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Ph.D. THESIS SUMMARY

EVIDENCE-BASED PARENT PROGRAMS FOR REDUCING DISRUPTIVE BEHAVIOR IN CHILDREN

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*Notes.*_____

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(2) All the Tables and Figures are numbered within the corresponding chapter or subchapter (including the studies) of the thesis.

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Key words: child disruptive behavior, parent self-regulation, cognitive-behavioral parent program, evidence based treatments

CHAPTER I. THEORETICAL BACKGROUND

1. Introduction and Research Problem

As Maughan et al., 2005 has noted, child behavior disorders (BD) include a large range of activities, expressed by various labels, like disruptive, externalizing, hyperactive, deviant behavior, discipline problems, behavior problems, or behavior disordered, conduct problems, delinquency, noncompliant behaviors, antisocial behaviors, etc. (see also Nock & Kazdin, 2002). When disruptive behaviors become a (stable) pattern and there is significant impairment in everyday functioning (and quality of life) at home or school, they are included in what is called "mental disorders" (see Diagnostic and Statistical Manual of Mental Disorders 4th edition; DSM-IV-TR; American Psychiatric Association, 2000). The DSM IV-TR identifies three specific disorders that constitute disruptive behavior disorders, in a large definition: (1) attention-deficit/hyperactivity disorder (ADHD), (2) conduct disorder (CD), and (3) oppositional defiant disorder (ODD).

2. Relevance of the Research

As Nock and Photos (2006) noted, child disruptive behavior disorders are (1) the most frequent reason for referral to mental health services (see also Kazdin, 2003), (2) are among the most severe childhood disorders in terms of child impairment across multiple domains of functioning and quality of life (see also Lambert et al., 2001), and (3) are often associated with significant family dysfunction and impairment (see also Nock & Kazdin, 2002; Nock & Photos, 2006). In Western countries, the prevalence of child disruptive behaviors has increased about five times during the period 1930 to 2000 (see Robins, 2001). Child disruptive behaviors are three to four times more likely to be present in boys than girls (Burke et al., 2002/2004) and are often co-morbid with ADD/ADHD (see Burke et al., 2002; Loeber et al., 2000).

The consequences of child disruptive behaviors can have negative/devastating effects on the child, family, teachers, and entire society (Gardner & Ward, 2000; Kazdin, 1987). Indeed, there is considerable evidence that school-aged children who are diagnosed with co-morbid disruptive behavior disorders (e.g., ODD/CD and ADHD) show similar problems in the preschool years (Barkley, 1998; Huesmann & Moise, 1999; Rutter et al., 1998; Stevenson & Goodman, 2001). For example, Speltz et al., (1999) found that the best predictor of later follow-up diagnosis (i.e., at age 6–7.5 years) was the level of children's externalizing behavior problems reported by mothers 2 years earlier.

Thus, as we said above, if not treated by efficacious interventions, child disruptive behavior disorder can become chronic and/or co-morbid with other mental and behavioral problems in adults with huge economic and psychological costs for affected individuals, their families, and society.

3. State of the Art in the Literature

Etiopathogenetic Factors of Child Behavioral Disorders: Parenting and Parent Emotion-Regulation Abilities

Parenting.

A large body of literature (see Burke et al., 2002) has shown that poor parenting practices are related to disruptive behaviors (e.g., Frick et al., 1992; Haapasalo & Tremblay, 1994), while positive parenting practices are protective factors (McCord, 1991). Indeed, parents who engaged in more negative parenting practices, such as the use of harsh and inconsistent discipline, often report higher externalizing and internalizing problems in both children and adolescents (Frick et al., 1992; Patterson & Stouthamer-Loeber 1984; Rothbaum & Weisz, 1994). Thus, children's disruptive behavior has been linked with different aspects of parenting practices, such as monitoring, harsh and inconsistent

discipline, etc. (Burke et al., 2002; Frick, 1994; Wasserman et al., 1996). Punitive discipline of parents has been found to be a common risk factor for children with oppositional, aggressive, hyperactive, and internalizing behaviors (Burke et al., 2002). Indeed, physically aggressive punishment seems to be linked to child aggression, while low parental warmth/involvement was associated to oppositional child behavior (Burke et al., 2002; Stormshak et al., 2000). Poor parenting was also found to impact on child behavior only for children with high levels of callous/unemotional traits (Wootton et al., 1997). Coercive parenting practices were found to lead to aggressive behaviors both in younger girls and boys (Burke et al., 2002; Eddy et al., 2001). There is data showing that parents of antisocial children tend to be both very harsh and very lax in their discipline practices (Dumas et al., 1992; Serketich & Dumas, 1996). As Serketich and Dumas (1996) showed, there are regular attempts from these parents to control their children through punishment, but they often abandon these attempts when they are met with child opposition; thus, often, children do not readily comply to their instructions since they are vaguely formulated, and parents respond to their children's disruptive behavior in an inconsistent manner, by both positive and negative attention (see also Dumas & Lechowicz, 1989). It is exactly parental coercion and inconsistency that results not in controlling but in maintaining child disruptive behavior and children responding to inconsistent parenting with high aversive ness (Dumas & Wahler, 1985; Patterson, 1982). To conclude, the relationship between parenting behavior and child conduct problems is a dynamic and interactive process (Burke et al., 2002).

Parental distress and underlying cognitive regulation processes as risk variables for child disruptive behavior.

Parental distress/psychopathology and child behavioral disorders.

Parenting behaviors cannot be separated from parental psychopathology (e.g., distress); indeed, it was suggested (Kaplan, & Liu, 1999) that while both contribute to child psychopathology, parental psychopathology may be a stronger determinant of disruptive behavior disorders in offspring than parenting behavior (see also Burke et al., 2002).

For example, the parents of children with disruptive behavior disorders may be at greater risk for depression; this is alarming since there is the danger of the vicious circle between child and parent psychopathology, stimulating each other (see also Chronis et al., 2004). Indeed, among parental affective problems, depression has received the most attention. It has been found that there is greater likelihood of internalizing and externalizing problems and poorer social and academic functioning among children of depressed mothers (Chronis et al, 2004). According to Chronis et al. (2004), there are also (a) greater negativity and less consistency for parenting behavior, (b) more negative expectations regarding child behavior, and (c) greater inter-parental conflict for depressed mothers (see Beardslee et al., 1983; Cummings & Davies, 1994; Downey & Coyne, 1990). According to Wilson and Durbin (2010), parental depression was connected with poor child outcome, like: (1) an increased risk for the development of child psychopathology, (2) social and academic impairment, and (3) poor psychosocial functioning (see also Fergusson & Lynskey, 1993; Klein et al., 2005; Lieb et al., 2002; Weissman et al., 2006). Thus, it is important (Wilson & Durbin, 2009) to understand the mechanisms that may link parental depression and children outcomes (see also Beardslee et al., 1998; Downey & Coyne, 1990; Gunlicks & Weissman, 2008).

Based on the data mentioned before, a transactional model was proposed, in which parental psychopathology and disruptive behavior have reciprocal negative influences on one another (see Chronis et al., 2004; Cummings & Davies, 1999; Patterson, 1982). Following this idea, we could conclude that psychosocial treatments for child disruptive behavior disorder should include assessment and treatment of parental psychopathology, as parent's mental problems may impact their ability to effectively implement behavior management techniques. However, the relationship between parent

psychopathology (e.g., a high stress level) and dysfunctional parenting does not seem to be linear, because it was shown that low levels of parental stress can also be associated with dysfunctional parenting (Abidin, 1992; Berg-Nielsen et al., 2002). It is thought that stressors have the potential to amplify emotional problems and to particularly affect the parenting of those who already have poor emotion-regulation strategies. Thus, the impact of the contextual stressors can impact on parent behavior by the means of psychological resources of the parents (Dix, 1991; McKenry, 1991). However, as Berg-Nielsen et al. (2002) showed, there are evidences that although moderate parent stress levels can influence parenting practices, in case the more general parenting abilities, they remain strong and parent stress does not impact child negatively (see also Gribble et al., 1993; Klinnert et al., 1994; Patterson et al., 1992; Quinton & Rutter, 1985).

Summarizing, an important variable in child psychopathology (i.e., disruptive behavior disorders) and its treatment is parental psychopathology and difficulties in parental affect regulation in particular, since they were found consistently to moderate the efficacy of parent training programs, regardless of child diagnosis (see also Ben-Porath, 2010).

Relevance and assessment of parent anger.

Parent anger has been typically associated during childhood with child abuse, child noncompliance, dysfunctional discipline practices, and various emotional problems (see Dix, 1991; McKay et al., 1996; Smith Slep & O'Leary, 2001). Emotional support and nurturance has also been found to diminish as parent anger increases (McKay et al., 1996). It was shown that high frequency, length, intensity, and physiological arousal of anger predicts negative and hostile parenting practices (see Del Vecchio & O'Leary, 2008); therefore, it is important to assess these components of parent anger. Based on the literature, triggers that may provoke parent anger are disrespect, irritation, annoyance, disobedience, behavioral intentions, and children's level of control (see Brestan et al., 2003; Carpenter & Halberstadt, 2000; Del Vecchio & O'Leary, 2008; Hynes, 1996; Graham, 1996; Miller, 2001).

Evidence Based Parental Programs for Reducing Child Disruptive Behavior: the Cognitive Behavioral Parent Programs

As it appears in reviewing the literature, in the 1960s, there was a change in addressing children's negative behaviors from child therapy, focused exclusively on changing the child's negative behaviors, to interventions focused on changing parents' behavior. According to Kaminski et al., (2008), this change resulted from the realization that parents, not just professional therapists, could act as agents of children's behavior change and the growing understanding of how parents contribute to their children's adaptive and maladaptive behaviors (e.g., Bandura, 1977). Parenting programs have since proliferated. Indeed, Kaminski et al. (2008) showed that different parenting programs emphasize different (1) content (e.g., knowledge about child development, parenting self-efficacy, communication skills, discipline and/or behavior management strategies), (2) delivery contexts/settings (e.g., clinic-based therapy, community-based group sessions, individual home visits), (3) delivery procedures used to engage parents and teach relevant content (e.g., group discussions, homework assignments, role playing), and (4) types of families served (e.g., children with identified behavior problems, low-income adolescent parents).

The term parent program (PT) is often (but not always) used to describe child behavior modification programs where the parent participates in treatment (Nixon, 2002). In many studies, especially when studying behavioral parent programs (BPT), the term family intervention or family based intervention is used interchangeably with parent training or parent program, for describing the same type of interventions. As mentioned before, when using the term parent program here, we will

refer to the group based programs in which the parents are included with the aim to actively acquire parenting skills and which may or may not have included other educational methods. (see Kazdin, 1993; Sanders et al., 2000).

Kaminski et al., (2008) argued that in time, the objectives of parent training programs have extended beyond the original intention of helping child behavior problems in terms of outcomes and population addressed. Thus, according to Kaminski et al. (2008) various intended outcomes of parent training programs have been, added like children's cognitive development (e.g., Cicchetti et al., 2000), anxiety, and physical health (e.g., Reifsnider, 1998). In addition, parenting programs are used by child welfare services for improving parenting interventions among families at risk for child maltreatment and/or children having various psychological disorders.

Kaminski et al. (2008) showed that various meta-analyses have been published on parent training programs, arguing for their efficacy. According to Kaminski et al., (2008), the meta-analyses investigated (a) studies focusing exclusively on the effects of one or two specific programs (e.g., Cedar & Levant, 1990; Thomas & Zimmer-Gembeck, 2007), (b) the effects associated with a specific delivery setting (e.g., Sweet & Appelbaum, 2004), and (c) the effects associated with programs using various theoretical backgrounds, with cognitive-behavioral parent training being typically considered the treatment of choice for child disruptive behavior disorders (e.g., Lundahl et al., 2006; Maughan et al., 2005; Serketich & Dumas, 1996). Kaminski et al. (2008) pointed out that three meta-analyses have also attempted to separate important elements of cognitive-behavioral parent training programs by examining moderators of effect sizes, such as the characteristics of participating families (Lundahl et al. 2006a, 1006b; Reyno & McGrath 2006). It is now generally accepted that parent training approaches can be effective (see Kaminski et al., 2008; Litschge et al., 2009). However, the mechanisms responsible for parent programs efficacy/effectiveness are not yet well-documented and their long-term efficacy is questionable.

Obstacles for the efficacy of cognitive-behavioral parent programs.

Child management training is quite demanding of parents, and many find hard to comply with the intervention strategies mentioned above. It is known (see Firestone & Witt, 1982) that 22% of the conduct disorder population reject treatment, while 26% dropped out during an assessment period, and 3% during treatment (based on Eyberg & Johnson, 1974). According to Firestone and Witt (1982) (a) only 35% of the referred population (i.e., conduct disorder children) was available for evaluation at the end of treatment and (b) other authors (see Patterson, 1974) reported high attrition rates, with 8 of 35 referrals rejecting the offer of treatment, while 5 of the remaining 27 dropped out during a base-line assessment, with another 6 terminating before the therapists considered it advisable The attrition rate for children with conduct disorder is more than a 50% (Fireston et al., 1980). Attrition from therapy becomes this way a real challenge, by significantly influencing the effectiveness and cost of services (Armbruster & Kazdin, 1994). This is the reason why it is essential that clinicians and health service systems are finding ways to enhance the engagement of these families in the treatment process. Within the clinical research it is underlined the importance of cognitions for parental behavior, with great implications for understanding treatment engagement. It is considered that cognitions that mediate parental behavior could also be important in the treatment process (Morrissey-Kane & Prinz, 1999). We are suggesting that parental cognition may be a critical variable in determining engagement in parental programs for child disruptive behavior treatment.

[1]The enhanced cognitive-behavioral parent programs.

The "cognitively" enhanced version of the parent programs is usually described as consisting of the (classical) cognitive-behavior parent programs strategies, plus the addition of a number of sessions (at the beginning of the program, based on REBT's assertion that the "emotional problems" should be solved before the "practical problems" are addressed), addressing risk factors associated with parenting a child presenting disruptive behavior, among which parental distress and its regulatory mechanisms. Within the research examining the effects of adjunctive treatments on children's externalizing behavior difficulties, adjunctive procedures have varied considerably. Adjunctive interventions have ranged from relatively short to long programs (e.g., between 3 and 16 sessions). Most of the enhanced programs to date include the components of the standard programs, plus cognitive behavior therapy strategies added at the end for treating parent psychopathology (e.g., maternal depression). However, based on the critical review of the literature (see Chapter 1) we propose here an (cognitively) enhanced parental intervention addressing parental distress and its causal regulatory mechanisms (e.g., cognition), that has the following characteristics: (1) it is implemented at the beginning of the parental intervention and (2) it targets the evaluative "hot" rational and irrational cognitions, that are key regulatory mechanisms of parental distress (Bernard, 2004; Joyce, 1995; Terjesen & Kurasaki, 2009).

CHAPTER II. RESEARCH AIMS AND OVERALL METHODOLOGY

Given that cognitive-behavioral parent programs remain the current treatment of choice for child disruptive behavior (NICE, 2006), we considered particularly important to determine how to make group parent programs more efficient. The present research was conducted and organized bearing in mind the criteria for identifying evidence based treatments (Kazdin, 2003). The research started with investigating the empirical evidences for the conceptualization of parental distress and its emotion-regulation mechanisms relevant to child disruptive behavior, and continued with providing evidence that the mechanisms found can be assessed and included/related to child behavioral disorders treatment.

Chapter 3 presents the empirical original findings.

Study 1 used meta-analytic procedures and presents the results of a quantitative review on the empirical studies to date researching the efficacy of the cognitively enhanced versions of cognitive-behavioral parent programs for treating child disruptive behavior. Study 2a, Study 2b, and Study 3 were conducted in order to provide psychometric validation on the Parental Rational and Irrational Beliefs Scale (Gavita - main author) and the Parental Anger Scale (Gavita - co-author). Study 4 and Study 5 used mediation analysis procedures in two empirical studies conducted on parents of children with and without externalizing syndromes for depicting the cognitive mechanisms responsible for emotional regulation processes. Study 6 is a randomized controlled trial providing preliminary conclusions on the efficacy of a short "cognitively" enhanced cognitive-behavioral parent program for children in foster care presenting disruptive behavior. Study 7 described in detail the new enhanced cognitive-behavioral parent program and tested it in a randomized clinical trial - outcomes and theory of change analysis –as compared to a control group and a standard parent cognitive behavioral program. Finally, in Chapter 4 findings were summarized and general conclusions were drawn.

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[1] Parts of this text were published in (BDI): Gavita, O. A., David, D., & Joyce, M. R. (in press). A theoretical perspective on cognitive behavioral parent programs: Bringing together the disciplining with the accepting parent. *Journal of Cognitive Psychotherapy: An International Quarterly*.
The 2nd author brought contributions to the design of this study (analysis) and the 3rd author to the exposition of the paper.

CHAPTER III. ORIGINAL RESEARCH

3.1. Meta-analysis of the Literature

Study 1. A Quantitative Review on Effectiveness of Cognitively Enhanced Behavioral Based Parent Programs Designed for Reducing Disruptive Behavior in Children[2]

Introduction

The aim of this review is to evaluate the effectiveness of group based cognitively enhanced behavioral parenting programs in reducing children's disruptive behavior and parent distress, by reviewing the data from existing studies which used rigorous methodological designs, and a range of standardized outcome instruments relevant to this purpose. The results will be used to inform the future research concerning the role and effectiveness of cognitively enhanced parenting programs.

Method

Criteria for considering the studies.

Types of studies. Randomized controlled trials that used an enhanced form of parental training, by adding a cognitive component directed to reduce parental distress, for the tertiary prevention/ treatment of disruptive behavior in children. The participants had to be randomly allocated to at least an experimental and other treatment group or a control group, the latter being a waiting-list, no-treatment or a placebo control group.

Types of participants. Parents of children with externalizing behavior.

Types of intervention. Parent training for reducing externalizing behavior in children, delivered in a group based format, enhanced with a cognitive component which addressed parental distress, which was delivered also in a group format.

Types of outcome measures. Inclusion of at least one standardized instrument measuring child behavior or parental distress.

Search methods.

We conducted a search of English and non-English language articles published between January 1970 and July 2008 in a number of electronic databases (PsychInfo, Medline, Trip). The search terms used included the following: cognitive behavioral parent*or enhanced parent disruptive* or family intervention conduct* or parent training aggressive*or parent stress behavior. Filters appropriate to each database were used to locate potential randomized controlled trials. Search terms were modified to meet the requirements of individual databases with regard to differences in fields and trial filters.

Coding system.

The treatment effect for each outcome in each study was standardized by dividing the mean difference in post-intervention scores for the intervention and control group by the pooled standard deviation, to produce an effect size (ES). The results were then combined in a meta-analysis using a fixed-effect model.

Results

Study selection and characteristics.

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[2] This study was published (ISI/ Web of Science): Gavita, O.A., & Joyce, M. (2008). A review of the effectiveness of cognitively enhanced behavioral based group parent programs designed for reducing disruptive behavior in children. *Journal of Cognitive and Behavioral Psychotherapies, 8,* 185-199. The 2nd author brought important contributions to the exposition part of the paper.

The searches of electronic databases yielded a total of 1026 citations, of which 959 proved to be of no direct relevance to the present review. Sixty-six studies were reviewed and 61 studies were excluded because the intervention did not contain a specific cognitive component for reducing parental distress, or the component was delivered to the children, or the component was delivered individually, or for methodological reasons. A total of 5 studies met all of the inclusion criteria and all of them provided sufficient data to calculate an effect size.

Table 1
Summary of the criteria of methodological adequacy

First author/year	Sanders (2007)	Ireland (2003)	Bor (2002)	Sanders (2000)	Webster-Stratton (1994)
Size (n) in groups ("++">25, "+"=15-25, "-"<15)	++	+	+	++	++
Random assignment ('+++' = randomized: allocation concealment; '++' = randomized)	+++	+++	+++	+++	+++
Attrition/ drop-outs accounted for (%)	+(40.09)	+(14.52)	+(28)	+(40)	+(8.23)
Blinding to treatment/evaluation	Yes	Yes	Yes	Yes	Yes
Follow up	3 years	1 year	1 year	3 month	3 month
Clinically important outcomes	Reported	**Reported	**Reported	Reported	**Reported
Distribution of confounders	+	+	+	+	+

Note. **Except for the cognitive outcomes

The five studies included, involving a total of 1008 parents, provided data on two outcomes of interest — parental distress and children's behavioral problems. The overall effect of cognitively enhanced parent training in comparison with control condition (i.e., waiting list and the standard behavioral based parent program) on all the dependent variables was extracted from a sample of 238 parents. The data shows a significant medium effect size (ES) of the enhanced condition, 0.61, 95% CI = [0.5 to 0.7]. The combined data on the enhanced versus standard programs post treatment show only a low improvement on all the dependent variables of interest (0.25, 95% CI = [0.2 to 0.3], but the gains are maintained at follow up.

Discussion

Our results indicate that cognitively enhanced parenting programs can be effective in improving both child disruptive behavior and parental distress and the improvements are maintained even at 3 years follow-up. However, cognitively enhanced programs add only a small effect when compared with the standard parent programs on all the studied outcomes, but the improvement was constant also at follow-up.

The results of this review are consistent with the findings of other reviews indicating the effectiveness of cognitive-behavioral parenting programs in improving a range of outcomes for both parents and children. The results showed that cognitively enhanced parenting programs improved the mental health of parents, their parenting practices and children's disruptive behavior and the effects were maintained both in the short term and in follow-up, ranging from three months to three years.

3.2. Development of Viable Measures for Parental Self-Regulation Variables
The Parental Rational and Irrational Beliefs Scale

Current scales used to measure parent rational and irrational thinking fail to address important aspects of parent rationality and irrationality (e.g., a lack of bipolarity). The Parent Rational and Irrational Beliefs Scale (P-RIBS) is a new self-report scale of parent rational and irrational cognitions. It was developed based on current developments within the field of clinical cognitive sciences and on binary model of distress (see David, 2003).

The purpose of the study was to construct and validate an instrument for the assessment of both parental rational and irrational beliefs. The P-RIBS was conceptualized as a two-factors measure for greater predictive utility: rational cognitions (RBs) and irrational cognitions (IBs).

Study 2a. Scale Development and Initial Exploratory Analysis

Introduction

Parent Rational and Irrational Beliefs Scale (P-RIBS) was developed by Gavita (main author), DiGiuseppe, David, & DelVecchio, based on the view of IBs and RBs as non-polar opposites (DiGiuseppe, Robin, Leaf, & Gormon, 1989; Bernard, 1998). P-RIBS also takes into consideration the the recent priming methodologies (i.e., Articulated Thoughts in Simulated Situations; ATSS– Davidson et al., 1983; David et al., 2005); the following guided imagery instruction was introduced as a way to access parents' evaluative beliefs: "*Please think about a situation when your child(ren) disobey, or disrespect you. Try and recall the thoughts that you have had in such situations*."

An equal number of statements reflecting rational and irrational processes were generated by applying the RIBS-GF (Rational and Irrational Beliefs Scale-General Format; Montgomery et al., 2007) to the parenting domain. The original RIBS-GF is an 8-item scale based on Walen et al., (1992) guide to rational-emotive behavior therapy (REBT). The items were constructed to reflect (see Walen et al., 1992) (1) the four irrational beliefs (demandingness-DEM, awfulizing-AWF, low frustration tolerance/frustration intolerance-LFT, and global evaluation/self downing-GE/SD) and (2) the four rational beliefs [preferences/flexibility rather than demandingness (PRE); negative evaluations rather than awfulizing (BAD); frustration tolerance rather than low frustration tolerance; and unconditional acceptance rather than global evaluation (non-GE/SD)], as measured by the Attitudes and Beliefs Scale (ABS-II; DiGiuseppe et al., 1988). The scale was reviewed and approved by a group of five experts trained in REBT. The total score on the scale was obtained by summing the items, with rational items scored in a reversed way.

The statements of the P-RIBS were designed to reflect evaluative processes in the two content areas found relevant for parenting: (1) child behavior (Part 1 of the scale) and (2) parent-role (Part 2 of the scale). A special attention was devoted to wording of the items for developing non-contaminated (by emotions) cognitive items. Two pools (of 12 items each) were generated, one for each content domain, each pool having, 6 IBs items, 4 RBs items and 2 control item; GE/SD had two items, one referring to child and one referring to parent. Each of the items was assembled in a 5-point Likert format, ranging from strongly disagree (1) to strongly agree (5).

The aim of this study was to provide psychometric validation for the Parent Rational and Irrational Beliefs Scale (P-RIBS).

Method

Participants.

176 parents (146 mothers and 30 fathers) of children aged between 2 to 17 (M = 7.51, SD = 3.36) years old were recruited for this study from the local kinder gardens and community schools within the Cluj county, Romania. Parents mean age was 35.66 years old (SD = 5.37). 51.4% of the children were boys and 48,6% were girls.

Measures.

Parents responded to the pool of 24 items developed for the Parent–Rational and Irrational Beliefs Scale (P-RIBS) on a 5 point Likert scale.

Results

Based on the development theoretical model, a constrained exploratory factor analysis was conducted extracting two-factors model with Oblimin rotation. The total variance explained is 36.37%. Internal consistencies were examined for the P-RIBS Total score and both rational and irrational subscales separately. The Cronbach's alpha for the P-RIBS Total was α = .42.

Discussion

While the theoretical construct of a two-factors model is supported by the developmental research of the scale, the items that loaded onto each factor, within the two theoretically assumed factors, lack interpretable reasoning for being grouped together. The rational and irrational items loaded on both subscales, indicating that the constructs were overlapping. In other words, parents that wanted their children to behave did not make the difference between "preferring" and "demanding" and checked both rational and irrational phrased items or only the irrational phrased items.

Study 2b. Validation of the Parental Rational and Irrational Beliefs Scale-Revised

Introduction

The overlapping of the rational and irrational cognition constructs is a phenomenon observed in non-polar constructs. The solution found was to add an instruction explaining the difference between "preferences" and "absolutist demands" so that we can focus the participants on the meaning rather than the wording of the items.

Method

Participants.

Participants in the second study were 287 parents, 87.8% mothers and 12.2% fathers, with ages varying between 25 to 52 years old, having mean age 34.68 years old (SD = 4.72). 214 of the parents filled the questionnaires besides the P-RIBS. Children were aged between 2 and 14 years old (M = 6.13, SD = 2.71), 50.6 being girls and 49.4% boys.

Measures.

Parental Rational and Irrational Beliefs Scale (P-RIBS; Gavita, DiGiuseppe, David, & DelVecchio); General Attitudes and Beliefs Scale–Short Form (GABS-SF; Lindner et al., 1999);

Unconditional Self Acceptance Questionnaire (USAQ; Chamberlain & Haaga, 2001); The Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978); The Parental Stress Scale (PSS; Berry & Jones, 1995).

Results

Within the exploratory factor analysis, five factors had eigenvalues greater than one and the factors accounted for 48.33% of the total variance.

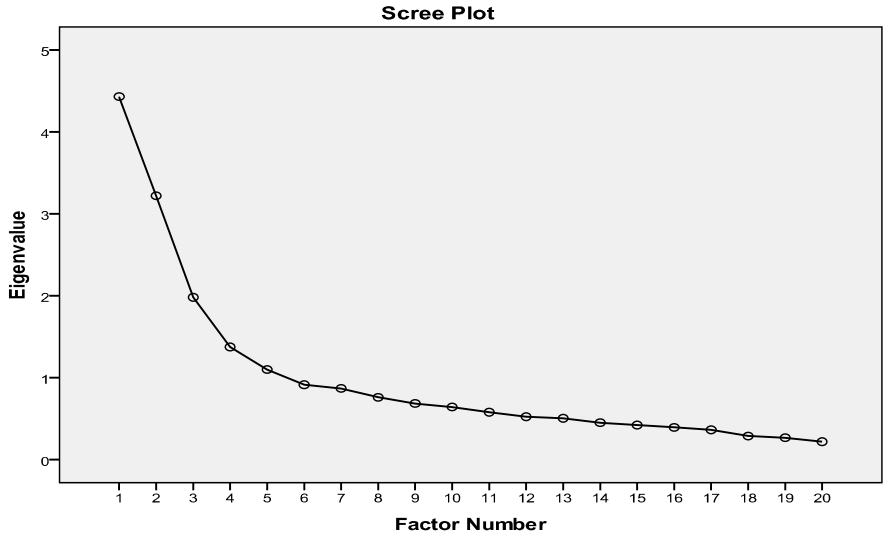

Figure 1. Scree plot indicating the factors and eigenvalues of the P-RIBS

Item loadings within a single factor were considered (based on the Cattell graphic criterion) if the factor loading was greater than .30. From the five factors, only three had three or more item loadings equaling .30 or greater. Within the exploratory factor analysis, the two factors accounted for 32.52% of the total variance.

An exploratory constrained factors analysis was conducted extracting a two-factors model, with Oblimin rotation. All items had a factor loading of .30 or greater for at least one of the factors, with factor loadings ranging from .34 to .69. Additionally, an exploratory constrained factor analysis was conducted by extracting a three-factors model with Oblimin rotation. Similar to the two-factors model, all items had a factor loading of .30 or greater for at least one of the factors, with factor loadings ranging from .31 to .84.

The theoretical construct of a three-factors model is best supported by the developmental research of the scale; the items that loaded onto each factor within the three theoretically derived factors have also solid interpretable reasoning for being grouped together. Thus, given the scree plot, the theoretical construct of each model, and the factor loadings, the three-factors model appears to be a more parsimonious and interpretable design.

Based on the data obtained, P-RIBS can be scored by getting the P-RIBS Total score, the Rational Beliefs (RB) Subscale score, the Irrational Beliefs (IB) Subscale score, and the Global Evaluation Subscale (GE) score. The total score on P-RIBS registered high correlations with all the three subscales: GE factor, $r(285) = .65$, $p < 01$; IB factor, $r(285) = .58$, $p < .05$; and RB factor, $r(285) = -.64$, $p < .01$.

Internal consistencies were examined for the P-RIBS Total score, and for the three subscales. The majority of the inter-item correlations fell within the moderate range. The Cronbach's alphas were

adequate for the P-RIBS Total, α = .73, RB Subscale, α = .83, IB Subscale, α =.78, and GE Subscale, α =.71.

Test-retest reliability. 79 of the parents participating at the study were followed for retest at two months interval. Pearson Coefficient was used to determine test-retest reliability and results show an $r(77) = .78$, $p < .01$, for the P-RIBS Total score.

Validity analyses. Higher correlation levels were obtained when relating unconditional self-acceptance (USAQ) to the P-RIBS Total score to the: $r(212) = -.60$, $p < .01$; P-RIBS IB Subscale: $r(212) = -.33$, $p < .01$; P-RIBS GE Subscale: $r(212) = -.49$, $p < .01$; and P-RIBS RB subscale: $r(212) = .59$, $p < .01$. Significant relationships were also obtained between P-RIBS Total score and parental stress (PSS): $r(212) = .36$, $p < .01$.

Discussion

The goal of this study was to develop and investigate the psychometric properties of a new self-report measure of parent rational and irrational cognitions. The P-RIBS was found to have good psychometric properties, evidencing good internal consistencies and concurrent and convergent validity. The factorial structure of the scale was examined through exploratory factor analysis. The hypothesized factors - Rational Beliefs and Irrational Beliefs - were supported by the exploratory factor analyses. Additionally, another factor emerged from factorial analysis, namely Global Evaluation, phrased irrationally.

The Parental Anger Scale

Study 3. Development and Initial Validation of the Parent Anger Scale

Introduction

Parent Anger Scale (PAS) was developed by DiGiuseppe (main author), DelVecchio, and Gavita (co-author), based on Novaco's model (Power & Daleglish, 2008) and the SPARRS model (see DiGiuseppe & Tafrate, 2007). The items of the PAS were developed from the Anger Disorder Scale-Short Form (DiGiuseppe & Tafrate, 2007), which follows the SPAARS model. The PAS converted the ADS-SF items so that they were written to make the parent a subject. From this original set of items, additional items were added.

The PAS was conceptualized as both one and a two-factors measure, for greater clinical utility. The anger experience factor (Anger–E) includes the scope of provocations, which generate anger, the intensity, frequency, and length of parent anger, cognitions, and motives. The anger behavior factor (Anger-B) was conceived to assess the behaviors and actions that a parent engages in when angered. The Anger E factor was conceived to consist of items within the arousal, cognition, and motivation domains and Anger B was expected to consist of the items within the behaviors domain.

The purpose of this study was to psychometrically validate the Parent Anger Scale (1) on a sample of parents of kindergarten and elementary aged children and (2) on Romanian samples. After testing the factorial structure, we are aiming to examine the reliability and validity of the PAS.

Method

Participants.

Parents of children ages 4 to 17 years were recruited to participate in a study measuring parent anger. Parents were recruited from ten kindergartens and two schools in the county of Cluj, Romania. A total of 331 parents completed the questionnaires that were eligible for the study. The mean age for parents was 35.01 years (*SD* = 4.94).

Measures.

Parent Anger Scale (PAS; DiGiuseppe, DelVecchio, Gavita); The Parent Anger Inventory (PAI; Hansen & Sedlar, 1998); The State–Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1999); *The Profile of Mood States–Short Form (POMS-SF; Shacham, 1983)*; *The Parental Stress Scale (PSS; Berry & Jones, 1995).*

Results

Principal axis factors with Oblimin rotation was run on the sample to determine the factorial structure. Within the exploratory factor analysis, four factors had eigenvalues greater than one and the factors accounted for 58.22% of the total variance.

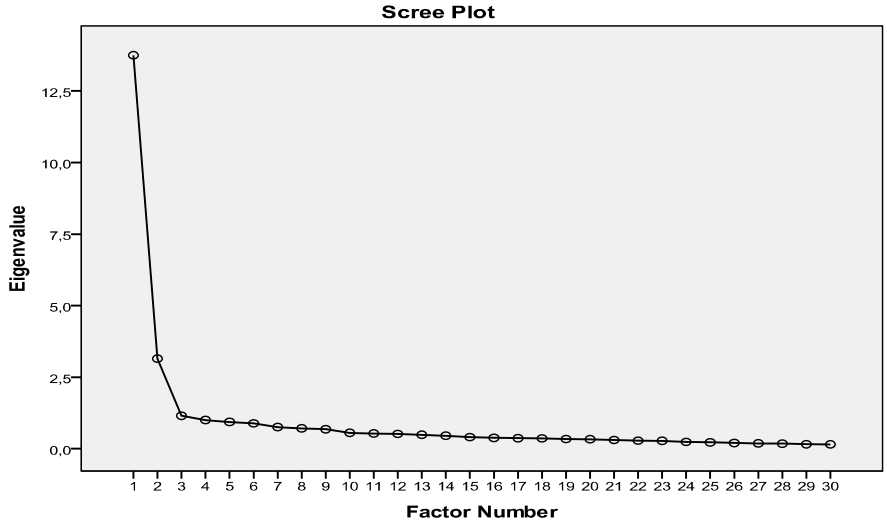

Figure 2. Scree plot indicating the factors and eigenvalues of the PAS

An exploratory factor analysis with the constraint for a one-factor model using Oblimix rotation was conducted for further examination. The total variance that is explained by the factor is 44.07 %. Using a one-factor model, all items had factor loadings greater than .30, with factor loadings ranging from .35 to .81. Additionally, an exploratory factor analysis was conducted with the constraint for a two-factors model with Oblimin rotation. Given the scree plot, the theoretical construct of each model, and the factor loadings, the one-factor model appeared to be a more parsimonious and interpretable design. Based on the data obtained, PAS can be scored by getting the PAS Total score.

Internal consistencies were examined for the PAS Total score. The Cronbach's alpha was adequate for the PAS Total, $\alpha = .95$. Significant relationship was obtained between PAS Total score and PAI Anger Intensity Subscale: $r(329) = .44$, $p < .01$. Additionally, as hypothesized, the PAS and the PAI Problems Subscale were correlated: $r(329) = .22$, $p < .01$.

Discussion

The PAS was found to have good psychometrical properties, evidencing good internal consistencies and concurrent validity. The validation of the PAS could have a number of implications to the field of parenting research and interventions. Thus, PAS may facilitate the assessment of the evolution of the symptoms, following participation to parent management training or group therapy sessions.

3.3. **Evaluative Cognitions as Mechanisms for Emotion-Regulation in Parents**[3]

Parenting a healthy child is not an easy job; parenting a child presenting disruptive behavior is uniquely challenging and can be extremely stressful. Based on the findings about the negative impact of parent distress and psychopathology mentioned in Chapter 1, strong research efforts have been made towards understanding factors that contribute to parental emotional and behavioral self-regulation processes. Furthermore, there are increasing efforts to address parental self-regulation aspects in parental programs for reducing child disruptive behavior (see Ben-Porath, 2010); such programs might be enhanced by additional investigation of mechanisms important to parental self-regulation in this population. Empirical support for the relevance of child-related cognitions in parenting and child adjustment is growing. From the cognition-based models of parenting behavior, parent cognitions are considered important predictors that determine reactions and specific practices undertaken by the parent (Bugental & Johnston, 2000). Indeed, cognitive processes have been found to be associated with parent distress and the use of specific parenting behaviors that maintain child behavior problems (MacKinnon-Lewis et al., 1992). However, data from clinical cognitive sciences bring nuances when we talk about cognitions. Thus, descriptive/inferential cognitions ("cold" cognitions) do not automatically result in emotional responses unless appraised ("hot"/ evaluative cognitions) (e.g., see David, 2003; David & Szentagotai, 2006; Smith et al., 1993). However, to our knowledge, no investigation about the relation between "cold" and "hot" cognitions has yet been done in the field of parent cognitions.

Study 4. Cognitive Mechanisms of Parental Affect: the Case of Parental Distress and Satisfaction

Introduction

The first aim of the present study was to investigate the cognitive mechanisms involved in parental distress. We are taking into consideration general and specific parental cognitive variables shown to be responsible for both adult pathology/emotional distress. Our hypothesis was that specific rather than general parental cognitive structures are responsible for parental distress. Additionally, we aimed to identifying interrelations among different types of cognitions in causing parental distress (e.g., "cold" inferential cognitions versus "hot" evaluative cognitions/appraisal).

Method

[3] Parts of this study were presented at the 24th Annual Conference of the European Health Psychology Society, 1st-4th September 2010. The following meeting abstract was published (ISI/ Web of science): Gavita, O., Szasz, P., & Dobrean, A. (2010). Cognitive bases of emotion regulation in parents: The case of parental distress and anger. *Psychology & Health*, 25, 6, 218. DOI: 10.1080/08870446.2010.502762 The co-authors had contributed to the recruitment of the participants, the administration of the measures, and the exposition of the abstracts.

Participants.

Participants were 211 parents, 89.2% mothers and 10.8% fathers, mean age 34.55 years old (SD=5.64). Children were aged between 2 and 17 years old (M = 6.80, SD = 6.20), 36.5% being girls and 63.5% boys. No difficulties regarding child behavior were reported by the parents.

Measures.

The Parental Rational and Irrational Beliefs Scale (P-RIBS; Gavita, DiGiuseppe, David & DelVecchio); General Attitudes and Beliefs Scale–Short Form (GABS-SF; Lindner et al., 1999); Unconditional Self Acceptance Questionnaire (USAQ; Chamberlain & Haaga, 2001); The Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978); The Parental Stress Scale (PSS; Berry & Jones, 1995).

Results

The first step in data analysis was to correlate variables of general and specific parental rational and irrational cognitions, inferential parental cognitions, and parental distress. Variables demonstrating the hypothesized relations were then entered into regression equations as predictors of distress or parental satisfaction. Mediation analyses were performed for variables showing significant bivariate relations, in accordance with the published criteria (Baron & Kenny, 1986). The conservative Sobel test was used to evaluate the effect of the independent variable (i.e., predictor) on the dependent variable (i.e., criterion), via the hypothesized mediator.

A number of multiple regression analyses were run to evaluate predictive validity of the parental versus general rational and irrational cognitions in predicting parental distress. Also, general and/or parental rational and irrational cognitions (e.g., "hot" evaluative cognitions/appraisal), together with parental self-efficacy (e.g., "cold" inferential cognitions) were entered in a regression equation with parental distress as dependent variable. See below some of the obtained results (the detailed analyses are presented in the thesis).

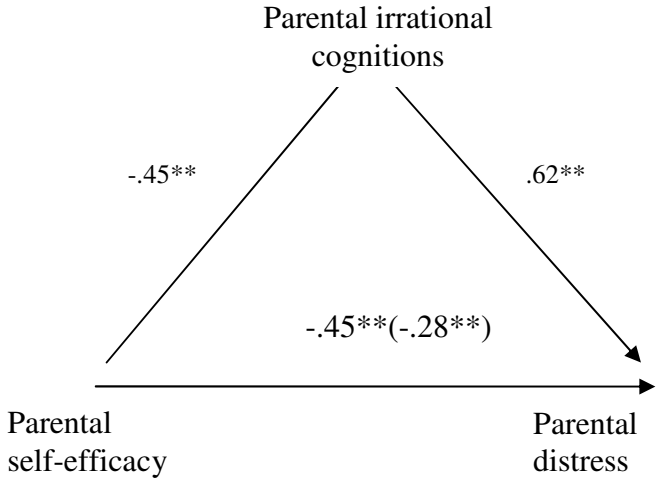

Figure 3. Mediational diagram for models testing the interrelations among parental irrational cognitions, parental self-efficacy, and parental distress. All values are beta coefficients. Values in parenthesis show relationships between predictor variable and the dependent variable when the mediating variable is included in the model; *$p < .05$; **$p < .01$;

Discussion

The findings of this study show that specific/parental rational and irrational cognitions mediate totally the relation between general rational and irrational cognitions and parental distress. In terms of the types of cognitions influencing parental distress, we found that the effect of parental self-efficacy on parental distress is partially mediated by parental irrational beliefs. Parental global evaluation however was found to totally mediate the relation between self-efficacy and parental distress. This means that when parents consider they are not able to handle the problems regarding their child, this does not directly result in parental distress, unless the parent holds the beliefs that she/he is a bad parent. Also, rational parental cognitions represent resiliency factors for the impact of low self-efficacy as parent on parental reported distress, since we found it partially mediates this relation.

Study 5. Cognitive Mechanisms of Parental Anger in Parents of Children Presenting Disruptive Disorders: Implications for Cognitive-Behavioral Parental Programs

Introduction

A first aim of the present research was to investigate specific parental and general cognitive mechanisms for parental anger in parents of children presenting disruptive behavior. Parental anger seems much more relevant (than other emotions) in the context of child disruptive behavior. Thus, we extend the research in the field of parental affect, in the case of parents having children with externalizing symptoms, from parental depression towards parental anger. Additionally (see also Study 4), we aimed to identifying interrelations among different types of cognitions in causing parental anger in parents of externalizing children (e.g., "cold" inferential cognitions versus "hot" evaluative cognitions/appraisal).

Method

Participants.

Participants were 139 parents participating in an ongoing study on the effects of parental programs in reducing child disruptive behavior, whose children had been identified as presenting child disruptive behavior according to Child Behavior Checklist (by scoring over the clinical cut-off of CBCL; Achenbach, 1991). Children were aged 4 to 12 years, with a mean age of 6.20 (*SD* = 2.04).

Measures.

The Parental Anger Scale (PAS; DiGiuseppe, DelVecchio, & Gaviţa); The Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978); Parental Locus of Control Scale - Short Form Revised (PLOC-SFR; Campis et al., 1986); Parental Rational and Irrational Beliefs Scale (P-RIBS; Gavita, DiGiuseppe, David, & DelVecchio); General Attitudes and Beliefs Scale–Short Form (GABS-SF; Lindner et al., 1999).

Results

The first step in data analysis was to correlate variables of general and specific parental rational and irrational cognitions, inferential parental cognitions, and parental anger. Variables demonstrating the hypothesized relations were then entered into regression equations as predictors of distress or parental satisfaction. Mediation analyses were performed for variables showing significant bivariate relations, in accordance with the published criteria (Baron & Kenny, 1986). The conservative Sobel test was used to evaluate the effect of the independent variable (i.e., predictor) on the dependent variable (i.e., criterion), via the hypothesized mediator.

A number of multiple regression analyses were run to evaluate predictive validity of the parental versus general rational and irrational cognitions in predicting parental anger. Also, general and/or parental rational and irrational cognitions (e.g., "hot" evaluative cognitions/appraisal), together with parental locus of control (Parental LOC) (e.g., "cold" inferential cognitions) were entered in a regression equation with parental anger as dependent variable. See below some of the obtained results (the detailed analyses are presented in the thesis).

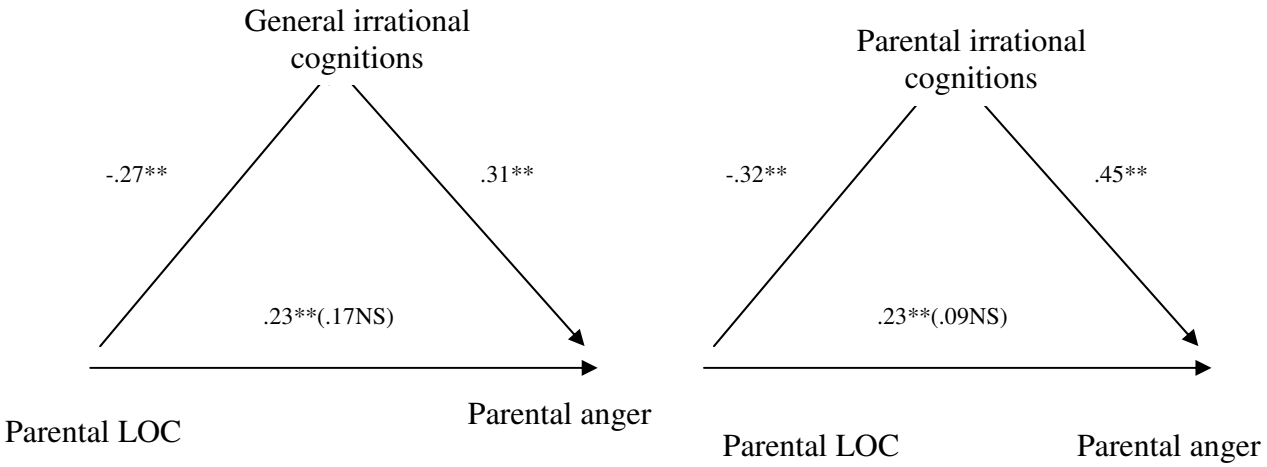

Figure 4. Mediational diagram for models testing the interrelations among irrational cognitions, parental locus of control, and parental amger. All values are beta coefficients. Values in parenthesis show relationships between predictor variable and the dependent variable when the mediating variable is included in the model; *p < .05; **p < .01.

Discussion

As predicted, there are different levels of cognitive variables associated with emotional distress (i.e., anger) in parents. Parental irrational and rational cognitions are associated significantly with general rational and irrational beliefs, showing that parents presenting general rational and irrational cognitive structures are also presenting specific/parental rational and irrational cognitions. In terms of the mechanisms to explain emotion regulation processes in parents of children presenting disruptive behavior, data showed that specific parental irrational cognitions totally mediate the impact of general irrational cognitions on parental anger. More precisely, general absolutistic cognitions lead to the formulation of parental specific rigid demands, which in turn cause parental anger.

In line with the appraisal theory of emotions (Lazarus, 1991; see also David, 2003), we have found that general and specific/parental irrational cognitions totally (in case of locus of control) or partially (in case of parental efficacy for parent irrational beliefs only) mediate the impact of inferential cognitions on parent anger. Our findings are similar to our results on parental stress of parents of non-clinical children obtained in Study 4 thus offering robustness and generalizability to the conclusions.

3.5. Evidence Based Cognitive-Behavioral Parent Programs for Child Disruptive Behavior

Study 6. A Pilot Study on the Efficacy of a Short Parental Enhanced Cognitive-Behavioral Program for Reducing Disruptive Behavior in Foster Cared Children[4]

Introduction

Foster children manifest a high incidence of behavioral problems compared with children from the general population (McCann et al., 1996; Smyke et al., 2007) and these problems are associated with unexpected disruptions in the foster care placement (Borland et al., 1991). There is extensive research showing that parent training is effective for child externalizing symptoms (Scott, Spender, Doolan, et al., 2001), but only a few published randomized clinical trials have demonstrated the potential that cognitive-behavioral parent training could have be a tool for helping foster parents and reducing disruptive behavior in foster children (Kakavelakis & Macdonald, 2004).

The study aimed to determine the efficacy of a cognitive-behavioral group parent program, enhanced with a "cognitive" module focused on parental stress, in reducing disruptive behavior in foster children and in increasing the stability of the placement, by comparing it with a waiting list control group (WL group). It was predicted that, in the case of the children fostered by the parents participating in the cognitive-behavioral parent group, significant reductions in disruptive behavior (primary outcome) would be seen when compared with the waiting list condition; furthermore, significant differences between foster parents in the experimental group and the control condition were expected with regard to outcomes such as parenting practices, distress, and unplanned placement disruption.

Method

Participants.

The initial sample included 97 foster parents from Bihor County, Romania. Each signed an Informed Consent before being included in the study. Inclusion criteria were to be caring for children who had a high level of externalizing symptoms as indicated by their score on the Child Behavior Checklist (CBCL; Achenbach, 1991) and who were between the ages of 5 and 18 years. The mean age of the children was 9.51 years (SD = 3.47. Eligible subjects were allocated in the two groups: the Enhanced Cognitive-Behavioral Parent Training (ECBPT) group and the waiting list (WL) group. For the intervention group, an intervention manual was developed. The therapist who delivered the treatment was trained in cognitive-behavior therapy, according to the standards of the European Association of Behavioral and Cognitive Therapies and had extensive experience in working with groups.

Measures.

The foster placement disruption rate; Child Behavior Checklist (CBCL; Achenbach, 1991); The Parenting Scale (PS; Arnold et al., 1993); Profile of Mood States (POMS–Short Form; Shacham, 1983).

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[4] Parts of this study were published (BDI): Gavita, O. A., Dobrean, A., & David, D. (2010). Placement Stability & Quality of Life in Foster Parents of Children Presenting Aggressive Behavior: Efficacy of a Cognitive-Behavioral Parent Program. *Social Work Review (Revista de Asistenţă Socială),* 2, 159-169. The 2nd author brought contributions to the exposition part of the paper, while the 3rd author brought contributions to the design of the study.

Treatment.

The program consisted of four weekly sessions plus a three months follow-up session, each of four hours length. The cognitive module consisted of a first module centered on reducing foster parents' distress by teaching them skills to identify and dispute their general and child-related evaluative (irrational) cognitions (e.g., unconditional self and child acceptance, low frustration tolerance, or demanding attitudes) and dysfunctional attitudes (e.g., child related attributions). After helping foster parents control their emotional reactions related to children's problematic behaviors (e.g., anger, panic), the program aimed at teaching the participants skills to effectively manage children's defiant behavior, skills for better communication, and problem solving skills through the use of educational materials, role-playing, and weekly homework tasks.

Results

The attrition rate was 18%; 79 foster parents of the total sample of parents remained in the study, 44 for the treatment group and 35 for the control group at the post-treatment. For the follow-up measurements, data were obtained from only 27 foster parents who received the whole intervention.

The measure of treatment integrity and fidelity used in the present study was based on a checklist based on the protocol developed for the intervention group.

Table 2

Descriptive statistics (Means-M and standard deviations-SD) for the outcomes at pre, post, and follow-up for the experimental and waiting list groups

Groups	Outcomes	Pre-treatment			Post-treatment			Follow-up		
		M	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*	*N*
Intervention	Child behavior Problems	76.62	14.97	56	58.75	17.64	44	60.04	16.83	27
	Parental stress	13.39	6.61	56	8.90	7.09	44	11.77	5.33	27
	Parenting	99.07	32.21	56	74.06	29.73	44	96.81	20.14	27
Control	Child behavior Problems	81.87	20.36	41	70.88	18.08	35			
	Parental stress	14.29	6.57	41	13.68	7.09	35			
	Parenting	101.02	25.61	41	101.34	26.15	35			

Repeated measures ANOVA analysis on child externalizing syndromes showed significant differences by main effect of the groups $F(1,93) = 4.99$, $p < .05$, time changes $F(1,93) = 52.00$, $p < .001$ and their interaction $F(1,93) = 11.86$, $p < .01$. Significant improvements were registered at three months follow-up for the treatment group $t(55) = 5.96$, $p < .01$ when compared to pre-treatment.

The group of foster parents that participated in the intervention reported a medium effect size improvement in terms of their children externalizing symptoms (d = .67). Categorical analysis show that based on foster parents reports, 41.4% of the children no longer were in clinical range levels at post-test and 48.14% of the children in the follow-up sample.

Table 3
Placement Disruption Rate for Intervention and Control Groups

	N	Percent of placement disruption
Intervention group	44	4,5%
Control group	35	5,7%

There were no differences in placement disruption rates between the groups three months after the intervention ($\chi^2 = .05$, $p > .05$).

Discussion

The results of Study 6 showed that the program reduced (a) disruptive behavior in foster children, (b) parental distress, and (c) foster parents' reports of dysfunctional parenting; however, it had no significant impact on rates of placement disruption. Effect sizes of the intervention on all the outcomes reported by foster parents were in the medium range and the effects on child outcome were maintained at three months follow-up. Although successful, because the study was a pilot approach and we did not include a standard program for comparison, our next step is to test a cognitively enhanced parenting program in a more complex clinical trial.

Study 7. The Efficacy of an Enhanced Cognitive-Behavioral Parent Program in Reducing Child Disruptive Behavior: Outcomes and Mechanisms of Change[5]

Introduction

The present study aimed to extend the enhanced cognitive-behavioral parent programs literature by conducting a randomized controlled trial evaluating the effects of an enhanced group behavioral parent programs (ECBPP) for parents of children presenting disruptive behavior that specifically targeted their child's and their own behaviors, emotion control deficits, and maladaptive beliefs based on (1) modern developments (e.g., emotional regulation strategies paradigm, cognitive science and REBT distinction between "cold" versus "hot" cognitions etc.; see Chapter 1)); (2) our previous studies (Studies 1 to 6), and (3) our established guidelines, based on Chapter 1 review and Studies 1-6) (see

[5] Parts of this study were presented at the 24th Annual Conference of the European Health Psychology Society, 1st-4th September 2010. The following meeting abstracts were published (ISI/ Web of science):

- Gavita, O. A., David, D., & Dobrean, A. (2010). Evidence-based parent programs for the treatment of child disruptive behavior: Comparative effectiveness of standard and enhanced group-based cognitive-behavioral parent programs. *Psychology & Health*, 25, 6, 218. DOI: 10.1080/08870446.2010.502762
- Apopi, D. M.**,** Gavita, O.A, & Dobrean, A. (2010). The efficacy of cognitive-behavioral parenting programs in improving quality of life for parents of children with conduct problems. *Psychology & Health*, 25, 6, 147. DOI: 10.1080/08870446.2010.502762

Co-authors of the papers brought contributions to the implementation of the intervention, the recruitment of participants, and/or the exposition of the abstracts. Dr. David had contributions to the problems formulation and the design of the studies.

section 3.4 in the thesis). This intervention was compared to Control condition and a Standard group parent program (SCBPP). Methodological limitations in previous research were addressed by including here (1) specific measures to assess parents' rational and irrational beliefs and distress (based on our studies: Study 2a, 2b, and 3), (2) a randomized group design, and (3) mechanisms of change analysis.

Method

Participants.

The final sample consisted of 130 parents and their children with high levels of child disruptive behavior according to the ASEBA system for evaluation, by scoring over the clinical or subclinical cut-off (percentile 93 of the CBCL or C/TRF; Achenbach, 1991).

Therapists.

Eight therapists certified in cognitive-behavioral therapy according to the standards of the European Association for Behavioral and Cognitive Therapies; www.eabct.com) leaded the SCBPP and ECBPP conditions. Two manuals were elaborated for this study based on the SOS Help for Parents and SOS Help for Emotions curricula (Clark, 1996). A system for monitoring and calibrating for protocol adherence was developed.

Procedure.

Parents allocated to the intervention conditions, Standard Cognitive Behavioral Parent Program (SCBPP) and Enhanced Cognitive Behavioral Parent Program (ECBPP), attended 90 minutes sessions with two leaders on an group basis, at the counseling centers within the schools and kinder gardens that were included in the study. Parents allocated to both condition participated in 10 weekly group sessions (15 hours of intervention) with a two group co-leaders. After-hours appointments were available for parents who missed sessions in order to encourage parents to attend. Although the programs were intended to be completed via weekly sessions, because of various reasons such as illness and public/school holidays, it typically took families between 10 and 15 weeks to complete the programs.

Treatment conditions.

The Standard Cognitive Behavioral Parent Program. This program, based on the SOS Help for Parents Curricula (Clark, 1996), involved teaching parents 20 core child and self management strategies.

The Enhanced Cognitive Behavioral Parent Program. Parents in the Enhanced condition received first an intensive stress management module and then the behavioral parent training component as described previously for the Standard condition. Parents received the same length of intervention as in the Standard parent condition, 10 sessions of intervention completed over a 10 week period. The adjunctive curricula was integrated at the beginning of the program (based on the REBT's distinction between solving first the "emotional problem" rather than the "practical problems") and covered the content of two session (session 2 and 3); it specifically targeted their child's and their own behaviors, emotion control deficits, and maladaptive beliefs based on modern developments (e.g., emotional regulation strategies paradigm; cognitive science and REBT's distinction between "cold" versus "hot" cognitions; REBT strategy of working first on emotional problems and taking as second step the change of practical problems, in order to obtain long lasting results and build resiliency: "feeling better" versus "getting better").

Measures.

General information sheet.

Outcome measures. *Child Behavior Checklist (CBCL; Achenbach, 1993); Carer-Teacher Report Form and Teacher Report Form (C-TRF/ TRF; Achenbach & Rescorla, 2000; 2001).*

Hypothesized mechanisms of change. *Parenting Scale (PS; Arnold et al., 1993); Beck Depression Inventory (BDI; Beck et al., 1961); The Parental Stress Scale (PSS; Berry & Jones, 1995). The Parenting Sense of Competence Scale (PSOC; Gibaud-Wallston & Wandersman, 1978); Parent Rational and Irrational Beliefs Scale* (P-RIBS); *General Attitudes and Beliefs Scale–hort Form (GABS-SF; Lindner et al., 1999). Credibility/Expectancy Questionnaire—Parent Version (Borkovec & Nau, 1972; Nock et al., 2007).*

Results

Adherence to Treatment Protocol.

The measure of treatment integrity used in the present study was based on a modified version of the Parent Group Leader Rating Scale (The IncredibleYears - The Parenting Clinic) which was used in other group format cognitive-behavioral parent programs (Webster-Stratton & Herbert, 1994). The overall means of all the ratings were above the mean for each section of the measure, as were the means for each therapist.

Treatment Outcome: Middle of the Treatment (5 Weeks), Post-treatment and one Month Follow-Up.

The treatment outcome analyses considered the three conditions, with CBCL and C-TRF scores serving as child externalizing syndromes outcomes, and parenting (PS), parent distress (PSS), parent self-efficacy (PSOC), irrational cognitions (GABS), and parental irrational cognitions (P-RIBS) serving as parent outcomes. We also looked at the proportion of recovered children in each condition, to assess the clinical significance of each treatment condition at post-treatment. We will present some of the main results (they are fully detailed in the thesis).

Table 4

One way analysis of variance comparisons on child behavior outcomes at mid-treatment, post-treatment, and follow-up and mean differences at post-treatment and follow-up(Tukey HSD)

Out-comes	ANOVAs			Standard vs. Control	Enhanced vs. Control	Standard vs. Enhanced	Standard vs. Control	Enhanced vs. Control	Standard vs. Enhanced
	Mid-treatment	*Post-treatment*	*follow-up*	*Post-test*			*Follow-up*		
CBCL	F(2,127) = 1.33, p > .05	F(2,127) = 10.59, p < .01	F(2,127) = 10.44, p < .01	-6.99, p < .01	-6.81, p < .01	-.19NS	-6.45, p < .01	-6.59, p < .01	.13NS
(C-) TRF	F(2,127) = .71, p > .05	F(2,127) = .54, p > .05	F(2,127) =.80, p > .05						

Note. NS: p > .05. CBCL = Child Behavior Checklist; (C-)TRF = Caregiver-Teacher Report Form. Externalizing syndromes

Outcome at Post-treatment.

Continuous analyses. There were significant differences between the study groups on the externalizing symptoms subscale of the CBCL, $F(2,127) = 10.58$, $p < .01$, but not on the externalizing symptoms subscale of the C-TRF/ TRF, $F(2,127) = .54$, $p > .05$. Post hoc analyses (Tukey HSD) indicated significant mean differences (*MD*) on the child disruptive scores reported by parents (CBCL) between the Standard and Control conditions ($p < .01$), and between the Enhanced and Control groups ($p < .01$), but no differences between the two intervention condition groups. The effect size of the comparison of the standard condition with the control group on the CBCL was in the high range, $d = .80$ (Cohen's estimates); the effect size of the Enhanced parent condition compared to control group was found in the same range, $d = .76$.

Detailed a posteriori analyses on the DSM-IV-TR oriented subscales of CBCL show significant differences at post-treatment between groups in terms of child Oppositional Defiant problems (ODD symptoms), $F(1,128) = 9.89$, $p < .01$, and Conduct problems (CD symptoms; aggressive behavior), $F(1,127) = 7.32$, $p < .01$, but no differences in terms of ADHD symptoms, $F(1,127) = 1.57$, $p > .05$. In terms of ODD, analysis shows significant differences between the control and standard conditions ($p <.01$; d= .60) and between control and enhanced groups ($p< .01$; $d = .63$). For the level of aggressive behavior, significant differences were found between the control group and the standard group ($p < .01$; $d = .75$), respectively between the control and the enhanced groups ($p < .01$; $d = .71$).

Categorical analyses. Response rates for externalizing syndromes of the CBCL and C-TRF at 10 weeks were 47.5% response rate in the Standard parent condition, and 63.15% recovery in the Enhanced parent program condition. Categorical comparisons showed significant differences in terms of response rates on the child externalizing symptoms of the CBCL between the Standard and Control conditions, $\chi2(2, N = 68) = 7.41$, $p < .01$, and between the Enhanced and Control groups , $\chi2 (2, N = 65) = 8.37$, $p < .01$. No differences were found between the two intervention groups in terms of response rates ($\chi2(2, N=79) = .08$, $p > .05$).

Outcome at 1-Month Follow-Up.

Continuous analyses. At 1-month follow-up the level of externalizing syndromes measured by the CBCL was significantly reduced both in the standard ($p < .01$; $d = .77$) and enhanced ($p < .01$; $d = .79$) parent program conditions as compared to control condition [$F(2, 127) = 10.44$, $p < .01$.]. There was no significant difference between the standard parental condition and the enhanced parental program condition at 1-month follow-up on the CBCL ($p > .05$); there were no significant differences among study conditions on C-TRF/ TRF externalizing syndromes (all *p*s < .01).

Comparisons on the DSM-IV-TR oriented subscales of CBCL show significant differences at follow-up between the three groups in terms of child Oppositional Defiant problems (ODD), [$F(2,127) = 8.42$, $p < .01$)], Conduct Problems, [$F(2,127) = 7.04$, $p < .01$], and ADHD symptoms, [$F(2,127) = 8.66$, $p < .01$)]. In terms of ODD problems, analysis of covariance shows significant differences between the control and standard conditions ($p < .01$; d = .47), respectively the control and enhanced group ($p < .01$; $d = .83$) at 1 month follow-up. Regarding the level of conduct problems at follow-up, significant differences were found between the control group and the standard group ($p < .01$; $d = .70$), respectively control and the enhanced group ($p < .01$; $d = .67$) at 1 month after the treatment. In terms of ADHD problems, significant differences were found only between the control and enhanced condition ($p < .01$; $d = .71$), Regarding the teacher reports of child behavior, DSM-IV-R oriented subscales of the C-TRF show differences between the groups in terms of child ODD at follow-up, [$F(2,127) = 3.70$, $p < .05$], the significant differences being registered between the control and enhanced group ($p < .05$).

Mechanism of Change Analysis.

Several steps should be considered in exploring the mechanisms of change involved in this clinical trial (see also Kazdin & Nock, 2003; Treadwell & Kendall, 1996; Weersing & Weisz, 2002). First, it is necessary to determine whether the intervention or treatment is efficacious. Second, the influence of the intervention on the hypothesized mechanisms of change needs to be analyzed. Third, it is necessary to look at how hypothesized mechanisms of change influence the outcomes. Finally, the question must be answered of whether intervention effects can be accounted for by the hypothesized mechanisms of change. We focus on each of these aspects as follows.

1. Efficacy test. The treatment or intervention (A) must be related to therapeutic change or treatment outcome (C). Table 3 (in the thesis) summarizes the outcomes of the randomized clinical trial. As can be seen, there are significant differences between each experimental group (i.e., ECBPP and SBPPC) and the control condition at post-treatment and follow-up, but no significant differences between the two parental interventions, on the main child outcome (CBCL). There are also significant differences between pre-post treatment scores in each study condition. Changes in child disruptive behavior from post-treatment to follow-up are not significant.

2. Intervention test. The treatment (A) has the specific effect intended, which it must be related to the proposed mediator (B). We looked at the impact of each treatment condition on the processes it was expected to impact, as well as those outside its domain. Thus, we examined the degree to which each condition resulted in decreased dysfunctional parenting style, parental distress and depression, parental efficacy, and general and specific/parental rational and irrational beliefs as compared to the control condition. (see Tables 5 and 6 in the thesis).

3. Mediator and change test. As a test that the proposed mediator is related to change in symptoms (or outcome domains), the mediator (B) must be related to therapeutic change (C).

We calculated residual change scores from pre-treatment to post-treatment (Treatment change) for (a) child externalizing symptoms (CBCL) and (b) each hypothesized mediating variable. Table 5 presents the correlations between treatment change in the hypothesized mediating variables and treatment change in child externalizing behavior in each study condition.

Table 5

Treatment change analyses: Correlations between primary outcome (CBCL) and hypothesized mechanism of change

	Externalizing symptoms change (pre-post)		
Mechanism of change (pre-post)	Standard	Enhanced	Control
PS	.35*	.34*	-.05
PSS	-.04	.34**	.08
BDI	.39**	.33*	-.11
GABS R	.18	.16	.05
GABS IR	.06	.38*	.23
P-RIBS R	.12	.42*	-.10
P-RIBS IR	.22	-.04	.02
PSOC	.14	.19	.07

Note. * The mean difference is significant at the $p < .05$*, $p < .01$** levels; *NS: $p > .05$*.

SCBPP = Standard Cognitive Behavioral Parent Program; ECBPP = Enhanced Cognitive Behavioral Parent Program; PS = Parenting Scale; BDI = Beck Depression Inventory; PSS = Parental Stress Inventory; PSOC = Parental Sense of Competence Scale; GABS = General Attitudes and Beliefs Scale; P-RIBS = Parental Rational and Irrational Beliefs Scale.

Discussion

In this study, we examined (a) the degree to which an enhanced cognitive-behavioral parent treatment produced changes in child disruptive behavior compared to a standard cognitive-behavioral parent program and a control condition and (b) the role of hypothesized mediators in predicting treatment outcome.

We found significant decreases in parent-rated child externalizing behavior following treatment in both intervention conditions. High effect sizes were registered for both intervention conditions at post-test and at follow up – with the enhanced condition bringing slightly (but not significant) higher gains in response rates. No gains were evidenced in terms of teacher rated child externalizing syndromes after the treatment or at 1 month follow-up. However, significant decreases in child Oppositional Defiant Disorder and ADHD symptoms for the Enhanced intervention compared to the Control condition were evidenced by teacher ratings (ODD) and parent ratings (ADHD) at follow-up (not for Standard as compared to control). This is the first study to our knowledge that examined whether focusing on parental distress and irrational cognitions at the beginning of the parental intervention enhances clinical level outcomes reported by either parent or teacher.

As concerning the mechanisms of change, let us try to clarify the mixed picture that emerged from our analyses. We had predicted that for the ECBPP condition, parental practices, distress, and cognitions would mediate the effect of the intervention on children's level of externalizing behavior at post-treatment. Our expectations were partially confirmed, in that we found that parental distress mediating only partially the impact of the Enhanced intervention on a specific child outcome: conduct problems. Although results showed that parental depression (a specific distress component) is a predictor of change in the Enhanced condition, we failed to show that parent depression has mediating effect of this intervention for child disruptive symptoms. However, this result could be due to the fact that the initial level in parent depression was in the low range (see means and *SD* in Table 2) and it could be that this could explain the lack of statistical significant mediations. Similarly, parenting seems to not be a mediating factor of the results in the interventions conditions; this is interesting and asks for more research, maybe also including the common factor paradigm in psychotherapy. The mediator analyses bring contributions to the previous studies of this type in the field (see Gardner et al., 2010) and suggest new lines of research. For example, finding that rational and irrational beliefs do not directly mediate the impact of enhanced program on the child outcomes may suggest – and this is still consistent with our model - that these beliefs are causing parental distress that can then influence the specific outcomes of the program; however, future analyses and studies should investigate this in more details, including more complex structural equation modeling techniques. Our findings suggest that the improvement in the parental distress could explain the apparent superiority of the Enhanced condition for the aggressive child behavior (conduct problems).

CHAPTER IV. GENERAL CONCLUSIONS AND DISCUSSION

Overall, we think that the main finding of the last study is that the cognitively enhanced parental intervention can produced more consistent long lasting changes across a full range of child measures, parents' cognitive, affective, and parenting measures.

Let us analyze the contributions of the thesis more precisely, as follows.

Theoretical contributions to the literature.

Present thesis brings contributions for (a) the area of emotion-regulation strategies used by parents and (b) theoretical models of cognitive-behavioral parent programs for child disruptive behavior. More precisely, this research project brings important contributions to the conceptualization of the cognitive mechanisms of parental regulation processes involved as etiopathogenetic factors in child disruptive behavior. The conclusion of the research is that targeting parental irrational/evaluative cognitions ("hot" cognitions) in addition to attributions on control and self-efficacy ("cold" cognitions) in parenting programs is contributing to a decrease in parental distress levels and enhance interventions for childhood onset conduct problems. We have found strong support for rational and/or irrational cognitions mediating the impact of the inferential parental cognitions on the distress levels (including anger) reported by parents of both disturbed and non-disturbed children. Future research should further explore the interrelations between these cognitive constructs on impacting parental anger and distress.

Methodological contributions to the literature.

One of the major contributions of this thesis is the development and validation of two measures provided for two key construct which can allow the progress of the emotion-regulation research in the field of parenting: (1) Parental Rational and Irrational beliefs Scale (P-RIBS; Gavita et al; Gavita - main author) – measuring parental rational and irrational beliefs; (2) Parental Anger Scale (PAG; Gavita –co-authors) – measuring parental anger.

Practical contributions to the literature.

Research in parental programs for the treatment and prevention of child disruptive behavior needs to focus on integrating adequately cognitive mechanisms of parental emotion-regulation in order to foster optimal outcomes. An important change that needs to be made in designing the cognitive component of parent programs is to shift the focus from attributions only ("cold" cognition mechanism), to the entire architecture of parent cognition (specially "hot" evaluative cognitions in the form of rational and irrational beliefs) for finding how they influence the parent-child relationships. Our two clinical trials provided two evidence-based protocols for parent programs based on the cognitive-behavioral approach for the treatment of child disruptive behavior. They can be used in clinical practice and in future research (with a plus for cognitively enhanced protocol). Future research will need to replicate our findings, test the mechanisms of such intervention, and study long-term effects of the enhanced cognitive behavioral parent programs for reducing child disruptive behavior.

Limitation and further development.

Limitations of our conclusions are mainly derived from the limitation of the sample used and the research methods. However, we are not aware about specificities of Romanian sample that could affect the conclusions, but the generalizability of the results should be investigated to non-Romanian populations; what we have obtained so far is consistent with previous results in the literature (typically on English-speaking populations) and bring new innovative ideas and practices. As concerning the research method, our short-term follow up results are promising, but a main focus of the literature is on long-term maintenance of gains for child behavior after parental programs (from 1 year up). Therefore, research needs to further investigate the long-term results of this type of intervention; however, since our mechanisms of change results point out that the active component of parental emotional self-regulation strategies have increased the efficacy of the enhanced parental program, we expect a good stability of the clinical results.

Further research is needed to investigate if other well-researched programs could increase their effectiveness by integrating, at the right sequence, the specific components we found here reliably associated with greater effectiveness. Similarly, it may be possible to study the effects of eliminating

components reliably associated with less effective programs, thereby minimizing the burden on practitioners and families. Therefore, componential analyses of the proposed intervention should be investigated

There is an important distinction in the literature between “feeling better”, “getting better”, and “staying better” (see Ellis, 1994). A variety of techniques could help parents feel better. However, in order to get and stay better, they would have to change the fundamental etiopathogenetic mechanisms of their emotional problems, and these seem to be related to the last element in the chain, namely appraisal (“hot” evaluative cognitions) in the form of rational and irrational beliefs. Indeed, results of this research draws attention that the most important appraisal mechanisms seem to be related to rational and irrational beliefs and thus the evidence-based interventions in this field should continuously evaluate and refine these mechanisms to better understand parent and child psychopathology (i.e., fundamental/exploratory/basic research) and to develop better clinical intervention protocols (i.e., translational, applied, and/or development/innovative research).

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Note. Articles led by an * were included in the meta-analysis (Study 1).

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