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Specificity of Parenting Program Component Effects: Relational, Behavioral, and Cognitive Approaches to Children's Conduct Problems

Clinical trial registration information: Specificity of the Effects of Parenting Program Components to Reduce Risk Factors for Child Conduct Problems; www.trialregister.nl; NTR9052.

STUDY SYNOPSIS

Introduction Summary

Childhood conduct problems (eg, defiance, anger, and aggression) compromise child and family well-being and development.¹ Evidence-based programs to support parents

in managing children's conduct problems exist, but most families do not have access to these programs.² Implementation costs, certification and supervision demands, and limited possibilities to personalize evidence-based programs hinder their scalability. To improve the care that families receive, we need to identify and understand discrete therapeutic processes, rather than comprehensive treatment protocols, that can be flexibly implemented to effectively reduce key risk factors for children's conduct problems, and make them widely available as low-cost stand-alone therapy components.³ The present study therefore tests the effects of 3 stand-alone parenting program components.

Components are selected based on their different theoretical perspectives (ie, distinct theories of change), being common elements of established programs (ie,

FIGURE 1 Study Design

Condition (n)	Week 0	1–2	3–4	5–6	7–12
1 (28)		0	0	0	
2 (14)		0	A	0	
3 (7)		A	0	B	
4 (7)		A	0	C	
5 (7)		A	B	0	
6 (7)		A	B	C	
7 (7)		A	C	0	
8 (7)		A	C	B	
9 (14)		0	B	0	
10 (7)		B	0	A	
11 (7)		B	0	C	
12 (7)		B	A	0	
13 (7)		B	A	C	
14 (7)		B	C	0	
15 (7)		B	C	A	
16 (14)		0	C	0	
17 (7)		C	0	A	
18 (7)		C	0	B	
19 (7)		C	A	0	
20 (7)		C	A	B	
21 (7)		C	B	0	
22 (7)		C	B	A	

Note: Please note color figures are available online.

hypothesized core components), and preliminary evidence for effects as stand-alone interventions. We will test the unique causal effects of components on their targeted risk factors (RQ1), on other risk factors (ie, exploring whether different components affect the same risk factor and whether the same component affects different risk factors; RQ2); and unique and combined effects of components on children's conduct problems (RQ3). We hypothesize each component will primarily reduce its target risk factor and children's conduct problems; we do not have a priori hypotheses regarding relative, additive, and/or synergistic effects.

Method Summary

Participants. We aim to include 196 parents of 3- to 8-year-old children scoring above the 75th percentile of parenting stress due to difficult child behavior. Recruitment will take place through the Amsterdam Sarphati cohort and Dutch primary schools.

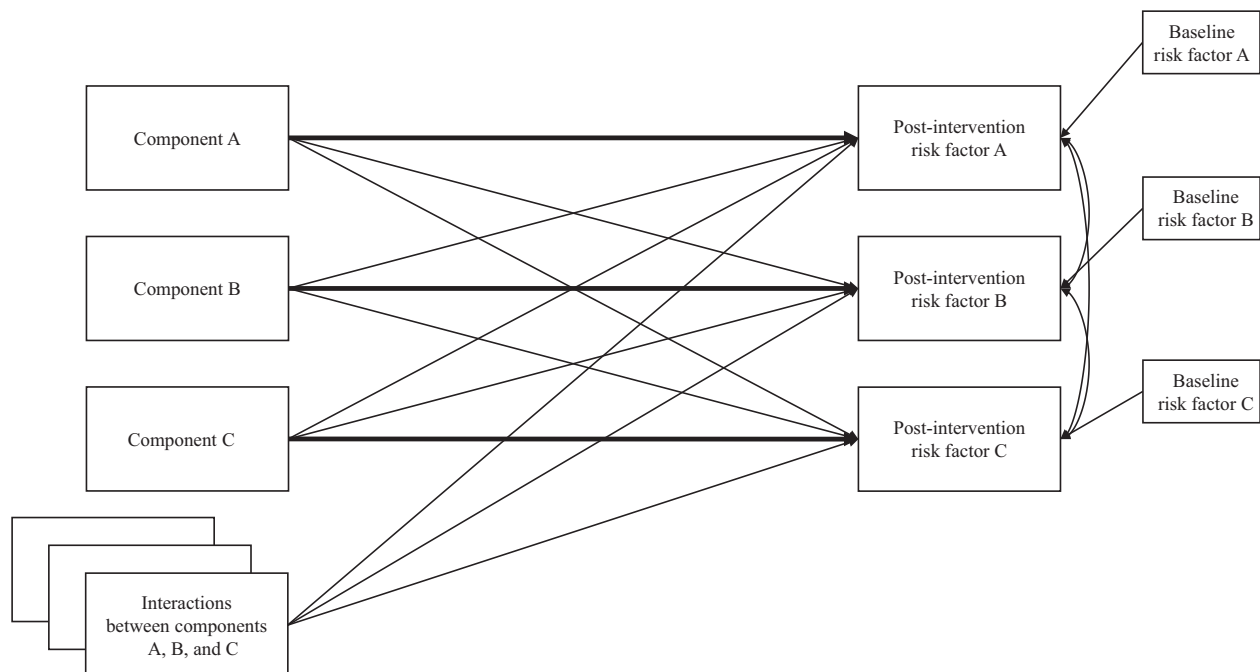
Design. We will use a factorial experiment (see Figure 1 in the supplemental materials, available online) with random allocation to all possible combinations of components and balanced component sequencing. This tests the effects of each component powerful and efficient while controlling for confounding and sequencing effects of other components. Assessments will take place at baseline (T_0), 2 weeks (post first component; T_2), 4 weeks (post second component; T_4), 6 weeks (post final

component; T_6), and 12 weeks (six weeks post final component; T_{12}).

Intervention Components. Components consist of 1 therapist-led session and 14 daily assignments. Component A: Parents engage in child-led play, derived from relational perspectives, expected to reduce children's conduct problems through increased parental sensitivity to children's needs.⁴ Component B: Parents reinforce positive child behavior using praise, derived from learning theory perspectives, expected to reduce children's conduct problems through differential attention.⁵ Component C: Parents reflect on mastery experiences, derived from self-efficacy perspectives, expected to reduce children's conduct problems through strengthening parents' feelings of competence to engage in effective parenting practices.^{6,7} Pilot data ($N = 262$ parents; 76% mothers; 39% bicultural) with an abbreviated 5-item ($\alpha = 0.91-0.93$) Treatment Evaluation Inventory shows that parents find all components acceptable ($M_s = 3.86-3.92$ on a scale of 1–5) without significant differences between components.⁸

Measures. Conduct problems: Eyberg Child Behavior Inventory and observation⁹; parent–child relationship quality: Parental Acceptance and Rejection Questionnaire—Warmth/Affection and observation; coercive parent–child interactions: Parent–Child Coercive Process Scale and observation; parental self-efficacy: Me as a Parent—Self-Efficacy.

FIGURE 2 Analytic Model







Analytic Strategy. Adherence will be tracked, but effects will be analyzed following intention-to-treat principles. Analysis will use an analysis of covariance–based method with seemingly unrelated regressions, in which each component will be related to each outcome controlling for the baseline value of each risk factor (Figure 2). At T_2 , we will estimate the main effect of component on each risk factor; at T_4 , T_6 , and T_{12} , we will estimate the main effect of component on each risk factor as well as the 2-way interactions of each component to test whether component effects depend on the presence of any of the other components. Starting with a full model, we will explore reduced-form models by first setting nonsignificant interactions to 0 and then considering whether paths from components to outcomes that components do not directly target are significantly different from 0. The final reduced form models will be compared to the full model using an omnibus Wald test. We will consider outcomes measured by parent-report and outcomes measured by observation in separate analyses. There are no planned sensitivity analyses.

Significance Summary

There is a need to shift our research from complete named therapy protocols to a more elemental approach to allow for flexible implementation of evidence-based components at low cost to meet the goals of individual families struggling with children's conduct problems.¹⁰ The present study contributes to this by identifying the unique effects of 3 discrete parenting program components on their targeted risk factors and on children's conduct problems.

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Consent has been provided for descriptions of specific patient information.

Dr. Melendez-Torres served as the statistical expert for this research.

Author Contributions

PL conceived of the study. PL and GJMT initiated the study design, and ME and GO helped with implementation. PL is grant holder. GJMT provided statistical expertise in clinical trial design and is conducting the primary statistical analysis. All authors contributed to refinement of the study protocol and approved the final manuscript.

Disclosure: Dr. Leijten and Ms. Eradus have developed the intervention materials based on existing, empirically supported intervention principles and do not have any financial or personal interest in their use or effectiveness. Drs. Melendez-Torres and Overbeek have reported no biomedical financial interests or potential conflicts of interest.

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