



Causal Evidence for *Exclusively Positive Parenting* and for Timeout: Rejoinder to Holden, Grogan-Kaylor, Durrant, and Gershoff (2017)

Robert E. Larzelere, Marjorie L. Gunnoe, Mark W. Roberts, Hua Lin & Christopher J. Ferguson

To cite this article: Robert E. Larzelere, Marjorie L. Gunnoe, Mark W. Roberts, Hua Lin & Christopher J. Ferguson (2020): Causal Evidence for *Exclusively Positive Parenting* and for Timeout: Rejoinder to Holden, Grogan-Kaylor, Durrant, and Gershoff (2017), *Marriage & Family Review*, DOI: [10.1080/01494929.2020.1712304](https://doi.org/10.1080/01494929.2020.1712304)

To link to this article: <https://doi.org/10.1080/01494929.2020.1712304>



Published online: 06 Feb 2020.



Submit your article to this journal [↗](#)



Article views: 30



View related articles [↗](#)



View Crossmark data [↗](#)



Causal Evidence for *Exclusively Positive Parenting* and for Timeout: Rejoinder to Holden, Grogan-Kaylor, Durrant, and Gershoff (2017)

Robert E. Larzelere^a, Marjorie L. Gunnoe^b, Mark W. Roberts^c, Hua Lin^a, and Christopher J. Ferguson^d

^aDepartment of Human Development and Family Science, Oklahoma State University, Stillwater, Oklahoma, USA; ^bDepartment of Psychology, Calvin University, Grand Rapids, Michigan, USA; ^cDepartment of Psychology, Idaho State University, Pocatello, Idaho, USA; ^dDepartment of Psychology, Stetson University, DeLand, Florida, USA

ABSTRACT

In our initial article we raised concerns about a paradigm we called “Exclusively Positive Parenting” (EPP). This paradigm opposes all negative disciplinary consequences, including timeout and privilege removal. We argued that the empirical support for EPP was insufficient. Researchers should not rely on insufficient causal evidence to replace well-established parenting perspectives that combine positive parenting with appropriate firm control. In reply, Holden et al. defended EPP. In this rejoinder to them we do two things. First, we use their citations to evaluate the limited causal evidence (four randomized studies) for what EPP supports. Second, we summarize the evidence for timeout, which EPP opposes. To do that, we offer the first known meta-analysis of the overall effectiveness of timeout, based on 24 studies with strong causal evidence for its effectiveness with young oppositional defiant children (6 randomized clinical studies; 18 small-*N* experimental designs). We call for parenting researchers to synthesize positive parenting techniques and disciplinary consequences based on adequate causal evidence.

KEYWORDS

behavioral parent training; causal inference; child discipline; positive parenting; timeout

Introduction

The two most widely endorsed, evidence-based parenting perspectives combine positive parenting with effective limit enforcement. Developmental psychologists advocate *Authoritative* parenting (Parke & Buriel, 2006; Steinberg, 2001) based on both nurturance and demandingness. Along with age-appropriate autonomy support and maturity demands, “authoritative parents endorse the judicious use of aversive consequences ... in the context of a warm, engaged, relational parent-child relationship” (Baumrind,

CONTACT Robert E. Larzelere  robert.larzelere@okstate.edu  Department of Human Development and Family Science, Oklahoma State University, 233 Human Sciences Building, Stillwater, OK 74078, USA.

© 2020 Taylor & Francis Group, LLC

1996, p. 412). Authoritative parenting has long been recognized as the most effective combination of positive parenting and clear limit-setting, incorporating appropriate methods for both negotiating and enforcing those limits, in contrast to *Authoritarian* (overly punitive) and *Permissive* (minimally demanding) parenting styles (Baumrind, Larzelere, & Owens, 2010; Parke & Buriel, 2006; Steinberg, 2001). Authoritative parenting is so widely renowned as the “best” parenting style that even scholars who advocate approaches that are minimally demanding often co-opt the label *authoritative*. This trend was criticized by Baumrind (2012, 2013), the foremost expert in authoritative parenting.

Consistent with the authoritative parenting style, clinical child psychology has documented the effectiveness of *behavioral parent training*. This approach integrates positive parenting skills with disciplinary consequences to successfully treat noncompliance and aggression in 2- to 12-year-olds referred for treatment (Roberts, 2008). Behavioral parent training is the most empirically-supported psychosocial treatment for oppositional defiance disorder (ODD) and attention/deficit hyperactivity disorder (ADHD) in young children, according to current practice guidelines in clinical psychology, psychiatry, and pediatrics (American Academy of Child and Adolescent Psychiatry, 2007a, 2007b; American Academy of Pediatrics, 2011; Eyberg, Nelson, & Boggs, 2008; Kaminski & Claussen, 2017; Pelham & Fabiano, 2008).

Recently, some parenting researchers have moved away from advocating the firm control aspect of both authoritative parenting and behavioral parent training, and begun eschewing all negative disciplinary consequences, including timeout and privilege removal (e.g., Durrant, 2016, pp. 247–253). Holden, Grogan-Kaylor, Durrant, and Gershoff (2017) are now calling this approach *strong positive parenting*. To be consistent with our original article (that prompted this exchange with the Holden group) we will continue to use the term *Exclusively Positive Parenting* or EPP. By EPP we mean any approach that opposes *all* disciplinary consequences in parental discipline or in clinical child management.

Pinpointing the beginning of this movement is difficult. Our initial piece was prompted by Siegel and Bryson’s claim on *Time Magazine’s* website (Siegel & Bryson, 2014b, 2014c, 2014d) that timeout is detrimental to children. But indicators of a growing resistance to timeout were evident prior to this explicit claim, especially on the internet (for a more detailed review of this resistance, see Dadds and Tully, 2019).

Of course, many psychologists still favor timeout. Drawing on comprehensive evidence supporting timeout (e.g., Morawska & Sanders, 2011), the Clinical Child Division of the American Psychological Association rebutted *Time’s* coverage of Siegel and Bryson (Quetsch, Wallace, Hershell, &

McNeil, 2015; Society for Clinical Child & Adolescent Psychology, 2014). We expanded on this rebuttal in our initial piece (Larzelere, Gunnoe, Roberts, & Ferguson, 2017) by articulating four methodological fallacies that pervade the correlational research typically cited to oppose disciplinary consequences, and by questioning the effectiveness of parenting devoid of such consequences. More recently, Dadds and Tully (2019) published an excellent defense of timeout, in which they argued for timeout's compatibility with many standard psychological theories (learning, attachment, emotion regulation, family systems) and specified how best to use timeout, in response to legitimate concerns cited by its critics.

Although our initial critique was very much in keeping with both clinical and developmental theory and with methodological standards of the American Psychological Association (APA), Holden and his team responded with two accusations: (a) we knew little about positive parenting, and (b) we were simply looking for an opportunity to promote spanking. In response to the first accusation, we concur that we are not experts on EPP. Because of this, we were glad that Holden et al.'s (2017) reply drew on a chapter (Holden, Ashraf, Brannan, & Baker, 2016) that was not yet published at the time of our initial critique. We were surprised, however, to see that Holden et al. (2017) supported three empirically-validated interventions featuring behavioral parent training (*Parent-Child Interaction Therapy*, *The Incredible Years*, and *Triple-P Positive Parenting*), all of which feature timeout in response to child noncompliance. Unfortunately, Holden et al.'s support for these three programs was tepid. They refer to these programs as "lite" versions of positive parenting (p. 467), as opposed to the "strong" forms of positive parenting which oppose all disciplinary consequences for child misbehavior. In keeping with the Holden team's promotion of the "strong" versions of positive parenting, this rejoinder focuses on the limitations of the strong version (i.e., EPP).

In response to the second accusation that we are simply spanking advocates, we need only reiterate our original main point: "we argue that absolute or near-absolute proscriptions of all disciplinary consequences, including timeout and privilege removal, are scientifically premature" (Larzelere et al., 2017, p. 25). It is true that the four methodological fallacies presented in our original critique are applicable to research on all negative disciplinary consequences, including spanking, but spanking was not our primary concern. Our concern is that despite minimal empirical support, EPP is being promoted as a replacement to a more comprehensive parenting approach, elements of which have over 50 years of well-documented empirical support.

This more comprehensive approach is illustrated by the "Authoritative Discipline Sequence" for responding to noncompliance (from Larzelere,

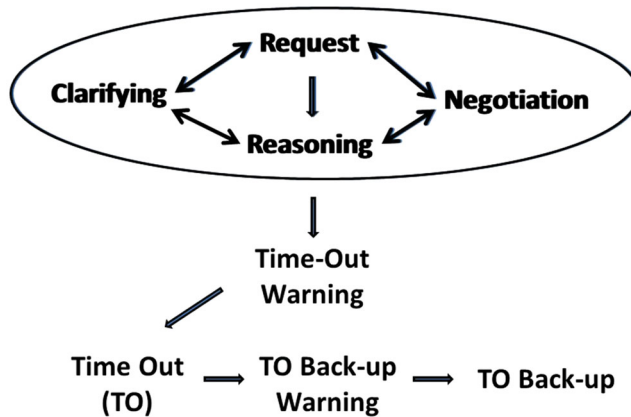


Figure 1. How authoritative parents combine positive disciplinary responses with enforcement of limits when needed. (Larzelere, Cox, & Mandara, 2013, p. 101, © 2013 American Psychological Association, reprinted with permission).

Cox, & Mandara, 2013). As shown in Figure 1, this sequence assumes a positive parent-child relationship when the child is cooperative – exemplified by nurturance, responsiveness, proactive teaching, and encouragement. The circled positive parenting strategies in Figure 1 represent the most typical initial responses to child misbehavior, including clarification, reasoning, and negotiation. These positive responses are sufficient for some children all of the time, and for others, some of the time. When they are not sufficient, however, parents need to move outside the circle, toward appropriate disciplinary consequences. Such consequences are warranted to prevent coercive child misbehavior from becoming persistent and resistant to change, due to unintended reinforcement of a detrimental coercive parent-child interaction pattern (Patterson, 1982).

Responses below the circle in Figure 1 are based on evidence-based parenting skills to address persistent noncompliance when positive parenting proves insufficient. For example, parents enrolled in empirically-supported behavioral parent training are taught a consistent sequence starting with a clear instruction (“Do X”; “Stop Y”) followed by a brief pause, immediate social reinforcement for compliance, a single timeout warning for continued noncompliance, followed by a chair timeout and timeout enforcement, as needed (see review by Roberts, 2008). Research has shown that oppositional defiant children quickly become more cooperative with the first steps of this sequence when the subsequent steps are used consistently.

There are both theoretical and empirical reasons to assert that the sequence below the circle enhances the effectiveness of the positive tactics within the circle. Hoffman’s (2000) influential theory of moral internalization says that *background power assertion* (i.e., the memory of previous

power assertion), enhances the effectiveness of disciplinary reasoning. Empirical research has demonstrated that reasoning decreases noncompliance and aggression in 2- and 3-year-olds only if mothers enforce it with nonphysical consequences at least 10% of the time (Larzelere, Sather, Schneider, Larson, & Pike, 1998). In a test of mediators of the effectiveness of behavioral parent training, it was necessary to improve children's cooperation via consistent parental consequences before positive parenting could improve (Patterson, Forgatch, & DeGarmo, 2010). Resolving parent-child conflicts with positive parenting whenever possible is emphasized in all comprehensive parenting approaches (e.g., Baumrind et al., 2010; Gunnoe, 2013; Larzelere, Morris, & Harrist, 2013; Roberts, 2008), but some children need disciplinary consequences such as timeout to improve their responsiveness to positive parenting. It is EPP's eschewing of the firm control component of authoritative parenting – not its championing of positive tactics – that caused us to write our initial piece.

For this subsequent piece, we decided that the most constructive way to address the most critical distinction between Holden et al.'s (2017) perspective and ours was simply to (a) summarize the valid causal evidence for components of positive parenting cited by Holden and his colleagues and (b) provide a comprehensive meta-analysis of timeout, which EPP opposes. Readers can then readily discern the plentitude of empirical evidence supporting timeout as an effective deterrent to children's noncompliance. (We acknowledge that our literature search on timeout is much more thorough than our search for effective exemplars of positive parenting; our focus is on the most crucial difference between our respective viewpoints, which concerns what EPP opposes, not what it supports).

This two-pronged approach also permitted us to identify some specific elements of positive parenting that merit promotion as effective, evidence-based responses to children's noncompliance. When children are cooperative, EPP, authoritative parenting, and behavioral parent training all agree that positive parenting should dominate the parent-child relationship. Accordingly, we are eager to promote any empirically-supported positive technique advanced by Holden et al. (2017) *as part of* a sufficiently comprehensive parenting approach.

As stated in our initial piece, parenting research is inadequate if it fails to distinguish between causal and correlational evidence. To overcome the correlational fallacy, we use the causal criteria established for empirically-supported interventions by the clinical psychology divisions of the American Psychological Association (Chambless & Hollon, 1998). These criteria require randomized clinical trials (RCTs), convincing approximations thereof, or small-*N* experimental designs wherein one or more individuals each serve as their own control. By overcoming the correlational

fallacy, the clinical divisions' well-established causal criteria also minimize the other three methodological fallacies highlighted in our original article.

Method

Evaluation of what EPP supports

We examined all potentially relevant articles cited by Holden et al. (2017) as evidence for the strong version of EPP. Not being experts on EPP (i.e., being unsure of what exactly would qualify and what would not), we made no attempt to do a thorough meta-analytic search for additional studies not cited in Holden et al. (2017). We did, however, compute meta-analytic-type effect sizes for the six cited studies with qualifying research designs. We also summarized the reasons that the remaining 21 publications cited by Holden et al. failed to meet our inclusion criteria. We did not consider the three "lite" versions of EPP because these three programs all routinely use timeout for noncompliance and aggression.

Evaluation of timeout

We searched *PsycInfo* and *PubMed* for all journal articles on timeout published from 1979 to 2018. In addition to the APA criteria for empirically-supported clinical interventions (Chambless & Hollon, 1998), inclusion criteria for this publication required timeout to be (a) implemented by a parent (sometimes after initial use by a specialist); (b) designed to reduce behavior problems (e.g., noncompliance or aggression); and (c) used with children under the age of 13, who (d) did not have severe developmentally disabilities or psychoses. The timeout condition *could* be combined with efforts to increase reinforcement for appropriate behavior, but studies that combined timeout with other treatment components (e.g., giving clear commands, privilege removal) were excluded from our meta-analysis. Of 333 studies that seemed potentially relevant based on the search terms (time-out, time out, or timeout), 22 met all criteria for inclusion. In addition, 2 older relevant studies were identified from references in newer studies, bringing the total number of causally-relevant studies of timeout to 24.

We calculated meta-analytic statistics for the six RCTs of timeout effectiveness. We excluded the small-*N* experimental designs from summary statistics because small-*N* studies could have inflated effect sizes due to publication bias. We reported fixed-effects meta-analytic summary statistics, unless there was evidence of significant heterogeneity in effect sizes across studies.

We did not conduct tests of moderation because there already are excellent systematic reviews comparing the differential effects of variations in timeout implementation (Corralejo, Jensen, Greathouse, & Ward, 2018; Everett, Hupp, & Olmi, 2010). These reviews assumed the overall effectiveness of timeout, rather than testing it. Our meta-analysis focused on overall effectiveness because it is the effectiveness of timeout that is questioned by EPP, not whether its effect varies by how it is implemented.

Positive versus disciplinary components of behavioral parent training

Our search terms also yielded an unintended bonus: three studies that directly compared the effectiveness of the *positive reinforcement* component of behavioral parent training with its *disciplinary consequence* component featuring timeout. One of those studies (Roberts, Hatzenbuehler, & Bean, 1981) also qualified for (and was included in) our meta-analysis of timeout. The other two did not, because they incorporated other parenting skills for responding to noncompliance in addition to timeout. Because we only searched for variations of the word “timeout,” we missed other published comparisons of the positive and disciplinary components of behavioral parent training. A recent meta-analysis did a more thorough job testing the closely related question of whether training parents in relationship enhancement improved the effectiveness of behavioral parent training (Leijten et al., 2018). It found that relationship enhancement increased effectiveness only under some conditions, a conclusion we will return to in the Discussion section. In the current article, we reported effect sizes from the three studies we did locate, because they tested whether the overall effectiveness of behavioral parent training is due solely to its positive reinforcement component.

Results

Causal evidence for what positive parenting supports

The six studies cited by Holden et al. (2017) that used RCTs to provide causal support for positive parenting are summarized in Table 1. These six studies were based on four unique datasets and evaluated two types of positive parenting programs: emotion coaching and Collaborative and Proactive Solutions.

Emotion coaching

Emotion coaching was evaluated in two unique RCTs, both of which compared it to no treatment. Emotion coaching was more effective than no treatment at reducing externalizing problems ($d = -.43$: sample-size-



Table 1. Randomized clinical trials cited by Holden et al. (2017) in support of positive parenting.

Study	Sample, age, gender, N^a	Outcomes (sources)	Groups compared, timing	Effect size d^b	Comments
Emotion coaching (EC)					
Duncombe et al. (2016)	Kids with behavior problems; 4–9, B&G, $N = 320$	Conduct problems (parent, child, teacher)	EC vs. BPT EC vs. Cntrl BPT vs. Cntrl	.04 .37* .33*	Conduct problems (aggregated); not significantly different for EC vs. BPT. Moderators: EC > BPT for 8–9 year-olds and for parents with poorer well-being. BPT > EC for 5–7 year-olds and for parents with better well-being
Havighurst et al. (2013)	Clinic referrals with behavior problems; 4–5, B&G, $N = 53$	Externalizing problems (posttest: parent only; follow-up: parent and teacher)	EC vs. usual pediatric care: Posttest Follow-up	.95(*) .37(*)	EC improved more than controls on 1 (of 2) measures at post-test and 3 (of 4) measures at follow-up
Collaborative and proactive solutions (CPS)					
Booker et al. (2016) (same dataset as Ollendick et al., 2016)	Kids with ODD but not conduct disorder; 7–14, B&G, $N = 75$	ODD symptoms (mother) and ODD severity (assessment clinician)	CPS vs. BPT	.00	ODD symptoms (aggregated) not significantly different for CPS vs. BPT
Greene et al. (2004)	Kids with ODD plus depression or bipolar symptoms but not conduct disorder; 4–12, B&G, $N = 47$	ODD symptoms (parent)	CPS vs. BPT Posttest Follow-up	.39 .71	ODD symptoms not significantly different for CPS vs. BPT.
		Clinical Global Impression (CGI; treatment-therapist at posttest, parent at follow-up)	Posttest Follow-up	1.24* .94*	CPS > BPT on CGI

Ollendick et al. (2016)	Kids with ODD but not conduct disorder; 7–14, B&G, $N = 100$	ODD symptoms (parent) and aggression (parent)	CPS vs. BPT CPS vs. cntrl BPT vs. cntrl	-.61 .94* 1.55*	CPS and BPT not significantly different for individual outcomes. Similar results at follow-up.
		Anxiety (assessment clinician – i.e., not the treatment-therapist)	CPS vs. BPT CPS vs. cntrl BPT vs. cntrl	.04 1.35* 1.39*	CPS and BPT not significantly different for anxiety. Similar results at follow-up.
		Clinical Global Impression (CGI; assessment clinician)	CPS vs. BPT CPS vs. cntrl BPT vs. cntrl	.15 1.21* 1.06*	CPS and BPT not significantly different for CGI. Similar results at follow-up
Wolff et al. (2008) (data from Greene et al., 2004)	Kids with ODD plus depression or bipolar, but not conduct disorder; 4–12, B&G, $N = 47$	ODD symptoms (mothers)	CPS vs. BPT	(same as Greene et al.)	Moderator: CPS > BPT for posttest ODD symptoms if low on initiating aggression (1 of 8 moderation tests).
		Clinical Global Impression (CGI; delivering-therapist at posttest, parent at follow-up)	Posttest Follow-up	1.16* 1.07*	These effect sizes differ slightly from Greene et al. because the analyses used different covariates

EC: emotion coaching; BPT: behavioral parent training; CPS: Collaborative and Proactive Solutions; ODD: oppositional defiant disorder; cntrl: control group.

^aB&G; boys and girls. N is the maximum N for the effect sizes reported in the table, not necessarily the total reported sample size.

^bGroup outcome differences in standard deviations; positive signs indicate greater improvement in the first condition listed under “Groups Compared” than in second condition (e.g., ECT vs. BPT); negative signs indicate the opposite. In small-sample studies, large effect sizes are less likely to be significant.

* $p < .05$, 2-tailed. (*) $p < .05$ in some, but not all individual tests.

weighted mean across the two studies). One of these studies (Duncombe et al., 2016) also compared emotion coaching to behavioral parenting training. The two treatments led to similar improvements across three measures of externalizing problems.

Duncombe et al. also tested several moderators. They found that emotion coaching led to significantly greater improvements in teacher-reported externalizing problems for children who were eight years or older, whereas behavior parent training was more effective for children younger than eight. Emotion coaching was also more effective than behavioral parent training on child-reported externalizing problems for children whose parents scored highest on a composite measure of stress, anxiety, and depression.

Collaborative and proactive solutions

Collaborative and Proactive Solutions (CPS) was evaluated in four publications reporting on two unique RCTs. The initial project was presented by Greene et al. (2004), and a larger, more rigorously-designed project was presented by Ollendick et al. (2016). Both projects compared CPS to behavioral parent training; the latter also included a no-treatment control group.

Compared to no treatment, both CPS and behavioral parent training were effective. The effect sizes reported by Ollendick et al. included reduction of overall impairment on the Clinical Global Impression ($d_{CPS} = 1.21$, $d_{BPT} = 1.06$), reduction of oppositional defiant disorder (ODD) symptoms ($d_{CPS} = .94$, $d_{BPT} = 1.55$); and reduction of anxiety symptoms ($d_{CPS} = 1.35$, $d_{BPT} = 1.39$). *Compared to each other*, sample-size-weighted means across both RCTs indicated that CPS led to more improvement than behavioral parent training on Clinical Global Impression (difference in $d = .52$), but not on externalizing problems (difference in $d = -.27$) or anxiety problems (difference in $d = -.04$).

Data from the Greene et al. study were also used by Wolff, Greene, and Ollendick (2008) to test whether the type of aggression moderated the relative effects of the two interventions. One of eight moderation tests was significant, suggesting that CPS was more effective than behavioral parent training at reducing ODD with children who were low on proactive aggression, but not with those high on proactive aggression.

Weaker support from EPP publications cited by Holden et al. (2017)

Of the 21 other studies Holden et al. (2017) cited to promote EPP: 11 had no directly-relevant empirical data, 3 literature reviews cited *mostly* correlational evidence, and 5 reported *only* cross-sectional correlations (Table 2). The remaining 2 empirical studies went beyond unadjusted correlations,

Table 2. Reasons for excluding Holden et al.'s (2017) positive parenting citations from Table 1.

Study	Reason for excluding study from Table 1
Stronger causal evidence than cross-sectional correlations (but research designs do not satisfy criteria for empirically-supported clinical treatments) Cunningham et al. (2009)	Longitudinal associations controlling for baseline child problems. Emotion coaching correlated positively with emotion understanding and emotion regulation, but remained significant after controlling for baseline problems in only 1 of 8 analyses. (Low-SES 11-year-old African-Americans)
Olson et al. (2011)	Longitudinal associations controlling for baseline child problems. Positive parent-child relationship failed to predict peer aggression after controlling for baseline. Moderation effect indicated that nurturance predicted less aggression for at-risk 3-year-olds only if they were low on perspective-taking. (3-year-olds at risk for conduct problems)
Cross-sectional correlations with child outcomes Blandon and Volling (2008)	Observed gentle guidance during clean-up tasks (distraction, directives and prohibitions without a negative tone) correlated positively with committed (willing) compliance (mean $r = .39$) and situational compliance (mean $r = .51$), but also correlated positively with noncompliance (mean $r = .40$). (Intact families with a 2-year-old and a child in school)
Dunsmore et al. (2013)	Observed emotion coaching correlated positively with 2 of 8 outcomes, including better emotion regulation and lower child-reported disruptive behavior. (9-year-olds with Oppositional Defiant Disorder)
Katz and Windecker-Nelson (2004)	Awareness of child's emotions and emotion coaching correlated with 0 of 8 child outcomes (e.g., externalizing and quality of interaction with best friend). Moderation effects: Awareness of child's emotions and emotion coaching was a better predictor of peer interaction for non-aggressive children than for aggressive children. Conduct-problem children received less emotion coaching than comparison group. (4- to 6-year-olds with conduct problems and a normal comparison group)
Pepler et al. (2012)	Good summary of relevant literature based on Bowlby, Baumrind, and Patterson (including balance of appropriate control with warmth). Parent relationship scale based on positivity, problems, and expectations correlated positively with child outcomes. (Representative sample of Canadian children in grades 6 – 10)
Ramsden and Hubbard (2002)	Observers' ratings of emotion coaching by mothers occurred 2 or 3 months <i>after</i> aggression outcome. Only the rated Emotion Acceptance subscale predicted emotion regulation (composite of T1 teacher report and T2 mother report). (Representative fourth grade children)
Literature reviews citing mostly correlational evidence Morris et al. (2007)	Excellent overview of research on parental influences on emotion regulation in children. Says "few studies have examined the relation between parental demandingness/discipline and children's emotion regulation" (371)

(continued)

Table 2. Continued.

Study	Reason for excluding study from Table 1
National Scientific Council on the Developing Child (2004)	"Working paper" providing an overview of the importance of positive relationships with parents, peers, child care staff, teachers, and others. Cites many studies on the importance of stable and secure relationships, including "serve and return" reciprocations and sensitive interaction between parents and children. Cites animal studies showing that the quality of the mother-infant relationship can positively influence parts of the brain involved in social and emotional functioning
Siegel (2001)	Cites studies showing that sensitive responding to infants is correlated positively with secure attachment, which in turn is correlated with positive child outcomes. Cites pattern of correlations suggesting causal influence. Also summarizes more speculative links between positiveness of parent-child relationship, brain development, and positive outcomes in children, citing supporting research
No empirical evidence linking positive parenting to child outcomes Anda et al. (2006)	Retrospective study showing association of Adverse Childhood Experiences with 18 mental health problems. Nothing on positive parenting
Durrant (2007, 2016)	These books advocate for exclusively positive parenting (EPP), summarizing its underlying principles along with illustrations of how to choose a positive response instead of any negative consequence to a wide range of disciplinary situations in young children
Durrant et al. (2014)	Pre-post study of change in parenting attitudes due to parent education based on Durrant's (2007; 2016) EPP book. Parents showed increased support for the book's perspective (i.e., became more tolerant of parent-child conflict and more negative toward spanking) and reported increased parenting confidence. No data on child outcomes
Durrant et al. (2017)	Parental satisfaction with parent education based on Durrant's (2007; 2016) book taught to mostly well-educated parents in 13 diverse countries. Over 97% satisfaction with program and book. Very high agreement that program will help them be more positive to children and use less spanking. No data on child outcomes
Farber and Siegel (2011)	Chapter on relationships between adults and their parents. Emphasizes secure attachment, mindfulness, and brain functioning associated with emotion regulation, awareness, etc.
Greene et al. (2006)	Study of caregivers in inpatient children's ward, not parents
Greene (2011)	Summary of Collaborative Problem Solving (ne Collaborative and Proactive Solutions). Evidence of effectiveness is based on Greene et al. (2004), without details
Koren-Karie et al. (2003)	Qualitative study of how 7-year-olds and mothers co-construct stories recalling occurrences when child felt happy, mad, sad, or scared. Coded as emotionally matched, exaggerating, flat, or inconsistent. Interesting observations about

(continued)

Table 2. Continued.

Study	Reason for excluding study from Table 1
Li and Julian (2012)	respective contributions of mothers and children (e.g., responding to negative issues). Suggestive, but no evidence of contributions to child outcomes Argues that developmental relationships are the effective ingredient in interventions with children. Acknowledge that the evidence is mixed for mentoring and home visitation programs
McCain et al. (2011)	Book focuses mostly on the role of quality early childhood education on development. Chapter 2 is on neurological development of the brain, including gene-environment interactions
Siegel and Bryson (2014a)	Recommendations for many proactive and positive things that parents should do (e.g., "connect [positively with your child] and redirect," p. 237). No scientific evidence cited for their general opposition to all negative disciplinary consequences, including timeout

but showed that child outcomes of emotion coaching or a warm parent-child relationship became non-significant in 8 of 9 analyses after controlling for initial differences on the child outcome variable (Cunningham, Kliever, & Garner, 2009; Olson, Lopez-Duran, Lunkenheimer, Chang, & Sameroff, 2011).

Causal evidence for timeout

Table 3 summarizes 24 studies assessing the overall effectiveness of timeout. These include 6 unique RCTs and 18 unique small-*N* experimental designs.

Randomized clinical trials (RCTs)

All six of the RCTs tested at least two timeout conditions. Five included a no-treatment control group. Four tested for increased compliance to maternal demands; the others tested for reductions in fighting or externalizing problems. Sample sizes were small, ranging from 18 to 43, but all six RCTs yielded large effect sizes (weighted mean $d = 1.67$ overall).

In the three studies that observed compliance in the clinic, average compliance for the groups treated with timeout was 33.1% at baseline and increased to 79.3% over the course of treatment. In contrast, average compliance for the control groups was 36.9% at baseline and dropped to 26.1% by the end of the studies. The mean effect size for the four studies of compliance (including Erford, 1999) was $d = 1.78$, indicating that compliance improved an average of 1.78 standard deviations more in the timeout

condition than in the no-treatment condition. (Heterogeneity was not supported, $Q [3] = 3.23$, n.s.).

The two RCTs focusing on externalizing problems yielded effect sizes of $d = 1.62$ (vs. control) for reducing conduct problems (Kapalka & Bryk, 2007) and $d = 1.15$ (vs. EPP intervention) for reducing fighting (Olson & Roberts, 1987). In the latter study, fighting between siblings decreased 84.5% in the two groups using timeout, whereas it only decreased 42.9% using parent-guided separation followed by a discussion of better alternatives than fighting.

Small-N experimental designs

Additional causal evidence for the effectiveness of timeout was provided by 18 unique small experimental designs. Eleven of these studies were based on multiple children (N s from 2 to 13). Eleven of the 18 studies focused on the treatment of general noncompliance or externalizing problems (e.g., hitting, throwing objects), and 7 focused on medical issues (e.g., compliance with life-necessary medical treatment, cessation of self-injury).

Of the 18 studies, 17 reported beneficial effects attributable to timeout.¹ More importantly, 5 of these projects support the Authoritative Discipline Sequence presented in Figure 1 and *directly* address the primary difference between our view of parenting and the view promoted by the Holden group. Specifically, these studies demonstrated beneficial effects of timeout *after* positive parenting techniques had resulted in no, or only partial improvement of children's externalizing symptoms. Adding timeout to positive parenting techniques resulted in nearly complete improvement in all five studies (Evans & Evans, 1983; Olmi, Sevier, & Nastasi, 1997; Roberts & Hatzenbuehler, 1981; Rortvedt & Miltenberger, 1994; Wahler & Fox, 1980).

Positive versus disciplinary components of behavioral parent training

Three studies that directly compared the effectiveness of a *positive reinforcement* component and a *disciplinary consequences* component of behavioral parent training are summarized in Table 4. Roberts et al. (1981) reported much greater improvement in observed compliance after the disciplinary component than after the positive parenting component ($d = 2.22$), as did Eisenstadt, Eyberg, McNeil, Newcomb, and Funderburk (1993, $d = 1.20$). The latter study also assessed four measures of externalizing behavior (two observed and two parent-report) as well as observed parent-child proximity during play as a measure of affection. Across the four externalizing measures, there was slightly more improvement from the disciplinary component ($d = 1.15$ from pre- to post-test) than from the

Table 3. Randomized clinical trials and other causally informative studies of timeout (TO).

Study	Sample, Age, Gender, ^a N	Outcomes (sources)	Conditions compared	Effects (d^b or +/-)	Comments
Randomized clinical trials					
Bean and Roberts (1981)	Clinical referrals for fighting or noncompliance; 2-6, B&G, N = 16	Compliance to maternal commands (observed)	Timeout (TO) with traditional spank back-up vs. control TO with child-determined duration vs. control	3.24* 1.65*	Compliance increased from 23% to 78% for TO with 2-swat back-up, and decreased from 27% to 13% in control group Compliance increased from 23% to 44% when the child chose duration of TO Noncompliance episodes decreased from 14.2 to 3.8 in 2 TO groups (aggregated), and decreased from 13.4 to 12.5 in control group
Erford (1999)	Kids who were noncompliant at home; 4-8, B, N = 36	Frequency of noncompliant episodes for 3 days (mother)	2 TO groups vs. control	1.61*	Compliance increased equally in 3 TO timeout groups, and decreased slightly in control group. Adding explanation before or after TO did not change amount of improvement from TO alone Conduct problems decreased equally in 2 TO groups and more than in control group. TO duration of 2-4 min was just as effective as longer durations
Gardner et al. (1976)	Nonclinical volunteers; 3-6, B&G, N = 32	Compliance to command to put object in desired location (observed)	3 TO groups vs. control	1.29*	Fighting decreased more in the TO group than in the CP group. CP included asking kids what caused fight, what a better response would be, etc. Intermediate decrease in fighting for group that received both interventions
Kapalka and Bryk (2007)	Kids with ADHD; 4-5, B, N = 43	Conduct Problems from Conners Parent Rating Scale (parent)	2 TO groups vs. control	1.62*	Compliance increased from 26% to 82% in the 2 TO groups (aggregated), and decreased from 33% to 16% in the 2 control groups. Praising good behavior made no difference by itself or in addition to TO
Olson and Roberts (1987)	Siblings referred for frequent fighting; 2-10, B&G, N = 18	Daily number of fights between siblings (parent)	TO group vs. Cognitive problem-solving (CP) Combined (CP and TO) intervention vs. CP-only group	1.46* .69	TO plus nonverbal attention during phone calls reduced disruptive behavior during phone calls from 100% to 0%. Improved for naturally-occurring phone calls at home as well as in the clinic
Roberts et al. (1981)	Clinical referrals for noncompliance, fighting, or tantrums; 2-7, B&G, N = 32	Compliance to maternal commands (observed)	2 TO groups vs. 2 controls (praise only and no-treatment)	2.22*	
Small-N experimental designs					
Babbitt and Parrish (1991)	Cerebral palsy and moderate retardation; 6, G, N = 1	Gasping, screaming, crying whenever parents used the telephone (observed and parent and sister)	TO with positive reinforcement vs. Terminating call to attend to girl	+	

(continued)



Table 3. Continued.

Study	Sample, Age, Gender ^a , N	Outcomes (sources)	Conditions compared	Effects (d^b or +/-)	Comments
Carr and McDowell (1980)	Covered with scars from 3 years of persistent scratching; 10, B, N = 1	Frequency scratching skin in evening (parent)	TO vs. Prior scratch-specific directive ("Stop scratching") and hand restraint	+	Median body sores decreased from 28 to 8 during 2 three-month treatment periods with 20-minute TOs. Sores increased to 11 during hiatus from treatment. Sores decreased further to 3 during follow-up period
Evans and Evans (1983)	Noncompliance and tantrums with learning disability; 10, B, N = 1	Whining rate (parent)	TO (instructed, then demonstrated) vs. Baseline vs. Reward points for good behavior	+	Whining dropped 42% with reward points, and subsequently dropped 89% after TO was added. For both interventions, improvement occurred only after parents observed reward points or TO demonstrated in a special classroom, not from instructions only
Everett et al. (2007)	Referrals for noncompliance; 4-5, B&G, N = 4	Compliance to mother commands (observed)	2 TO conditions vs. Baseline (treatment as usual)	+	Compliance rates increased from 18% to 60% and then to 80% to new commands (80% achieved only after requirement to comply with previous command after each TO)
Fox (1986)	Referrals for daytime enuresis; 5-6, B&G, N = 2	Daytime enuresis frequency (parent)	TO vs. Baseline	+	Treatment program of TO plus specific tangible reinforcers was successful in reducing daytime enuresis frequency from 5+ per week to zero
Handen et al. (1992)	Referrals for noncompliance, kids with mild disabilities; 3-6, B&G, N = 5	Compliance to parent commands (observed)	TO vs. Baseline (praise) vs. Guided compliance (guiding child's hand to force compliance) and praise	+	Compliance increased from 41% or less during baseline (praise for compliance), to a mean of 59% during guided compliance, to 85% during timeout
Larson and Ayllon (1990)	Infants with colic; 3-7 weeks, B&G, N = 8	Percentage of 2-minute intervals with crying (observed)	TO vs. Baseline (soothe infant as usual) vs. Noncontingent music half of the time	+	Percentage of intervals with crying about 75% for baseline and for noncontingent music.
Larson et al. (1987)	Infants hospitalized for nonbiological failure to thrive; 4-21 mos., B&G, N = 3	Percentage of food spoonful offerings accepted or refused, vomiting incidents (observed or recorded)	TO with or without contingent music vs. Baseline	+	Crying decreased to 15% with a combination of contingent music and TO Food acceptance increased rapidly in the two infants with that problem, but only when both music and attention stopped during TO in one case. Vomiting decreased in the infant with that problem. Eating remained normal 1+ year later in all three infants

Lucas (2000)	Hitting sibling; 2, B, N = 1	Frequency of hitting sibling (observed by mother)	TO with and without praise for alternative behavior vs. Baseline	(+)	Decrease in hitting from 7.5 per 45-min. session to 6.0 with TO only, then to 4.8 with TO and praise (but increase to 7 in final session)
Mathews et al. (1992)	Extreme near-sightedness requiring contact lens; 1-5, B&G, N = 4	Specific steps of inserting eye contacts (observed)	TO vs. Baseline (vs. Restraint for 1 child with Down Syndrome)	+	For 3 children, compliance increased from 58% during baseline to 66% while shaping specific steps of inserting contacts and 92% at follow up 12-40 weeks later. For 1 child with Down Syndrome, compliance decreased to 21% during shaping plus restraint; parents gave up on contacts after 16 mos. One girl improved from 0% to 97% compliance;
McClellan et al. (2009)	Resisted treatment for cystic fibrosis; 4-5, G, N = 2	% compliance with treatment (observed via videotape)	TO vs. Baseline	+	the other improved from 37% to 66% compliance.
Olmi et al. (1997)	Moderate mental disability and cerebral palsy, referred for throwing objects; 8, G, N = 1	Throwing objects (observed)	TO and praise vs. Baseline vs. Praise alone (Praise included positive touching, too)	+	Praise alone decreased throwing objects from 4.1 to 2.2 per minute. Adding timeout decreased it further to 0.7 per minute
O'Reilly and Dillenburg (2000)	Referrals for aggression or noncompliance; 7, B, N = 2	Compliance rates (observed)	TO v. Baseline vs. Token economy (positive points and their removal)	+	Compliance changed from 54% to 44% during token economy, then to 89% with TO, and then to 97% afterwards (post- treatment and follow-up)
Roberts and Hatzenbuehler (1981)	Clinical referrals for confirmed noncompliance; 2-7, B&G, N = 42	Back-talk in response to commands (observed)	TO vs. Baseline vs. Praise (latter for first 13 cases only)	+	Study 1: Praise alone led to 24% increase in back-talk in first 13 cases; adding timeout for noncompliance led to 95% decrease in back-talk. Study 2: TO and Praise led to an 87% decrease in back-talk, compared to a 61% decrease in other two TO groups
Rortvedt and Miltenberger (1994)	Mothers volunteered due to child noncompliance; 4, G, N = 2	Compliance to commands with low prior compliance (observed)	TO vs. Baseline vs. Behavioral momentum (progress from welcomed commands to unwelcomed ones)	+	Compliance increased from 4% to 80% and from 57% to 81% in 2 girls in TO condition, and remained high 2 to 8 weeks later. Compliance had first increased to 61% with behavioral momentum for first girl (ignoring extreme noncompliance on 3 of 11 sessions), but decreased to 24% for second girl

(continued)

Table 3. Continued.

Study	Sample, Age, Gender, ^a N	Outcomes (sources)	Conditions compared	Effects (<i>d</i> ^b or +/-)	Comments
Thelen (1979)	Clinical referral for violent tantrums; 8, G, N=1	Frequency of violent tantrums (parent)	TO vs. Baseline vs. ignoring vs. noncontingent positive attention for 5 min at a time	-	TO did not reduce frequency of tantrums (because of TO noncompliance and parents' inability to enforce it). Ignoring also unsuccessful. Tantrums became less frequent when noncontingent positive attention was combined with ignoring tantrums
Wahler and Fox (1980)	Clinical referrals for oppositional and aggressive behavior; 5-8, B, N = 4	Oppositional behavior (observed)	TO vs. Baseline vs. Reinforcement for cooperative play vs. Reinforcement for solitary play	+	Oppositional behavior increased during reinforcement of cooperative play, but decreased during reinforcement of solitary at first, but then increased. When TO was added, the decrease in oppositional behavior was more complete and stable
Wolf et al. (1963, 1967)	Severe self-harm and throwing eyeglasses by boy with Autism; 3, B, N = 1	Severity and frequency of tantrums; self-harm; throwing and stealing food; pinching; throwing eyeglasses (observed)	TO vs. Baseline	+	Room TO led to gradual decrease in severity of self-harm and tantrums over five months, then frequency decreased noticeably. Throwing and stealing food decreased after a few removals from dining room. TO decreased throwing his eyeglasses. In follow up study, Room TO quickly eliminated self-harming tantrums and pinching others

^aB: boys; G: girls. Age range in years unless noted otherwise.

^bFor Randomized Clinical Trials, *d* is the group difference in the outcome in standard deviations; positive signs indicate greater improvement in the TO group than in the comparison group (control or Cognitive Problem Solving). For small-*N* experimental designs, + indicates a beneficial effect of TO compared to at least one other condition, (+) indicates a questionable beneficial effect of TO; - indicate no benefit demonstrated for TO.

**p* < .05, 2-tailed

positive component ($d = .71$ from pre- to post-test), with differential improvement on 1 of the 4 outcomes, $p < .05$. Both the disciplinary ($d = 1.63$) and positive components ($d = .31$) were associated with increases in parent-child proximity from pre- to post-test, but the difference in those gains was not significant. Finally, Ortiz, Hawes, Lorber, Lazer, and Brotman (2018) found that the decrease in externalizing problems from pre- to post-test was nearly identical for both components (d for discipline = .50; d for positive = .44). Adding the previously-omitted component improved the total effect size to $d = .74$. In sum, all three studies in Table 4 found that disciplinary consequences featuring timeout enhanced the effectiveness of the positive component of behavioral parent training, particularly for immediately observed compliance.

Discussion

The most important *substantive* difference between comprehensive parenting perspectives and the Exclusively Positive Parenting (EPP) promoted by Holden et al. (2016; 2017) involves what EPP *opposes*, not what it supports. Our initial article focused explicitly on the weakness of the scientific evidence for EPP's opposition to timeout and privilege removal; now we focus on the strength of the evidence for timeout. Timeout has long been assumed to be effective by clinical child psychologists and is a key component of 36 of 38 studies cited in support of empirically-supported treatments for oppositional defiant disorder (ODD) and conduct disorder (Kaminski & Claussen, 2017). This rejoinder features the first known meta-analysis of the overall effectiveness of timeout.

The major *methodological* difference between our perspective and that of Holden et al. (2017) is that the Holden team seems more willing to make causal inferences from correlational evidence (Table 2). We continue to resist such practices, but welcome *causal* evidence documenting effective ways to use positive parental actions. When parents are more effective at using positive socialization strategies, they have less need to use disciplinary consequences (Figure 1). We therefore reviewed every study cited by Holden's team to determine which of their recommended parental actions are supported by the kind of causal evidence required in clinical psychology (Table 1).

Evidence for timeout

We based our summary meta-analytic statistics on RCTs because they provide the strongest causal evidence for treatment effectiveness. Small sample sizes notwithstanding, our results strongly confirmed timeout's effectiveness

with young oppositional defiant children (Table 3). The mean effect size ($d = 1.67$) is over twice as large as what is considered a large effect size in psychology (Cohen, 1988) and more than twice as large as the average improvement in psychotherapy for conduct problems in children (Weisz et al., 2019).

Additional support for timeout was provided by two other types of causally-relevant studies. Seventeen of the 18 small- N experimental designs summarized in Table 3 demonstrated timeout's effectiveness for a wide range of aggressive and noncompliance problems, some crucial for the success of necessary medical treatment. The three studies summarized in Table 4 directly compared the positive component of parent behavior training with the timeout component. In direct challenge to Holden et al.'s (2017) endorsement of EPP programs *over* programs that combine positive parenting with disciplinary consequences, results from all three studies indicated that improvement (if any) attributable to the positive reinforcement component of these programs was enhanced by the disciplinary component. In two of the three studies, observed compliance improved dramatically – but only after the addition of the disciplinary component. Parent-reported externalizing problems also improved; decreases in externalizing problems were at least as large during the disciplinary component as during the positive component, and sometimes significantly larger. (Again, we do not claim to have found all studies comparing positive and disciplinary components of parent training programs).

This strong empirical evidence for the effectiveness of timeout is consistent with Patterson's theoretical diagnosis of both the problem and the solution for disruptive and oppositional disorders in young children. Patterson's seminal Coercion Theory (Patterson, 1982; Roberts, 2008, pp. 662–665) proposed that parents unwittingly motivate some young children to become increasingly antisocial. Specifically, the child's increasing aversiveness (e.g., defiance and verbal and physical aggression) in response to parental requests and parental denials is reinforced when parents reduce their demands in response to escalating aversiveness. Simultaneously and reciprocally, parental withdrawal of demands is negatively reinforced by immediate reductions in the child's aversiveness, producing an insidious reinforcement trap for both parents and children.

To break this negative cycle, Patterson (1982, p. 111) said, "If I were allowed to select only one concept to use in training parents of antisocial children, I would teach them how to punish more effectively," referring primarily to timeout and privilege removal. Admittedly, appropriate punishment may not work initially. This is because defiant children have learned that escalating their own aversiveness has previously been successful at "coercing" parents to withdraw their demands often enough that this

Table 4. Randomized Comparisons of the Two Components of Behavioral Parent Training: Disciplinary Consequence vs. Positive Reinforcement.

Study	Sample, age, gender, ^a N	Outcomes (sources)	Conditions compared	Effect size <i>d</i> ^b	Comments
Eisenstadt et al. (1993)	Diagnosis of ODD, ADHD, or Conduct Disorder plus severe behavior problems for 6+ mos.; 2-7, B&G, N = 24	Externalizing problems (2 mother reports and observed deviancy)	Parent-Directed Interaction (PDI) vs. Child-Directed Interaction (CDI)	.47*	PDI-first led to more improvement at mid-treatment than CDI-first on 1 maternal report of externalizing.
			PDI vs. Baseline CDI vs. Baseline	1.18* .71*	
		Compliance (observed)	PDI vs. CDI PDI vs. Baseline CDI vs. Baseline	1.20* 1.28* .08	PDI-first led to more improvement at mid-treatment than CDI-first on observed compliance
Ortiz et al. (2018)	Parent-reported difficulty with child behavior; 3-8, B&G, N = 74	NYPRS ^c (parent)	Discipline part vs. Positive part of <i>Incredible Years</i> Discipline vs. Baseline Positive vs. Baseline	.06 .50* .44*	Discipline-first and Positive-first produced similar initial gains; adding the other component then led to more gain; total gain from pre- to post-test: $d = .74^*$ for either ordering of both parts
Roberts et al. (1981)	Clinical referrals for noncompliance, fighting, or tantrums; 2-7, B&G, N = 32	Compliance to maternal commands (observed)	TO only vs. Praise only TO only vs. Control Praise only vs. Control TO and Praise vs. TO only TO and Praise vs. Praise TO and Praise vs. Control	2.03* 2.26* .23 .00 2.03* 2.26*	Compliance increased from 26% to 82% in the 2 TO groups (aggregated), decreased from 34% to 21% in Praise only group, and from 33% to 13% in the control group. Praising good behavior made no difference

PDI: parent-directed interaction (disciplinary consequence component); CDI: child-directed interaction (positive reinforcement component); TO: timeout.

^aB: boys; G: girls; ODD: oppositional defiance disorder; ADHD: attention deficit and hyperactivity disorder.

^bGroup outcome differences in standard deviations; positive signs indicate greater improvement in the first condition listed under "Conditions Compared" than in second condition (e.g., PDI vs. CDI).

^cNew York Parenting Rating Scale – Early Childhood Version (29 items on Oppositional Defiant Disorder and Conduct Disorder; 6 items on positive peer relations [reverse scored]).

* $p < .05$.

coercive behavior becomes resistant to change. As predicted by Coercion Theory, defiant children usually increase their aversiveness when parents first try to implement timeout (Roberts, 1982b). Thus, consistency is critical. Parents need to out-persist, but not out-escalate defiant children (Snyder, Edwards, McGraw, Kilgore, & Holton, 1994).

Evidence for EPP

From the full list of citations offered by Holden et al. (2017), we found two EPP-endorsed skill-building programs (emotion coaching and *Collaborative and Proactive Solutions* [CPS]) that were supported for 4- to 14-year-olds in causally-valid research designs. RCTs of these programs yielded evidence that positive techniques can improve children's functioning relative to controls. The effectiveness of the emotion coaching intervention – *Tuning in to Kids* – has also been documented in several other RCT evaluations of community samples (e.g., Havighurst, Wilson, Harley, & Kehoe, 2019), but most impressively in an at-risk sample (Havighurst et al., 2015).

Comparisons of EPP programs with behavioral parent training tended to yield equivalent main effect sizes on adult-reported outcomes (Table 1). Of the three unique studies that directly compared the effectiveness of an EPP intervention with behavioral parent training, all three reported equal reductions in ODD/conduct problems. The one study that examined anxiety reported equal reductions on this outcome as well.

The only comparison *favoring* EPP was on Clinical Global Impression (CGI) in one study. Greene et al. (2004) reported that their Collaborative and Proactive Solutions was more effective than behavioral parent training on perceptions of improvement on the CGI, but this finding failed to replicate in Ollendick et al. (2016). One possible explanation for this discrepancy is that CPS might be preferred over behavioral parent training when children are exhibiting depressive symptomatology (Greene's sample) in addition to ODD (both samples). Another – seemingly more likely – explanation is that Greene et. al's findings are attributable to reporter bias that was eliminated by Ollendick and his team (which included Greene). In the Greene et al. study, participating parents and participating therapists did their own ratings of children's improvement (i.e., rating their own therapeutic success). In contrast, each family participating in the Ollendick study was assigned two clinicians – one to deliver the treatment program and one to provide an objective assessment of the child. Although combining the two studies did yield a significant effect size on the CGI that favored Collaborative and Proactive Solutions, we are reluctant to make too much of a finding that is potentially attributable to same-source bias, which

the researchers themselves recognized and remedied in the larger replication study.

Limited evidence that EPP may be more effective in some situations was also obtained in moderation tests. While the vast majority of the moderation tests in the studies in Table 1 were nonsignificant, some evidence of moderation emerged for both featured programs. Duncombe et al. (2016) found that emotion coaching was preferable for 8- to 12-year-olds, but behavioral parenting training was more effective for the most oppositional and aggressive 2- to 7-year-olds. Wolff et al. (2008) reported that CPS may be preferred to behavioral parent training for children who rarely initiate aggression. More recently, Booker, Capriola-Hall, Greene, and Ollendick (2019) reported that CPS was more effective in overcoming a hostile parent-child relationship, whereas behavioral parent training was more effective in the context of a warm parent-child relationship.

These findings that EPP works better in some contexts than in others are in keeping with moderation effects reported in Leijten et al.'s (2018) meta-analysis of whether adding relationship enhancement training to behavior management made it superior to behavior management alone. Leijten and her colleagues found no overall benefit of the integrative approach. Rather, specific training in relationship enhancement improved the effectiveness of behavioral parent training in treatments for disruptive behavior disorders, but reduced the effectiveness of behavioral parent training in prevention efforts.

In sum, various lines of research suggest that EPP programs may be *as* effective, *more* effective, or *less* effective as behavioral parent training depending on various child factors, family factors, and research objectives (treatment vs. prevention). It is therefore appropriate that the latest review of empirically-supported psychosocial treatments for oppositional defiant disorder (ODD) and conduct disorder now supports emotion coaching and *Collaborative and Proactive Solutions* in addition to behavioral parent training (Kaminski & Claussen, 2017).

Synthesis of the two literatures

The juxtaposition of these two evaluation literatures raises at least five important questions. Some of these questions we can answer confidently. Others we cannot.

Q1. Is there anything in causally-relevant studies to warrant an eschewing of timeout?

A. No. The evidence for the effectiveness of timeout in reducing child non-compliance is very consistent, and effect sizes are large. Not a single study

suggested harm, validating the perspective of Dadds and Tully (2019) who argued:

Given the wealth of evidence showing that TOPR [timeout from positive reinforcement] is a positive perturbation in child mental health, and the absence of evidence showing it is harmful after five decades of research, clinical, and common usage, claims that it is harmful should be considered extraordinary, and thus require an extraordinary level of evidence to back them up. (p. 805)

Our systematic review of the timeout literature indicated that there is not only no *extraordinary* evidence; there is no evidence at all.

Q2. Is EPP as effective as behavioral parent training that features timeout?

A. Unclear. At least three unique causally-relevant comparisons of EPP with behavioral parent training have suggested equal effectiveness on parent-reported externalizing problems, but we wonder about the generalizability of these findings to younger children. The six RCTs of timeout (Table 3) were based on children from 2 to 10 years old (average median age weighted by sample size = 4.9 years). In contrast, the four unique RCTs of EPP interventions summarized in Table 1 were based on children from 4 to 14 (average weighted median age = 7.5 years). Whereas behavioral parent training was designed for and tested with young children, none of these cited EPP interventions included children younger than 4.

We are also concerned by the absence of observational measures of externalizing problems in these studies. Parent-reported externalizing problems have low correlations with observational measures of externalizing problems in general (Achenbach, McConaughy, & Howell, 1987) and near-zero correlations with observed noncompliance in particular (Roberts & Powers, 1988, p. 385). This has important implications for the long-term prognosis of children at risk, especially because oppositional noncompliance is a stronger predictor of subsequent delinquency than are other aspects of externalizing problems at age 5 (Loeber, Burke, & Pardini, 2009; Timmermans, van Lier, & Koot, 2009). Given that 3 of the 6 RCTs of timeout demonstrated reductions in *observed* noncompliance – compared to no studies of the cited EPP interventions – researchers cannot conclude that EPP interventions are as effective at treating opposition defiance as behavioral parent training that features timeout.

Q3. Should EPP be promoted as an evidence-based replacement for timeout? A. No, this would be premature. At this point, the cumulative evidence for timeout is much greater than the cumulative evidence for EPP. As acknowledged by Holden et al. (2017, p. 468) “To be sure, more research into the efficacy of these new parenting programs is needed.” The finding

that one EPP program, *Collaborative and Proactive Solutions*, predicted a more favorable Clinical Global Impression for a particular group of children (older, with depressive symptoms in addition to oppositional defiance) using a methodology that was remedied in the next trial does not justify the promotion of EPP as a replacement for timeout for children in general. Research supports consideration of positive parenting interventions *as well as* behavioral parent training when warranted by clinical case characteristics, but does not currently support treating EPP as a general replacement for behavioral parent training.

Q4. Should all researchers strive to make discipline less aversive?

A. Yes, but not at the expense of effectiveness. Toward this end, Roberts and his team have long endeavored to identify the least-aversive method of delivering effective disciplinary consequences to oppositional defiant 2- to 7-year-olds (Roberts, 1984; 1985). Roberts (1982a) showed that a single warning before implementing timeout reduced the number of timeouts by 74% without compromising the effectiveness of behavior parent training. His research team also compared the traditional spanking enforcement of chair timeout with three less aversive enforcements (Roberts & Powers, 1990), which led to the replacement of spanking with an equally effective brief room isolation procedure. Similarly, a team led by Larzelere worked to distinguish types of noncompliance for which EPP is sufficient (toddler negotiating or whining) from when it is not (toddler oppositional noncompliance: Larzelere, Knowles, Henry, & Ritchie, 2018).

Q5. Will the results of these formal evaluation studies generalize to idiosyncratic home use, for parents not participating in clinical interventions?

A. Unclear. We concur with Dadds and Tully (2019) that many parents do not use timeout correctly, but Larzelere has shown that *untrained* parents are more effective with defiant young children when they combine positive parenting techniques with disciplinary consequences, than when they use positive parenting alone, consistent with Table 4. As already mentioned, Larzelere et al. (1998) showed that the effectiveness of reasoning was enhanced in 2- and 3-year-olds by enforcing it with timeout or privilege removal at least 10% of the time. More recently, Larzelere et al. (2018) found that reasoning and mutually acceptable compromises were sufficient for non-oppositional toddlers, but a combination of those tactics and timeout was optimal for oppositional toddlers.

Conclusion

After decades of relative consensus that the best approach to parenting combines positive support with disciplinary consequences, a schism has emerged among parenting researchers. Despite strong evidence for the effectiveness of timeout, some researchers are advising against timeout on the basis of emerging evidence supporting some positive-parenting treatments, *without* evidence against timeout's effectiveness. Other researchers support timeout, but are uncertain about how best to use it. Everett et al.'s (2010, p. 247) review concluded that a brief room isolation and spanking have been shown to be the most effective enforcements for chair timeouts but that both were opposed by some professional organizations. This suggests the possibility that timeout may be less effective now than when those enforcements were used.

This opposition and ambivalence toward timeout is likely attributable to undue influence of websites and popular books, which lack empirical support and do not discuss contingencies when their recommended disciplinary strategies fail to work. For example, only 47% of webpages specify what to do when children leave timeout prematurely, despite this problem being one of the most commonly mentioned implementation issues on discussion boards (Drayton et al., 2014). Moreover, a good bit of information on popular websites is simply wrong. According to Corralejo et al. (2018), 19% to 22% of websites and popular books recommend details about implementing timeout that contradict empirical evidence. Inaccurate information about how to use timeout effectively may account for the fact that 30% of webpages consider it harmful or ineffective (Drayton et al., 2014).

Per the title of our original piece, better parental discipline research is needed. In this rejoinder, we have worked to improve parenting knowledge by focusing on the most causally-relevant research available. In this first known meta-analysis of the overall effectiveness of timeout, we have documented unusually strong evidence of timeout's effectiveness in reducing defiance and aggression in young oppositional children. Similar research is needed to make valid causal inferences about positive parenting practices as well as other disciplinary consequences, such as token/monetary fines and privilege removal. We encourage all parenting researchers to strive for better causal evidence about the effects of the full range of parenting practices.

Note

1. The only exception involved an 8-year-old child who would not cooperate with timeout. After the therapist discovered that the parents gave "almost no individual attention [to the child] except when [she] was punished," he asked each parent to

provide the girl at least five minutes of individual positive attention each day, whereupon the violent tantrums decreased, as did the frequency with which she “picked on” her 5- and 6-year-old sisters (Thelen, 1979, p. 140). The effectiveness of timeout depends on its contrast with positive reinforcement for cooperation.

References

- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, *101*, 213–232. doi:10.1037/0033-2909.101.2.213
- American Academy of Child and Adolescent Psychiatry. (2007a). Practice parameter for the assessment and treatment of children and adolescents with attention-deficit/hyperactivity disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, *46*, 894–921. doi:10.1097/chi.0b013e318054e724
- American Academy of Child and Adolescent Psychiatry. (2007b). Practice parameter for the assessment and treatment of children and adolescents with oppositional defiant disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, *46*, 126–141. doi:10.1097/01.chi.0000246060.62706.af
- American Academy of Pediatrics. (2011). ADHD: Clinical practice guidelines for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. *Pediatrics*, *128*, 1007–1022. doi:10.1542/peds.2011-2654
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., ... Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. *European Archives of Psychiatry and Clinical Neuroscience*, *256*, 174–186. doi: 10.1007/s00406-005-0624-4
- Babbitt, R. L., & Parrish, J. M. (1991). Phone phobia, phact or phantasy? An operant approach to a child's disruptive behavior induced by telephone usage. *Journal of Behavior Therapy and Experimental Psychiatry*, *22*, 123–129. doi:10.1016/0005-7916(91)90007-R
- Baumrind, D. (1996). The discipline controversy revisited. *Family Relations*, *45*, 405–414. doi:10.2307/585170
- Baumrind, D. (2012). Differentiating between confrontive and coercive kinds of parental power-assertive disciplinary practices. *Human Development*, *55*, 35–51. doi:10.1159/000337962
- Baumrind, D. (2013). Is a pejorative view of power assertion in the socialization process justified? *Review of General Psychology*, *17*, 420–427. doi:10.1037/a0033480
- Baumrind, D., Larzelere, R. E., & Owens, E. B. (2010). Effects of preschool parents' power assertive patterns and practices on adolescent development. *Parenting*, *10*, 157–201. doi: 10.1080/15295190903290790
- Bean, A. W., & Roberts, M. W. (1981). The effect of time-out release contingencies on changes in child noncompliance. *Journal of Abnormal Child Psychology*, *9*, 95–105. doi: 10.1007/BF00917860
- Blandon, A. Y., & Volling, B. L. (2008). Parental gentle guidance and children's compliance within the family: A replication study. *Journal of Family Psychology*, *22*, 355–366. doi:10.1037/0893-3200.22.3.355
- Booker, J. A., Capriola-Hall, N. N., Greene, R. W., & Ollendick, T. H. (2019). The parent--child relationship and posttreatment child outcomes across two treatments for oppositional defiant disorder. *Journal of Clinical Child & Adolescent Psychology*, 1–15. Advance online publication. doi:10.1080/15374416.2018.1555761

- Booker, J. A., Ollendick, T. H., Dunsmore, J. C., & Greene, R. W. (2016). Perceived parent-child relations, conduct problems, and clinical improvement following the treatment of oppositional defiant disorder. *Journal of Child and Family Studies*, *25*, 1623–1633. doi:10.1007/s10826-015-0323-3
- Carr, E. G., & McDowell, J. J. (1980). Social control of self-injurious behavior of organic etiology. *Behavior Therapy*, *11*, 402–409. doi:10.1016/S0005-7894(80)80056-6
- Chambless, D. L., & Hollon, S. D. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology*, *66*, 7–18. doi:10.1037/0022-006X.66.1.7
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Corralejo, S. M., Jensen, S. A., Greathouse, A. D., & Ward, L. E. (2018). Parameters of time-out: Research update and comparison to parenting programs, books, and online recommendations. *Behavior Therapy*, *49*, 99–112. doi:10.1016/j.beth.2017.09.005
- Cunningham, J. N., Kliever, W., & Garner, P. W. (2009). Emotion socialization, child emotion understanding and regulation, and adjustment in urban African American families: Differential associations across child gender. *Development and Psychopathology*, *21*, 261–283. doi:10.1017/S0954579409000157
- Dadds, M. R., & Tully, L. A. (2019). What is it to discipline a child: What should it be? A reanalysis of time-out from the perspective of child mental health, attachment, and trauma. *American Psychologist*, *74*, 794–808. doi:10.1037/amp0000449
- Drayton, A. K., Andersen, M. N., Knight, R. M., Felt, B. T., Fredericks, E. M., & Dore-Stites, D. J. (2014). Internet guidance on time out: Inaccuracies, omissions, and what to tell parents instead. *Journal of Developmental & Behavioral Pediatrics*, *35*, 239–246. doi:10.1097/DBP.0000000000000059
- Duncombe, M. E., Havighurst, S. S., Kehoe, C. E., Holland, K. A., Frankling, E. J., & Stargatt, R. (2016). Comparing an emotion- and a behavior-focused parenting program as part of a multisystemic intervention for child conduct problems. *Journal of Clinical Child & Adolescent Psychology*, *45*, 320–334. doi:10.1080/15374416.2014.963855
- Dunsmore, J. C., Booker, J. A., & Ollendick, T. H. (2013). Parental emotion coaching and child emotion regulation as protective factors for children with oppositional defiant disorder. *Social Development*, *22*, 444–466. doi:10.1111/j.1467-9507.2011.00652.x
- Durrant, J. E. (2007). *Positive discipline: What it is and how to do it*. Bangkok, Thailand: Save the Children Sweden.
- Durrant, J. E. (2016). *Positive discipline in everyday parenting* (4th ed.). Bangkok, Thailand: Save the Children.
- Durrant, J., Plateau, D. P., Ateah, C. A., Holden, G. W., Barker, L. A., Stewart-Tufescu, A., ... Ahmed, R. (2017). Parents' views of the relevance of a violence prevention program in high, medium, and low human development contexts. *International Journal of Behavioral Development*, *41*, 523–531. doi:10.1177/0165025416687415
- Durrant, J. E., Plateau, D. P., Ateah, C. A., Stewart-Tufescu, A., Jones, A., Ly, G., ... Tapanya, S. (2014). Preventing punitive violence: Preliminary data on the Positive Discipline in Everyday Parenting (PDEP) program. *Canadian Journal of Community Mental Health*, *33*, 109–125. doi:10.7870/cjcmh-2014-018
- Eisenstadt, T. H., Eyberg, S., McNeil, C. B., Newcomb, K., & Funderburk, B. (1993). Parent-Child Interaction Therapy with behavior problem children: Relative effectiveness of two stages and overall treatment outcome. *Journal of Clinical Child Psychology*, *22*, 42–51. doi:10.1207/s15374424jccp2201_4
- Erford, B. T. (1999). A modified time-out procedure for children with noncompliant or defiant behaviors. *Professional School Counseling*, *2*, 205–210.

- Evans, W. H., & Evans, S. S. (1983). Using parents in behavior management. *Academic Therapy, 19*, 37–41. doi:[10.1177/105345128301900106](https://doi.org/10.1177/105345128301900106)
- Everett, G. E., Hupp, S. D. A., & Olmi, D. J. (2010). Time-out with parents: A descriptive analysis of 30 years of research. *Education & Treatment of Children, 33*, 235–259. doi:[10.1353/etc.0.0091](https://doi.org/10.1353/etc.0.0091)
- Everett, G. E., Olmi, D. J., Edwards, R. P., Tingstrom, D. H., Sterling-Turner, H. E., & Christ, T. J. (2007). An empirical investigation of time-out with and without escape extinction to treat escape-maintained noncompliance. *Behavior Modification, 31*, 412–434. doi:[10.1177/0145445506297725](https://doi.org/10.1177/0145445506297725)
- Eyberg, S. M., Nelson, M. M., & Boggs, S. R. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child & Adolescent Psychology, 37*, 215–237. doi:[10.1080/15374410701820117](https://doi.org/10.1080/15374410701820117)
- Farber, H. R., & Siegel, D. J. (2011). Parental presence: An interpersonal neurobiology approach to health relationships between adults and their parents. In S. M. Dunham, S. B. Dermer & J. Carlson (Eds.), *Poisonous parenting: Toxic relationships between parents and their adult children* (pp. 49–62). New York: Routledge.
- Foxx, R. M. (1986). The successful treatment of diurnal and nocturnal enuresis and encopresis. *Child & Family Behavior Therapy, 7*, 39–47. doi:[10.1300/J019v07n03_04](https://doi.org/10.1300/J019v07n03_04)
- Gardner, H. L., Forehand, R., & Roberts, M. (1976). Time-out with children: Effects of an explanation and brief parent training on child and parent behaviors. *Journal of Abnormal Child Psychology, 4*, 277–288. doi:[10.1007/BF00917764](https://doi.org/10.1007/BF00917764)
- Greene, R. W. (2011). Collaborative Problem Solving. In R. C. Murrihy, A. D. Kidman & T. H. Ollendick (Eds.), *Clinical handbook of assessing and treating conduct problems in youth* (pp. 193–220). New York: Springer.
- Greene, R. W., Ablon, J. S., & Martin, A. M. (2006). Use of collaborative problem solving to reduce seclusion and restraint in child and adolescent inpatient units. *Psychiatric Services, 57*, 610–612. doi:[10.1176/ps.2006.57.5.610](https://doi.org/10.1176/ps.2006.57.5.610)
- Greene, R. W., Ablon, J. S., Monuteaux, M. C., Goring, J. C., Henin, A., Raezer-Blakely, L., ... Rabbitt, S. (2004). Effectiveness of collaborative problem solving in affectively dysregulated children with oppositional-defiant disorder: Initial findings. *Journal of Consulting and Clinical Psychology, 72*, 1157–1164. doi:[10.1037/0022-006X.72.6.1157](https://doi.org/10.1037/0022-006X.72.6.1157)
- Gunnoe, M. L. (2013). Associations between parenting style, physical discipline, and adjustment in adolescents' reports. *Psychological Reports, 112*, 933–975. doi:[10.2466/15.10.49.PR0.112.3.933-975](https://doi.org/10.2466/15.10.49.PR0.112.3.933-975)
- Handen, B. L., Parrish, J. M., McClung, T. J., Kerwin, M. E., & Evans, L. D. (1992). Using guided compliance versus time out to promote child compliance: A preliminary comparative analysis in an analogue context. *Research in Developmental Disabilities, 13*, 157–170. doi:[10.1016/0891-4222\(92\)90022-X](https://doi.org/10.1016/0891-4222(92)90022-X)
- Havighurst, S. S., Duncombe, M., Frankling, E., Holland, K., Kehoe, C., & Stargatt, R. (2015). An emotion-focused early intervention for children with emerging conduct problems. *Journal of Abnormal Child Psychology, 43*, 749–760. doi:[10.1007/s10802-014-9944-z](https://doi.org/10.1007/s10802-014-9944-z)
- Havighurst, S. S., Wilson, K. R., Harley, A. E., & Kehoe, C. E. (2019). Dads Tuning in to Kids: A randomized controlled trial of an emotion socialization parenting program for fathers. *Social Development, 28*, 979–997. doi:[10.1111/sode.12375](https://doi.org/10.1111/sode.12375)
- Havighurst, S. S., Wilson, K. R., Harley, A. E., Kehoe, C., Efron, D., & Prior, M. R. (2013). “Tuning into Kids”: Reducing young children’s behavior problems using an emotion coaching parenting program. *Child Psychiatry & Human Development, 44*, 247–264. doi:[10.1007/s10578-012-0322-1](https://doi.org/10.1007/s10578-012-0322-1)

- Hoffman, M. L. (2000). *Empathy and moral development*. Cambridge, UK: Cambridge University Press.
- Holden, G. W., Ashraf, R., Brannan, E., & Baker, P. (2016). The emergence of “positive parenting” as a revived paradigm: Theory, processes, and evidence. In D. Narvaez, J. M. Braungart-Rieke, L. E. Miller-Graff, L. T. Gettler & P. D. Hastings (Eds.), *Contexts for young child flourishing* (pp. 201–214). New York: Oxford University Press.
- Holden, G. W., Grogan-Kaylor, A., Durrant, J. E., & Gershoff, E. T. (2017). Researchers deserve a better critique: Response to Larzelere, Gunnoe, Roberts, and Ferguson (2017). *Marriage & Family Review*, 53, 465–490. doi:10.1080/01494929.2017.1308899
- Kaminski, J. W., & Claussen, A. H. (2017). Evidence base update for psychosocial treatments for disruptive behaviors in children. *Journal of Clinical Child & Adolescent Psychology*, 46, 477–499. doi:10.1080/15374416.2017.1310044
- Kapalka, G. M., & Bryk, L. J. (2007). Two- to four-minute time-out is sufficient for young boys with ADHD. *Early Childhood Services: An Interdisciplinary Journal of Effectiveness*, 1, 181–188.
- Katz, L. F., & Windecker-Nelson, B. (2004). Parental meta-emotion philosophy in families with conduct-problem children: Links with peer relations. *Journal of Abnormal Child Psychology*, 32, 385–398. doi:10.1023/B:JACP.0000030292.36168.30
- Koren-Karie, N., Oppenheim, D., Haimovich, Z., & Etzion-Carasso, A. (2003). Dialogues of 7-year-olds with their mothers about emotional events: Development of a typology. In R. N. Emde, D. P. Wolf & D. Oppenheim (Eds.), *Revealing the inner worlds of young children: The MacArthur Story Stem Battery and parent-child narratives* (pp. 338–354). Oxford, U.K.: Oxford University Press.
- Larson, K., & Ayllon, T. (1990). The effects of contingent music and differential reinforcement on infantile colic. *Behaviour Research and Therapy*, 28, 119–125. doi:10.1016/0005-7967(90)90024-D
- Larson, K. L., Ayllon, T., & Barrett, D. H. (1987). A behavioral feeding program for failure-to-thrive infants. *Behaviour Research and Therapy*, 25, 39–47. doi:10.1016/0005-7967(87)90113-6
- Larzelere, R. E., Cox, R. B. Jr., & Mandara, J. (2013). Responding to misbehavior in young children: How authoritative parents enhance reasoning with firm control. In R. E. Larzelere, A. S. Morris & A. W. Harrist (Eds.), *Authoritative parenting: Synthesizing nurturance and discipline for optimal child development* (pp. 89–111). Washington, DC: American Psychological Association.
- Larzelere, R. E., Gunnoe, M. L., Roberts, M. W., & Ferguson, C. J. (2017). Children and parents deserve better parental discipline research: Critiquing the evidence for exclusively “positive” parenting. *Marriage & Family Review*, 53, 24–35. doi:10.1080/01494929.2016.1145613
- Larzelere, R. E., Knowles, S. J., Henry, C. S., & Ritchie, K. L. (2018). Immediate and long-term effectiveness of disciplinary tactics by type of toddler noncompliance. *Parenting: Science and Practice*, 18, 141–171. doi:10.1080/15295192.2018.1465304
- Larzelere, R. E., Morris, A. S., & Harrist, A. W. (Eds.). (2013). *Authoritative parenting: Synthesizing nurturance and discipline for optimal child development*. Washington, DC: American Psychological Association.
- Larzelere, R. E., Sather, P. R., Schneider, W. N., Larson, D. B., & Pike, P. L. (1998). Punishment enhances reasoning’s effectiveness as a disciplinary response to toddlers. *Journal of Marriage and the Family*, 60, 388–403. doi:10.2307/353856
- Leijten, P., Melendez-Torres, G. J., Gardner, F., van Aar, J., Schulz, S., & Overbeek, G. (2018). Are relationship enhancement and behavior management ‘the golden couple’ for

- disruptive child behavior? Two meta-analyses. *Child Development*, 89, 1970–1982. doi:10.1111/cdev.13051
- Li, J., & Julian, M. M. (2012). Developmental relationships as the active ingredient: A unifying working hypothesis of 'what works' across intervention settings. *American Journal of Orthopsychiatry*, 82, 157–166. doi:10.1111/j.1939-0025.2012.01151.x
- Loeber, R., Burke, J. D., & Pardini, D. A. (2009). Development and etiology of disruptive and delinquent behavior. *Annual Review of Clinical Psychology*, 5, 291–310. doi:10.1146/annurev.clinpsy.032408.153631
- Lucas, R. L. (2000). The effects of time-out and DRA on the aggressive behavior of a spirited two-year-old. *Child & Family Behavior Therapy*, 22, 51–56. doi:10.1300/J019v22n02_04
- Mathews, J. R., Hodson, G. D., Crist, W. B., & LaRoche, G. R. (1992). Teaching young children to use contact lenses. *Journal of Applied Behavior Analysis*, 25, 229–235. doi:10.1901/jaba.1992.25-229
- McCain, M. N., Mustard, F. J., & McCuaig, K. (2011). *Early years study 3: Making decisions, taking action*. Toronto, ON: Margaret and Wallace McCain Family Foundation.
- McClellan, C. B., Cohen, L. L., & Moffett, K. (2009). Time out based discipline strategy for children's non-compliance with cystic fibrosis treatment. *Disability and Rehabilitation: An International, Multidisciplinary Journal*, 31, 327–336. doi:10.1080/09638280802051713
- Morawska, A., & Sanders, M. (2011). Parental use of time out revisited: A useful or harmful parenting strategy? *Journal of Child and Family Studies*, 20, 1–8. doi:10.1007/s10826-010-9371-x
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development*, 16, 361–388. doi:10.1111/j.1467-9507.2007.00389.x
- National Scientific Council on the Developing Child (2004). *Young children develop in an environment of relationships: Working paper no. 1*. Retrieved from <http://www.developingchild.net>
- Ollendick, T. H., Greene, R. W., Austin, K. E., Fraire, M. G., Halldorsdottir, T., Allen, K. B., ... Wolff, J. C. (2016). Parent Management Training and Collaborative & Proactive Solutions: A randomized control trial for oppositional youth. *Journal of Clinical Child & Adolescent Psychology*, 45, 591–604. doi:10.1080/15374416.2015.1004681
- Olmi, D. J., Sevier, R. C., & Nastasi, D. F. (1997). Time-in/time-out as a response to non-compliance and inappropriate behavior with children with developmental disabilities: Two case studies. *Psychology in the Schools*, 34, 31–39. doi:10.1002/(SICI)1520-6807(199701)34:1 < 31::AID-PITS4>3.0.CO;2-Y
- Olson, S. L., Lopez-Duran, N., Lunkenheimer, E. S., Chang, H., & Sameroff, A. J. (2011). Individual differences in the development of early peer aggression: Integrating contributions of self-regulation, theory of mind, and parenting. *Development and Psychopathology*, 23, 253–266. doi:10.1017/S0954579410000775
- Olson, R. L., & Roberts, M. W. (1987). Alternative treatments for sibling aggression. *Behavior Therapy*, 18, 243–250. doi:10.1016/S0005-7894(87)80018-7
- O'Reilly, D., & Dillenburger, K. (2000). The development of a high-intensity parent training program for the treatment of moderate to severe child conduct problems. *Research on Social Work Practice*, 10, 759–786. doi:10.1177/104973150001000606
- Ortiz, C., Hawes, D. J., Lorber, M., Lazer, S., & Brotman, L. M. (2018). Are callous-unemotional traits associated with differential response to reward versus punishment components of parent-training: A randomized trial. *Evidence-Based Practice in Child and Adolescent Mental Health*, 3, 164–177. doi:10.1080/23794925.2018.1450689

- Parke, R. D., & Buriel, R. (2006). Socialization in the family: Ethnic and ecological perspectives. In N. Eisenberg, W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology. Vol. 3: Social, emotional, and personality development* (6th ed., pp. 429–504). Hoboken, NJ: Wiley.
- Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia Press.
- Patterson, G. R., Forgatch, M. S., & DeGarmo, D. S. (2010). Cascading effects following intervention. *Development and Psychopathology*, *22*, 949–970. doi:10.1017/S0954579410000568
- Pelham, W. E. Jr., & Fabiano, G. A. (2008). Evidence-based psychosocial treatments for attention-deficit/hyperactivity disorder. *Journal of Clinical Child & Adolescent Psychology*, *37*, 184–214. doi:10.1080/15374410701818681
- Pepler, D., Craig, W., & Haner, D. (2012). *Healthy development depends on health relationships*. Ottawa, Canada: Division of Childhood and Adolescence, Centre for Health Promotion, Public Health Agency of Canada.
- Quetsch, L. B., Wallace, N. M., Hershell, A. D., & McNeil, C. B. (2015). Weighing in on the time-out controversy: An empirical perspective. *The Clinical Psychologist*, *68*, 4–15.
- Ramsden, S. R., & Hubbard, J. A. (2002). Family expressiveness and parental emotion coaching: Their role in children's emotional regulation and aggression. *Journal of Abnormal Child Psychology*, *30*, 657–667.
- Roberts, M. W. (1982a). The effects of warned versus unwarned time-out procedures on child noncompliance. *Child & Family Behavior Therapy*, *4*, 37–53. doi:10.1300/J019v04n01_04
- Roberts, M. W. (1982b). Resistance to timeout: Some normative data. *Behavioral Assessment*, *4*, 239–248.
- Roberts, M. W. (1984). An attempt to reduce timeout resistance in young children. *Behavior Therapy*, *15*, 210–216. doi:10.1016/S0005-7894(84)80023-4
- Roberts, M. W. (1985). Praising child compliance: Reinforcement or ritual? *Journal of Abnormal Child Psychology*, *13*, 611–629. doi:10.1007/BF00923145
- Roberts, M. W. (2008). Parent training. In M. Hersen & A. M. Gross (Eds.), *Handbook of clinical psychology. Vol. 2: Children and adolescents*. (pp. 653–693). Hoboken, NJ: Wiley.
- Roberts, M. W., & Hatzenbuehler, L. C. (1981). Parent treatment of command-elicited negative verbalizations: A question of persistence. *Journal of Clinical Child Psychology*, *15*, 107–112. doi:10.1080/15374418109533026
- Roberts, M. W., Hatzenbuehler, L. C., & Bean, A. W. (1981). The effects of differential attention and timeout on child noncompliance. *Behavior Therapy*, *12*, 93–99. doi:10.1016/S0005-7894(81)80109-8
- Roberts, M. W., & Powers, S. W. (1988). The compliance test. *Behavioral Assessment*, *10*, 375–398.
- Roberts, M. W., & Powers, S. W. (1990). Adjusting chair timeout enforcement procedures for oppositional children. *Behavior Therapy*, *21*, 257–271. doi:10.1016/S0005-7894(05)80329-6
- Rortvedt, A. K., & Miltenberger, R. G. (1994). Analysis of a high-probability instructional sequence and time-out in the treatment of child noncompliance. *Journal of Applied Behavior Analysis*, *27*, 327–330. doi:10.1901/jaba.1994.27-327
- Siegel, D. J. (2001). Toward an interpersonal neurobiology of the developing mind: Attachment relationships, “mindsight,” and neural integration. *Infant Mental Health Journal*, *22*, 67–94. doi:10.1002/1097-0355(200101/04)22:1 < 67::aid-imhj3>3.0.co;2-g
- Siegel, D. J., & Bryson, T. P. (2014a). *No-drama discipline*. Los Angeles: Mind Your Brain.

- Siegel, D. J., & Bryson, T. P. (2014b). 'Time-outs' are hurting your child. *Time*. Retrieved from <http://time.com/3404701/discipline-time-out-is-not-good/>
- Siegel, D. J., & Bryson, T. P. (2014c). The trouble with time-outs. *Parent & Child*, 40–44. Retrieved from <http://www.scholastic.com/parents/resources/article/parent-child/trouble-time-outs>
- Siegel, D. J., & Bryson, T. P. (2014d). You said WHAT about time-outs?! *Huffington Post*. Retrieved from http://www.huffingtonpost.com/daniel-j-siegel-md/time-outs-overused_b_6006332.html
- Snyder, J., Edwards, P., McGraw, K., Kilgore, K., & Holton, A. (1994). Escalation and reinforcement in mother-child conflict: Social processes associated with the development of physical aggression. *Development and Psychopathology*, 6, 305–321. doi:10.1017/S0954579400004600
- Society for Clinical Child & Adolescent Psychology. (2014). Time-outs [letter]. *Time*, 184, 8.
- Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11, 1–19. doi:10.1111/1532-7795.00001
- Thelen, M. H. (1979). Treatment of temper tantrum behavior by means of noncontingent positive attention. *Journal of Clinical Child Psychology*, 8, 140–140. doi:10.1080/15374417909532905
- Timmermans, M., van Lier, P. A. C., & Koot, H. M. (2009). Pathways of behavior problems from childhood to late adolescence leading to delinquency and underachievement. *Journal of Clinical Child & Adolescent Psychology*, 38, 630–638. doi:10.1080/15374410903103502
- Wahler, R. G., & Fox, J. J. (1980). Solitary toy play and time out: A family treatment package for children with aggressive and oppositional behavior. *Journal of Applied Behavior Analysis*, 13, 23–39. doi:10.1901/jaba.1980.13-23
- Weisz, J. R., Kuppens, S., Ng, M. Y., Vaughn-Coaxum, R. A., Ugueto, A. M., Eckshtain, D., & Corteselli, K. A. (2019). Are psychotherapies for young people growing stronger? Tracking trends over time for youth anxiety, depression, attention-deficit hyperactivity disorder, and conduct problems. *Perspectives on Psychological Science*, 14, 216–237. doi:10.1177/1745691618805436
- Wolff, J. C., Greene, R. W., & Ollendick, T. H. (2008). Differential responses of children with varying degrees of reactive and proactive aggression to two forms of psychosocial treatment. *Child & Family Behavior Therapy*, 30, 37–50. doi:10.1300/J019v30n01_03
- Wolf, M., Risley, T., Johnston, M., Harris, F., & Allen, E. (1967). Application of operant conditioning procedures to the behavior problems of an autistic child: A follow-up and extension. *Behaviour Research and Therapy*, 5, 103–111. doi:10.1016/0005-7967(67)90004-6
- Wolf, M., Risley, T., & Mees, H. (1963). Application of operant conditional procedures to the behaviour problems of an autistic child. *Behaviour Research and Therapy*, 1, 305–312. doi:10.1016/0005-7967(63)90045-7