

**FHS PUBLIC ACCESS**

Author manuscript

*Clin Psychol Rev.* Author manuscript; available in PMC 2017 December 01.

Published in final edited form as:

*Clin Psychol Rev.* 2016 December ; 50: 11–21. doi:10.1016/j.cpr.2016.09.007.

## Cascading Effects of BPT for Child Internalizing Problems and Caregiver Depression

**Michelle A. Gonzalez and Deborah J. Jones**

Department of Psychology and Neuroscience, University of North Carolina at Chapel Hill

### Abstract

Behavioral Parent Training (BPT) is the standard of care for early onset (3 to 8 years old) disruptive behavior disorders (DBDs). Preliminary evidence suggests that BPT may also produce cascading treatment effects for comorbid and interrelated symptomatology in children, primarily internalizing problems, as well as symptomatology in multiple systems of the family, including caregiver depressive symptomatology. What is less well understood, however, is *why* and *how* BPT functions to impact these multiple symptom clusters within and between family members. Accordingly, this manuscript aims to serve as a conceptual and theoretical consideration of the mechanisms through which BPT may produce generalized treatment effects among children with early onset DBDs and internalizing problems, as well as the psychosocial difficulties among their caregivers. It is our intention that the hypothesized mechanisms highlighted in this review may guide advances in clinical research, as well as assessment and practice.

### Keywords

Behavioral Parent Training; Disruptive Behaviors; Internalizing; Depression

---

Early-onset (3 to 8 y.o.) disruptive behavior disorders (DBDs), oppositional defiant disorder and conduct disorder (which often co-occur with attention-deficit/hyperactivity disorder or ADHD), are among the most common mental health referrals for children (Merikangas, Narkamura, & Kessler, 2009). Behavioral Parent Training (BPT) is the standard of care for early onset DBDs; indeed, robust evidence shows significant post-treatment improvement in disruptive behaviors, which is hypothesized to occur via improvements in the parent-child relationship (e.g., Chorpita et al., 2011; Eyberg, Nelson, & Boggs, 2008; McMahon, Wells, & Kotler, 2006). Yet, preliminary data suggests BPT for DBDs may also yield changes in comorbid internalizing problems and caregiver depression (e.g., Carpenter, Pulifico, Kurtz, Pincus, & Comer, 2014; Timmer et al., 2011; Webster-Stratton & Herman, 2008). Greater understanding of *how* and *why* BPT has such cascading effects is consistent with calls for testing manual-based treatments with comorbid children (Jensen Doss, 2005) and cost-effective first-line treatments targeting clusters of symptoms within and across family systems (NIMH, 2015). To this end, this paper reviews: 1) the epidemiology, etiology, and

---

**Publisher's Disclaimer:** This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

treatment of early onset DBDs and their co-occurrence with internalizing problems and caregiver depression; 2) how and why BPT is hypothesized to impact these additional symptom clusters; and 3) future research and clinical directions.

## **Epidemiology, Etiology, and Treatment of Early Onset Disruptive Behavior Disorders**

The prevalence of youth mental disorders worldwide is approximately 20 percent (WHO, 2011), with prevalence rates in the United States suggesting that up to 15 million children are affected (Burns, Hogwood, & Mrazek, 1999; Kazak et al., 2010). In turn, children are referred to mental health care for DBDs (and comorbid symptomatology) more than any other presenting issue, except for anxiety (Merikangas, Narkamura, & Kessler, 2009). What makes early intervention for early starters so pressing is that, compared to adolescent-onset, early-starters show a more chronic and stable trajectory of behavior problems into and through childhood, adolescence, and adulthood (e.g., Aguilar, Sroufe, Egeland, & Carlson, 2000; Olson, Bates, Sandy, & Lanthier, 2000; Moffitt et al., 2008; Shaw & Gross, 2008). Left untreated, early onset DBDs, in turn, yield up to a ten-fold increase in costs (e.g., education, health, criminal justice) before the age of 30 and associated instability in family and peer relationships, as well as employment (e.g., Pelham, Foster, & Robb, 2007; Scott, Knapp, Henderson, & Maughan, 2001; O'Connell, Boat, & Warner, 2009; Loeber & Stouthamer-Loeber, 1998; Reinke, Eddy, Dishion, & Reid, 2012; Schaeffer et al., 2006).

Yet, behavior problems are also more malleable to intervention during early, rather than late, childhood (Reid, Webster-Stratton, & Baydar, 2004). Given that young children depend on parents physically and psychologically, as well as their rapid rate of physical and social maturation, it is not surprising that parenting has been the focus of DBD intervention research and practice (Shaw & Gross, 2008). For example, Baumrind's (1966) early work, which was conducted with largely Caucasian, middle class, intact families resulted in three parenting styles characterized by varying levels of warmth/support and monitoring/control: Authoritative or a balance of warmth/support and monitoring control and linked to optimal child outcomes; Authoritarian or a style characterized by higher levels of monitoring/control and lower levels of warmth; and, finally, lax or permissive parenting, characterized by higher levels of warmth/support and lower levels of monitoring/control. To increase generalizability, Maccoby and Martin (1983) advocated for a re- assessment of parenting styles to include only two dimensions, responsiveness and demandingness. Although not entirely unrelated to Baumrind's (1966) authoritative (i.e., higher responsiveness & demandingness) and authoritarian (i.e., higher demandingness, lower responsiveness) styles, Baumrind's lax or permissive parenting could be characterized by indulgent (higher responsiveness, lower demandingness) and neglecting (lower responsiveness and demandingness) parenting (Darling & Steinberg, 1999; McKee, Jones, Forehand, & Cuellar, 2013). Finally, Darling and Steinberg (1993) elucidated the relation between parenting style, which can shape how and if specific parenting behaviors are used, and parenting behaviors which may, in turn, be more or less effective depending on parenting style.

Parenting behaviors most relevant to early-onset (3 to 8 y.o.) children can be divided into three domains, warmth, behavioral control, and hostility (McKee et al., 2013). Broadly, warmth is an umbrella term that characterizes a variety of parenting constructs including acceptance, caring, involvement, positive affect, positive behavior, positive support, and withdrawal (i.e., absence of warmth). Behavioral control also encompasses a variety of constructs, such as behavioral directives, firm control, monitoring, rules, as well as the lack of behavior control or laxness. Finally, hostility is reflected in behaviors such as aggression, anger, criticism, disapproval, intrusiveness, irritability, negative affect, and/or verbal punishment.

Beyond parenting style and parenting behaviors, others have focused primarily on the patterns of interactions between parents and their young children. In the DBDs literature in particular, the primary focus has been on the coercive cycle or a parent-child interaction style in which the child's disruptive behavior is reinforced by the parent's inconsistent (e.g., threatening a consequence, but not following through) and ineffective (e.g., repeated attention, even if negative attention, to the behavior) discipline (McMahon & Forehand, 2003; Forgatch & Patterson, 2010). Building upon this coercive cycle, frameworks variously described as the early-starter, child-onset type, and/or the cascade model (e.g., Dodge, Greenberg, & Malone, 2009; Moffitt et al., 2008; Shaw, 2013), describe the consequences of a coercive cycle of parent-child interaction in which there is increased vulnerability for harsh parenting (e.g., yelling, spanking) with little opportunity for positive behavior change. In addition, the development and maintenance of DBDs is also linked to the "positive reinforcement trap" (Wahler, 1976), whereby parents respond to "not ok" behavior with increased (e.g., engaging and/or reasoning with the child), rather than decreased or no attention (Forgatch & Patterson, 2010). Consistent with a social learning perspective, coercion theory conceptualizes DBDs as a pattern that originates in the context of maladaptive parent-child interactions and then generalizes to the child's interactions with teachers, peers and others (Reid, Patterson, & Snyder, 2002).

Building upon the power of parenting and parent-child interactions in the etiology of DBDs, *Behavioral Parent Training* (BPT; also called *Parent Management Training or PMT*) evolved through the work of Gerald Patterson at the Department of Psychology at the University of Oregon (and later the Oregon Social Learning Center), Robert Wahler at the Department of Psychology at the University of Tennessee, and Constance Hanf at the University of Oregon Medical School (now the Oregon Health and Science University). For this review, we will rely on the contemporary Hanf-Model programs in particular, given that their common history, theory, and practice elements provide representative examples (Kaehler, Jacobs, & Jones, 2016; Reitman & McMahon, 2012): Communication Parent Training (*COPE*; Cunningham, Bremner, Secord, & Harrison, 2009), Defiant Children (*DC*; Barkley, 2013), Helping the Noncompliant Child (*HNC*; McMahon & Forehand, 2003), Incredible Years (*IY*; Webster-Stratton, 2008), and Parent-Child Interaction Therapy (*PCIT*; Eyberg & Funderburk, 2011).

In general, Hanf-Model BPT programs can be characterized as an intervention approach in which the aim to ameliorate or at least reduce child DBDs is accomplished by shaping parental behavior via a series of skill intended to increase parental positive attention to the

child's "okay behavior" or behaviors the parent wants to see or see more, as well as clear and consistent consequences for the child's "not okay" behavior or behavior the parent wants to see less or not at all. In turn, BPT skills helps parents to better navigate the balance of warmth/support in combination with behavioral control first in sessions, then increasingly throughout the course of the family's daily life. Taken together, the findings from the Hanf-Model programs, as well as those who have replicated and extended their formative work, suggest that BPT, more robustly than any other approach, disrupts the maladaptive interactions implicated in early onset DBDs and, in turn, decreases the risk for protracted disturbances of behavior (e.g., Chorpita et al., 2011; Leijten, Raaijmakers, de Castro, & Matthys, 2013; Reyno & McGrath, 2006).

## **BPT, DBDs, Internalizing Problems and Caregiver Depression**

Building upon the aforementioned work, an understanding of link between parenting and the etiology and maintenance of DBDs may have cascading implications for other symptom clusters in the family as well. In the case of child anxiety, some posit that the link between anxiety and DBDs in particular is indeed a function of inconsistent and coercive parenting, including a tendency to vacillate between permissive and hostile parenting, which induces anxiety in children and, in turn, aggression as a strategy for regulating anxiety (Granic & Loughheed, 2016). Coercive parenting also has implications for child depression. For example, parenting characterized by lower levels of warmth/support and higher levels of hostility and control may increase a child's risk for negative thoughts about themselves, their environment, and the future, all symptoms of depression (e.g., Khaleque, 2013; Rohner, 1999; Rudolph, Flynn, & Abaied, 2008). Coercion theory is also relevant to caregiver depression. That is, whereas coercive parenting may be implicated in the development of child internalizing and externalizing problems, the aversive nature of coercive processes within parent-child interactions are also thought to compromise the self-efficacy of caregivers and, in turn, perpetuate or exacerbate dissatisfaction and depression (Patterson & MacCoby, 1980).

As such, parenting style and parenting behaviors, as well as the reciprocal and coercive interactions which take place between parents and young children, will be used to describe the mechanisms through BPT for DBDs is posited to impact internalizing problems in children and depression in caregivers. Specifically, three types of mechanisms are discussed throughout: (1) practice or core elements of BPT (e.g., skills taught to caregivers); 2) parenting behaviors (e.g., parental warmth) directly targeted by BPT; and (3) psychosocial processes (e.g., child or parental self-regulation) not directly targeted by BPT per se, but that may evolve as a result of the BPT skills and associated changes in parent and child behavior. Given that prior work has detailed the practice elements characteristic of BPT (e.g., Chorpita et al., 2011; Garland et al., 2008; Kaminski et al., 2008), we will not detail the full range here. Rather, we focus on practice elements hypothesized to be most central to the potential cascading effects of BPT, primarily parent use of BPT skills and the context in which they are asked to practice those skills.

## BPT, DBDs, and Internalizing Problems in Children

Although it is true that the risk for internalizing problems increase with age, 9% of preschoolers experience an anxiety disorder and approximately 2% a depressive disorder (e.g., Carpenter et al., 2014; Egger & Angold, 2006; Wichstrøm et al., 2012). Similar to the course of DBDs, early onset internalizing problems are associated with more protracted disturbances of mood and behavior over time (e.g., Carpenter et al., 2014; Luby, Si, Belden, Tandon, & Spitznagel, 2009; Ramsawh et al., 2011), a fact made worse by the knowledge that comorbidity affects nearly half (45%) of those with any psychiatric disorder with severity strongly related to comorbidity (NIMH, 2012). Moreover, externalizing and internalizing problems in particular co-occur among youth at a rate greater than would be expected by chance, regardless of how comorbidity is conceptualized (e.g., Albano et al., 2003; Hammen & Rudolph, 2003; Hinshaw & Lee, 2003). In their study of children (N = 199) children with ADHD, Armstrong and colleagues (2014) reported that over half (56%) also had Conduct Disorder and approximately one-third (36%) had both an internalizing and externalizing disorder. Such comorbidity has, in turn, been linked to compromises in family relations, school, treatment outcomes, and more global functioning (Cummings, Caporino, & Kendall, 2014; Vance et al., 2002).

There is some disagreement regarding the extent to which comorbidities are generally excluded from treatment outcome research as a general practice and, if so, the impact of doing so for clinical practice (e.g., Addis, Wade, & Hughes, 1999; Jensen Doss, 2005; Rizvi & Harned, 2013). That said, a review of the literature suggests that BPT has indeed focused primarily on the amelioration of disruptive behavior disorders, with research on the treatment of internalizing problems evolving separately and studies of DBDs excluding comorbidities or failing to examine changes in the comorbidities as a function of treatment when they are included (e.g., Cosgrove et al., 2011; Forehand, Parent, & Jones, 2013; Quay & Werry, 1979). Such an approach has not only resulted in a proliferation of disorder-specific treatments in general (Chorpita et al., 2011; Rizvi & Harned, 2013), but also a relative lack of guidance for clinicians as to if and how to use evidence-based treatments such as BPT when children present with comorbid symptoms (Jensen Doss, 2005). This is true despite theory to suggest that internalizing and externalizing problems may both be linked, at least to some extent, to the parent-child relationship.

## The Role of the Parent-Child Relationship in Internalizing and Externalizing Problems

Several studies, for example, have reported significant relations between high levels of parental warmth and low levels of child externalizing and internalizing behaviors, and, conversely, low levels of warmth and high levels of externalizing and internalizing problems (e.g., Garber, Robinson, & Valentiner, 1997; Hammen et al., 1998; Hammen, Shih, & Brennan, 2004). With regard to the relation between warmth and externalizing problems, one model hypothesizes that parenting characterized by lower warmth (e.g., lack of support or involvement) inhibits a child's ability to regulate arousal (Tronick & Gianino, 1986). In turn, a child may be less capable of anticipating the consequences of actions and abstaining from disruptive behaviors (Brody, Dorsey, Forehand, & Armistead, 2002). As for the link between warmth and internalizing problems, Tronick and Gianino (1986) suggest that children learn to withdraw to evade caregiver's insensitive or unresponsive parenting (i.e.,

lack of warmth). As withdrawal is believed to dull the arousal system, such disengagement may become the child's primary coping strategy and over time place the child at risk for developing symptoms internalizing symptomatology (Field, 1995).

Just as warmth has been inversely associated with youth internalizing and externalizing problems, hostility, defined broadly to include aggression, anger, criticism, disapproval, intrusiveness, irritability, negative affect, over-reactivity, and harsh punishment, is also implicated. First, high levels of hostility have been associated with child externalizing behaviors in a number of studies (e.g., Conger, Conger, Elder, Lorenz, Simmons, & Whitbeck, 1992; Conger, Conger, Elder, Lorenz, Simmons, & Whitbeck, 1993; Conger, Ge, Elder, Lorenz, & Simmons, 1994). For example, Patterson (1982) and colleagues have studied the coercive processes between child and caregiver that lead to disruptive behaviors. As delineated earlier, irritable, hostile exchanges between parents and children often contain a negative reinforcement mechanism that perpetuates parental harshness and child externalizing problems (e.g., Dodge et al., 2009; Granic & Patterson, 2006; McMahon & Forehand, 2003). Children socialized in a coercive context are also more likely to use similar strategies outside the family, perpetuating their problem behavior (e.g., Conger et al., 1994; Forehand & Wierson, 1993; Patterson et al., 1982). Although parental hostility has most often been studied with externalizing problems, some researchers have proposed that repeated hostile confrontations with irritable parents represent a daily stressor that increases the child's distress, diminishes their sense of self, and heightens feelings of hopelessness and worthlessness, all of which are internalizing symptoms (e.g., Burge & Hammen, 1991; Downey & Coyne, 1990; Ge, Best, Conger, Simmons, 1996).

Behavioral control, which includes directives, limit setting, firm control, monitoring, rules, supervision, and low levels of laxness, has been implicated in the development and maintenance of externalizing problems. In fact, lower levels of behavioral control have been associated with child externalizing symptoms, whereas higher levels appear to confer protection (e.g., Dishion, Patterson, Stoolmiller, & Skinner, 1991; Gray & Steinberg, 1999; Pettit, Laird, Dodge, Bates, & Criss, 2001). Such findings suggest that parents who implement firm and consistent limits help nurture self-regulation and compliance in their children; whereas, lax behavioral control and inconsistent limit-setting hinder children from learning valuable lessons regarding behavioral expectations that are necessary for the development of emotional and behavioral control (Hart, Newell, & Olsen, 2003). Although not as extensive and at times inconsistent (Garber et al., 1997; Pettit et al., 2001), some data suggests that lower behavioral control is linked with more internalizing symptoms (e.g., Barber, 1996; Galambos, Barker, & Almeida, 2003; Kurdek & Fine, 1994). Inconsistent parenting, characterized by recurrent and unpredictable breakdowns of behavioral control, may teach children to resolve conflict by withdrawing, which may facilitate the development or exacerbation of internalizing symptoms (Downey & Coyne, 1990).

### **Preliminary Research on BPT and Internalizing Problems**

Building upon the aforementioned work, it follows that treatments targeting the parent-child relationship in children with DBDs may have cascading effects as well. It is interesting then to note that parents have historically played a less substantive role in the treatment of



internalizing problems than externalizing problems in general and evidence for whether or not their inclusion bolsters treatment remains mixed (e.g., Dowles & Ogles, 2010; Forehand, Parent, & Jones, 2013; Weisz et al., 2004). Yet, it is also true that evidence-based treatments for internalizing problems have tended to focus primarily on relatively older children and adolescents (e.g., Ollendick & Jarrett, 2009; Ollendick & Shirk, 2011; Silverman, Pina, & Viswesvaran, 2008), with younger children (i.e., 3 to 8 year olds in the early-onset DBDs age-range), who generally lack the somewhat sophisticated emotional and cognitive skills to engage in individual treatment, only more recently included in this work (e.g., Carpenter et al., 2014; Dowell & Ogles, 2010; Forehand, Parent, & Jones, 2013). In turn, while research is less definitive regarding treatments for internalizing problems in young children (e.g., Carpenter et al., 2014; Murray & Cartwright-Hatton, 2006, Silverman et al., 2008), some work suggests that BPT has promise.

Of note, there are examples of research to date examining the relevance of BPT for internalizing problems, which have used extended or adapted BPT models (Carpenter et al., 2014). In particular, Carpenter et al. (2014) describe several lines of preliminary research with various modifications of one Hanf-Model BPT program, PCIT (Eyberg & Funderburk, 2008), for internalizing problems (e.g., separation anxiety) and related symptoms (e.g., behavioral inhibition). For example, the authors described a study conducted by Pincus and colleagues (in preparation) that tested an adapted version of PCIT, including a predetermined number of sessions, rather than using the more standard mastery-based criteria, as well as the addition of a treatment component targeting separation anxiety in particular (e.g., anxiety hierarchy and exposure), with 38 families. The majority (73%) of families randomized to adapted PCIT no longer met diagnostic criteria for separation anxiety disorder at post-treatment, while all of the families in the wait-list control continued to meet criteria. That said, other work suggests that standard BPT holds promise for the treatment of children with comorbid DBDS and internalizing problems. For example, Webster-Stratton and Herman (2008) tested the impact of the standard version of another Hanf-Model BPT intervention, *IY* (Webster-Stratton, 2008), on child internalizing symptoms. One hundred eighty-one children were randomly assigned to receive *IY* or a wait-list control group. Children who received *IY* were more likely to have lower mother-rated mood and internalizing symptoms at post-treatment, compared with those in a wait-list control. The effect size for internalizing problems in the treatment group was .37.

### **Mechanisms through which BPT Impacts Internalizing Problems**

Such work, albeit preliminary, is promising, highlighting the importance of considering how and why BPT may impact young children's internalizing symptoms (see Figure 1 for an overarching framework). To this end, we turn to the common practice elements characterizing the Hanf-Model programs to generate hypotheses regarding the potential mechanisms through which BPT may ameliorate symptoms of depression and anxiety in children. For example, skills such as McMahon and Forehand's (2003) *Helping the Noncompliant Child's* (HNC) "Attends" (also called "Behavior Description" in PCIT and "Descriptive Commenting" in *IY*, for example) and "Rewards" (also called "Praise" in PCIT), which have theoretically and functionally similar "cousins" in the other Hanf-Model Programs, were designed to encourage caregivers to give positive attention to behaviors they

want to see or see more; however, these skills also increase warmth by increasing positive affect, involvement, and support for their child. It follows then that increasing parental warmth via the use of “Attends” and “Rewards” may facilitate positive engagement in the parent-child relationship to prevent or disrupt coping strategies that the child may have developed in response to maladaptive parenting. For example, “Attends” and “Rewards” may help a child to more effectively regulate both the behavior and emotion that may accompany insensitive or unresponsive parenting and, in turn, ameliorate the progression of anxiety or depression (Tronick & Gianino, 1986).

Similarly, “Ignoring,” an HNC skill (McMahon & Forehand, 2003), which is also taught in other Hanf-Model programs (e.g., “Effortful Ignoring” in PCIT) or the removal of caregiver attention for inappropriate child behavior, not only helps parents escape the “positive reinforcement trap”, but it may also serve to promote behavioral control by establishing rules and expectations for acceptable and unacceptable behaviors. In addition, helping parents exercise “Ignoring” indirectly reduces the number of chances parents have to respond to disruptive behavior with hostility. The final skills we will mention here, including HNC’s (McMahon & Forehand, 2003) “Clear Instructions” and “Time-Out,” emphasize more effective instructions and consequences for noncompliance, which have a similar emphasis across Hanf-Model programs, may also increase behavioral control and reduce hostile behavior. Indeed, when parents are using “Clear Instructions” and “Time-Out,” they are increasing their behavioral directives, firm control, establishing rules of conduct, and implementing effective, yet non-harsh, punishment. By implementing these skills, parents are responding to children in more supportive, yet firm ways rather than in confrontations characterized by hostility, which may present as salient daily stressor that increases the child’s psychological distress, diminishes the child’s sense of self, and heightens feelings of hopelessness and worthlessness, all of which are symptoms of internalizing problems (e.g., Burge & Hammen, 1991; Downey & Coyne, 1990; Ge et al., 1996).

Lastly, the synergistic effect of using the skills in tandem, again a hallmark of the Hanf-Model programs, improves parent-child relationship quality overall (McMahon et al., 2006). The quality of the parent-child relationship is thought to be important for preventing child internalizing symptoms (Cummings & Cicchetti, 1990) and the evidence for concurrent associations between parent-child relationship quality and child internalizing symptoms is robust (Heaven, Newbury, & Mak, 2004; Pavlidis & McCauley 2001; Sheeber et al. 2001). Parent-child relationship difficulties have been identified as a risk for the development of internalizing symptoms. According to theories of attachment (Bowlby 1988), the connectedness-individuation link (Grotevant & Cooper, 1986), and parenting practices (Baumrind, 1966), lower levels of internalizing symptoms more often occur when children have close relationships with their parents. It has been theorized that poor parent-child relationship quality may lead to more internalizing symptoms, because children in such relationships experience inadequate levels of parental support (Cobb, 1976). In addition, the sense of being accepted and valued may boost esteem and efficacy, which protects against internalizing problems (Windle, 1992).



## BPT, DBDs, and Caregiver Depressive Symptoms

An abundance of work highlights that youth residing with a depressed caregiver are at substantial risk for a variety of psychosocial adjustment difficulties from infancy through adulthood, including an increased risk for internalizing problems, such as depression, and externalizing problems characteristic of DBDs (e.g., Cummings & Davies, 1994; Downey & Coyne, 1990; Goodman & Gotlib, 1999). Depressed individuals, who may be more likely to be negative, critical, unresponsive, helpless, and passive toward others, including their children, are more likely to use parenting practices characterized by low levels of warmth and behavioral control and higher levels of unresponsiveness and hostility. Such parenting, in turn, has been linked to the development of disruptive behaviors, as well as internalizing symptoms, in preschool and school age children (e.g., Goodman & Gotlib, 1999; Shaw, Keenan, & Vondra, 1994; Shaw, Dishion, Supplee, Gardner, & Arnds, 2006).

In addition, literature is shedding light on the potential reciprocal models, which suggest parenting and child behaviors are recurrent and transactional over time, where both parties affect the other (e.g., Bell & Harper, 1977; Gross, Shaw, Moilanen, Dishion, & Wilson, 2008; Sameroff, 1995). Although the literature on such reciprocal effects between child disruptive behavior and parenting is extensive (Bell & Harper, 1977; Danforth, Barkley, & Stokes, 1991), few have focused on potential bidirectional effects between child disruptive behavior and parental mental health, such as depressive symptoms. In fact, high rates of child behavior problems and irritability have been associated with the persistence and onset of maternal clinical depression (Ghodsian, Zajicek, & Wolkind, 1984; Murray et al., 1996). Similar findings have been supported in experimental work, in which adults who interact with defiant youth show more depressive symptoms than those who interact with non-defiant children (Pelham et al., 1997). Finally, other work has tested reciprocal models of child behavior and maternal depressive symptoms. For example, research with low income families found significant child effects on subsequent maternal depression which, in turn, were associated with subsequent externalizing problems (Gross, Shaw, Burwell, & Nagin, 2009; Gross et al., 2008).

### Preliminary Research on BPT and Caregiver Depression

It is important to note that ours is not the first discussion of family-focused treatments for adult psychopathology in general and depression in particular (Baucom, Shoham, Mueser, Daiuto, & Stickle, 1998; Beach, Jones, & Franklin, 2009). Building upon such a tradition, as well as the interrelationship of parenting, child behavior, and parent depression, it is perhaps then not surprising then that there is some evidence that BPT may hold promise for alleviating caregiver depressive symptomatology as well. Again, similar to the child-outcomes research, one line of work in this area has focused on adaptations or extensions of standard BPT for caregiver mood. For example, Rajwan and colleagues (2014) tested adaptations to a “traditional BPT program” to enhance engagement of single mothers of children with ADHD. Although the authors do not name the specific BPT program they use, they describe it as a group-based program, which would be most consistent with the standard versions of the IY (Webster-Stratton, 2008) or COPE (Cunningham, Bremner, Secord, & Harrison, 2009) Hanf-Model Programs; however, they also describe a child-focused social

skills piece conducted in parallel, which would be less consistent with traditional Hanf-Model programs or standard BPT more generally. The adapted BPT group then also received additional material targeting the parent (e.g., problem solving around barriers to engagement, social support, time management), as well as for the children [parent-child interactions, which would be more consistent with the Hanf-Models HNC (McMahon & Forehand, 2003) and PCIT (Eyberg & Funderburk, 2008), as well as child incentives for attendance]. In spite of these adaptations, the authors reported no clinically significant benefit for parents (including depression) or children (behavior problems; of note, the authors did not examine internalizing symptoms) over and above “standard BPT”.

Although, again, the aforementioned study included a “standard” BPT that was actually less standard or traditional (i.e., inclusion of child social skills component), other work indeed confirms the promise of BPT “proper” for caregiver depression. For example, a study conducted by Timmer and colleagues (2011) investigated the efficacy of *PCIT* (Eyberg & Funderburk, 2011) in reducing children’s behavior problems [i.e., clinical elevations on the Externalizing Subscale of the Child Behavior Checklist (CBCL; Achenbach, 2001) and clinical elevations on the Eyberg Child Behavior Inventory (ECBI; Eyberg, 1999)] in families in which the primary caregiver reported clinical levels of depressive symptoms [i.e., clinical elevations on depression subscales of two clinical symptom inventories: Symptom Checklist 90-R (SC-90R; Derogotis, 1994) and Brief Symptom Inventory (BSI; Derogotis, 1993)]. Results revealed significant pre- to post-treatment effects on the CBCL and ECBI for problem behavior for children of depressed and non-depressed mothers. In addition, most (79.3%) mothers experience clinically and statistically significant reductions in mood pre- to post-treatment (effect size = 2.2).

Other work has compared Hanf-Model BPT programs’ effects on caregiver depression to other treatments that more explicitly are intended to target depressive symptomatology in the context of parenting. Chronis-Tuscano and colleagues (2013), for example, examined how one Hanf-Model Program, in this case *Defiant Children (DC)* (Barkley, 2013), produced changes in maternal depression from pre-to-post treatment with 98 mothers experiencing at least mild depressive symptoms evident by a minimal score of 10 on the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown 1996). Mothers were then randomized to one of two treatment conditions: *Defiant Children (DC)* (Barkley, 2013), or to *Integrated Parenting Intervention for ADHD (IPI-A)* (Chronis-Tuscano & Clark, 2008), a cognitive behavioral treatment for depressed caregivers of children with ADHD, which included parenting components. In addition to self-report measures of depression, researchers also collected observational and parent-reported data regarding child disruptive behavior. While both *IPI-A* and *DC* produced a moderate pre-to post treatment effect size on maternal depressive symptoms (Hedges’  $g = -.40$ ) and on both measures of child disruptive behavior (Hedges’  $g = -.56$  and Hedges’  $g = -.52$ ), *DC* produced a large effects size on positive parenting at follow-up (Hedges’  $g = -.75$ ), highlighting the potential for BPT to equally (or even more optimally), albeit indirectly, address caregiver depression.

Lastly, some work suggests BPT may be most likely to yield changes in parental mood among those families most vulnerable to both caregiver depression and child behavior problems, including low-income families; yet, it is notable that low income families are not

the typical focus of treatment outcome research on BPT in general or those studies testing the cascading effects for parents in particular (Colalillo & Johnston, 2016);. As an exception, Lees and Ronan (2008) preliminarily assessed the effectiveness of *IY* (Webster-Stratton, 2008), with a small ( $N = 4$ ) sample of low-income, single mothers using and single and multiple baseline analyses. Mothers with a child between the ages of six and nine with a diagnosis of ADHD attended weekly group sessions for twenty weeks with pre-treatment assessment of parent-reported family functioning, child behavior, parenting confidence, stress, and depression. Trends at post-treatment showing an increase in family functioning and parenting confidence, as well as reductions in child behavior, stress, and maternal depression.

### **Mechanisms through which BPT Impacts Caregiver Depression**

Again, capitalizing on the cascading effects of BPT for caregiver depression in clinical practice depends on clinicians having a conceptual understanding of how BPT affects parental mood (see Figure 1 for an overarching framework). We turn our attention first to the likely mediating role of parenting self-efficacy as a function of parental engagement in BPT and, in turn, increased use of BPT skills, including Attends, Reward, Ignoring, Clear Instruction, and Time-Out. Defined as the “beliefs a parent holds of their capabilities to organize and execute the tasks related to parenting a child” (de Montigny & Lacharite, 2005, p. 390), parenting-efficacy is rooted in general self-efficacy theory (Bandura, 1977) and has been linked with a number of important parental and child outcomes, notably parental depression and youth conduct problems (e.g., Campbell et al., 2000; Coleman & Karraker, 2003; Shaw & Gross, 2008). For example, Coleman and Karraker (2003) found that 2-year-old children's observed compliance, negativity, and avoidance of caregiver were associated with concurrent ratings of parenting-efficacy, while higher levels of efficacy were associated with less emotionally reactive and more sociable behavior (i.e., 12% of variance in child behavior accounted for by caregiver efficacy). Furthermore, mothers of clinically-referred children (2 to 8 y.o.) with conduct problems reported lower efficacy relative to a comparative community sample (Sanders & Woolley, 2004). Given that the hallmarks of depression are feelings of helplessness and worthlessness, it is not surprising that caregiver depression and a lack of efficacy are related (e.g., Bor & Sanders, 2004; Haslam, Pakenham, & Smith, 2006; Teti & Gelfand, 1991).

Rather than direct causal pathways between parenting efficacy and depression or between efficacy and child conduct problems, a dynamic and transactional relationship between parent and child variables is likely to be a more accurate (Jones & Prinz, 2005). For example, coping with a difficult child may lead to a gradual erosion of a parent's sense of efficacy; but low efficacy may also mean that the parent is less likely to use positive parenting, and is more likely to give up, make internal attributions for failure, and experience anxiety and/or depression in response to challenge (Bandura, 1982). In turn, the child may be more likely to respond in “difficult” ways (e.g., tantrum more, attempt to get more attention, become more noncompliant, etc.) (Beck, 1995). BPT, which teaches parents a specific series of skills to increase child compliance and reduce disruptive behaviors, may lead to an increased sense of efficacy among caregivers and, in turn, alleviate parental depressive symptoms. Parents are confident in their use each of the BPT skills in

combination may begin to feel less helpless and make more positive attributions about their ability to parent and overall self-concept as a parent.

A second path by which BPT may help alleviate caregiver depressive symptomology rests on the notion that BPT and its characteristic practice elements function to some extent as a form of behavioral activation (Dimidjian, Barrera, Martell, Munoz, & Lewinsohn, 2011). Broadly defined, behavioral activation is based on operant conditioning principles and suggests that depression results from a change in environmental context that alters the person's access to sources of positive reinforcement. For example, Brief Behavioral Activation Treatment for Depression (BATD; Lejuez, Hopko, & Hopko, 2001), focuses on activity monitoring and scheduling with a values-driven framework. Recipients of BATD are asked to (a) identify positive and negative reinforcers that maintain or strengthen depressive behavior and (b) identifying positive reinforcers of high, personal value that maintain or strengthen healthy behavior across multiple life areas. If depressed caregivers are experiencing transactional and reciprocal relations between child conduct problems and maternal depressive symptoms, the resulting distressed parent-child relationship may reinforce caregiver depressive symptoms. By engaging in BPT and experiencing improvements in child compliance and other appropriate behaviors, BPT skills may actually serve as a positive reinforcer as caregivers begin to feel better. Although BPT is not characterized by scheduling pleasant activities, as is the case in BATD, BPT programs generally require caregivers to engage in daily (e.g., 15-minutes in HNC) activities (e.g., "Child's Game" in HNC or "Child Directed Play" in PCIT) with their children in order to practice skills, which essentially mirrors the essence of BATD scheduled activities.

## Summary, Future Directions, and Clinical Implications

The goal of this manuscript was to integrate several interrelated lines of research to extrapolate how and why BPT may have cascading effects for internalizing symptoms among children with DBDs, as well as depressive symptomology in their caregivers. Specifically, three types of mechanisms were identified, including practice or core elements of BPT (e.g., skills taught to caregivers), parenting behaviors (e.g., parental warmth) directly targeted by BPT, and psychosocial processes (e.g., child or parental self-regulation) not directly targeted by BPT, but evolve as a result of the BPT skills and associated changes in parent and child behavior. In the case of cascading effects of BPT for child internalizing symptoms, we provided theory and preliminary data to implicate increased parental skill utilization (i.e., Attends, Rewards, Ignoring, Clear Instructions, and Time-Out) and, in turn, changes in parent behaviors (i.e., warmth, control, hostility). For caregiver depression, we talked explicitly about psychosocial processes, including parental self-efficacy and behavioral activation, that are not directly targeted by BPT, but may occur as a function of parental engagement and skill utilization. Taken together, these findings are consistent with calls for treatment models that target multiple symptom clusters, given the co-occurrence of DBDs, internalizing problems, and caregiver depression, as well as a potentially cost-effective, first-line treatment for clusters of mood, anxiety, and behavior problems in multiple family systems. Yet, research and clinical questions remain.

Consistent with Kazdin's (2009) recommendations for research aimed at understanding the bases of therapeutic change, we have identified candidate mechanisms which theory suggests may account for how and why BPT has the capacity to effect change in multiple symptom clusters within and between family members. That said, empirical research is needed in order to validate the mechanisms that we propose here. For example, meta-analyses have revealed that the variance accounted for by parenting in child internalizing (8% for depression and 4% for anxiety) and externalizing (6%) problems is much more modest than our theoretical models would suggest (McLeod, Wood, & Weisz, 2007; Rothbaum & Weisz, 1994). The authors of this work acknowledge, however, that their work is based on correlational, rather than longitudinal designs, as well as an absence of applied, intervention research that examines how changes in parenting are associated with changes in symptomatology. Yet, the majority of studies on interventions in general and parenting interventions in particular do not statistically test the hypothesized mechanism through which the treatment is expected to work (e.g., Forehand, Parent, & Jones, 2013; Kazdin, 2007; Kazdin, 2009). Moreover, those that do tend to rely on tests of mediation or analyses of how a particular intervening variable accounts for the link between intervention and outcome; however, as highlighted by Kazdin (2007) mediation analyses do not necessarily provide information regarding "how" the intervening process or processes unfold in the context of interventions (i.e., mechanisms). As such, studies of the mechanisms proposed here should be conducted in such a way to maximize the knowledge gleaned, including testing multiple mechanisms in a single study in order to cost-effectively evaluate likely plausibility of one versus others within and between studies (Kazdin, 2009). In addition, such studies should be able to establish that the mechanism is indeed changing before and, in turn, causing changes in the outcome, a scenario that may rely on more frequent assessments than typical pre-to-post treatment designs (Kazdin, 2009).

Such nuanced understanding will be critical to building upon the preliminary theoretical and empirical data presented here and, as such, may require new methods to identify and disentangle the mechanisms by which BPT may have cascading effects within and between family members. For example, research in this area could capitalize on innovations in research design and analysis, such as ecological momentary assessment (EMA) or assessing events as they occur and within the natural environment in which they are occurring (Stone & Shiffman, 2002) would provide an opportunity to track patterns of changes in both caregiver depressive symptoms and youth internalizing symptoms as they progress through each BPT skill. Such data intensive methods would, in turn, lend themselves well to person-oriented data analytic approaches (von Eye, Bergman, & Hsieh, 2015), which would move the plan of analyses beyond a linear examination of covariation among variables in a population (e.g., effect of BPT on child internalizing symptoms mediated via a particular skill among families of children with early onset DBDs) to the examination of profiles (i.e., relative level and shape of trajectories) of subgroups of families (e.g., depressed caregivers) to afford the opportunity to capture the proposed mechanisms as dynamic and multidimensional processes. That said, more traditional variable oriented approaches to the study of mechanisms in BPT could also be maximized by capitalizing on advances in the analysis of simple mediation (e.g., BPT predicts child internalizing symptoms via caregiver use of skills), as well as serial or multiple mediation (e.g., BPT predicts child internalizing

symptoms via caregiver use of skills and, in turn, changes in parent-child relationship quality) (Koning et al., 2015; Preacher & Hayes, 2008). With regard to study design, Leijten and colleagues (2015) have advocated for the use of microtrials in BPT in particular, with the aim of isolating for whom and under what conditions particular practice elements of BPT are most effective. In this case, microtrials could be used to examine the mechanisms by which BPT has cascading effects for child internalizing problems and caregiver depression in families of children with DBDs.

In addition, it is perhaps notable that our discussion of the cascading effects of BPT did not include sex of the parent or child. With regard to children, research to date suggests no sex differences in risk factors for DBDs or the efficacy of BPT for DBDs (e.g., Beuchaine, Webster-Stratton, & Reid, 2005; Brennan & Shaw, 2013; Dishion et al., 2008). Yet, it is also the case that the bulk of research on DBDs has focused on boys, given their overrepresentation in statistics on early-onset and more severe early-onset behaviors relative to girls (Keenen & Shaw, 1997; Shaw, 2013). Building upon calls for more thorough investigation of sex differences in the etiology and treatment of DBDs (Shaw, 2013), further research could similarly examine whether cascading effects on internalizing symptoms vary or not as well. With regard to potential improvement in parental mood in response to BPT, sex differences in parents or between parents and children have been relatively ignored given the overwhelming preponderance of mothers (or other female caregivers) relative to fathers (or other male caregivers) in the family literature in general and the BPT literature is no exception (McMahon & Forehand, 2003; Phares et al., 2005). That said, research on other family systems suggests the efficacy of marital therapy for depression; however, research on etiology suggests men's depression may be more likely to cause marital problems, whereas the reverse may be more likely to be true for women (Beach, Jones, & Franklin, 2009; Gupta, Coyne, & Beach, 2003). As such, future work should examine the unfolding of changes in parenting, depression, and child behavior by sex of the parent and child in the context of BPT.

Similar to sex, culture has also received relatively little attention in the BPT literature for DBDs, let alone literature on the cascading effects of BPT for other symptoms within and across family members. We know that early literature on parenting was established via research on largely Caucasian, middle-class, and intact families, warranting caution when generalizing such work to diverse groups (Baumrind 1966). Although some work suggests that there may be some variability in parenting styles, as well as the impact of parenting styles, between groups (McKee et al., 2013), other work suggests that the core parenting behaviors that characterize these parenting styles may be more similar than different. For example, "no-nonsense parenting" (Brody & Flor, 1998) has been used to describe a parenting style more characteristic of African American than Caucasian families, including relatively higher levels of control in combination with relatively moderate (but not low) levels of warmth. Importantly, a no-nonsense parenting style has indeed been associated with positive child outcomes in studies with African American samples; however, when variability in parenting styles *within* African American families has been examined, findings revealed that the majority of parents reported relatively high levels of both control and warmth, with one-third engaging in what could be characterized as Baumrind's (1961) original authoritative parenting style (Anton, Jones, & Youngstrom, 2015). Moreover, while



language translations of BPT, both in the U.S. and abroad, appear to yield results equally as impressive as studies with English speakers in the U.S., cultural adaptations in which the content or format, for example, of the programs were tailored more explicitly to address the characteristics of a particular cultural or racial or ethnic group, have not necessarily yet yielded substantive improvements in treatment efficacy above the standard program (Ortiz & Del Vecchio, 2013). Building upon such findings, Gardner, Montgomery, & Knerr (2015) posited that the central role of the parent-child relationship mediating children's problem behavior, as well as behavioral theory and techniques core to BPT programs, may be universal. Accordingly, future work should determine whether the same is true for the cascading effects of BPT.

Finally, the potential added risk for treatment dropout for depressed caregivers and/or caregivers of children with comorbid internalizing and externalizing problems merits further attention as well. Treatment drop-out for families is high as it is (Kazdin, 2000) and drop-out rates for BPT are no exception, with the highest drop-out rates for those families who may need and benefit most (e.g., Leijten et al., 2013; Lundahl et al., 2006). To our knowledge, there has not been a comparison of drop-outs in BPT studies that include those that exclude comorbid symptomatology in the parent and/or child; however, it stands to reason that clinicians may need to find additional ways to support depressed caregivers and/or youth experiencing comorbid internalizing symptoms in BPT and the question then becomes the extent to which we can use standard BPT or whether some modified version is in fact necessary. For example, standard, but flexible, use of BPT may involve therapists providing more verbal reinforcement and praise to depressed parents who may struggle with particular skills, as well as more sessions to achieve mastery of skills, in order to boost parenting-efficacy and confidence. Similarly, therapists may emphasize higher levels of warmth (e.g., positive reinforcement in the form of "Attends" and/or verbal and physical "Rewards") with parents of children with comorbid internalizing symptoms and adjust their coaching to help caregivers understand the dual purposes of their BPT skills.

Building upon future research directions, a corollary and critical clinical question remains and that is whether standard BPT, at least as a first-line approach, will suffice in families coping with comorbid psychopathology or when concurrent or sequential child- and/or caregiver-directed services would be necessary. In an age when randomized control trials, which remain our gold standard, take more than 5 years to yield usable results, and the grant support for such work has decreased substantially, it is unlikely that research can be conducted to reflect every iteration of comorbidity within and between families of young children with DBDs will be feasible. There are, however, recommendations for more idiographic, functional models of assessment that may lend themselves quite well to further understanding for whom the potential cascading effects of BPT may be most beneficial (O'Brian, Haynes, & Kaholokula, 2016; Silverman & Kearney, 1991). In particular, the extent to which parent and/or child behavior, as well as parent-child interactions, are functioning to maintain and/or exacerbate internalizing symptomatology in children and/or depression in caregivers, as well as DBDs, may predict which families will be most likely to benefit from the secondary effects of BPT.

## Acknowledgements

Funding and support for this project are provided by the National Institute for Mental Health (NIMH; R01MH100377). In addition, the authors are grateful to Dr. Joel Sherrill at NIMH for this guidance and feedback on the parent grant and research and training plans for the Diversity Supplement to the first author. Finally, the authors would like to thank Drs. Laura Klinger and Eric Youngstrom for their feedback on an earlier version of this manuscript.

## References

- Achenbach, TM.; Rescorla, LA. Manual for the ASEBA school-age forms & profiles. Research Center for Children, Youth, and Families; Burlington, VT: 2001.
- Addis ME, Wade W, Hughes C. Barriers to dissemination of evidence-based practices: Addressing practitioners' concerns about manual-based psychotherapies. *Clinical Psychology: Science and Practice*. 1999; 6:430–441.
- Aguilar B, Sroufe LA, Egeland B, Carlson E. Distinguishing the early-onset/persistent and adolescence-onset antisocial behavior types: From birth to 16 years. *Development and Psychopathology*. 2000; 12:109–132. [PubMed: 10847620]
- Albano, AM.; Chorpita, BF.; Barlow, DH. Childhood anxiety disorders. In: Mash, EJ.; Barkley, RA.; Mash, EJ.; Barkley (Eds.), RA., editors. *Child psychopathology*. 2nd. Guilford Press; New York, NY: 2003. p. 279-329.
- Armstrong D, Lycett K, Hiscock H, et al. Longitudinal Associations Between Internalizing and Externalizing Comorbidities and Functional Outcomes for Children with ADHD. *Child Psychiatry and Human Development*. 2015; 46:736–748. doi:10.1007/s10578-014-0515-x. [PubMed: 25341948]
- Bandura, A. *Social learning theory*. Prentice-Hall; Oxford, England: 1977.
- Bandura A. Self-efficacy mechanism in human agency. *American Psychologist*. 1982; 37:122–147. doi:10.1037/0003-066X.37.2.122.
- Barber BK. Parental psychological control: Revisiting a neglected construct. *Child Development*. 1996; 67:3296–3319. doi:10.2307/1131780. [PubMed: 9071782]
- Barkley, RA. *Defiant children: A clinician's manual for assessment and parent Training*. 3rd. Guilford Press; New York: 2013.
- Baucom DH, Shoham V, Mueser KT, Daiuto A, Stickle TR. Empirically-supported couple and family interventions for marital distress and adult mental health problems. *Journal of Consulting and Clinical Psychology*. 1998; 66:53–88. [PubMed: 9489262]
- Baumrind D. Effectiveness of authoritative control on child behavior. *Child Development*. 1966; 37:887–907.
- Beach, SRH.; Jones, DJ.; Franklin, KJ. Marital, family, and interpersonal therapies for depression in adults. In: Gotlib, IH.; Hammen, CL., editors. *Handbook of depression*. 2nd. Guilford Press; New York, NY: 2007. p. 624-641.
- Beck CT. The effects of postpartum depression on maternal-infant interaction: A meta-analysis. *Nursing Research*. 1995; 44(5):298–304. [PubMed: 7567486]
- Beck, AT.; Steer, RA.; Brown, GK. *Manual for the Beck Depression Inventory-II*. Psychological Corporation; San Antonio, TX: 1996.
- Bell, RQ.; Harper, LV. *Child effects on adults*. Lawrence Erlbaum; Hillsdale, New Jersey: 1977.
- Beuchaine TP, Webster-Stratton C, Reid JM. Mediators, moderators, and predictors of one year outcomes among children treated for early-onset conduct problems: A latent growth curve analysis. *Journal of Consulting and Clinical Psychology*. 2005; 73:371–388. [PubMed: 15982136]
- Bor W, Sanders MR. Correlates of self-reported coercive parenting of preschool-aged children at high risk for the development of conduct problems. *Australian and New Zealand Journal of Psychiatry*. 2004; 38:738–745. [PubMed: 15324339]
- Bowlby, J. *A secure base: Parent-child attachment and healthy human development*. Basic Books; New York, NY, US: 1988.

- Brennan L, Shaw DS. Revisiting data related to the age of onset and developmental course of female conduct problems. *Clinical Child and Family Psychology Review*. 2013; 16:35–58. [PubMed: 23076722]
- Brody GH, Dorsey S, Forehand R, Armistead L. Unique and protective contributions of parenting and classroom processes to the adjustment of African American children living in single-parent families. *Child Development*. 2002; 73:274–286. doi:10.1111/1467-8624.00405. [PubMed: 14717257]
- Burge D, Hammen C. Maternal communication: Predictors of outcome at follow-up in a sample of children at high and low risk for depression. *Journal of Abnormal Psychology*. 1991; 100(2):174–180. doi:10.1037/0021-843X.100.2.174. [PubMed: 2040768]
- Burns BJ, Hoagwood K, Mrazek PJ. Effective treatment for mental disorders in children and adolescents. *Clinical Child and Family Psychology Review*. 1999; 2(4):199–254. doi:10.1023/A:1021826216025. [PubMed: 11225935]
- Campbell SB, Shaw DS, Gilliom M. Early externalizing behavior problems: Toddlers and preschoolers at risk for later maladjustment. *Development and Psychopathology*. 2000; 12(3):467–488. doi: 10.1017/S0954579400003114. [PubMed: 11014748]
- Carpenter AL, Puliafico AC, Kurtz SS, Pincus DB, Comer JS. Extending parent–child interaction therapy for early childhood internalizing problems: New advances for an overlooked population. *Clinical Child and Family Psychology Review*. 2014; 17:340–356. doi:10.1007/s10567-014-0172-4. [PubMed: 25212716]
- Chorpita BF, Daleiden EL, Ebesutani C, Young J, Becker KD, Nakamura BJ, et al. Evidence-based treatments for children and adolescents: An updated review of indicators of efficacy and effectiveness. *Clinical Psychology: Science and Practice*. 2011; 18:154–172. doi: 10.1111/j.1468-2850.2011.01247.x.
- Chronis-Tuscano, A.; Clarke, TL. Behavioral skills training for depressed mothers of children with ADHD. In: L'Abate, L.; L'Abate, L., editors. *Toward a science of clinical psychology: Laboratory evaluations and interventions*. Nova Science Publishers; Hauppauge, NY, US: 2008. p. 57-77.
- Chronis-Tuscano A, Clarke TL, O'Brien KA, Raggi VL, Diaz Y, Mintz AD, Lewinsohn P. Development and preliminary evaluation of an integrated treatment targeting parenting and depressive symptoms in mothers of children with attention-deficit/hyperactivity disorder. *Journal of Consulting and Clinical Psychology*. 2013; 81(5):918–925. doi:10.1037/a0032112. [PubMed: 23477479]
- Cobb S. Social support as a moderator of life stress. *Psychosomatic Medicine*. 1976; 38:300–314. [PubMed: 981490]
- Colalillo S, Johnston C. Parenting cognition and affective outcomes following parent management training: A systematic review. *Clinical Child and Family Psychology Review*. 2016; 19:216–235. [PubMed: 27389605]
- Coleman PK, Karraker KH. Maternal self-efficacy beliefs, competence in parenting, and toddlers' behavior and developmental status. *Infant Mental Health Journal*. 2003; 24(2):126–148. doi: 10.1002/imhj.10048.
- Conger RD, Conger KJ, Elder GH, Lorenz FO, Simons RL, Whitbeck LB. A family process model of economic hardship and adjustment of early adolescent boys. *Child Development*. 1992; 63(3):526–541. doi:10.2307/1131344. [PubMed: 1600820]
- Conger RD, Conger KJ, Elder GH, Lorenz FO, Simons RL, Whitbeck LB. Family economic stress and adjustment of early adolescent girls. *Developmental Psychology*. 1993; 29(2):206–219. doi: 10.1037/0012-1649.29.2.206.
- Conger RD, Ge X, Elder GH, Lorenz FO, Simons RL. Economic stress, coercive family process, and developmental problems of adolescents. *Child Development*. 1994; 65:541–561. doi: 10.2307/1131401. [PubMed: 8013239]
- Cosgrove VE, Rhee SH, Gelhorn HL, Boeldt D, Corley RC, Ehringer MA, Hewitt JK. Structure and etiology of co-occurring internalizing and externalizing disorders in adolescents. *Journal of Abnormal Child Psychology*. 2011; 39:109–123. doi:10.1007/s10802-010-9444-8. [PubMed: 20683651]

- Cunningham, CE.; Bremner, R.; Secord, M.; Harrison, R. COPE, The Community Parent Education Program: Large group community based workshops for parents of 3 to 18 year olds. COPE Works; Hamilton, ON Canada: 2009.
- Cummings CM, Caporino NE, Kendall PC. Comorbidity of anxiety and depression in children and adolescents: 20 years after. *Psychological Bulletin*. 2014; 140:816–845. doi:10.1037/a0034733. [PubMed: 24219155]
- Cummings, EM.; Cicchetti, D. Toward a transactional model of relations between attachment and depression. In: Greenberg, MT.; Cicchetti, D.; Cummings, EM.; Greenberg, MT.; Cicchetti, D.; Cummings, EM., editors. *Attachment in the preschool years: Theory, research, and intervention*. University of Chicago Press; Chicago, IL, US: 1990. p. 339-372.
- Cummings, EM.; Davies, P. *Children and marital conflict: The impact of family dispute and resolution*. Guilford Press; New York, NY, US: 1994.
- Danforth JS, Barkley RA, Stokes TF. Observations of parent-child interactions with hyperactive children: Research and clinical implications. *Clinical Psychology Review*. 1991; 11(6):703–727. doi:10.1016/0272-7358(91)90127-G.
- Darling N, Steinberg L. Parenting style as context: An integrative model. *Psychological Bulletin*. 1993; 113:487–496.
- de Montigny F, Lacharité C. Perceived parental efficacy: Concept analysis. *Journal of Advanced Nursing*. 2005; 49(4):387–396. doi:10.1111/j.1365-2648.2004.03302.x. [PubMed: 15701153]
- Dimidjian S, Barrera MJ, Martell C, Muñoz RF, Lewinsohn PM. The origins and current status of behavioral activation treatments for depression. *Annual Review of Clinical Psychology*. 2011:71–38. doi:10.1146/annurev-clinpsy-032210-104535.
- Dishion TJ, Patterson GR, Stoolmiller M, Skinner ML. Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. *Developmental Psychology*. 1991; 27(1):172–180. doi:10.1037/0012-1649.27.1.172.
- Dishion TJ, Shaw DS, Connell A, Wilson MN, Gardner F, Weaver C. The Family Check-Up with high-risk families with toddlers: Outcomes on positive parenting and early problem behavior. *Child Development*. 2008; 79:1395–1414. [PubMed: 18826532]
- Dodge KA, Greenberg MT, Malone PS. Testing an idealized dynamic cascade model of the development of serious violence in adolescence. *Child Development*. 2008; 79(6):1907–1927. doi:10.1111/j.1467-8624.2008.01233.x. [PubMed: 19037957]
- Dowell KA, Ogles BM. The effects of parent participation on child psychotherapy outcome: a meta-analytic review. *Journal of Clinical Child and Adolescent Psychology*. 2010; 39:151–162. [PubMed: 20390807]
- Downey G, Coyne JC. Children of depressed parents: An integrative review. *Psychological Bulletin*. 1990; 108(1):50–76. doi:10.1037/0033-2909.108.1.50. [PubMed: 2200073]
- Egger HL, Angold A. Common emotional and behavioral disorders in preschool children: Presentation, nosology, and epidemiology. *Journal of Child Psychology and Psychiatry*. 2006; 47:313–337. doi:10.1111/j.1469-7610.2006.01618.x. [PubMed: 16492262]
- Eyberg, SM.; Funderburk, BW. *Parent–child Interaction Therapy Protocol*. PCIT International; Gainesville, FL: 2011.
- Eyberg SM, Nelson MM, Boggs SR. Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child and Adolescent Psychology*. 2008; 37(1):215–237. doi: 10.1080/15374410701820117. [PubMed: 18444059]
- Field T. Infants of depressed mothers. *Infant Behavior & Development*. 1995; 18:1–13.
- Forehand R, Jones DJ, Parent J. Behavioral parenting interventions for child disruptive behaviors and anxiety: What's different and what's the same. *Clinical Psychology Review*. 2013; 33:133–145. doi:10.1016/j.cpr.2012.10.010. [PubMed: 23178234]
- Forehand R, Wierson M. The role of developmental factors in planning behavioral interventions for children: Disruptive behavior as an example. *Behavior Therapy*. 1993; 24:117–141. doi:10.1016/S0005-7894(05)80259-X.
- Forgatch, MS.; Patterson, GR. Parent Management Training—Oregon Model: An intervention for antisocial behavior in children and adolescents. In: Weisz, JR.; Kazdin, AE.; Weisz, JR.; Kazdin,

- AE., editors. Evidence-based psychotherapies for children and adolescents. 2nd. Guilford Press; New York, NY, US: 2010. p. 159-177.
- Galambos NL, Barker ET, Almeida DM. Parents do matter: Trajectories of change in externalizing and internalizing problems in early adolescence. *Child Development*. 2003; 74:578–594. doi: 10.1111/1467-8624.7402017. [PubMed: 12705574]
- Garber J, Robinson NS, Valentiner D. The relation between parenting and adolescent depression: Self-worth as a mediator. *Journal of Adolescent Research*. 1997; 12:12–33. doi: 10.1177/0743554897121003.
- Gardner F, Montgomery P, Knerr W. Transporting Evidence-Based Parenting Programs for Child Problem Behavior (Age 3–10) Between Countries: Systematic Review and Meta-Analysis. *Journal of Clinical Child and Adolescent Psychology*. 2015 Advance online publication. doi: 10.1080/15374416.2015.1015134.
- Garland AF, Hawley KM, Brookman-Frazee L, Hurlburt MS. Identifying common elements of evidence-based psychosocial treatments for children’s disruptive behavior problems. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2008; 47:505–514. doi:10.1097/CHI.0b013e31816765c2. [PubMed: 18356768]
- Ge X, Best KM, Conger RD, Simons RL. Parenting behaviors and the occurrence and co-occurrence of adolescent depressive symptoms and conduct problems. *Developmental Psychology*. 1996; 32:717–731. doi:10.1037/0012-1649.32.4.717.
- Ghodsian M, Zajicek E, Wolkind S. A longitudinal study of maternal depression and child behaviour problems. *Child Psychology and Psychiatry and Allied Disciplines*. 1984; 25:91–109. doi: 10.1111/j.1469-7610.1984.tb01721.x.
- Goodman SH, Gotlib IH. Risk for psychopathology in the children of depressed mothers: A developmental model for understanding mechanisms of transmission. *Psychological Review*. 1999; 106:458–490. doi:10.1037/0033-295X.106.3.458. [PubMed: 10467895]
- Granic, I.; Loughheed, JP. The role of anxiety in coercive family processes with aggressive children. In: Dishion, TJ.; Snyder, JJ., editors. *The Oxford handbook of coercive relationship dynamics*. Oxford University Press; New York: 2016. p. 231-248.
- Granic I, Patterson GR. Toward a comprehensive model of antisocial development: A dynamic systems approach. *Psychological Review*. 2006; 113:101–131. doi:10.1037/0033-295X.113.1.101. [PubMed: 16478303]
- Gray MR, Steinberg L. Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage and the Family*. 1999; 61:574–587. doi:10.2307/353561.
- Gross HE, Shaw DS, Burwell RA, Nagin DS. Transactional processes in child disruptive behavior and maternal depression: A longitudinal study from early childhood to adolescence. *Development and Psychopathology*. 2009; 21:139–156. doi:10.1017/S0954579409000091. [PubMed: 19144227]
- Gross HE, Shaw DS, Moilanen KL, Dishion TJ, Wilson MN. Reciprocal models of child behavior and depressive symptoms in mothers and fathers in a sample of children at risk for early conduct problems. *Journal of Family Psychology*. 2008; 22:742–751. doi:10.1037/a0013514. [PubMed: 18855510]
- Grotevant HD, Cooper CR. Individuation in family relationships: A perspective on individual differences in the development of identity and role-taking skill in adolescence. *Human Development*. 1986; 29:82–100. doi:10.1159/000273025.
- Gupta M, Coyne JC, Beach SRH. Couples treatment for major depression: Critique of the literature and some suggestions for different directions. *Journal of Family Therapy*. 2003; 25:317–346.
- Hammen C, Brennan PA, Shih JH. Family Discord and Stress Predictors of Depression and Other Disorders in Adolescent Children of Depressed and Nondepressed Women. *Journal of The American Academy of Child and Adolescent Psychiatry*. 2004; 43:994–1002. doi:10.1097/01.chi.0000127588.57468.f6. [PubMed: 15266194]
- Hammen, C.; Rudolph, KD. Childhood mood disorders. In: Mash, EJ.; Barkley, RA.; Mash, EJ.; Barkley, RA., editors. *Child psychopathology*. 2nd. Guilford Press; New York, NY, US: 2003. p. 233-278.
- Hart, CH.; Newell, LD.; Olsen, SF. Parenting skills and social-communicative competence in childhood. In: Greene, JO.; Bursleson, BR.; Greene, JO.; Bursleson, BR., editors. *Handbook of*

- communication and social interaction skills. Lawrence Erlbaum Associates Publishers; Mahwah, NJ, US: 2003. p. 753-797.
- Haslam DM, Pakenham KI, Smith A. Social support and postpartum depressive symptomatology: The mediating role of maternal self-efficacy. *Infant Mental Health Journal*. 2006; 27:276–291. doi: 10.1002/imhj.20092.
- Heaven PL, Newbury K, Mak A. The impact of adolescent and parental characteristics on adolescent levels of delinquency and depression. *Personality and Individual Differences*. 2004; 36:173–185. doi:10.1016/S0191-8869(03)00077-1.
- Hinshaw, SP.; Lee, SS. Conduct and oppositional defiant disorders. In: Mash, EJ.; Barkley, RA.; Mash, EJ.; Barkley, RA., editors. *Child psychopathology*. 2nd. Guilford Press; New York, NY, US: 2003. p. 144-198.
- Jensen Doss A. Is comorbidity really a problem for the dissemination of evidence-based treatments for youth? *the Behavior Therapist*. 2005; 28:160–161.
- Jones TL, Prinz RJ. Potential roles of parental self-efficacy in parent and child adjustment: A review. *Clinical Psychology Review*. 2005; 25(3):341–363. doi:10.1016/j.cpr.2004.12.004. [PubMed: 15792853]
- Kaminski JW, Valle LA, Filene JH, Boyle CL. A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology*. 2008; 36:567–589. doi:10.1007/s10802-007-9201-9. [PubMed: 18205039]
- Khaleque A. Perceived parental warmth, and children’s psychological adjustment, and personality dispositions: A meta-analysis. *Journal of Child and Family Studies*. 2013; 22:297–306. doi: 10.1007/s10826-012-9579-z.
- Kazak AE, Hoagwood K, Weisz JR, Hood K, Kratochwill TR, Vargas LA, Banez GA. A meta-systems approach to evidence-based practice for children and adolescents. *American Psychologist*. 2010; 65:85–97. doi:10.1037/a0017784. [PubMed: 20141264]
- Kazdin AE. Perceived barriers to treatment participation and treatment acceptability among antisocial children and their families. *Journal of Child and Family Studies*. 2000; 9(2):157–174. doi: 10.1023/A:1009414904228.
- Kazdin AE. Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology*. 2007; 3:1–27. doi.org/10.1146/annurev.clinpsy.3.022806.091432.
- Kazdin AE. Understanding how and why psychotherapy leads to change. *Psychotherapy Research*. 2009; 19:418–428. DOI: 10.1080/10503300802448899. [PubMed: 19034715]
- Leijten P, Dishion T, Thomaes S, Raaijmakers MAJ, de Castro BO, Mathys W. Bringing parenting interventions back to the future: How randomized microtrials may benefit parenting intervention efficacy. *Clinical Psychology: Science and Practice*. 2015; 22:47–57.
- Kaehler L, Jacobs M, Jones DJ. Distilling common history and practice elements to inform dissemination: Hanf-Model BPT Programs as an example. *Clinical Child and Family Psychology Review*. 2016; 19:236–258. [PubMed: 27389606]
- Keenan K, Shaw DS. Developmental influences on young girls’ behavioral and emotional problems. *Psychological Bulletin*. 1997; 121:95–113. [PubMed: 9000893]
- Kurdek LA, Fine MA. Family acceptance and family control as predictors of adjustment in young adolescents: Linear, curvilinear, or interactive effects? *Child Development*. 1994; 65:1137–1146. doi:10.2307/1131310. [PubMed: 7956470]
- Leijten P, Raaijmakers MA, deCastro BO, Matthys W. Does socioeconomic status matter? A meta-analysis on parent training effectiveness for disruptive child behavior. *Journal of Clinical Child and Adolescent Psychology*. 2013; 42:384–392. doi:10.1080=15374416.2013.769169. [PubMed: 23461526]
- Lejuez CW, Hopko DR, Hopko SD. A brief behavioral activation treatment for depression: Treatment manual. *Behavior Modification*. 2001; 25:255–286. doi:10.1177/0145445501252005. [PubMed: 11317637]
- Lees DG, Ronan KR. Engagement and effectiveness of parent management training (incredible years) for solo high-risk mothers: A multiple baseline evaluation. *Behaviour Change*. 2008; 25:109–128. doi:10.1375/bech.25.2.109.



- Loeber R, Stouthamer-Loeber M. Development of juvenile aggression and violence: Some common misconceptions and controversies. *American Psychologist*. 1998; 53(2):242–259. doi: 10.1037/0003-066X.53.2.242. [PubMed: 9491750]
- Luby JL, Si X, Belden AC, Tandon M, Spitznagel E. Preschool depression: Homotypic continuity and course over 24 months. *Archives of General Psychiatry*. 2009; 66(8):897–905. doi:10.1001/archgenpsychiatry.2009.97. [PubMed: 19652129]
- Lundahl B, Risser HJ, Lovejoy MC. A meta-analysis of parent training: Moderators and follow-up effects. *Clinical Psychology Review*. 2006; 26:86–104. doi: 10.1016/j.cpr.2005.07.004. [PubMed: 16280191]
- Maccoby, EE.; Martin, JA. Socialization in the context of the family: Parent-child interaction. In: Mussen, PH.; Hetherington, EM., editors. *Handbook of child psychology: Volume 4. Socialization, personality and social development*. 4th. Wiley; New York: 1983. p. 1-101.
- Masi G, Milone A, Manfredi A, Pari C, Paziente A, Millepiedi S. Conduct disorder in referred children and adolescents: Clinical and therapeutic issues. *Comprehensive Psychiatry*. 2008; 49:146–153. doi:10.1016/j.comp psych.2007.08.009. [PubMed: 18243886]
- McCabe KM, Yeh M, Garland AF, Lau AS, Chavez G. The GANA program: A tailoring approach to adapting parent child interaction therapy for Mexican Americans. *Education and Treatment of Children*. 2005; 28:111–129.
- McKee; Jones; Forehand; Cuellar. *Oxford Handbook of Psychological Assessment of Children and Adolescents*. Oxford; New York: 2013. Assessment of parenting style, parenting relationships, and other parent variables in child assessment; p. 788-821.
- McLeod BD, Wood JJ, Weisz JR. Examining the association between parenting and childhood anxiety: A meta-analysis. *Clinical Psychology Review*. 2007; 27:155–172. [PubMed: 17112647]
- McMahon, RJ.; Forehand, RL. *Helping the noncompliant child: Family-based treatment for oppositional behavior*. 2nd. Guilford Press; New York, NY, US: 2003.
- McMahon, RJ.; Wells, KC.; Kotler, JS. Conduct problems. In: Mash, EJ.; Barkley, RA., editors. *Treatment of childhood disorders*. 3rd. Guilford Press; New York: 2006. p. 137-268.
- Merikangas KR, Nakamura EF, Kessler R. Epidemiology of mental disorders in children and adolescents. *Dialogues in Clinical Neuroscience*. 2009; 11:7–20. [PubMed: 19432384]
- Moffitt TE, Arseneault L, Jaffee SR, Kim-Cohen J, Koenen KC, Odgers CL, Viding E. Research review: DSM-V conduct disorder: Research needs for an evidence base. *Journal of Child Psychology and Psychiatry*. 2008; 49:33.
- Murray J, Cartwright-Hatton S. NICE guidelines on treatment of depression in childhood and adolescence: Implications from a CBT perspective. *Behavioural and Cognitive Psychotherapy*. 2006; 34:129–137. doi:10.1017/S1352465805002742.
- Murray L, Stanley C, Hooper R, King F, Fiori-Cowley A. The role of infant factors in postnatal depression and mother–infant interactions. *Developmental Medicine and Child Neurology*. 1996; 38:109–119. doi:10.1111/j.1469-8749.1996.tb12082.x. [PubMed: 8603778]
- National Institute of Mental Health. *Priorities for strategy 3.2*. 2015. Retrieved August 12, 2015, from <http://www.nimh.nih.gov/about/strategic-planning-reports/strategic-research-priorities/srp-objective-3/priorities-for-strategy-32.shtml>
- O’Brian, WH.; Haynes, SN.; Kaholokula, JK. Behavioral assessment and the functional analysis. In: Nezu, CM.; Nezu, AM., editors. *Oxford handbook of cognitive and behavioral therapies*. Oxford University Press; New York: 2016. p. 44-61.
- O’Connell, ME.; Boat, T.; Warner, KE. *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Academies Press; Washington, DC, US: 2009.
- Ollendick, TH.; Jarrett, MA. Empirically supported treatments for adolescent depression. In: Essau, CA.; Essau, CA., editors. *Treatments for adolescent depression: Theory and practice*. Oxford University Press; New York, NY, US: 2009. p. 57-80.
- Ollendick, TH.; Shirk, SR. Clinical interventions with children and adolescents: Current status, future directions. In: Barlow, DH.; Barlow, DH., editors. *The Oxford handbook of clinical psychology*. Oxford University Press; New York, NY, US: 2011. p. 762-788.

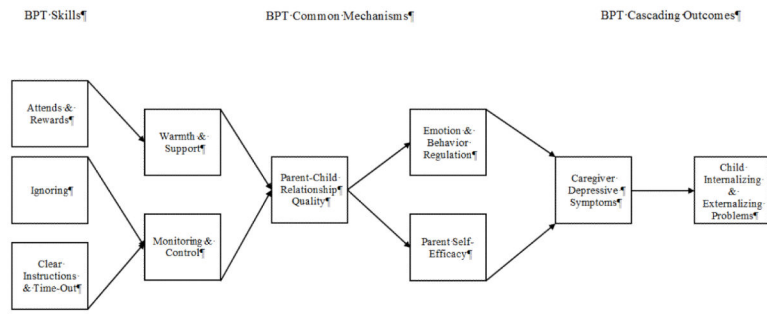
- Olson SL, Bates JE, Sandy JM, Lanthier R. Early developmental precursors of externalizing behavior in middle childhood and adolescence. *Journal of Abnormal Child Psychology*. 2000; 28:119–133. doi:10.1023/A:1005166629744. [PubMed: 10834765]
- Ortiz C, Del Vecchio T. Cultural diversity: Do we need a new wake-up call for parent training? *Behavior Therapy*. 2013; 44(3):443–458. [PubMed: 23768671]
- Patterson GR, Chamberlain P, Reid JB. A comparative evaluation of a parent-training program. *Behavior Therapy*. 1982; 13:638–650. doi:10.1016/S0005-7894(82)80021-X.
- Patterson GR, MacCoby EE. Mothers: The unacknowledged victims. *Monographs of the Society for Research on Child Development*. 1980; 45:1–64.
- Pavlidis K, McCauley E. Autonomy and relatedness in family interactions with depressed adolescents. *Journal of Abnormal Child Psychology*. 2001; 29:11–21. doi:10.1023/A:1005295328151. [PubMed: 11316332]
- Pelham WE, Foster EM, Robb JA. The economic impact of attention-deficit/hyperactivity disorder in children and adolescents. *Journal of Pediatric Psychology*. 2007; 32:711–727. doi:10.1093/jpepsy/jsm022. [PubMed: 17556402]
- Pelham WE, Lang AR, Atkeson B, Murphy DA, Gnagy EM, Greiner AR, Greenslade KE. Effects of deviant child behavior on parental distress and alcohol consumption in laboratory interactions. *Journal of Abnormal Child Psychology*. 1997; 25:413–424. doi:10.1023/A:1025789108958. [PubMed: 9421749]
- Pettit GS, Laird RD, Dodge KA, Bates JE, Criss MM. Antecedents and behavior-problem outcomes of parental monitoring and psychological control in early adolescence. *Child Development*. 2001; 72:583–598. doi:10.1111/1467-8624.00298. [PubMed: 11333086]
- Phares V, Lopez E, Fields S, Kamboukos D, Duhig A. Are fathers involved in pediatric psychology research and treatment? *Journal of Pediatric Psychology*. 2005; 30:631–643. [PubMed: 15772363]
- Rajwan E, Chacko A, Wymbs BT, Wymbs FA. Evaluating clinically significant change in mother and child functioning: Comparison of traditional and enhanced behavioral parent training. *Journal of Abnormal Child Psychology*. 2014; 42:1407–1412. [PubMed: 24740438]
- Ramsawh HJ, Weisberg RB, Dyck I, Stout R, Keller MB. Age of onset, clinical characteristics, and 15-year course of anxiety disorders in a prospective, longitudinal, observational study. *Journal of Affective Disorders*. 2011; 132:260–264. doi:10.1016/j.jad.2011.01.006. [PubMed: 21295858]
- Reid, MJ.; Patterson, GR.; Snyder, J. *Antisocial behavior in children and adolescents: A developmental analysis and model for intervention*. American Psychological Association; Washington, DC: 2002.
- Reid MJ, Webster-Stratton C, Baydar N. Halting the development of conduct problems in Head Start children: The effects of parent training. *Journal of Clinical Child And Adolescent Psychology*. 2004; 33:279–291. doi:10.1207/s15374424jccp3302\_10. [PubMed: 15136193]
- Reinke WM, Eddy JM, Dishion TJ, Reid JB. Joint trajectories of symptoms of disruptive behavior problems and depressive symptoms during early adolescence and adjustment problems during emerging adulthood. *Journal of Abnormal Child Psychology*. 2012; 40:1123–1136. doi:10.1007/s10802-012-9630-y. [PubMed: 22492211]
- Reitman D, McMahon RJ. Constance 'Connie' Hanf (1917–2002): The mentor and the model. *Cognitive and Behavioral Practice*. 2013; 20:106–116. doi:10.1016/j.cbpra.2012.02.005.
- Reyno SM, McGrath PJ. Predictors of parent training efficacy for child externalizing behavior problem--a meta-analytic review. *Journal of Child Psychology and Psychiatry*. 2006; 47:99–111. doi:10.1111/j.1469-7610.2005.01544.x. [PubMed: 16405646]
- Rizvi SL, Harned MS. Increasing treatment efficiency and effectiveness: Rethinking approaches to assessing and treating comorbid disorders. *Clinical Psychology: Science and Practice*. 2013; 20:285–290.
- Rohner, RP. *The warmth dimension: Foundations of parental acceptance-rejection theory*. Sage Publications; Thousand Oaks, CA: 1999.
- Rudolph, KD.; Flynn, M.; Abaied, JL. A developmental perspective on interpersonal theories of youth depression. In: Abela, JZ.; Hankin, BL., editors. *Handbook of depression in children and adolescents*. Guilford Press; New York, NY: 2008. p. 79-102.

- Sameroff, A.J. General systems theories and developmental psychopathology. In: Cicchetti, D.; Cohen, D.J.; Cicchetti, D.; Cohen, D.J., editors. *Developmental psychopathology, Vol. 1: Theory and methods*. John Wiley & Sons; Oxford, England: 1995. p. 659-695.
- Schaeffer CM, Petras H, Ialongo N, Masyn KE, Hubbard S, Poduska J, Kellam S. A comparison of girls' and boys' aggressive-disruptive behavior trajectories across elementary school: Prediction to young adult antisocial outcomes. *Journal of Consulting and Clinical Psychology*. 2006; 74:500–510. doi:10.1037/0022-006X.74.3.500. [PubMed: 16822107]
- Shaw DS. Future directions for research on the development and prevention of early conduct problems. *Journal of Clinical Child and Adolescent Psychology*. 2013; 43:418–428. doi: 10.1080/15374416.2013.777918.
- Scott S, Knapp M, Henderson J, Maughan B. Financial cost of social exclusion: Follow up study of antisocial children into adulthood. *BMJ: British Medical Journal*. 2001; 323(7306):191. doi: 10.1136/bmj.323.7306.191. [PubMed: 11473907]
- Shaw DS, Dishion TJ, Supplee L, Gardner F, Arnds K. Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the family check-up in early childhood. *Journal of Consulting and Clinical Psychology*. 2006; 74:1–9. doi: 10.1037/0022-006X.74.1.1. [PubMed: 16551138]
- Shaw, D.S.; Gross, H. Early childhood and the development of delinquency: What we have learned from recent longitudinal research. In: Lieberman, A., editor. *The long view of crime: A synthesis of longitudinal research*. Springer; New York: 2008. p. 79-127.
- Shaw DS, Keenan K, Vondra JI. Developmental precursors of externalizing behavior: Ages 1 to 3. *Developmental Psychology*. 1994; 30:355–364. doi:10.1037/0012-1649.30.3.355.
- Sheeber L, Hops H, Davis B. Family processes in adolescent depression. *Clinical Child and Family Psychology Review*. 2001; 4(1):19–35. doi:10.1023/A:1009524626436. [PubMed: 11388562]
- Silverman WK, Kearney CA. The nature and treatment of childhood anxiety. *Educational Psychology*. 1991; 3:335–361.
- Silverman WK, Pina AA, Viswesvaran C. Evidence-based psychosocial treatments for phobic and anxiety disorders in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*. 2008; 37(1):105–130. doi:10.1080/15374410701817907. [PubMed: 18444055]
- Stone AA, Shiffman S. Capturing momentary, self-report data: A proposal for reporting guidelines. *Annals of Behavioral Medicine*. 2002; 24:236–243. doi.org/10.1207/S15324796ABM2403\_09. [PubMed: 12173681]
- Teti DM, Gelfand DM. Behavioral competence among mothers of infants in the first year: The mediational role of maternal self-efficacy. *Child Development*. 1991; 62(5):918–929. doi: 10.2307/1131143. [PubMed: 1756667]
- Timmer SG, Ho LL, Urquiza AJ, Zebell NM, Garcia EF, Boys D. The effectiveness of parent–child interaction therapy with depressive mothers: The changing relationship as the agent of individual change. *Child Psychiatry and Human Development*. 2011; 42:406–423. doi:10.1007/s10578-011-0226-5. [PubMed: 21479510]
- Tronick EZ, Gianino AF. The transmission of maternal disturbance to the infant. *New Directions for Child Development*. 1986:345–11. doi:10.1002/cd.23219863403.
- Vance A, Costin J, Barnett R, Luk E, Maruff P, Tonge B. Characteristics of parent- and child-reported anxiety in psychostimulant medication naïve, clinically referred children with attention deficit hyperactivity disorder, combined type (ADHD-CT). *Australian And New Zealand Journal of Psychiatry*. 2002; 36:234–239. doi:10.1046/j.1440-1614.2002.01008.x. [PubMed: 11982546]
- von Eye, A.; Bergman, L.R.; Hsieh, CA. Person oriented methodological approaches. In: Overton, W.F.; Molenaar, P.C.M.; Lerner, R.M., editors. *Handbook of child psychology and developmental science, Vol. 1: Theory and method*. 7th. Wiley & Sons; 2015. p. 789-841.
- Wahler, R.G. Deviant child behavior within the family: Developmental speculations and behavior change strategies. In: Leitenberg, H., editor. *Handbook of Behavior Modification and Behavior Therapy*. Prentice-Hall; Englewood Cliffs, NH: 1976.
- Webster-Stratton, C. *The Incredible Years: Parents and children series. Leader's guide: Preschool version of BASIC (ages 3-6 years)*. The Incredible Years; Seattle, WA: 2008.

- Webster-Stratton C, Herman KC. The impact of parent behavior-management training on child depressive symptoms. *Journal of Counseling Psychology*. 2008; 55:473–484. doi:10.1037/a0013664. [PubMed: 22017554]
- Wichstrøm L, Berg-Nielsen TS, Angold A, Egger HL, Solheim E, Sveen TH. Prevalence of psychiatric disorders in preschoolers. *Journal of Child Psychology and Psychiatry*. 2012; 53:695–705. doi: 10.1111/j.1469-7610.2011.02514.x. [PubMed: 22211517]
- Windle M. Temperament and social support in adolescence: Interrelations with depressive symptoms and delinquent behaviors. *Journal of Youth And Adolescence*. 1992; 21:1–21. doi:10.1007/BF01536980. [PubMed: 24263679]
- World Health Organization. The world health report-Mental health: New understanding, new hope. 2011. Retrieved from: [http://www.who.int/features/factfiles/mental\\_health/en/](http://www.who.int/features/factfiles/mental_health/en/)

### Highlights

- This manuscript aims to serve as a conceptual and theoretical consideration of the mechanisms through which BPT may produce generalized treatment effects among children with early-onset (3 to 8 years old) disruptive behavior disorders (DBDs) and internalizing problems, as well as the psychosocial difficulties among their caregivers.
- We review the epidemiology, etiology, and treatment of early-onset DBDs, including their overlap with internalizing problems in children and depressive symptomatology in their caregivers.
- We hypothesize how and why the standard of care treatment for early-onset DBDs, Behavioral Parent Training (BPT), may also have cascading effects for these additional symptom clusters within and between family members.
- Specifically, we identify three types of mechanisms, which include the practice or core elements of BPT, parenting behaviors directly targeted by BPT, and psychosocial processes not directly targeted by BPT per se, but that may evolve as a result of the BPT skills and associated changes in parent and child behavior,
- We discuss how additional research on these proposed mechanisms may advance the cost-effectiveness of treatments for families of young children with DBDs and comorbid symptomatology.



**Figure 1.**  
Theoretical pathway for cascading effects of BPT

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript