In order to examine the effectiveness of the parenting support program Home-Start, self-reported and observational data were collected. This was carried out in two waves, using data from 54 mothers and their children, aged between 1.5 and 3.5 years, who participated in this early intervention program for six months. These data were compared with 51 comparison families who reported equal amounts of stress and need for support. The results show significant improvements in parental well-being (an increase in perceived parenting competence and diminished depressive moods), in parenting (an increase in positive parenting and a decrease in negative parenting behaviors), and a decrease in child behavior problems at the second measurement. However, some of the improvements (child behavior problems) occurred in both groups, and, therefore, are not attributable to Home-Start.

4.1 Introduction

Parenting in families with preschool children is not easy: young parents sometimes feel overwhelmed by their role as mother or father and feel that the changes and demands associated with the parenting role go beyond their resources (Mulsow et al., 2002). Some parents feel unable to cope with the demands placed upon them (McKelvey, Fitzgerald, Schiffman, & Von Eye, 2002) and parental well-being may diminish. Low parental well-being can have a disruptive effect on the family system and parenting, and can result in less supportive and more punitive parenting behavior (McKelvey et al., 2002; Mertesacker, Bade, Havercock, & Pauli-Pott, 2004), that negatively influences child development (Papp et al., 2004). Diminished maternal well-being is associated with a broad range of negative child outcomes, such as internalizing behavior problems, and aggressive and disruptive behavior (Black et al., 2002;
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Hay et al., 2003; Olson, Ceballo, & Park, 2002. The degree to which mothers experience parenting as difficult and unsatisfactory is one of the most important contextual factors for the well-being of children (Östberg & Hagekull, 2000). Although parental well-being and parenting behavior are influential throughout development, their effects are possibly most pronounced during infancy and preschool years. Research has shown that the first five years of life are of crucial importance for the development of a sense of emotional security and the acquisition of self-regulating skills (Repetti, Taylor, & Seeman., 2002). Parenting styles during this period which consist of little positive parenting behavior towards the child, lack of supervision and monitoring of the child’s activities, inconsistency, physical abuse, a harsh and inconsistent discipline style, or a lack of positive parental involvement (that is, emotional and cognitive support of the child) are related to the development of antisocial behavior and to social rejection, academic failure, and membership of deviant peer groups later in life (Capaldi & Patterson, 1991; Ehrensaft et al., 2003; Patterson, et al., 1989; Stormshak et al., 2000). In conclusion, disadvantages during the preschool period can have lasting effects on the child’s development and well-being in later life.

As a consequence of the awareness that the first five years of life are of large importance for further child development, several initiatives for early intervention have been developed in order to counter these possibly negative effects. Early intervention programs are designed to support developmental progress in families with young children. The long-term goal is the prevention of family dysfunction and behavioral problems in later developmental periods (Barnes, 2003; Osofsky, 1998). Despite sharing goals, early intervention programs differ substantially with regard to their approaches. There are differences in target (parents or children); timing of intervention (during pregnancy or during the preschool period); administration of the intervention (professionals or volunteers) and focus (family functioning or child problem behavior) (Fonagy, 1998). The category of early intervention programs that is the focus of the current study is parenting support programs. Parenting support programs aim to improve family functioning by supporting parents. Some programs attempt to achieve this by providing social support, which is supposed to have a buffering effect against adverse circumstances (Ceballo & McLoyd, 2002; Hakulinen, Laipalla, Paunonen, & Pelkonen, 1999; Hashima & Amato, 1994). In social support parenting interventions it is assumed
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that, through providing social support, one may influence a parent’s sense of competence and feelings of self-efficacy and, in turn, parenting behavior. Systematic evaluations of family support programs showed modest and inconsistent effects on child outcomes and family functioning (Shonkoff & Phillips, 2000). Brooks-Gunn, Berlin and Sidle Fuligny (2000) reported some positive but mainly mixed findings with regard to the effectiveness of early intervention programs on parents. Some studies found effects on some areas aimed at by the intervention, but not on all. Seitz, Rosenbaum and Apfel (1985), for example, found improvement in parental initiative in involvement with their child’s schooling, but not for self-reported parenting practices; and some effects regarding school attendance, but none on child’s IQ. Connolly, Sharry and Fitzpatrick (2001) found a decrease in the problem behavior of children, but no changes in parental well-being.

Differences in outcomes can be explained by the considerable variability among intervention programs in a number of important dimensions, such as the age of children at the start of intervention, intensity and duration of service delivery, and the target population (Shonkoff & Phillips, 2000). Another cause of the inconsistent results might be found in the research designs of effectiveness studies (Brooks-Gunn et al., 2000). For example, most evaluations of parenting support programs in the Netherlands are based on the participants’ self-reports (Hermanns et al., 1997; Prinsen, Verhegge, & Ten Thije, 2002). These evaluations might be assessing clients’ satisfaction, or clients’ perceptions of parenting, rather than actual changes in parenting behavior and child development. Therefore, it seems informative to include both self-reported and observational data in order to look at effects on parenting behavior and, as a consequence of that, on the behavioral development of children. Brooks-Gunn et al. (2000) emphasized another methodological issue, by stressing that many early interventions lack rigorous, controlled evaluations. Studies examining the effectiveness of programs broadly available, in particular, often lack comparison groups (see for example Frost, Johnson, Stein & Wallis 1996; 2000, Taggart, Short & Barclay, 2000).

So far, the most promising results have been obtained with university-based, or – as Duggan and colleagues (Duggan, McFarlane, Fuddy, Burrell, Higman, Windham, et al., 2004b) called them – ‘demonstration’ programs, rather than with programs that have been broadly applied. However, it is often difficult to generalize such programs to applied settings. This is especially important given
that most effective programs are long lasting and intensive, and -as a consequence- often expensive and difficult to set up without additional funds or support. Therefore, these interventions have not been generally adopted (Taylor & Biglan, 1998).

In order to make sure that a program is effective in applied settings, it is necessary to evaluate parenting support programs that are already available for a broad public. A lot of parenting programs that are being used in practice have not been evaluated. In particular, family support programs that work with volunteers have not yet been broadly studied. The few studies on volunteers that have been carried out show mixed results and have often used small samples (e.g., Kelleher & Johnson, 2004; Rosenberg et al., 2002). Barnet, Duggan, Devoe and Burrell (2002) reported positive results for parenting outcomes, but not for parental distress and poor mental health. Johnson et al. (2000) reported improvements in parenting skills and maternal self-esteem. However, Rosenberg et al. (2002) found only few effects for a twice-a-month intervention for families with a child with special needs. Kelleher and Johnson (2004) also only found results for two of the eight outcome measures: namely access to social support and age-appropriate expectations of the child. Despite mixed results, a lot of volunteer-based parenting support programs have been developed, because it is a relatively low-cost and accessible family service. It is, therefore, also of crucial importance for volunteer-based programs to demonstrate their effectiveness.

The present study focuses on the Home-Start Program, one of the various programs designed to support mothers with young children. Home-Start was set up in the UK, but has spread all over the world. There are projects in Canada, Australia, Israel, Sri Lanka, and in several countries in Africa and Europe. Home-Start works with volunteers who support mothers once a week for half a day. Home-Start aims to prevent the increase of family problems and does so by providing social support, which is supposed to increase parental well-being and parental self-esteem. Increased parental well-being and self-esteem, in turn, is meant to result in more positive parenting behavior, with, as a consequence, a reduction in the problem behavior of children.

Since the aim of Home-Start is the prevention of family problems and psychopathology later in life, the important question is whether Home-Start indeed decreases acute problems in the families, improves parental well-being and parenting quality, and so prevents the development or increase of a child’s
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problem behavior. The first goal of the current study is to examine whether Home-Start improves maternal well-being. The second aim is to examine whether Home-Start leads to observable changes in the behavior of mothers or children. In order to assess changes in behavior objectively, it is necessary to observe parenting and child behavior pre- and post-intervention.

4.2 Method

4.2.1 Participants

The design of the study involved two groups of families: the intervention group (or Home-Start group) who received support from the Home-Start parenting support program, and a ‘need for support’ comparison group, which consisted of families with similar problems as the Home-Start families. The families in the intervention group (N = 54) were recruited through the coordinators of the Home-Start program. The ‘need for support’ comparison group (N = 51) was acquired through well-baby centers in a region where Home-Start was not yet available. One thousand parents with a child in the relevant age group were sent a short questionnaire assessing parental stress (Dutch version of Parenting Stress Index – short form) (De Brock, Vermulst, Gerris, & Abidin, 1992b). In addition, the following questions were asked: “Do you need support regarding parenting every now and then?” (Yes/No), “If this support were from a volunteer, coming three hours each week to support you, would you want to use this service?” (Yes/No), “How often do you find your child to be more difficult than other children?”. For the last question, there were four answer categories, varying from “hardly ever” (1) to “almost always” (4). Three hundred and seventy-three parents returned the questionnaire. From this large pool of families, the ‘need for support’ comparison group (N = 51), was selected. Inclusion criteria for the group were: (1) parental stress levels above the normed mean for non-clinical groups (M >/= 2.48), as assessed by the Parenting Stress Index, or, (2) at least two out of three positive answers to the additional questions.
Demographic characteristics of the Home-Start and comparison group are presented in Table 4.1. No differences between the groups were found in ethnicity, age of the target child, gender of the target child, number of children in the family, number of life events experienced in the past 12 months, educational level or health problems. However, Home-Start mothers were significantly younger than mothers in the comparison group \( (F (1, 103) = 9.10, p < .01) \) and were more often single parents \( (\chi^2 = 12.06, p < .01) \). Therefore in further analyses, age and marital status of the mothers were treated as covariate.

4.2.2 Home-Start: description of the intervention
Home-Start describes itself as: “An organization in which volunteers offer regular support, friendship and practical help to young families under stress in their own homes, helping to prevent family crisis and breakdown” (Frost, Johnson, Stein, & Wallis, 2000). Home-Start support is aimed at families, which experience difficulties with childrearing, with at least one child under the age of six
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(Hermanns, van de Venne, & Leseman, 1997). Home-Start is open to everyone, and families get in touch with Home-Start through health clinics, social workers, child protection and self-referral. All Home-Start volunteers attend a three-day training program in which they are taught to be supportive in a non-directive way. During the training, volunteers learn to apply the Home-Start protocol, which mainly consists of listening to the mother and providing whatever support mothers wish. Support has to be parent-directed, so the initiative has to come from the mother. Apart from this, volunteers receive supervision once a month and attend training days twice a year. The trained volunteers visit the families to give support in a non-directive, non-judgmental way. Home-Start is not aimed at children but at parents. Since mainly mothers participate in Home-Start, only mothers were included in this study. As in other parenting support programs, the aim of Home-Start is to prevent the increase of family problems by increasing parental self-esteem and strengthening the parent’s social relations (Terpstra & van Dijke, 1998). In the Netherlands there were 47 Home-Start locations in 2003, with a total of 840 volunteers who supported 1456 families (Galama & van Rij, 2004). The median period of support in 2001 was 6.3 months and a mode of 6.4 months (Galama, 2002).

The frequency of the visits of the volunteers depends on the mother’s needs and is on average once a week for 3-4 hours. Volunteers offer emotional support (e.g., listening to the mother’s problems and comforting her); instrumental support (e.g., giving clothes for the children, and bringing food); practical support (e.g., helping the mother with housework and childcare); informational support (e.g., helping mothers to find community services or to fill out forms). The intervention lasts as long as mothers feel they need it (the median duration is six months).

4.2.3 Procedure

For both groups (Home-Start and comparison), the recruitment procedure was as follows. When the research staff received the necessary information (name, address and phone number of the family), the family was contacted within a week, and the reasons for the study and the procedure were explained. After this short explanation parents were asked if they wanted to participate. If parents did not want to participate, the personal information was destroyed. For the parents who agreed to participate, an appointment for the first home visit was planned and the first questionnaire was sent. At the end of the visit an appointment was made for the
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second measurement, on average 6.8 (SD = .93) months (range 4.44 – 8.90 months) later. The mean number of visits completed by volunteers at measurement 2 (T2) was 21 (SD = 9.02) (range 6-36). Between measurement 1 (T1) and 2 (T2) three Home-Start mothers and one mother of the comparison group withdrew from the study. Reasons for withdrawal were that participation took too much time or that the mother decided eventually not to take part in the Home-Start intervention. There were no significant differences between mothers who dropped out and mothers who completed the Home-Start intervention.

4.2.4 Measures

Parental characteristics
Parental depressive mood was measured with the Parenting Stress Index -revised (Gerris et al., 1993). This scale consists of 9 items (e.g., “I often feel useless”), to be answered on a 6-point scale (1 = I disagree to 6 = I totally agree), alpha T1 .89; alpha T2 .88.

Parental self-esteem with regard to parenting (perceived parenting competence), was assessed with the Dutch version of the Parenting Stress Index (Abidin, 1983; De Brock et al., 1992a). This is a 13-item scale, alpha T1 .89; alpha T2 .87. The items (e.g. “I often have the feeling that I can’t really cope with things”) can be answered on 6-point scales (ranging from 1 = I disagree to 6 = I totally agree).

Parenting behavior: parental self-reports
Four aspects of parental childrearing and the quality of the parent-child relationship as perceived by the parents were assessed. The first aspect, responsiveness, was assessed with a subscale of the Nijmegen Parenting Questionnaire (Gerrits et al., 1993; Gerrits, Deković, Groenendaal, & Noom, 1996). This subscale consists of 8 items, to be answered on a 6-point scale (1 = I disagree to 6 = I totally agree). Parents were asked to indicate how much they agreed with statements such as: “I know what’s wrong when my child is having problems”, alpha T1 .83; alpha T2 .86. The second aspect, consistency was measured with the Parenting Dimensions Inventory (Slater & Power, 1987). The consistency scale consists of 8 items, alpha T1 .71; alpha T2 .74. Each item has to be scored on a 6-point scale (1 = I totally disagree to 6 = I totally agree) (e.g., “I only threaten punishment whenever I am sure I’ll eventually be able to execute the punishment”).
Third, rejection of the child was measured with a subscale of the Parenting Stress Index (Abidin, 1983; De Brock, Vermulst, Gerris, & Abidin, 1992a), alpha T1 .78; alpha T2 .75. This subscale consists of 12 items, such as “My child is so slow that it irritates me”. Again these items have to be scored on a 6-point scale (ranging from $1 = I$ totally disagree to $6 = I$ totally agree).

A fourth aspect of parenting behavior, the parental discipline style, was assessed with the Parenting Dimensions Inventory (PDI) – (Slater & Power, 1987). Parents were presented with six hypothetical situations describing child misbehavior, each followed by 8 possible parental reactions. For example: “Your child hits his/her friend after an argument. How probable is it that you would: talk with your child, ignore your child, hit your child, etc.”. Each reaction can be scored on a 4-point scale (0 = very improbable to 3 = very probable). With the PDI several disciplinary techniques can be assessed: permissiveness (alpha T1 .58; alpha T2 .54), induction (alpha T1 .70; alpha T2 .72), ignoring (alpha T1 .78; alpha T2 .88), love withdrawal (alpha T1 .84; alpha T2 .84), physical punishment (alpha T1 .81; alpha T2 .78) and exercise of power (alpha T1 .83; alpha T2 .84). The permissiveness scale was left out of further analyses due to low internal consistency. A factor analysis of these 5 scales resulted in a two-factor solution: negative control and positive control. Negative control, consisting of ignoring, love withdrawal, physical punishment, and exercise of power explained 42 % of the variance. Positive control, consisting of induction, explained 23 %. Therefore, for further analyses positive (alpha .70) and negative control (alpha .89) scores were used.

Parenting behavior: observational measure
During standardized home observations, mother-child play interaction was observed and videotaped. The task was as follows. A box of building blocks (Duplo) was used, with two little cars in it and a carpet of about one square meter in size. The observational task consisted of four subtasks: free play (2 minutes), building a tower (4 minutes), building a bridge (3 minutes), followed by cleaning up (pulling the blocks apart and putting them back in their box) (3 minutes). Mothers were asked to play with the child, as they usually would do. The blocks had to be kept on the carpet. Three trained observers coded the videotapes afterwards. A staff member who was experienced with these rating scales trained observers for approximately 3 months. Observers had about 25 hours of practice
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with videotapes, and established reliability of at least 80% with 25 pre-coded videotapes. The 1995 revision of the Erickson (Erickson, Sroufe, & Egeland, 1985) rating scales was used to code child behavior. The Erickson rating scales consist of the following subscales: supportive presence, hostility, intrusiveness, clarity of instruction and confidence to be assessed on a seven-point scale (Egeland, Erickson, Clemenhagen Moon, Hiester, & Korfimacher, 1990). Intra-class correlations ranged from .70 to .92 ($M = .85$). Principal-component analysis revealed a one-dimensional solution and explained 73% of variance, alpha T1 .92; alpha T2 .92. Therefore, the mean scores of maternal sensitive parenting were used for further analysis.

In addition to rating scales used to assess behavior in standardized setting, the Coder Impressions Inventory (CII) (Webster-Stratton, Spitzer, & Woolley-Lindsay, 1989) was coded immediately after the home visit. On this 81 item inventory, various aspects of parenting behavior can be indicated on 3 point scales, ranging from $1 = \text{did not occur}$ to $3 = \text{four or more examples}$. For example: “Parent used sarcasm in a denigrating or hurtful way”.

The observers had about 30 hours of training with videotapes and live observations with the Coder Impressions Inventory until an inter-observer agreement rate of at least 80% was achieved. The following parenting constructs of the CII were used in this study: harsh parenting, consisting of 12 items, alpha T1 .73; alpha T2 .75, represents negative and hostile parenting; parental warmth, six items measuring affectionate and warm parenting behavior, alpha T1 .82; alpha T2 .79.

Child problem behavior

Mothers were asked to report on their child’s problem behavior. Both internalizing and externalizing child problem behaviors were measured with the Dutch version of the Child Behavior Check List (CBCL/ 2-3) (Achenbach, 1992; Koot, 1993). The CBCL consists of 99 items to be answered on a 3-point scale ($0 = \text{not applicable}$, $2 = \text{often applicable}$). The CBCL includes a wide range of problematic behaviors, varying from whining and yelling to having difficulties falling asleep and showing no regret when hurting someone. These items are grouped into two scales: internalizing (25 items, alpha T1 .82; alpha T2 .80) and externalizing (26 items, alpha T1 .93; alpha T2 .91) problems.
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Child behavior in interaction with the mother
To measure child behavior, the 1995 revision of the Erickson (Erickson et al., 1985) rating scales was used: negativity, persistence enthusiasm, compliance, experience, affection and avoidance were assessed on a seven-point scale (Egeland et al., 1995). Intra-class correlations ranged from .88 to .92 ($M = .91$). Principal-component analysis revealed a one-dimensional solution that explained 79% of variance, alpha T1 .94; alpha T2 .95. This scale had positive loadings of persistence, enthusiasm, compliance, experience, affection and negative loadings on negativity and avoidance. Therefore, we labeled this scale cooperative child behavior and used this scale for further analysis.

Again, the CII (Webster-Stratton, Spitzer, & Woolley-Lindsay, 1989) was used to code the child’s behavior during the entire visit. The following scales were used: negativity, 8 items (alpha T1 .78; alpha T2 .78), which measures the amount of negative behavior such as aggressive or detached behavior and non-compliance, and prosocial behavior, 5 items (alpha T1 .77; alpha T2 .70), which indicates the amount of positive behavior: willingness to obey requests and positive affection towards the mother.

4.3 Results

The effects of the Home-Start intervention were examined on three outcome domains: parental characteristics, parenting behavior, and child behavior. To evaluate the changes over time for both the Home-Start group and the comparison group, we carried out a 2 (group: Home-Start versus comparison group) x 2 (Time: pre-treatment, post-treatment) repeated measures analysis of covariance, with age of the mother and marital status as covariates.

4.3.1 Parental characteristics
We hypothesized an increase in maternal well-being for the Home-Start group. Repeated measures MANCOVA revealed a significant group x time ($F$ (2, 94) = 3.78, $p < .05$, $\eta^2 = .07$), and time ($F$ (2, 94) = 3.30 < .05, $\eta^2 = .07$) effect. In Table 4.2 the means and standard deviations are presented.
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Table 4.2 Means and Standard Deviations for Parental Characteristics for Home-Start and Comparison Group Pre- and Post-Intervention

<table>
<thead>
<tr>
<th></th>
<th>Home-Start T1</th>
<th>Home-Start T2</th>
<th>Comparison T1</th>
<th>Comparison T2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressive Mood</td>
<td>3.19 (.16)</td>
<td>2.70 (.107)</td>
<td>2.43 (.93)</td>
<td>2.22 (1.40)</td>
</tr>
<tr>
<td>Perceived Competence</td>
<td>4.09 (1.00)</td>
<td>4.56 (.88)</td>
<td>4.67 (.70)</td>
<td>4.76 (.73)</td>
</tr>
</tbody>
</table>

Interaction effects were found for depressive mood ($F(1, 95) = 3.95, p = .05, \eta^2 = .04$) and perceived parenting competence ($F(1, 95) = 7.07, p < .01, \eta^2 = .07$), indicating that improvements were larger for Home-Start mothers than for mothers in the comparison group. A time effect was found for perceived competence ($F(1, 95) = 6.22, p < .05, \eta^2 = .06$), thus suggesting that, although largest for the Home-Start group, improvements in competence were found in both groups.

4.3.2 Parenting behavior

We hypothesized an increase in positive parenting behaviors, such as responsiveness, consistency, positive control, observed sensitivity and warmth, and a decrease in negative parenting behaviors, such as rejection, negative control and observed harsh parenting for the Home-Start group. Repeated measures MANCOVA revealed a trend towards a group x time interaction ($F(5, 89) = 2.15, p < .10, \eta^2 = .11$). No time effect was found for parenting behavior. Means and standard deviations are presented in Table 4.3.

Table 4.3 Means and Standard Deviations for Parenting Behavior for Home-Start Group and Comparison Group Pre- and Post-Intervention

<table>
<thead>
<tr>
<th></th>
<th>Home-Start T1</th>
<th>Home-Start T2</th>
<th>Comparison T1</th>
<th>Comparison T2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsiveness</td>
<td>4.96 (.77)</td>
<td>5.13 (.62)</td>
<td>5.02 (.59)</td>
<td>5.09 (.50)</td>
</tr>
<tr>
<td>Consistency</td>
<td>4.15 (.90)</td>
<td>4.54 (.82)</td>
<td>4.33 (.68)</td>
<td>4.37 (.80)</td>
</tr>
<tr>
<td>Rejection</td>
<td>2.05 (.90)</td>
<td>1.82 (.70)</td>
<td>1.59 (.39)</td>
<td>1.55 (.43)</td>
</tr>
<tr>
<td>Negative Control</td>
<td>.83 (.59)</td>
<td>.72 (.44)</td>
<td>.64 (.37)</td>
<td>.63 (.31)</td>
</tr>
<tr>
<td>Positive control</td>
<td>2.51 (.68)</td>
<td>2.72 (.45)</td>
<td>2.61 (.43)</td>
<td>2.73 (.40)</td>
</tr>
<tr>
<td>Observed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity</td>
<td>3.94 (1.10)</td>
<td>4.25 (1.04)</td>
<td>4.65 (.92)</td>
<td>4.83 (.86)</td>
</tr>
<tr>
<td>Harsh Parenting</td>
<td>1.50 (.38)</td>
<td>1.59 (.41)</td>
<td>1.30 (.26)</td>
<td>1.35 (.24)</td>
</tr>
<tr>
<td>Warmth</td>
<td>2.43 (.62)</td>
<td>2.43 (.60)</td>
<td>2.76 (.39)</td>
<td>2.79 (.32)</td>
</tr>
</tbody>
</table>

50
Separate analyses showed significant group x time effects were found for consistency ($F(1, 93) = 4.85, p < .05, \eta^2 = .05$) and negative control ($F(1, 93) = 4.06, p < .05, \eta^2 = .04$). The Home-Start group showed more improvement in consistency and a larger decrease in negative control than the comparison group. A trend towards group x time interaction was found for rejection $F(1, 93) = 3.03, p < .10, \eta^2 = .03$. Standardized observation showed a trend towards group x time interaction for sensitivity $F(1, 95) = 3.42, p < .10, \eta^2 = .04$), thus suggesting that Home-Start mothers showed more improvement in sensitivity during the observation than the need for support mothers. Non-standardized observation showed a time effect for both parental warmth ($F(1, 95) = 5.19, p < .05, \eta^2 = .05$) and for harsh parenting ($F(1, 95) = 5.34, p < .05, \eta^2 = .05$). Both parental warmth and harshness seemed to increase over time in all groups.

**4.3.3 Child Behavior**

Multivariate Repeated Measures Analysis of Co Variance (MANCOVA) did not show significant group x time interaction for mother-reported or observed child behavior problems $F(3, 94) = .38, p = \text{n.s.}$ or observed child behavior problems $F(3, 94) = 2.05, p = \text{n.s.}$.

<table>
<thead>
<tr>
<th></th>
<th>Home-Start</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother-Reported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing</td>
<td>12.01 (6.32)</td>
<td>9.71 (5.60)</td>
</tr>
<tr>
<td>Externalizing</td>
<td>21.24 (11.05)</td>
<td>17.58 (10.09)</td>
</tr>
<tr>
<td>Observed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperative Behavior</td>
<td>4.16 (.13)</td>
<td>4.37 (.17)</td>
</tr>
<tr>
<td>Negativity</td>
<td>1.88 (.65)</td>
<td>1.77 (.58)</td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>2.39 (.59)</td>
<td>2.56 (.50)</td>
</tr>
</tbody>
</table>

A significant time effect was found only for mother-reported child behavior problems ($F(3, 94) = 3.89, p < .05, \eta^2 = .11$), but not for observed child behavior. Means and standard deviations are presented in Table 4.4. Reports from the mothers suggest that both internalizing ($F(1, 96) = 7.31, p < .01, \eta^2 = .07$) and
externalizing problems ($F(1, 96) = 5.35, p < .05, \eta^2 = .05$) decrease within six months in all groups. A group x time interaction was found for child negativity ($F(1, 96) = 4.36, p < .05, \eta^2 = .04$) during non-standardized observations, which seemed to decrease more in the Home-Start group than in the comparison group.

The CBCL gives the opportunity to compare scores of participants with norm scores, which allows a categorization in the ‘clinical’ or ‘non-clinical’ range. At first measurement 35% of the Home-Start children scored within the clinical CBCL range. At measurement 2 there was a significant decrease ($\chi^2 = 6.56, p < .05$), although still 20% of children stayed within the clinical range. In the comparison group, there was no significant change in the percentage of children scoring within clinical range ($7\%$ at Time 1, 2% at Time 2; $\chi^2 = .07, p = \text{n.s.}$).

4.4 Discussion

The purpose of this study was to examine whether the Home-Start parenting support program leads to changes in well-being and perceived parenting competence, and whether these changes affected parenting or child behavior after six months of intervention. The study shows that positive changes in maternal well-being and self-reported parenting behavior have been achieved. Findings regarding observed parenting and mother-reported child behavior were less clear-cut.

Home-Start appears to influence maternal well-being, which changed in the expected directions: maternal depression decreased and maternal competence increased more for the Home-Start group than in the comparison group. The current study confirms and extends previous research in which mothers, after the Home-Start program, retrospectively reported increased well-being (Frost et al., 2000; Hermanns et al., 1997). This increase in well-being is probably due to social support provided by the volunteers. The volunteer might make the mother aware of her capacities as a parent and might strengthen the mother’s self-esteem. Changes in parental well-being were accompanied by changes in parenting behavior, thus suggesting that there are collateral changes within individuals across time: both well-being and parenting change. Possibly, volunteers taught positive parenting behaviors to the parents through modeling, or by discussing various parenting behaviors. Another explanation is that parents were able to use
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more positive parenting behaviors as a consequence of increased well-being. However, it is also possible that changes in well-being follow changes in behavior. The present study indicates that positive parenting behavior, such as consistency, increased in the intervention group, and that negative parenting behavior, such as rejection and negative control, decreased. The increase in positive parenting, as reported by the mothers, has been confirmed by observational data: maternal sensitivity during standardized observations increased after intervention. The positive results are in line with previous research indicating an increase of various positive parenting behaviors in intervention groups (McDonald Culp, Culp, Blankemeyer, & Passmark, 1998; Olds et al., 1999; Webster-Stratton, 1997).

Although significant group x time interactions were found for self-reported parenting behavior and for standardized observations, the interaction effects for the non-standardized observational data were not significant. A possible explanation for the differences between maternal judgment and standardized observations on the one hand, and non-standardized observations on the other hand, is that behaviors as observed during non-standardized observations are less comparable than mother reported behaviors and behavior observed during standardized observations are. Therefore, behavior observations during non-standardized observations might reflect different behaviors than the other two instruments. Another explanation is that mothers might not have been aware of the fact that they were observed during the non-standardized observation. Possibly, mothers have learned through this intervention about positive parenting and are now reporting it and showing it during standardized observations, whereas the non-standardized observations show daily practice.

A decrease in negative child behavior (mother-reported child behavior problems and observed child negativity) was expected for the Home-Start group (Patterson, Chamberlain, & Reid, 1982; Webster-Stratton, 1998). The results did indeed indicate a decrease in mother-reported child problem behavior and an increase in positive behaviors. However, as this effect was found for both groups, the changes cannot be attributed to the Home-Start intervention. No effects were found for the standardized observational data, but non-standardized observations (CII) of child negativity showed a trend towards greater improvement for Home-Start children. There are two issues worth noting here. First, contrary to our hypothesis, the decrease in mother-reported behavior problems is not larger in the
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Home-Start group than in the other group. Such findings are not unusual. Similar findings were reported by Webster-Stratton, Reid and Hammond (2001), who reported that parent reports of behavior problems improved for both intervention and control groups. A possible explanation is that improvements in child behavior might occur more slowly than improvements in maternal well-being and parenting behaviors, and therefore are yet to come. A certain amount of time might be needed before increased maternal well-being results in more positive parenting behaviors and before more positive parenting results in changes in child problem behavior. In order to detect a decrease in behavior problems a longer follow-up period might be needed. Another explanation for the fact that both groups show improvements is that the decrease of behavior problems might reflect a naturally occurring, developmental trend. In previous research, a decrease in behavior problems in non-clinical samples from the age of 3 has been reported (Crowther, Bond, & Rolf, 1981, in: Campbell, 1995). However, even though no significant group x time interactions were found, the current study does indicate a clinical effect. A significant number of children in the Home-Star group who scored in the clinical CBCL range at measurement 1, scored within the normal range at the second measurement.

However, despite the consistency between maternal reports of child behavior and standardized observations, during non-standardized observations a larger decrease of negativity for Home-Start children has been observed. Webster-Stratton (1997) reported comparable results (no group x time effects for CBCL, but significant group x time effects for behaviors assessed during non-standardized home observation). Possibly, the behavior as measured during non-standardized observations captures a different kind of behavior than the child’s behavior, which is assessed by the CBCL and standardized observations. Mathiesen and Sanson (2000) pointed out that child behavior under the age of three is still diffuse and undifferentiated. Therefore, behaviors of children shown during non-standardized observations, and any potential behavior changes identified by these observations, are strongly moment-dependent, whereas behaviors measured with the CBCL and behaviors assessed during standardized observations might be more stable.

Several limitations of this study should be noted. The first limitations concern the sample. The Home-Start group was quite heterogeneous. The sample consisted of families with different backgrounds, different problems of varying severity and
with different degrees of engagement with the program. Programs might function better for certain groups than for others (Gomby, 1999; Norr et al., 2003). However, due to a relatively small sample, we were not able to examine inter-group differences. On the other hand, finding a more homogeneous sample might diminish the generalizability of the research results, because one of the core aspects of Home-Start is that it is open to everyone, no matter what background or problems there are. The use of a relatively small sample size is a consequence of the choice we made to use several information sources. Many effectiveness studies are based on self-reported data. The aim of the current study, however, was to measure behavior changes rather than the participants’ satisfaction, therefore observational data of parent and child behavior were included in this study. Since this is an intensive method of collecting data, it was unfortunately impossible to have larger groups.

An important shortcoming to this study’s design is that the sample is not randomly allocated to the treatment or control groups. However, since this study examined a practice-based, already existing program, it was impossible, for practical reasons such as duration of the program, to withhold from families treatment that they had already decided to participate in. Nathan, Stuart and Dolan (2000) described the debate between randomized control trials (RCTs), which are preferred in science, and designs such as the one used in the current study. Their conclusion is that RCTs have greater internal validity, and are easy to replicate, whereas effectiveness studies without control groups, but with comparison groups, have greater external validity and are easier to generalize to practice. Nathan et al. (2000) concluded that the optimum results could be gained with a combination of the two approaches. We attempted to use such a mixture, and an acceptable solution was to select a comparison group with equal amounts of parenting stress and need for parenting support in a region where Home-Start had not yet been set up.

Notwithstanding these limitations, the current study extends previous research by indicating that Home-Start, a parenting support program which works with volunteers, is a promising intervention in the sense that it leads to enhanced maternal well-being and to more positive parenting behaviors. The hypothesized changes in maternal well-being have occurred within six months of intervention. The changes in maternal well-being are accompanied by changes in parenting behavior. Effects of Home-Start on child behavior problems may not yet be
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established. Possibly these changes are still to come, because some time is needed before increased maternal well-being will lead to more positive parenting behavior and to a decrease in child behavior problems.