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Child behavior and mother-child emotional availability in response to parent training program: moderators of outcome

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Abstract

The aim of this study was to assess changes in child behavior and mother-child emotional availability after mother’s participation in a parent training program, and to assess the role of various factors which might explain individual variability in these changes. After mothers had participated in the parent training program they reported less child externalizing behavior problems and less child internalizing behavior problems. The child’s preschool teacher also reported decreased child externalizing problems during the post-training assessment measure. Observational measures showed increased mother-child emotional availability. Post-training behavioral differences were found depending upon the child’s age, with greater changes in positive mother-child emotional availability and preschool teachers reports of decreased internalizing behavior for the older group of children, 4-5 years old. A decrease in child internalizing behavior was more prominent in families with more than one child.

Keywords: Parent training, child behavior, emotional availability, moderators.

1. Introduction

The development of child behavior problems has in numerous previous studies been shown to be associated with negative parenting practices (Lau, Rijsdijk, Gregory, McGuffin, & Eley, 2007; Mulvaney & Mebert, 2007) and negative parent-child interactions (Green, Stanley, & Peters, 2007; Pauli-Pott, Haverkock, Pott, & Beckmann, 2007). In order to improve parent-child interaction and to help parents engage in more positive parenting approaches, many parent training programs have been developed over the past several decades. Training program effectiveness research has shown that participation in these programs can lead to improvement in parent-child interaction and to a lessening of the child’s problematic behavior (Matsumoto, Sofronoff, & Sanders, 2007; Morawska & Sanders, 2006; Rapee, Kennedy, Ingram, Edwards, & Sweeney, 2005). In order to encourage positive parenting practices already in the early developmental period, various programs have been developed specifically for parents of very young children. These programs are especially meaningful for parents who are raising their first child, and who have not had previous experience with young children.

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In looking at the effectiveness of a parent training program it is meaningful to consider which aspects of the family and child might lead to greater improvement in the parent-child relationship and more positive child’s behavior as a result of the parent training. Previous studies have shown that the training results differ according to various demographic factors, such as the number of children in the family, the age of the child, the parent’s level of education, the family relationship status (Gardner, Connell, Trentacosta, Shaw, Dishion, & Wilson, 2009; Lundahl, Nimer, & Parsons, 2006; Stolk, Mesman, van Zeijl, Alink, Bakermans-Kranenburg, van IJzendorn, Juffer, & Koot, 2007). These studies emphasize the importance of examining and considering the importance of the child’s age and other aspects of the child and family, in order to be able to offer the parent the most appropriate and effective parent training program components.

The parent training program “Encouraging Child’s Emotional Development”, which is an adaptation of the Canadian program “Pathways to Competence” (Landy, 2002), was initiated for parents in Latvia in 2004. This program is designed for parents with children up to age 7, and is designed to encourage the child’s healthy emotional development, to improve the parent-child relationship and the child’s positive behavior. Studies in Canada have shown that after parents’ participation in the “Pathways to Competence” training program there was a significant decrease in the child’s aggressive behavior and improvement in the parent-child interaction (Landy, Menna, & Sockett-Dimarcio, 1997; Landy & Thompson, 2006). A previous study has shown differences between pre- and post-training group scores on emotional availability (Landy et al., 1997), a concept which includes the mother’s sensitivity, responsiveness to the child’s needs and ability to limit intrusiveness while playing with her child (Biringen, Robinson, & Emde, 2000). Until now it has not been examined if the parent’s participation in this training program also leads to a decrease in internalizing problems, nor has it been examined if the post-training changes are affected by specific demographic variables.

The aim of this study is to examine the changes in child behavior and mother-child emotional availability after mother’s participation in the parent training program “Encouraging Child’s Emotional Development” and to examine if the number of children in the family and the child’s age affect the degree of change.

2. Method

2.1. Participants

Sixty preschool children’s mothers, ranging in age from 20 to 42 years old \( (M = 30.32, \sigma = 5.14) \), who agreed to participate in the 10-week parent training program “Encouraging Child’s Emotional Development”, were included in the study. All of the mothers had completed high school and 85% had completed university education. The mother’s reported that the family financial situation was average or good, and all mothers were married and living with the child’s father. Also participating in the study were 60 preschool teachers who evaluated the child’s behavior in the preschool setting. The 60 children of these mothers were ages from 1, 5 to 5 years \( (M = 2.80, \sigma = 1.40) \), 60% girls and 40% boys.

2.2. Measures

**Child Behavior.** The Child Behavior Checklist for rating the behavior of 1,5 to 5-year-old children (CBCL/1,5-5; Achenbach, & Rescorla, 2000) was completed by the mothers, and the Caregiver-Teacher Report Form for ages 1,5-5 (C-TRF; Achenbach, & Rescorla, 2000) was completed by the preschool-teachers. The checklists were translated to Latvian with forward-back translation. The Internalizing (Emotionally/Reactive, Anxious/Depressed, Somatic Complaints, Withdrawn) and Externalizing (Attention Problems, Aggressive Behavior) problem behavior scales were used for this study. Respondents rate each item on a 3-point scale \( (0 = \text{not true}, 1 = \text{somewhat or sometimes true}, \text{and} 2 = \text{very true or often true}) \) and scores for individual items are summed. Internal consistencies (Cronbach’s \( \alpha \)) of the Internalizing and Externalizing Problem scales in the larger Latvian sample \( (N = 489) \) were .87 and .88, respectively. The internal consistencies of the Caregiver-Teacher Report Form Internalizing and Externalizing Problem scales in the Latvian sample \( (N = 130) \) were .81 and .91.
Mother-Child Emotional Availability. The Emotional Availability (EA) Scales, Infancy and Early Childhood Version, 4th edition (Biringen, 2008) was used to score the video tapings of the mother-child interaction. The Emotional Availability Scales consists of six scales: four scales refer to the parent’s behaviors (Sensitivity, Structuring, Nonintrusiveness, Nonhostility) and two scales refer to the child’s behaviors (Responsiveness, Involvement). Each of the EA scales is rated on a 7 point dimensional basis. For purposes of this study both the individual scale scores and the total Emotional Availability scores were used in the analysis. 25% of the video tapings were analyzed by a second independent coder, the scores of both raters were correlated and inter-rater congruence was found to be very good (Sensitivity $r = .95$, Structuring $r = .84$, Nonintrusiveness $r = .87$, Nonhostility $r = 1.00$, Responsiveness $r = .94$, Involvement $r = .96$ and Total EA $r = .96$).

2.3. Procedure

Families were recruited through internet advertisement to participate in the parent training program. The program involves 10 group sessions (2 hours each), and includes 10 steps/topics which cover important principles in regard to the child’s emotional development (e.g., temperament, secure attachment, body image, play, self-esteem, behavioral control, emotion regulation, problem-solving). A variety of training approaches are used including group exercises concerning parenting skills, discussions of parents’ childhood experience, self-care, and homework assignments. All sessions were conducted by trained group leaders. All mothers participating in the study attended at least 80% of the group sessions.

Both the child’s mother and preschool teacher evaluated the child’s behavior pre- and post-training. To observe mother-child interaction 20 mother-child dyads were videotaped in the home situation pre- and post-training. For 20 minutes the mother was asked to play with her child as she would normally, and for the next 5 minutes the mother was asked together with her child to put away the toys.

3. Results

The initial analysis involved a comparison (ANOVA) of the mother’s and teacher’s ratings of the child’s Internalizing and Externalizing behavior and the mother-child Emotional Availability ratings from the pre- and post-training measurement times (see Table 1).

Results show that after participation in the parent training program mother’s reported a decrease in the child’s internalizing and externalizing problem behavior, and the teacher’s reported a decrease in externalizing behaviors. After participation in the training program there was an observed increase in mother-child emotional availability – mothers were more sensitive, provided more positive structuring, were less intrusive, less hostile, and the child was more responsive and more involved in the mother-child interactions.

In order to examine the effects of the child’s age a comparison was made of pre- and post-training ratings separately for two groups: one group with children 1, 5 to 3 years old; another group with children 4 to 5 years old. Another analysis was made comparing ratings for families with only one child, in comparison to ratings for families with more than one child. These groups did not differ by mother’s age, education or child’s gender.

A repeated measures 2 X 2 ANOVA (one-child vs. more than one) × (pre- vs. post-training) was performed to assess the development of child behavior and mother-child emotional availability across pre-training and post-training assessments. In the mother’s report of child internalizing behavior the interaction of Sibling Status × Time was significant, $F (1, 60) = 6.39, p < .05$, partial $\eta^2 = .10$ (see Figure 1). Only mothers with more than one child reported decrease in child internalizing behavior, $t (23) = 4.71, p < .001$ after participation in the parent training.
Table 1. Child behavior and mother-child emotional availability ratings pre- and post-training in comparison (ANOVA)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-training</th>
<th>Post-training</th>
<th>F *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Child Behavior</td>
<td></td>
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<tr>
<td>Mother’s report:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Internalizing Behavior</td>
<td>12.38</td>
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<td>9.48</td>
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<tr>
<td>Externalizing Behavior</td>
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<td>7.21</td>
<td>13.37</td>
</tr>
<tr>
<td>Preschool-teacher’s report:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing Behavior</td>
<td>9.17</td>
<td>5.55</td>
<td>8.07</td>
</tr>
<tr>
<td>Externalizing Behavior</td>
<td>16.75</td>
<td>10.30</td>
<td>13.30</td>
</tr>
<tr>
<td>Mother-Child Emotional Availability</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mother’s Sensitivity</td>
<td>4.75</td>
<td>1.11</td>
<td>5.08</td>
</tr>
<tr>
<td>Mother’s Structuring</td>
<td>4.70</td>
<td>0.95</td>
<td>4.98</td>
</tr>
<tr>
<td>Mother’s Nonintrusiveness</td>
<td>4.45</td>
<td>1.01</td>
<td>5.20</td>
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<tr>
<td>Mother’s Nonhostility</td>
<td>5.95</td>
<td>0.78</td>
<td>6.20</td>
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<tr>
<td>Child’s Responsiveness</td>
<td>4.88</td>
<td>0.84</td>
<td>5.38</td>
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<tr>
<td>Child’s Involvement</td>
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<td>0.74</td>
<td>5.48</td>
</tr>
<tr>
<td>EA Total</td>
<td>29.90</td>
<td>4.60</td>
<td>32.23</td>
</tr>
</tbody>
</table>

* df = 1
* p < .05; *** p ≤ .001

Figure 1. Mother’s report of child internalizing behavior pre- and post-training for groups with one and with more than one child in the family

A repeated measures 2 X 2 ANOVA (Child’s Age Group) X (Time) was performed to assess the development of child behavior and mother-child emotional availability across pre-training and post-training assessments by child’s age group. In the preschool-teacher’s report of child internalizing behavior and in the mother-child emotional availability ratings the interaction of Child’s Age Group X Time was significant, $F (1, 60) = 4.37, p < .05$, partial $\eta^2 = .07$ and $F (1, 20) = 4.67, p < .05$, partial $\eta^2 = .21$, respectively (see Figure 2 and Figure 3).

Post-training changes regarding decrease in preschool-teacher’s report of child internalizing behavior, $t (20) = 2.57, p < .05$, and more positive mother-child emotional availability, $t (9) = -4.56, p < .01$, were found for the group of children 4-5 years old. The Emotional Availability ratings show that in the group with children 4-5 years old, after the training program mothers were more sensitive, $t (9) = -2.44, p < .05$, less intrusive, $t (9)= -6.49, p < .001$, less hostile, $t (9)= -3.00, p < .05$, and the children were more responsive, $t (9)= -4.00, p < .01$. 
4. Discussion

The results of this study show that after participation in the parent training program “Encouraging Child’s Emotional Development” mothers report a decrease in their child’s internalizing and externalizing behavior problems, and there is an observed increase in mother-child emotional availability. After participation in the parent training program mothers are more sensitive, less intrusive, and less hostile and their child is more responsive within the mother-child interaction. After the mother’s participation in the program also the child’s preschool teacher reports less child externalizing problems. These results are similar to those of Landy and colleagues (Landy et al., 1997) whereby after participation in the training program mother’s reported less child aggressive behavior and more positive mother-child interaction. However, this study shows in addition that there is a reported decrease in child internalizing behaviors and that not only mothers, but also preschool teachers report a decrease in child externalizing behavior problems in the post-training period.

The number of children in the family was shown to affect the post-training ratings in that within the group of families with more than one child there was significant decrease in mother reported internalizing problems, but not for families with only one child. This effect of the number of children in the family can be explained in that parents with more than one child have a greater responsibility load and therefore they may have less time to spend with each individual child. However, during the course of the parent training program the mothers become more aware of the importance of their interactions with each child individually, particularly the child who may be more sensitive and may be having emotional difficulties. As a result of the training program the mother has a heightened awareness of the child’s needs, she spends more time with this child, is more sensitive and positive in her interactions, and the child’s internalizing problems are lessened.
The age of the child was shown to have an effect upon the post-training ratings in that specifically for the group with children 4 – 5 years old (but not for the group with children 1, 5 – 3 years old) the preschool teachers reported a decrease in child internalizing problems, and there were observed more positive interactions on the mother-child Emotional Availability ratings. This effect of the child’s age upon changes in internalizing behaviors and mother-child interaction post-training can be addressed within the context of previous research concerning the gene X environment interaction in the development of internalizing problems (Derks, Hudziak, van Beijsterveldt, Dolan, & Boomsma, 2004; Lau et al., 2007). Previous research shows that genetic influences are most prominent in the earliest developmental period and that environmental influences such as the mother-child interaction become increasingly more apparent as the child develops. However, an aspect which needs to be explored in future studies is why this effect of the child’s age in regard to decrease in internalizing problems was apparent only for the preschool teachers’ ratings, but not for the mothers’ ratings. Mothers of children in both age groups reported a decrease in child internalizing problems post-training.

Mother-child emotional availability ratings were more positive post-training specifically for the group with children 4 – 5 years old, and these changes were most prominent regarding the non-intrusiveness scale. During the course of the parent training mothers are trained to follow the lead of their child, to follow the child’s initiative, to become more attuned to the child’s needs and rhythms. Apparently, these parenting skills within the play situation are increasingly important as the child develops, especially as the 4-5 year olds are more capable of initiating their own play scenarios, and it is increasingly important for the mother to learn to respect and follow the child’s creative endeavors. In turn, the mother’s greater ability to follow the child’s lead in the post Training period may also be critical to the child’s feelings of self-efficacy and self-assuredness, which is subsequently related to a decrease in internalizing problems, as seen in the preschool teacher’s child behavior ratings.

Among the limitations of the study need to be mention the relatively small number of research participants, especially in regard to the mother-child interaction home observations. It would be advantageous to compare pre- and post-training child behavior ratings and mother-child interaction home observations also within a control group in order to draw conclusions about the program effectiveness. Future studies are necessary to explore other possible variables influencing the training program effectiveness, such as the child’s temperament.

In summary, it can concluded that after mothers’ participation in the parent training program “Encouraging Child’s Emotional Development” both mothers and the child’s preschool teachers reported decreases in the child’s externalizing problem behaviors, and the mothers reported decreases in the child’s internalizing problems. Changes in mother’s report of decrease in internalizing problems were specific for families with more than one child. Mother-child emotional availability ratings increased specifically in the group with children 4 – 5 years old. The effect of the child’s age was also apparent in the ratings of the preschool teachers, who noted post-training decrease in the child’s internalizing problems within the 4 – 5 years old group. In general, this study points to positive changes as a result of the parent training program “Encouraging Child’s Emotional Development”.

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