Children of mentally ill parents. Effects of a therapy-integrated family intervention

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Keywords
Mentally ill parents · Behavioral family intervention · Triple P · Children · Evaluation

Summary
Background: Mental illness often involves stress and specific influences. Especially children of mentally ill parents experience additional stressors, such as increased parental conflicts, a disease-related inconsistent and dysfunctional parenting behavior and usually a less supportive environment. Because of this, the aim of this study is to examine whether an integration of the behavioral family intervention ‘Triple P’ reduces parental symptoms, such as depression, anxiety, and stress, as well as the child’s problem behavior and dysfunctional parenting behavior. Methods: The sample comprised a patient group (n = 22) and a healthy comparison group (n = 20). Results: Results show that mental health, dysfunctional and functional parenting, and child behavior improved significantly. Conclusions: In summary, the results underscore the relevance of the inclusion of a parenting-related intervention in an outpatient individual-psychotherapy setting in order to prevent family problems.

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Schlüsselwörter
Psychisch kranke Eltern · Behaviorale Familienintervention · Triple P · Kinder · Evaluation

Zusammenfassung
Hintergrund: Eine psychische Erkrankung bringt viele Belastungen mit sich. Insbesondere die Kinder psychisch kranker Eltern erleben zu den Entwicklungsaufgaben zusätzliche Stressoren, wie vermehrte elterliche Konflikte bis hin zur Scheidung, ein krankheitsbedingtes inkonsistentes und dysfunktionales Erziehungsverhalten und eine meist weniger unterstützende Umgebung. Ziel dieser Arbeit ist es, zu überprüfen, ob durch die behaviorale Familienintervention «Triple P» die Erziehungskompetenzen gefördert werden können, sodass sich die psychische Symptomatik, aber auch das kindliche Problemverhalten und das dysfunktionale Erziehungsverhalten verbessern.

Methodik: Die Stichprobe der Pilotstudie setzte sich aus einer Patientengruppe (n = 22) und einem gesunden Vergleichsgruppe (n = 20) zusammen. Eltern- sowie kindbezogene Variablen wurden vor und nach Abschluss der ambulanten Psychotherapie erhoben und mittels Varianzanalyse mit Messwiederholung analysiert.

Ergebnisse: Das dysfunktionale und funktionale Erziehungsverhalten sowie die psychische Befindlichkeit der Eltern und die kindlichen Verhaltensauffälligkeiten aus Elternsicht verbesserten sich signifikant.

Schlussfolgerungen: Die Ergebnisse unterstreichen die Relevanz der Berücksichtigung von Elternschaft und Erziehung in der ambulanten Einzelpsychotherapie, sodass dysfunktionales Erziehungsverhalten und damit auch kindliches und familiäres Problemverhalten verbessert werden können.
Introduction

'T’m here so that Mama will get better again.’ This quote could have come from many children who live with a mentally ill parent [www.kjf-augsburg.de]. Among the many stressful situations that can impact children as they grow up, the importance of mental illness in a parent has received increasing attention in recent years. As Lenz [2014] points out, the research comes to the unanimous conclusion that parental mental illness is a particular risk factor for maladaptive development and mental disorders of their children. In Germany, an estimated 3 million children are affected by a mental disorder of one or both parents [Mattejat, 2008]. These children have a 3- to 7-fold increased risk of developing an internalizing or externalizing disorder compared to the normal population [Wiegand-Grefe et al., 2009]. About half of all child and adolescent psychiatric patients have parents who suffer from a psychiatric illness, such as substance-related disorders or neurotic and somatoform as well as affective disorders [Mattejat and Remschmidt, 2008]. The effects on children can vary considerably depending on the type, severity, and progression of the parental disorder. Mattejat et al. [2000] formulated criteria for research projects on the psychosocial development conditions of children of mentally ill parents. These include the following: specificity of (the parental illness, child development, and psychosocial mediation processes), parental mental illness (e.g., classification, comorbidity, dimensions of the psychopathology), child’s development, theoretical model, study design and methodology, coping orientation, developmental psychopathology, and consideration of genetic and neurobiological factors. The available studies show that the younger the children are, the more serious are the effects of parental mental illness. Small children and kindergartners are a particularly high-risk group among children of mentally ill parents [summarized by Lenz, 2014].

Goodman and Gotlib [1999] review, in their integrative transmission model, the mechanisms by which mental illness is transmitted from one generation to the next. The model was developed to explain how maternal depression develops, but it is also applicable to other mental disorders. On the one hand, genetic factors and congenitally dysfunctional neuroregulatory mechanisms related to emotion regulation play a central role. In addition, disorder-related stressors such as conflicts between the partners and financial constraints have a negative effect on the healthy development of children. In addition, the children are exposed to the negative cognitions, behavior patterns, and affects of mentally ill parents, which in turn leads to increased vulnerability. As a recent study shows, participation in therapy and the treatment outcome of patients with anxiety disorders predict the psychopathology of children over the long term [Schneider et al., 2013]. Intergenerational effects of successful treatments of anxiety disorders are thus detectable.

Mentally ill parents especially differ from parents without psychiatric disorders in how positive their parenting is [Beelmann et al., 2007; Köttter et al., 2010], with a negative perception of their parental role [Köttter et al., 2010], less trust and confidence in their abilities to positively influence their children’s behavior [Hahlweg et al., 2008; Köttter et al., 2010], as well as altered needs for relationship and communication [Deneke and Lucas, 2008; Lexow et al., 2008]. As Griepenstroh et al. [2013] showed, mentally ill parents report more bad child-rearing and a stronger feeling of being overwhelmed than do mentally healthy parents. Many studies have shown, moreover, that parenting strategies that are closely connected with negative cognitions and affects are detrimental to the healthy development of children and the prevention of emotional, social, and behavioral disorders in childhood and adolescence [Nowak and Heinrichs, 2008].

A hospital stay is often perceived by mentally ill parents as a temporary relief from family and workaday life and thus also of sometimes stressful parenting responsibilities. On the other hand, the parents feel that psychiatric hospitalization is a strain on their children. In the study by Kölch et al. [2008], 80% of parents surveyed stated that their children were distressed by the hospitalization, and of these, 35% thought that the distress was strong or very strong. Parents who attend outpatient psychotherapy confront directly, in everyday life, the challenges of parenting and any disorders that the children may have. The majority of previously studied interventions, however, were child-centered and/or developed for inpatient settings [Deneke et al., 2008; Lenz, 2014].

A large proportion of mentally ill parents are worried that they cannot be good parents for their children. In everyday and especially in challenging parenting situations, they find it even harder than healthy parents to decide on appropriate parenting strategies, because of the stress imposed by their illness. Lenz [2014] summarizes the wishes and concerns of mentally ill parents with respect to support for their children. Among other aspects of patient education for the benefit of their children, they want support with parenting, emotional interaction with the children, shaping the parent-child relationship, psychotherapeutic services for children, and family leisure activities. This support can be given to mentally ill parents as part of a behavioral family intervention such as ‘Triple P – the Positive Parenting Program’ [Sanders, 2012] and, as Lexow et al. [2008] describe, can be used to excellent effect as an adjunct to therapy. Sanders and McFarland [2000], in a study of 47 depressed mothers and their children with behavioral problems, provided the first empirical evidence of the effectiveness of Triple P as a component of outpatient psychotherapy. The parental training significantly reduced the children’s problem behavior as well as the mothers’ scores on the Beck Depression Inventory. Furthermore, the parent’s feeling of competence increased significantly with regard to her own parenting skills, without any depression-specific interventions. Forehand et al. [2012] also established in a recent controlled study that in a parent-oriented intervention, both the mothers’ depressive symptoms and negative parenting behavior, as well as the child’s behavioral disorders, were reduced to a clinically significant extent.

To address the above-mentioned risk potentials, numerous and sometimes quite different interventions have been developed that make use of key protective factors. The majority of existing programs, however, are not the result of evidence-based efficacy studies, but are based on clinical experience in the context of project reports; controlled studies are comparatively rare. Meta-analyses show that preventive interventions for the children of mentally ill parents to make use of key protective factors.
parents may be effective, although not all studies demonstrated this [Siegenthaler et al., 2012]. Results from randomized controlled trials give an effect size of $g = 0.72$ [Christiansen et al., 2011]. It should be kept in mind here that mainly English-speaking studies have been done, in the USA, Australia, and the UK, and thus their cultural transferability is in question. Intervention studies for children of mentally ill parents receiving care can be implemented in an evaluation design with a waiting list control group, but without randomization. The family-oriented intervention program CHIMPS (Children of Mentally Ill Parents) [Wiegand-Grefe et al., 2011] is currently being reviewed in the context of a prospective pre-post design with 1-year follow-up. The initial results provide evidence for the effectiveness of the intervention, in terms of the coping abilities of mentally ill parents and improving the mental health of their children [Wiegand-Grefe et al., 2013a, 2013b]. The CHIMPS program can be used as an example with children of mentally ill parents for interventions that are classified under the model proposed by the Medical Research Council (MRC). The model describes the development of complex interventions, from theoretical development and conceptualization, through exploratory study designs and controlled studies, to final implementation [Craig et al., 2008; Wiegand-Grefe et al., 2011].

The present work, as a pilot study, should shed light on whether the Triple P behavioral family intervention in outpatient psychotherapy results in significant positive changes in 1) the parents’ psychological distress, 2) parenting behavior and parenting skills, and 3) assessment of children’s problem behavior in the patient group as compared to a control group of mentally healthy parents.

**Method**

**Study design**

Data were collected as part of the ‘Nicht von schlechten Eltern...! Gesundheits- und Entwicklungsförderung bei Kindern psychisch kranker Eltern’ (Not by bad parents...! Promotion of health and development in children of mentally ill parents) research study. Data were collected about the psychological distress of the parent, parenting, and the partner relationship, as well as the quality of life, behavioral disorders, and developmental level of the child. In selecting the children, age (2–10 years) was the deciding factor, such that the older child was selected from among several children in the household. In these family studies, each of the participants – the partners as well as the child – was interviewed, to give the most comprehensive picture of the family. In the present pilot study, these data about the partner and the child were not included, however, since this would have considerably reduced the sample.

The intervention group was recruited from the waiting list of the psychotherapy clinic of Technical University (TU) Braunschweig. Recruitment of the healthy control group was by flyers and notices at local schools, kindergartens, and TU Braunschweig. Since the exclusion criterion for the control group was a mental or severe somatic illness, a telephone interview was conducted beforehand, during which depressive symptoms were assessed using the PHQ-9 [Löwe et al., 2004] and anxiety by the GAD-7 [Spitzer et al., 2006]. The family was excluded from the study if there was an indication of strong psychological distress. Questions from the Structured Clinical Interview for DSM-IV, Axis I: Mental Disorders (SCID-I) [Wittchen et al., 1997] were also used to rule out participants from the control group who suffered from another mental disorder. All study participants received an expense allowance of EUR 50 per measurement. This work is a quasi-experimental longitudinal study with a ‘within-subject’ control group design.

**Sample**

At the beginning of the study, 50 participants were recruited, and each filled out the pre-survey package. There were 27 participants in the intervention group and 23 in the control group. The latter were recruited in order to assess any possible changes over the treatment period in the relevant variables in healthy families. Those in the experimental group had mental disorders such as depression, anxiety, and personality disorders. The analysis sample totaled N = 42 people, with 20 control group participants and 22 patients. The dropouts, due to change of residence and termination of therapy, comprised 5 patients and 3 control group participants.

The sample consisted of 35 women (83%) and 7 men. The age of the participants was between 25 and 50 years, with an average of 37 years (standard deviation (SD) 5.1 years). The children of the participants were an average age of 6 (SD 2.7; range 2 to 10 years). The gender ratio was approximately balanced, with 24 boys (57%) and 18 girls; 29 participants (70%) were married or lived in a registered partnership. Seven participants (17%) were single, and 6 (14%) of them said that they were separated or divorced. All participants were the biological parents of the child.

Since there was no randomization of the groups, t- and chi² tests were used to determine whether there were differences between the two groups at pre-test. As expected, there were significant differences in occupation ($X^2 \ (0.05; 4, N = 42) = 9.68$), use of parent counseling services ($X^2 \ (0.05; 1, N = 42) = 4.31$), and age of the child ($t \ (0.05; 40) = 2.34$). People looking for work were overrepresented in the patient group, and the children were older on average than the children in the control group. The higher rate of utilization of parent counseling in the patient group can be explained by the fact that the patients’ children had already shown more distinct behavioral problems than in the control group. The group differences and comparison of the socio-demographic data of the two groups are shown in table 1.

**Measures**

**Psychological distress of parents**

The psychological distress of the parents was assessed using the short form of the German translation of the Depression Anxiety Stress Scales (DASS-21) [Henry and Crawford, 2005]. A selection criterion for this measure was its better comparability with other evaluation studies of the Triple P approach. The 21-item scale measures, on 3 subscales, the current burden on the parents from depression, anxiety, and stress. Each subscale consists of 7 items that can be answered from 0 (not at all) to 3 (most of the time). The total score, which is determined by adding the 3 subscales, is thus the psychological burden. A large non-clinical sample had produced the following averages: for depression 2.83 (SD 3.87), anxiety 1.88 (SD 2.95), stress 4.73 (SD 4.20), and total 9.43 (SD 9.60) [Henry and Crawford, 2005]. Gloster et al. [2008], with a clinical sample of elderly patients, reported the following averages: for depression 8.92 (SD 8.34), anxiety 6.61 (SD 6.48), stress 14.30 (SD 9.80), and a total of 29.79 (SD 20.64). For the study sample, we found the following internal consistencies at pre-measurement: depressive symptoms α = 0.87; anxiety α = 0.79, and stress α = 0.92. The reliability of the total score was α = 0.94.

**Parental child-rearing behavior and parental perceived self-competence**

The ‘Erziehungsfragebogen’ (EFB: Parenting Scale) [Arnold et al., 1993; Naumann et al., 2010] was used to assess parenting behavior. It consists of 3 subscales ‘Overreactivity’ (authoritarian parenting behavior, display of anger and irritability), ‘Laxness’ (inappropriately permissive parenting behavior), and ‘Verbosity’ (overly long ranting and monologues). The EFB uses 35 2-pole items (effective vs. ineffective) to assess dysfunctional parenting styles in difficult parenting situations (e.g., ‘If my child behaves inappropriately, I do something about it immediately’ (= 1) vs. ‘... I will deal with it later’ (= 7)). The total score is mean of the items of the individual subscales. The questionnaire distinguishes between parents with clinically disordered or normal children. In the present study, we used the 13-item short form (EFB-K). There are currently no psychometric comparative data for the EFB-K. In the present sample, the inter-
Table 1. Socio-demographic data of the experimental (n = 22) and control groups (n = 20) and group differences

<table>
<thead>
<tr>
<th>Variable</th>
<th>EG</th>
<th>CG</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of participant</td>
<td>37.6</td>
<td>36.9</td>
<td>0.492</td>
</tr>
<tr>
<td>Age of child (in years)</td>
<td>7.1</td>
<td>5.2</td>
<td>2.34*</td>
</tr>
<tr>
<td>Number of siblings</td>
<td>0.86</td>
<td>0.95</td>
<td>0.315</td>
</tr>
<tr>
<td>Mothers</td>
<td>17</td>
<td>18</td>
<td>0.477</td>
</tr>
<tr>
<td>Fathers</td>
<td>5</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Girls</td>
<td>10</td>
<td>8</td>
<td>0.002</td>
</tr>
<tr>
<td>Boys</td>
<td>12</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Married participants</td>
<td>11</td>
<td>17</td>
<td>8.78</td>
</tr>
<tr>
<td>Not in the workforce</td>
<td>9</td>
<td>2</td>
<td>9.68*</td>
</tr>
<tr>
<td>Use of parenting counseling services</td>
<td>11</td>
<td>3</td>
<td>4.31*</td>
</tr>
<tr>
<td>Psychological treatment</td>
<td>18</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

EG = experimental group; CG = control group; M = mean; SD = standard deviation; n = frequency; t = t value. Psychological treatment does not apply to the CG, for which it is an exclusion criterion.

*p < 0.05.

Childhood behavioral disorders

In this construct, the strengths and weaknesses of the child from the parents’ perspective are assessed using the German version of the Strengths and Difficulties Questionnaire (SDQ) by Klasen et al. [2003]. The SDQ consists of 25 items that are answered from 0 (not applicable) to 2 (definitely applicable). There is a version for 2–4-year-old children and a version for children between the ages of 4 and 17. The appropriate form was used, depending on the age of the child. The items can be divided into 4 problem scales and the ‘prosocial behavior’ scale. Woerner et al. [2004] reported the following average subscale scores for the norming sample: emotional problems 1.53 (SD 1.8), behavioral disorders 1.82 (SD 1.6), hyperactivity 3.19 (SD 2.3), problems in interaction with peers 1.59 (SD 1.7), and prosocial behavior 7.55 (SD 1.9). The scores of these 4 subscales were summed to a total problem score of 8.13 (SD 5.3). There are cut-off scores for the individual scales and the total problem score, whereby the children can be assigned to the categories ‘normal’, ‘borderline’, or ‘abnormal’. The internal consistency at pre-measurement was α = 0.80.

Intervention

Triple P (Positive Parenting Program) is a preventive program for parents, to promote their child-rearing skills, which was developed in the 80s in Australia by Prof. Matthew Sanders with the aim of preventing emotional and behavioral problems of children and adolescents. Since its inception, the program has been further developed worldwide and linked up to theories on the acquisition of problem-solving skills as well as verbal and social skills and to social-cognitive learning theories [Sanders, 2012]. For an overview of the basics, the structure, specific parenting skills, and the evaluation, see Dirschler et al. [2011].

The standard Triple P is a single training program which consists of 8 to 10 units, conducted at weekly intervals. In this training program, parents with children between the ages of 2 and 10 are thoroughly introduced to the basics and ideas of Triple P. Various parenting and stress-reduction strategies are taught and practiced during the sessions (table 2). The content is developed using a demonstration video and a parent workbook. Worksheets are available for the practice exercises: The Triple P coaches have at their disposal the Training Manual [Markie-Dadds et al., 2006]. The therapists were all trained and accredited as Triple P coaches, in advanced professional psychology training (behavioral therapy). They followed the Triple P contents (table 2) and thus the themes ‘Parenthood and mental illness’ in the psychotherapy sessions, but it was up to them how frequently and intensively the subject of ‘parenthood’ was integrated into the sessions. Ideally the patients go through the content of all 10 Triple P units. Between the pre- and post-measurements, the patients received an average of 23 therapy sessions (SD 30, range 1–55). The study was approved by the relevant ethics committee (TU Braunschweig, Faculty Ethics Commission 2).

Statistical analyses

The data were analyzed using the IBM SPSS Statistics 20 program. All analyses had a significance level of α ≤ 0.05. To check whether the patient group differed from the control group in terms of the variables ‘psychological distress of parents’, ‘parenting behavior and parenting skill’ and ‘child behavioral problem’, a repeated measure analysis of variance was performed. The effect sizes of the intervention were calculated according to Cohen’s d, subtracting the intra-group effect sizes from one another (d = \text{d}_{\text{EG}} - \text{d}_{\text{CG}}; \text{d}_{\text{EG}} = \frac{\text{M}_{\text{pre}} - \text{M}_{\text{post}}}{\sqrt{\text{SD}_{\text{pre}} \times \text{SD}_{\text{post}}}}) [Rustenbach, 2003]. According to Cohen [1988], effect sizes from 0.20 to 0.39 are considered low, from 0.40 to 0.79 as moderate, and above 0.80 as high.

Results

Psychological distress of parents

The scores for depression, anxiety, and stress improved significantly during the course of the study (table 3). In the patient group, there was a significant reduction of psychological distress (DASS-21) after the behavioral therapy intervention, compared to the con-
On the subscale anxiety, there was a significant interaction effect ($F(1,34) = 5.57; p < 0.05; d = 0.76$). The anxiety symptoms in the patient group decreased on average from 4.4 (SD 3.1) at pre-measurement to 3.4 (SD 3.4) at post-measurement, while in the healthy control group it increased from 1.2 (SD 1.8) to 1.9 (SD 2.1). The subscale ‘depression’ also had a significant interaction effect ($F(1,39) = 3.95; p < 0.05; d = 0.50$), such that the symptoms of depression in the patient group decreased from 5.5 (SD 3.6) at pre-measurement to 4.0 (SD 3.5) at post-measurement. In the control group, however, the values of 1.2 (SD 2.5) and 1.4 (SD 1.6) remained virtually unchanged. The total scale of the DASS-21 likewise showed a significant interaction effect ($F(1,34) = 3.94; p < 0.05, d = 0.51$); here the total distress in the patient group was reduced on average from 19.9 (SD 9.8) to 14.6 (SD 10.8), while the reduction in the control group turned out to be only marginal, from 9.1 (SD 8.3) to 8.1 (SD 6.4). The effect sizes according to Cohen’s method [1988] were moderate. There was a significant time factor for the ‘stress’ scale, but no significant interaction effect was detected. Stress was reduced in the patient group on average from 9.8 (SD 4.4) to 6.8 (SD 3.9), while in the control group it declined from 6.4 (SD 4.8) to 4.8 (SD 3.6).

### Table 2. Contents of the Triple P individual training [Markie-Dadds, et al., 2006]

<table>
<thead>
<tr>
<th>Session</th>
<th>Contents</th>
</tr>
</thead>
</table>
| 1       | Intake interview  
– discuss the problem and possible solutions  
– learn how to systematically observe the child’s behavior  
– complete questionnaires |
| 2       | Observation of family interaction and assessment feedback  
– observe the family together  
– develop a common understanding of the problem and possible solutions  
– discuss possible causes of behavioral problems  
– set targets for change |
| 3       | Promoting children’s development  
– get to know the basic rules of positive parenting  
– promote and strengthen a good relationship with the child (spending quality time together; talking to each other; showing affection)  
– promote appropriate behavior (praising descriptively; paying attention; providing stimulating activities)  
– teaching new skills and behavior patterns (being a good role model; using casual learning; ‘ask-say-do’; using score cards) |
| 4       | Managing misbehavior  
– deal with problem behavior (establish family rules; respond directly to non-compliance with rules; intentionally ignore minor problem behaviors; give clear, calm instructions; reinforce instructions with logical consequences; use quiet time to deal with problem behavior; administer a ‘time-out’ for serious problem behavior)  
– develop parenting routines (start and stop routine) |
| 5–7     | Practice and feedback  
– set goals for practice sessions  
– practice parenting skills  
– assess one’s own strengths and weaknesses  
– formulate goals for additional exercises |
| 8       | Planned activities training  
– recognize risky parenting situations  
– develop preventive activity plans for risk situations  
– support for child-friendly explanation of the illness |
| 9       | Using planned activities training  
– promote independent play  
– develop additional activity plans  
– do something together |
| 10      | Program close  
– discuss family ‘survival tips’  
– take stock  
– sustain the changes, prevent stress, and plan ahead  
– set goals for the future |
Parental child-rearing behavior and parental perceived self-competence

Dysfunctional parenting behavior improved in the patient group over time, so that the average values shifted from the borderline range (3.8; SD 0.9) to the normal range (3.4; SD 0.9) (table 3). The cut-off score for the clinically abnormal range is >3.6 [Miller, 2001]. With regard to dysfunctional parenting, significant results were shown for the main effect 'time' (F (1,36) = 4.98; p < 0.05) and interaction (F (1,36) = 4.4; p < 0.05; d = 0.58). In the control group there were no changes in dysfunctional parenting, since the average initial value of 2.5 (SD 0.5) was the same at post-measurement. The PEV increased slightly in the patient group on average (from 4.0 (SD 0.5) to 4.1 (SD 0.6)), whereas in the control group it declined slightly (from 4.6 (SD 0.4) to 4.5 (SD 0.6)). In this context, a significant interaction effect (F (1,34) = 3.97; p < 0.05; d = 0.62) was observed with respect to the DEAPQ-PEV. A significant main effect of time was not established. The effect sizes of the parenting behavior are assessed as moderate.

Childhood behavioral disorders

With regard to the child’s behavioral disorder, an improvement in symptoms was seen in both groups, from the parent’s perspective. Especially in the patients, the scores for the ‘emotional problems’ subscale on average declined from an initial value of 4.5 (SD 2.6) in the borderline clinical range to 3.2 (SD 2.8) in the normal range at post-measurement (table 4). In the control group, the mean values rose from 1.5 (SD 2.6) at the beginning to 2.1 (SD 2.5) at post-measurement. In this context, there was a significant interaction effect (F (1,34) = 4.75; p < 0.05; d = 0.67). Furthermore, the ‘behavioral disorders’ subscale showed a main effect of time (F (1,34) = 4.83; p < 0.05), but no significant interaction effect. The effect size was average, with d = 0.67. In the total scale, the patient group showed an

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### Table 3. Means, standard deviations, main and interaction effects of the repeated measure analysis of variance and effect sizes; parent-related variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>EG (n = 22)</th>
<th>CG (n = 20)</th>
<th>Time</th>
<th>F</th>
<th>p</th>
<th>Time × Group</th>
<th>F²</th>
<th>p</th>
<th>ES</th>
<th>da</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFB-K</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.8 (0.9)</td>
<td>3.4 (0.9)</td>
<td>2.5 (0.5)</td>
<td>2.5 (0.5)</td>
<td>4.98</td>
<td>0.016</td>
<td>4.4</td>
<td>0.022</td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>PEV</td>
<td>4.0 (0.5)</td>
<td>4.1 (0.6)</td>
<td>4.6 (0.4)</td>
<td>4.5 (0.6)</td>
<td>0.027</td>
<td>0.436</td>
<td>3.97</td>
<td>0.027</td>
<td>0.62</td>
<td></td>
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<tr>
<td>DASS-21</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>5.5 (3.6)</td>
<td>4.0 (3.5)</td>
<td>1.2 (2.5)</td>
<td>1.4 (1.6)</td>
<td>5.14</td>
<td>0.015</td>
<td>3.95</td>
<td>0.027</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>4.4 (3.1)</td>
<td>3.4 (3.4)</td>
<td>1.2 (1.8)</td>
<td>1.9 (2.1)</td>
<td>0.15</td>
<td>0.350</td>
<td>5.57</td>
<td>0.012</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td>9.8 (4.4)</td>
<td>6.8 (3.9)</td>
<td>6.4 (4.8)</td>
<td>4.8 (3.6)</td>
<td>16.58</td>
<td>0.000</td>
<td>1.54</td>
<td>0.111</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19.9 (9.8)</td>
<td>14.6 (10.8)</td>
<td>9.1 (8.3)</td>
<td>8.1 (6.4)</td>
<td>8.22</td>
<td>0.004</td>
<td>3.94</td>
<td>0.027</td>
<td>0.51</td>
<td></td>
</tr>
</tbody>
</table>

EG = experimental group; CG = control group; M = mean; SD = standard deviation; ES = effect size; F = main effect of time; F² = interaction effect of Time × Group; p = significance (p) and effect sizes of the interaction effect (Cohen’s d); EFB-K = Erziehungsfragebogen – Kurzversion (Parenting Questionnaire – short version); PEV = Positives Elternverhalten (Positive Parenting); DASS-21 = Depression Anxiety Stress Scales; dᵃ = d_EG – d_CG; d_EG, d_CG = (M_pre – M_pos) / (√SD² pre + SD² pos - 2 × r_pre, pos × SD pre × SD pos).

### Table 4. Means, standard deviations, main and interaction effects analysis of the repeated measure analysis of variance and effect sizes; child-related variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>EG (n = 22)</th>
<th>CG (n = 20)</th>
<th>Time</th>
<th>F</th>
<th>p</th>
<th>Time × Group</th>
<th>F²</th>
<th>p</th>
<th>ES</th>
<th>da</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional problems</td>
<td>4.5 (2.6)</td>
<td>3.2 (2.8)</td>
<td>1.5 (2.6)</td>
<td>2.1 (2.5)</td>
<td>0.690</td>
<td>0.206</td>
<td>4.75</td>
<td>0.018</td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>Behavioral disorders</td>
<td>3.9 (2.3)</td>
<td>3.2 (2.0)</td>
<td>2.2 (1.5)</td>
<td>1.8 (1.2)</td>
<td>4.83</td>
<td>0.017</td>
<td>0.328</td>
<td>0.285</td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>5.8 (2.8)</td>
<td>5.4 (2.6)</td>
<td>4.1 (2.9)</td>
<td>4.2 (2.5)</td>
<td>0.285</td>
<td>0.299</td>
<td>0.834</td>
<td>0.184</td>
<td>0.27</td>
<td></td>
</tr>
<tr>
<td>Problems with peers</td>
<td>2.4 (1.8)</td>
<td>2.5 (2.3)</td>
<td>1.6 (2.0)</td>
<td>1.5 (1.1)</td>
<td>0.000</td>
<td>0.497</td>
<td>0.031</td>
<td>0.430</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Prosocial behavior</td>
<td>6.7 (2.1)</td>
<td>6.9 (2.1)</td>
<td>7.7 (1.8)</td>
<td>8.0 (1.6)</td>
<td>1.11</td>
<td>0.149</td>
<td>0.067</td>
<td>0.797</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16.4 (6.6)</td>
<td>14.3 (6.4)</td>
<td>9.4 (6.0)</td>
<td>9.6 (4.7)</td>
<td>1.83</td>
<td>0.092</td>
<td>2.68</td>
<td>0.055</td>
<td>0.49</td>
<td></td>
</tr>
</tbody>
</table>

EG = experimental group; CG = control group; SDQ = Strengths and Difficulties Questionnaire; M = mean; SD = standard deviation; ES = effect size; F = main effect of time; F² = interaction effect of Time × Group; p = significance; effect sizes of the interaction effect (Cohen’s d); dᵃ = d_EG – d_CG; d_EG, d_CG = (M_pre – M_pos) / (√SD² pre + SD² pos - 2 × r_pre, pos × SD pre × SD pos).
average reduction from 16.4 (SD 6.6) at pre-measurement to 14.3 (SD 6.4) at post-measurement, while the total problem score in the control group increased slightly from 9.4 (SD 6.0) to 9.6 (SD 6.0). For the total scale there was a trend toward a significant interaction effect ($F(1,34) = 2.68; p = 0.055; d = 0.49$). On all other scales of the SDQ, neither main nor interaction effects were determined.

**Discussion**

This study evaluated a behavioral family intervention which, based on the approach of the Triple P positive parenting training program, includes in therapy the topic of parenthood as well as mental illness. Overall, the study participants of the patient group improved in all areas of ‘psychological distress’, ‘dysfunctional and functional parenting’, and ‘emotional problems of the child’ there were significant improvements compared to the control group. The changes cannot, however, necessarily be attributed to the Triple P content, since an explicit standardization and control of the therapeutic intervention was not intended. The significant reduction of dysfunctional parenting is consistent with previous studies that also focused on strengthening of parenting skills [Forehand et al. 2012; Nowak and Heinrichs, 2008; Propp et al., 2013]. The PEV also showed a significant increase, which, despite different operationalization, corresponds to the findings of Heinrichs et al. [2009].

The limitations of this study are in its representativeness and generalizability, because the sample in this pilot study cannot be regarded as representative, and so the results and conclusions can only be generalized to a limited extent. Assessment of the effects of family intervention was carried out in comparison to a healthy control group, which generally presented lower values or values within the normal range at the initial examination, in comparison to the patient group. For future research, comparison with a waiting list control group would also be desirable. Another limitation of validity pertains to the measuring instruments. These consisted exclusively of the partners', therapists', teachers or child-care workers' self-evaluation, so there may be distortions in the answers. Parents who suffer from mood disorders are prone to consider that their children have more behavioral problems and are more difficult, even though outsiders may not see these children’s behavior as problematic [Lenz, 2014]. Additional sources of information (e.g., the assessment of partners, therapists, teachers or child-care workers) and methods of data collection (e.g., observation of interactions) would be desirable for future research. The strength of the study is in its (relatively) naturalistic and controlled design; it can therefore be incorporated into the MRC model [Craig et al., 2008].

Parent-centered educational measures in psychotherapy have still been little studied, but suggest a broad spectrum of research questions. Thus further efforts are essential to determine which moderators the efficacy of the intervention depends upon – also given the parent’s own psychopathology. Assistance for mentally ill parents as early as possible seems useful and essential, as was emphasized in an earlier study of early detection of rejection and neglect [Martinius and Frank, 1990]. Other approaches of this type include ‘Frühe Hilfen’ (Early Assistance) [Fegert et al., 2010], a support system that is designed not only for mentally ill parents and also promotes the patient-child relationship and parenting skills at an earlier stage of child development [Renner, 2010].

More consideration needs to be given to ‘parenting’ and ‘partnership’ in outpatient psychotherapy with adults. Schneider et al. [2013] showed that therapy for parents with a panic disorder also leads to a significant improvement in the child’s psychopathology. For mentally ill parents to be able to obtain such assistance through outpatient psychotherapy, ongoing training and awareness on the part of the therapists or trainees as well as lecturers and supervisors in the training courses is also required. Fortunately, the training of psychotherapists has now become the subject of empirical research [Zarbock et al., 2012].

There is now impressive evidence in favor of implementing and disseminating the Triple P behavioral family intervention [Sanders, 2012]; however, there is still significant potential for development of its integration into outpatient psychotherapy, including internationally. Equally important is networking of sources that offer assistance, because comprehensive and interdisciplinary support for children of mentally ill parents is not yet in sight [Lenz, 2014; Wagenblass and Schone, 2001]. The aim of youth welfare services, of adult as well as child and adolescent psychiatry, the judiciary, and family support groups should be collaboration among the disciplines so that the content of clinical practice and research can be better used to support mentally ill people and their families.

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**Disclosure Statement**

The authors hereby declare that they have no conflicts of interest with regard to the manuscript.

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