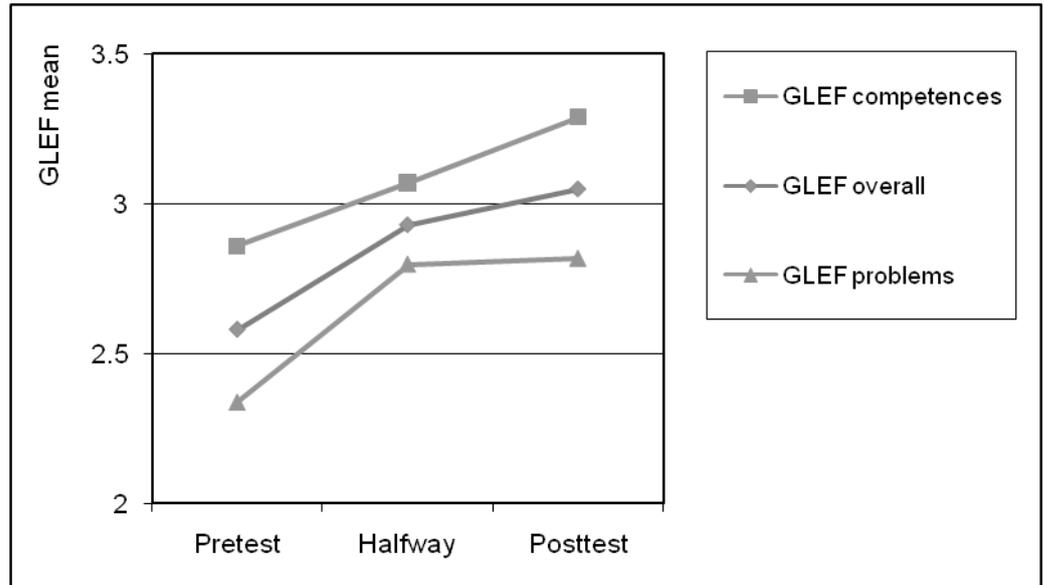


Figure 4.6: Average pre- and post-test competences, problems and overall Group Leader Evaluation Form (GLEF) scores of CODIP-NL pilot study participants, as reported by the trainers ( $n = 22$ ).

Figure 4.6 represents the trainer reports for child adjustment on 22 of the 23 participating children. Scores after Session 4, 8, and 15 are displayed, for the overall adjustment score, as well as children’s competences and problems scores respectively. The after Session 8 and 15 (halfway and posttest) scores all statistically significantly exceeded the pretest scores (i.e., after Session 4). A total of 14 children (61%) showed a reliable, positive effect on the overall GLEF ( $RCI > 1.96$ ).

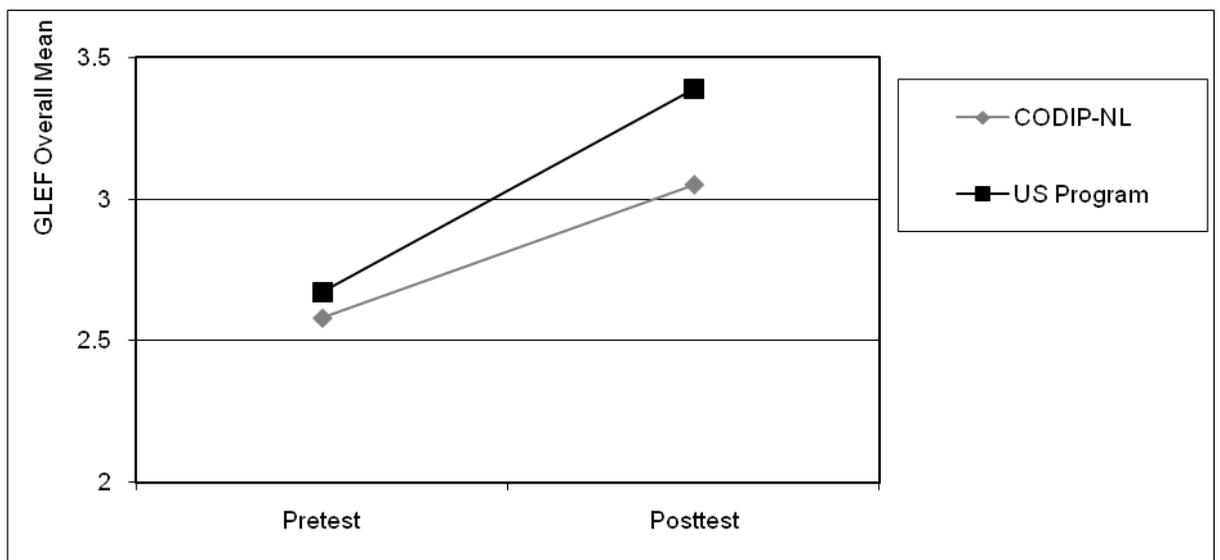


Figure 4.7: Average pre- and post-test Group Leader Evaluation Form (GLEF) overall scores of CODIP-NL pilot study participants ( $n = 22$ ), and US CODIP group participants (Alpert-Gillis, Pedro-Carroll, & Cowen, 1989).

Figure 4.7 compares GLEF results of the current study to those found based on trainer reports in previous US research (Alpert-Gillis et al., 1989). For both groups, pretest scores represent scores after Session 4, and posttest scores represent scores after the last intervention session. It shows that children in our study start off at the same level as US children participating in CODIP ( $p = .40$ ). However, at the posttest, US scores significantly exceed the Dutch scores. So despite the noteworthy increase in adjustment scores in our study ( $d = 1.03$ ), the American children appeared to exceed this progress as reported by the CODIP trainers ( $d = 1.44$ ).

Table 4.3: Paired  $t$ -test results on the pre- and posttest differences of adjustment measures rated by CODIP-NL trainers.

Measure	Pretest			Posttest		Diff. post-pretest		RCI > 1.96	$t$	$df$	$p$
	$N$	$M$	$SD$	$M$	$SD$	$M$	$SD$	$n$ (%)			
GLEF	23	2.60	.37	3.07	.53	0.46	0.49	14 (61)	-4.55	22	.00
SDQ:	22										
Emotionality		4.00	2.33	2.14	1.75	-1.86	3.00		2.92	21	.01
Conduct problems		1.09	1.57	0.64	0.85	-0.45	1.50		1.42	21	.17
Hyperactivity		3.14	3.40	2.82	3.40	-0.32	2.51		0.59	21	.56
Peer problems		3.55	2.13	2.18	2.20	-1.36	2.44		2.62	21	.02
Prosocial behavior		5.41	2.67	6.50	3.19	1.09	2.49		-2.06	21	.05
Total difficulties		11.77	6.51	7.77	5.94	-4.00	7.41		2.53	21	.02

Abbreviations: Diff. post-pretest = Difference from pre- to posttest, GLEF = Group Leader Evaluation Form, SDQ = Strengths and Difficulties Questionnaire.

In addition to the GLEF, trainers filled out the SDQ TF. As can be seen in Table 4.3, after participation in CODIP-NL significant decreases in emotional symptoms ( $M = -1.86$ ,  $SD = 3.00$ ), peer problems ( $M = -1.36$ ,  $SD = 2.44$ ) and total difficulties ( $M = -4.00$ ,  $SD = 7.41$ ) were found, as reported by the CODIP-NL trainers. Also, children tended to show more prosocial behavior ( $M = 1.09$ ,  $SD = 2.49$ ) after participating in the program.

Pre- and posttest trainer-reported SDQ scores were not significantly associated with child age ( $p > .05$ ). Boys did score higher on hyperactivity than girls did. This held true for both the pre- ( $t(21) = 2.18$ ,  $p = .04$ ) and posttest ( $t(20) = 2.53$ ,  $p = .02$ ). Except for hyperactivity, trainer scores for boys' SDQ problem behavior did not differ significantly from that for girls.

## 5 Discussion and conclusion

This report described the translation and adaptation of CODIP for 6 to 8 years old children to the specific characteristics of Dutch intermediate and end users. In 2010, a pilot study was conducted - in collaboration with GGZ Rivierduinen en GGZ De Jutters - to study this adapted module 'CODIP-NL' in the Dutch setting. Twenty-three children participated in four first pilot groups on the intervention. Children, parents and trainers filled out questionnaires about satisfaction with the intervention as well as on child functioning. Dutch results were compared with US results to test the feasibility of replicating the positive effects of CODIP as proven in previous US research.

Pilot study results showed that nine out of every ten children liked the program and/or regarded the group as a safe place to discuss feelings. Eighty percent of the children had made friend and/or found new way to solve problems. Child perceptions of their own adjustment were high, but did not increase over time. Dutch posttest scores equaled those of US CODIP program participants and were higher than those of control groups from US research.

Parents, themselves in many cases having depressive symptoms, were also enthusiastic about CODIP-NL. Eight in every ten parents had perceived positive responses of their child to the intervention, and seven in ten parents found that their child was positively changed by the intervention. Comparison of mother-reported child positive functioning scores of the pre- and posttest revealed a small but statistically non-significant increase. The increase in mother-reported child functioning was smaller than the increases reported in US studies among children participating in CODIP. Father-reported child adjustment data (only available on 57% of the children) did not show any significant differences between pre- and posttest.

Finally, trainers of the first four pilot groups reported that they liked working with the program. Moreover, the results of their questionnaires revealed strong effects of the intervention on positive functioning of the children (increased) and on total behavioral problems (decreased). Sixty-one percent of participating children showed a meaningful increase in their overall functioning as reported by their trainer.

Little child age and sex differences were found in our results. Boys scored higher on pre- and posttest teacher-reported hyperactivity. Older children tended to score lower on pretest mother-reported child adjustment. Except for these associations, child adjustment scores were irrespective of child age and sex.

We feel that we managed to accomplish our study objectives. In accordance to these objectives, output of this project consists of:

- A translated and adapted CODIP module for grades 2 and 3 attuned to intermediate users (trainers) as well as end users (participating children of divorce) in the Dutch population. This includes a module for training trainers, as well as attractive manuals and materials for the group trainers and children in this particular age group.

- Information on the feasibility of introducing CODIP in the Netherlands. This entails results of a process evaluation as well as information on program satisfaction, and attractiveness and acceptability of the CODIP-NL module as reported by intermediate and end users.
- Reports on progression of participants in the four support groups of the pilot study. This entails results on child adjustment and behavioral development, based on parent, trainer and child report. We found modest but promising first results based on these reports that participation in CODIP-NL can lead to higher child adjustment scores.

The current study was limited because of the size of the sample and the lack of Dutch comparison groups. The power of some statistical analyses may be inadequate. For instance, the increase in mother-reported child adjustment scores in our study did not reach significance. However, the difference between pre- and posttest scores corresponded to an effect size of  $d = 0.39$ . A sample that was 2.3 times larger ( $n = 53$ ) than the current sample ( $n = 23$ ) and showed the same mean pre- and posttest scores would have resulted in a significant difference in adjustment scores over time. Alike, a sample that was 3.3 times larger ( $n = 75$ ) with the same mean pre- and posttest scores would have resulted in a significant decrease of mother-reported SDQ total difficulties over time. Still, we found significant positive outcomes based on trainer-reports, and a converging trend for mother-reports on the SDQ.

No Dutch control group was available in this study, and no independent informants were consulted that were blind to child participation in CODIP-NL. However, we purposely chose this design for this first feasibility study. Klein Velderman et al. (2007) suggested to start with a feasibility study before investing in dissemination, of what is later found to be a badly fitting program. Veerman and Van Yperen (2007) stated that randomized controlled trials may be premature and thus unnecessary when conducted on interventions that are not yet fully developed or interventions that have yet to be accepted into actual practice. We believe that our precise approach with an explicit focus on translation and adaption of the initial program, pays back the investment once it comes to the actual implementation in Dutch practice. Based on our findings, we can more optimally anticipate possible implementation problems at that later stage.

We feel that this study constitutes the base for a future randomized controlled trial into the effects of CODIP-NL in the Dutch setting. This feasibility study has proved that the introduction of this module in the Netherlands is feasible, and that it is likely that we can replicate some of the positive effects of the module as found in the US. Meanwhile, the gap regarding interventions for young children of divorce in the Netherlands has not been solved. In this study, CODIP-NL has proven to be a promising direction for future intervention in this domain.

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