



PCIT for Children with Callous-Unemotional Traits

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Abstract

The risk factors for childhood conduct problems vary considerably across individuals, and effective intervention requires individualizing treatment to the unique needs of children on etiologically distinct developmental pathways. The importance of this causal heterogeneity is recognized in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, which includes for the first time a specifier for the diagnosis of callous-unemotional (CU)-type conduct disorder (i.e., CD with limited prosocial emotions). This change was informed by decades of research supporting that CU traits designate a distinct subgroup of children with early starting, severe, and aggressive conduct problems that are not only associated with significantly increased risk of negative outcomes as adolescents and adults but are also less responsive to traditional interventions. This attenuated treatment response has been attributed to the failure of traditional interventions to adequately target the distinct risk factors involved in the development of CU-type conduct problems. Accordingly, an adaptation of parent-child interaction therapy (PCIT) was developed that addresses these unique risk fac-

tors. PCIT-CU, as it is known, differs from standard PCIT in three key ways: it (a) trains parents to engage in warm, emotionally responsive parenting to improve conscience development among temperamentally fearless children, (b) systematically supplements punishment-based parenting strategies with reward-based techniques, and (c) delivers emotional skill-building to target the distinct core emotional deficits of these children. Given there are currently few guidelines regarding best practice for the 20–50% of children with conduct problems that show elevated CU traits, this line of research is critical to improving their outcomes.

Childhood Callous-Unemotional Traits: A Need for Treatment

Research on childhood conduct problems (CP) consistently demonstrates that the risk factors for these problems can vary considerably across individuals, and that effective intervention requires individualizing treatment to the unique needs of children on different developmental pathways (see Frick, Ray, Thornton, & Kahn, 2014 for a review). The importance of this causal heterogeneity is recognized in the most recent edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; APA, 2013), which

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for the first time includes a specifier for the diagnosis of conduct disorder (CD) called “with limited prosocial emotions” (LPE). This change was informed by decades of research showing that “callous-unemotional” (CU) traits designate a distinct subgroup of antisocial youth (Frick et al., 2014). Children meeting diagnostic criteria for CD are given the specifier if they persistently (≥ 12 months) show ≥ 2 LPE criteria across multiple relationships/settings: (1) lack of remorse or guilt, (2) callous—lack of empathy, (3) lack of concern about performance (at school, work, in other important activities), and (4) shallow/deficient affect (APA, 2013). Although DSM-5 only includes the LPE specifier for the diagnosis of CD, findings suggest that the distinction is a marker for more severe conduct problems among children with oppositional defiant disorder (ODD) as well (Longman, Hawes, & Kohlhoff, 2016).

There is robust evidence that children with co-occurring conduct problems and elevated callous-unemotional traits (henceforth called “CP + CU”) present with earlier-starting, more severe, stable, and aggressive conduct problems than children with conduct problems and normative levels of CU traits (henceforth called “CP-alone”) (Frick et al., 2014). For example, children with CP + CU displayed a greater number and variety of antisocial behaviors, greater proactive aggression (i.e., planned, for instrumental gain), and higher self-reported general and violent delinquency relative to children with CP-alone (Frick, Cornell, Barry, Bodin, & Dane, 2003; Frick, Stickle, Dandreaux, Farrell, & Kimonis, 2005). This CP + CU group also accounted for over half of all police contacts across four yearly assessments (Frick et al., 2005). Longitudinal research finds that CP + CU in childhood predicted antisocial/criminal behavior and psychopathy in early adulthood (Hawes, Byrd, Waller, Lynam, & Pardini, 2017; McMahon, Witkiewitz, Kotler, & Conduct Problems Prevention Research Group, 2010).

In addition to more severe conduct problem presentations, youth with co-occurring CU traits respond more poorly to traditional, family-based interventions for conduct problems than those

with CP-alone (Hawes, Price, & Dadds, 2014). For example, among a sample of young children with or at risk for developmental delay (Mean age = 3.87 years, $N = 63$), those with CP + CU had more severe conduct problems after receiving standard parent-child interaction therapy (PCIT) than those with CP-alone, even after accounting for their more severe pretreatment levels (Kimonis, Bagner, Linares, Blake, & Rodriguez, 2014). Some attribute the reduced efficacy of parent training to the lesser role of dysfunctional parenting practices, which are targeted by these interventions, in the development of antisocial and aggressive behavior for children with CP + CU relative to those with CP-alone (e.g., Wootton, Frick, Shelton, & Silverthorn, 1997).

These and other findings contributed to clinical pessimism regarding treatment and psychosocial outcomes of children with CP + CU, and this subgroup was accordingly dubbed treatment-resistant (Salekin, Worley, & Grimes, 2010). The intransigence of this perspective was exacerbated by the significant genetic influence on conduct problems contributed by elevated CU traits (Viding, Blair, Moffitt, & Plomin, 2005); however, more recent perspectives emphasize that children with CP + CU *are* responsive to and benefit significantly from standard interventions, although they are likely to enter and finish treatment with more pronounced behavioral and social difficulties (e.g., Kimonis et al., 2014; for a review see Waller, Gardner, & Hyde, 2013). However, treatment effectiveness may be improved by targeting the unique risk factors hypothesized to contribute to the development and maintenance of conduct problems in children with CP + CU (Frick et al., 2014). Accordingly, existing treatments have been adapted to address the distinct causal processes leading to the behavioral and emotional difficulties exhibited by children with CP + CU, relative to CP-alone. In this chapter, we describe an adaptation of PCIT for children with CU traits, called PCIT-CU, designed to address three empirically derived risk factors associated with CP + CU: low parental warmth/responsivity; a child temperamental style characterized by

insensitivity to punishment and reward dominance; and child emotional insensitivity, most notably to others' distress cues.

Research Related to PCIT-CU

Parental Warmth/Responsivity

Although harsh, inconsistent, and coercive discipline is less associated with the conduct problems of children with CU traits than it is for those with CP alone (Oxford, Cavell, & Hughes, 2003), low warmth in parenting is particularly important to the development of conduct problems in children with elevated CU traits (Psalich, Dadds, Hawes, & Brennan, 2012). On the other hand, dysfunctional parenting practices are related directly to CU traits themselves; harsh and negative parenting is associated with higher levels of CU traits, while warm, sensitive, and responsive parenting is associated with lower levels (reviewed in Waller et al., 2013). Conversely, in a sample of high-risk 2-year-olds ($N = 731$), low levels of observed and expressed parental warmth predicted behaviors consistent with CU traits at age 3, after controlling for conduct problems (Waller et al., 2014).

Taken together, these findings suggest that improving the affective quality of the parent-child relationship by increasing parental warmth, sensitivity, and responsiveness may lower child CP and CU traits. Longitudinal studies suggest that positive parenting reduces CU traits across time (e.g., Pardini, Lochman, & Powell, 2007). Specifically, parenting styles promoting greater attachment security (i.e., sensitive responding to child emotion, parental warmth) are believed to be critical to socializing and fostering conscience development among children with the fearless temperament found to underlie CU traits (see below), and also reducing the risk of further development of these traits (Kochanska, 1997). A randomized controlled trial (RCT) of Israeli children (2.6–5 years) with significant conduct problems that incorporated strategies for improving aspects of the parent-child relationship (e.g., warmth, communication skills), within a parent

management training (PMT) program mandating participation by both parents and addressing co-parenting issues, found that CU traits improved post-treatment compared with controls (Somech & Elizur, 2012). Other studies have demonstrated that exposing antisocial children to warm parenting reduced CU traits and antisocial behaviors in later development (Psalich et al., 2012). Thus, fostering greater warmth and sensitivity in parenting is likely to represent an important component of treatments tailored to meet the specific needs of children with elevated CU traits.

Fearless Temperament and Insensitivity to Punishment Cues

The second set of risk factors unique to the development and maintenance of conduct problems in children with co-occurring CU traits relates to fearlessness and abnormalities in the processing of punishment and reward cues (Fischer & Blair, 1998). Infants and children who display a fearless temperament and lack of fearful or anxious arousal are known to show atypical development of empathy and guilt (Fowles & Kochanska, 2000). In line with this, child fearless temperament at age 2 predicted CU traits at age 13 (Barker, Oliver, Viding, Salekin, & Maughan, 2011). Thus, fearlessness appears to be an early temperamental factor that predicts the later development of CU traits. It could also lead a child to be relatively insensitive to the prohibitions and sanctions of parents and other socializing agents, thus increasing the likelihood of developing conduct problems (Kochanska, 1993). Accordingly, children with CP + CU show a decreased sensitivity to punishment cues in laboratory and social settings (e.g., Blair, Peschardt, Budhani, Mitchell, & Pine, 2006).

Within treatment contexts, Hawes and Dadds (2005) found that parents of boys (M age = 6.29 years) with ODD and CU traits were more likely to rate the discipline component (i.e., time-out) of a manualized PMT program as ineffective than for children with CP-alone, whereas rewards were effective irrespective of CU traits. Also, relative to children (7–12 years) with

CP-alone, those with CP + CU received more daily time-outs and exhibited more negative behaviors during time-out used during a “Summer Treatment Program” for children with attention-deficit/hyperactivity disorder (ADHD) (Haas et al., 2011). Thus, the differential response of children with CP + CU to traditional interventions is partly a function of the emphasis these programs place on discipline strategies. In particular, a primary treatment goal of PMT for young children with conduct problems is to improve parents’ ability to implement consistent, effective discipline following misbehavior (Forehand, Lafko, Parent, & Burt, 2014); however, given that children with elevated CU traits fail to respond appropriately to punishment cues, they are unlikely to benefit from punishment-based discipline strategies, even when these strategies are used consistently and effectively. In contrast, interventions that emphasize reward-based parenting strategies (e.g., descriptive praise, use of token economies) might be particularly effective in reducing conduct problems in children with CU traits.

Emotional Insensitivity

Finally, in addition to low fearfulness and insensitivity to punishment, children with elevated CU traits also demonstrate low emotional reactivity to aversive stimuli, characterized by deficits in their cognitive-behavioral, physiological, and neurological responses (Frick et al., 2014). These deficits constitute the third and arguably most important risk factor to consider in relation to the development and maintenance of conduct problems in children with CP + CU. With respect to cognitive-behavioral responses, youth with CP + CU are less accurate in recognizing sad and fearful expressions (Blair, Colledge, Murray, & Mitchell, 2001), less attentively engaged by others’ distress cues (Kimonis, Frick, Fazekas, & Loney, 2006), less distressed by the negative effects of their behavior on others (Pardini, Lochman, & Frick, 2003), and more impaired in their moral reasoning and empathic concern towards others (Pardini et al., 2003) than youth

with CP-alone. Physiologically, youth with CP + CU show less heart rate change to emotionally evocative films (de Wied, van Boxtel, Matthys, & Meeus, 2012), and less skin conductance reactivity when responding to peer provocation (Kimonis, Frick, Munoz, & Aucoin, 2008), compared to youth with CP-alone. Neurologically, children with elevated CU traits show deficits in activity in brain areas associated with emotional, reward, and empathic processing. For example, studies using functional magnetic resonance imaging (fMRI) report reduced amygdala activity to fearful faces in children with CP + CU when compared with typically developing children, children with ADHD, and children with CP-alone (e.g., Viding et al., 2012). In contrast, presentations of CP-alone are associated with exaggerated, rather than reduced amygdala activity to emotional stimuli (Viding et al., 2012), in line with what was previously observed using self-report (e.g., Pardini et al., 2003) and laboratory emotion tasks (e.g., Kimonis et al., 2006, 2008). Thus, deficits in responding to emotional stimuli, in particular others’ distress cues, constitutes a critical intervention target for the children with CP + CU.

Despite the centrality of emotional deficits to developmental theory for CU traits and associated antisocial behaviors, few studies have examined techniques to improve emotional function in children with CP + CU. In one notable exception, Dadds, Cauchi, Wimalaweera, Hawes, and Brennan (2012) found that a computerized emotional training program originally developed for populations with autism spectrum disorders (ASD; Baron-Cohen, Golan, Wheelwright, & Hill, 2004) improved empathy and reduced conduct problems among 6- to 16-year-old (M age = 10.52 years) children with CP + CU. Thus, emotional training may be a valuable adjunctive treatment for children with CP + CU to remediate their core emotional and empathic deficits. However, emotional training may be more effective if delivered earlier in life when important milestones in moral development and emotion recognition occur (Decety & Svetlova, 2012), such as at age 3 when CU traits can be reliably and validly measured (Kimonis et al., 2016).

While PMT is the current gold standard approach for treating conduct problems in pre-school-age children (Eyberg, Nelson, & Boggs, 2008), these programs (1) do not tend to emphasize or measure increases in parenting warmth as a treatment outcome, (2) rely heavily on punishment to produce behavior change, and (3) do not emphasize improvements in children's emotional skills as a treatment outcome. In this way, PMT programs fail to target those areas of difficulty that are unique to the conduct problems of individuals with CU traits. Thus, the PCIT-CU adaptation for children with CU traits was designed to address the fundamental necessity for treatments that accommodate the needs of this important subgroup by targeting their distinct risk factors; low parental warmth and responsivity, punishment insensitivity and reward dominance, and insensitivity to distress cues; with the aim of increasing treatment efficacy for this particularly severe subpopulation of children.

PCIT-CU

In its standard form, PCIT represents a compelling intervention for children with CP + CU given evidence that optimal socialization for children with fearless temperament involves fostering mutual responsivity within the parent-child dyad by increasing reward-oriented parenting, emotional warmth, and other positive qualities of the parent-child attachment, rather than relying on punishment-related arousal for the internalization of parental norms (Kochanska & Thompson, 1997). That is, PCIT's emphasis on strengthening the parent-child relationship via positive parenting strategies during the Child-Directed Interaction (CDI) treatment phase is theoretically consistent with findings supporting the association of improvement in parenting warmth and reduction in CP and CU traits for children with CP + CU. Indeed, standard PCIT (without adaptation) was effective at reducing conduct problems to subclinical levels for very young children (M age = 3.87 years) with CU traits, albeit not to the same levels as children with CP-alone

(Kimonis et al., 2014).¹ Despite these promising results, PCIT requires adaptation to be of greatest benefit for children with CP + CU, especially with respect to shifting emphasis from punishment to reward to achieve effective discipline in the Parent-Directed Interaction (PDI) phase. Additionally, supplementary material is required to address the core emotional deficits seen in children with CP + CU. The following section provides a detailed description of the ways in which standard PCIT has been adapted to meet the unique needs of children with CP + CU.

Parental Warmth and Responsivity

As mentioned, PCIT seems particularly well suited for use with the CP + CU subgroup given the emphasis placed on strengthening the parent-child relationship or attachment bond. To facilitate a more secure parent-child attachment bond in standard PCIT, parents are taught a set of positive parenting practices, including use of descriptive praise, speech reflections, behavior imitation and description, and expressions of enjoyment. Known as the PRIDE or CDI "Do" skills, parents are coached to use these strategies to increase the sensitivity and responsiveness with which they interact with their child(ren); however, given the association of low parental warmth, in particular, with the development and maintenance of CU traits and conduct problems in children with CP + CU, the PCIT-CU adaptation replaces the "Enjoy" PRIDE skill with "Emotional Expression."

Emotional expression emphasizes enhancing parental warmth via the use of verbal and physical expressions of affection. First, during the CDI teach session, parents are provided psychoeducation on the importance of warm and affectionate parenting for children with CP + CU, even when the child appears unresponsive or to find it aversive. The therapist also models the

¹These findings require replication in a sample of non-delayed children with conduct problems since those in this study were either developmentally delayed or at risk for developmental delay due to premature birth.

difference between delivering the PRIDE skills with and without warmth. For example, the therapist demonstrates delivery of the labeled praise “great job using your inside voice” with a flat tone of voice, no eye contact, and without physical proximity to the recipient “child” (in this case, the parent). To demonstrate the importance of the emotional expression skill, the therapist then delivers the same labeled praise, but this time accompanied by facial and vocal animation and sustained eye contact, as well as simultaneous physical affection (e.g., close physical proximity, gentle pat on the back). Second, parents are explicitly coached to express affection for their child during play and at other times using a variety of strategies including positive and warm tone of voice, positive facial expressions (e.g., smiling), laughter, words of endearment and encouragement (e.g., “I missed you,” “darling”), and physical contact (e.g., kisses, hugs, tickles). Importantly, the parent is coached to increase eye contact with their child during these exchanges, as well as to reinforce child eye contact with labeled praise (e.g., “I love it when you look me in the eyes,” “good looking!”). Parents are instructed only to use emotional expression in response to positive child behavior, and to demonstrate neither warmth nor negative emotional expressions (e.g., yelling, aggressive physical contact) when delivering discipline (i.e., during the PDI sequence). As in standard PCIT, in CDI, parents are taught either to use planned ignoring or terminate the play in response to negative child behavior, depending on the severity of the behavior. The PCIT-CU protocol includes adapted CDI homework sheets via which parents rate the warmth of their daily play, and coding sheets for therapists to record instances of warm parent behaviors. Third, in the second CDI coach session, parents are provided a social story on expressing warmth to read with their child for homework. Social stories describe a situation, skill, or concept using a storyline that highlights social cues, perspectives, and common responses (Gray, 2000). Finally, parents are engaged in a discussion regarding the impact of stress on parenting, the implementation of stress management strategies, and the importance of

modeling appropriate emotion regulation to their children.

Punishment Insensitivity and Reward Dominance

In standard PCIT, the PDI phase involves coaching the parent(s) in implementing a consistent, predictable time-out procedure, used in response to child noncompliance and/or disobedience with House Rules. In PCIT-CU, this procedure has been adapted to address the punishment insensitivity displayed by children with elevated CU traits, who tend to respond to punishment by escalating levels of frustration-based anger, reactive aggression, and vindictive behavior (Dadds & Salmon, 2003). More specifically, PCIT-CU supplements the punishment component of the PDI procedure with an intensive reward-based behavior modification system involving the use of an individualized token economy system to motivate and reinforce positive behaviors, including compliance with commands and rules.

During the PDI-CU Teach session, the therapist educates the parent(s) on the use of token economies, explaining that tokens (e.g., stickers, chips) can be used to motivate target child behaviors in a sustainable way because the tokens can be exchanged for a variety of rewards or privileges. The benefits of using a token economy are emphasized to parents, including its effectiveness across time and situations, convenience and subtlety (i.e., can be taken anywhere and delivered without interrupting the activity or behavior), and immediacy of reward. The therapist then helps the parent set up the token economy, including selecting a token, creating a list of rewards, and deciding how much each rewards “costs.” As part of their homework before the next session, the parent is asked to generate a list of exceptional rewards (e.g., trip to the cinema) and everyday privileges (e.g., 15 min of tablet time), organizing them hierarchically, such that the former “cost” more tokens than the latter and thus take longer to earn. Therapists work with the parent(s) to ensure the rewards are acceptable and manageable within the family’s financial and time constraints,

while also sufficiently motivating to the child. In the following coaching session, the token economy is explained to the child, during which time the parent(s) presents the reward list and describes the behaviors for which tokens and rewards are given (e.g., compliance, prosocial behaviors).

During the PDI-CU Teach session, the therapist also explains to the parent(s) how the token economy is incorporated into the PDI procedure. Specifically, compliance with effective commands (i.e., “listening and minding the first time”) becomes the first target behavior for which children receive a token. The therapist emphasizes that distribution of tokens for compliance must be immediate and paired with labeled praise (i.e., “Great listening! You get a sticker because you listened the first time I asked!”). As in standard PCIT, in the case of noncompliance, the parent is coached to provide a time-out warning following 5 s of dawdling time. However, the PCIT-CU time-out warning emphasizes that the child risks forgoing a token should noncompliance continue (i.e., “If you don’t [command], you won’t get a sticker for listening and you’ll have to sit on the time-out chair”). For compliance following the warning, the child receives labeled praise and a token. For noncompliance, the parent implements the time-out procedure outlined in the standard PCIT protocol, informing the child that he or she does not get a token and has to sit on the time-out chair. It should be noted that the child *does not* receive a token for compliance with the original command, but does receive a token for compliance with the secondary, follow-up command. This highlights to the child that reward is contingent on *immediate* compliance, thus motivating this behavior in future. As per standard PCIT, this procedure is explained and/or modeled to the child in the first PDI Coach session. The parent is also given an adapted PDI homework sheet that includes a column for tallying tokens given throughout the day. In the fourth PDI Coach session, during which House Rules are introduced (e.g., “no hitting”), the parent is coached to provide tokens for instances of the positive opposite behavior (e.g., “gentle hands”). In the fifth and sixth PDI Coach sessions, during which time-out in public is introduced and prac-

ticed, the parent is coached to provide tokens for compliance with commands and rules during public outings. Finally, during the graduation session, the therapist explains to the parent(s) when and how the token economy can be phased out. Throughout PDI, it is emphasized to the parent(s) that tokens are never removed for misbehavior as this is likely to affect the child’s motivation to engage with the system, and is inconsistent with findings that punishment has limited effectiveness for behavior change in children with CP + CU.

Emotional Insensitivity

The final component of the PCIT-CU adaptation is a seven-session adjunctive module called Coaching and Rewarding Emotional Skills (CARES) that targets the specific deficits of children with CP + CU in recognizing and responding to distress cues (i.e., sadness, fear). CARES was created through translation of basic science findings for CU traits, and drawing from evidence-based practices known to be effective for improving socioemotional competence and emotional literacy in young typically developing children, adults, and youth with ASD who share similar deficits to children with CP + CU in empathy and emotion recognition, thought to originate from amygdala dysfunction (Blair, 2008). For example, brief interventions to teach ASD children to recognize and respond to others’ emotional states and attribute them to a cause produce improvements in social-emotional outcomes (e.g., aggression, prosocial behaviors) over several months (Ospina et al., 2008).

Since the CARES module focuses on improving the child’s skills using various activities, it is delivered immediately following the PDI phase to ensure that the child is at his or her most compliant. The key treatment objectives of CARES are to: (1) enhance attention to critical facial cues (i.e., micro-expressions) signaling distress in the self and others to improve emotion recognition and labeling; (2) improve emotional understanding by linking emotion to context, and identify-

ing situations that trigger anger and frustration in the child; (3) teach prosocial and empathic behavior through therapist and parent modeling, role play, and social stories; (4) increase emotional labeling and prosocial behavior through positive reinforcement; and (5) increase child's frustration tolerance through modeling, role-play, and reinforcing the child's use of learned cognitive-behavioral strategies to decrease the incidence of aggressive behaviors.

CARES focuses on redirecting children's attention to relevant facial cues when processing emotion, given findings that directing gaze to the eye region of face stimuli normalized fear recognition in youth with CU traits (Dadds et al., 2006), and that increasing the salience of others' distress cues reduced severe conduct problems in children with CP + CU (van Baardewijk, Stegge, Bushman, & Vermeiren, 2009). Strategies adapted from Ekman's micro-expression training for adults (Ekman, 2002) were incorporated into the program to refocus attention to the salient eye and mouth regions, and improve recognition of distressed facial cues. Strategies were drawn from the Mind Reading program (Baron-Cohen et al., 2004) designed for children with ASD, and from the Vanderbilt Center on the Social and Emotional Foundations for Early Learning Preschool Training Module 2 (2013) to teach the link between emotions and context. Social stories were also incorporated to teach prosocial and reparative behaviors and to model strategies to children for coping with frustration, given they have shown promise as an intervention for teaching social skills and improving distress sensitivity in children with ASD (Ospina et al., 2008). Parents are provided electronic copies of the stories and encouraged to personalize them with the child's name and photographs. Cognitive-behavioral strategies drawn from the preschool version of the Providing Alternative Thinking Strategies (PATHS) curriculum (Domitrovich, Greenberg, Cortes, & Kusché, 2005) were incorporated to teach children how to manage frustration-based anger to prevent reactive aggression. Finally, a token economy system linked with an in-session prize box was

integrated into CARES to motivate child compliance with learning activities.

Like the CDI and PDI phases, the CARES phase of the PCIT-CU protocol begins with a parent-only Teach session. During this session, the therapist educates the parent(s) on the importance of emotional literacy for children with CU traits, as well as the role of parents in socializing children to emotion recognition through strategies such as role-playing and modeling. In the subsequent six CARES sessions, the therapist works with the parent-child dyad to improve emotional understanding and expression, and help the parent effectively model and reinforce appropriate emotional skills. Table 1 outlines a session-by-session description of the CARES module.

Some Advantages and Challenges of Implementing PCIT-CU

Advantages

Targeting Unique Deficits

There is ample evidence supporting the efficacy of PCIT, and PMT more broadly, for reducing conduct problems in young children. However, a significant proportion of children with severe conduct problems fail to respond positively to these interventions and, even for those who do respond positively, their behavior difficulties often do not reduce to a normal level. Accordingly, contemporary research has focused on improving current treatments by integrating knowledge about the *causes* of conduct problems with the development of innovative intervention approaches (Frick, 2012). PMT approaches target specific processes that research has shown to be important in the development of conduct problems (i.e., parent-child attachment insecurity, inconsistent parenting, and coercive processes). However, the specificity of PMT neglects the fact that severe conduct problems are generally caused by many different and interacting processes. As a result, any single intervention is unlikely to be effective for all children with conduct problems. Thus, individualizing treatment by addressing alternative or addi-

Table 1 Session-by-session outline of the CARES module

Session	Goal	Content	Activity
1	Provide an overview of CARES program	Psychoeducation on the importance of emotional literacy; How parent(s) can use emotion labeling and modeling in everyday interactions to increase the child’s emotion word vocabulary	Parent and therapist discussion and role-play (child not present)
2	Teach to recognize others’ emotions	How to look for and interpret muscle changes (i.e., micro-expressions) when identifying emotions using facial expression images	Guess emotions from facial expressions of children on a computer, and then discuss salient facial cues (e.g., sad: inner corners of eyebrows raised, corners of lips down)
3	Teach to recognize parent–child emotions	How to look for emotional muscle changes when parent and child make emotional facial expressions	Make facial expression configurations (e.g., sad face) by arranging cut-outs of eyes, mouths, noses on a blank page Flash card game involving taking turns making facial expressions, and guessing each other’s expression
4	Teach to link emotions to context	How to predict others’ emotions based on the situation	Look at pictures of situations that cause an emotion (eg, fear). Discuss how the protagonist felt and why Make and guess each other’s emotional facial expression, and then describe a time when you felt that emotion Parent and child read social stories about prosocial behavior and making amends following transgressions
5	Teach to cope with frustration	How to calm down when angry	Read a social story about using “Stop Breathe Think” (SBT) technique when angry Role-play using SBT in a common frustrating scenario Discuss pictures where SBT needs to be used (e.g., frustrating situations), and where SBT is not needed (e.g., happy situations)
6	Teach to cope with frustration (continued)	How to recognize and respond to physiological and mental signs of anger and frustration	Discuss analogy of anger as a volcano Discuss child’s physiological signs of anger Draw signs on blank picture of a human body Brainstorm strategies for emotional regulation to be used following SBT. Draw strategies and put into in a “cool down tool box” Role-play using emotion regulation strategies in a common frustrating scenario
7	Graduation	Review of skills learned	Review of activities from previous sessions

tional causal processes is likely to increase the number of children and families for whom treatment is effective (Frick, 2012). Accordingly, the PCIT-CU protocol represents an attempt to translate research findings into clinical practice by incorporating procedures that specifically target the underlying mechanisms leading to conduct problems in children with elevated CU traits.

While the RCT comparing treatment outcomes for PCIT-CU relative to standard PCIT for children with CP + CU is ongoing, prelimi-

nary findings regarding the efficacy of PCIT-CU are promising. In an open pilot trial of 23 Australian families, children with CP + CU treated with PCIT-CU showed a significant reduction in the intensity of parent-reported conduct problems on the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) and in level of CU traits on the Inventory of Callous-Unemotional Traits (ICU; Frick, 2004), with large effect sizes (Kimonis et al., 2018). By 3 months post-treatment, 75% of treatment-com-

pleting families reported child conduct problems below clinically significant levels according to ECBI Intensity *T*-scores, relative to 25% of dropouts. Parents also perceived the PCIT-CU intervention as highly acceptable, with a mean Therapy Attitude Inventory (TAI; Brestan, Jacobs, Rayfield, & Eyberg, 2000) score of 4.69 out of 5, corresponding to the highest level of satisfaction with the process and outcome of therapy. These pilot findings support the preliminary efficacy and acceptability of the adapted PCIT-CU intervention for children with CP + CU. The specificity of the PCIT-CU protocol in targeting the unique risk and maintaining factors for children with CP + CU is a major advantage of this adaptation since the changes described above are likely to enhance treatment efficacy for a population that has historically demonstrated limited treatment responsivity.

Reduction in Attrition Rate

In their study, Kimonis et al. (2014) found that families were more likely to drop out of standard PCIT when their child scored high on CU traits. Improvements in treatment efficacy and responsivity are expected to be associated with fewer treatment dropouts for the families of children with CP + CU. That is, adapting PCIT specifically to meet the needs of this subpopulation is expected to improve family engagement and retention in treatment, as a function of improving treatment efficacy. Accordingly, the dropout rate in the open trial was 26%. This requires further study but represents a major advantage of the adapted PCIT-CU protocol since attrition rates for standard PCIT have ranged from 34% to 77% (Danko, Garbacz, & Budd, 2016; McGoron & Ondersma, 2015). The relatively high PCIT attrition rate is problematic, as evidence indicates that families who drop out of PCIT have worse outcomes 1–3 years later, compared to treatment completers (Boggs et al., 2005). Thus, improving treatment acceptability and reducing attrition is of fundamental importance for long-term gains.

Disadvantages

Despite these advantages, implementing the PCIT-CU protocol is not without its challenges. First and foremost, children with CP + CU tend to present with conduct problems that are more severe, longstanding, and aggressive than children with CP-alone, which is often reflected in their in-clinic behavior. This greater severity is often associated with other risk factors, both dispositionally in the child and in his or her immediate environment. As a result, this is a difficult population with which to work clinically, as illustrated in the case example below.

Proneness to Boredom

The fearless temperamental style of children with CU traits is associated with a preference for novelty and frequent novelty-seeking behavior (Frick & White, 2008). In the clinic, this may manifest as proneness to boredom, especially with respect to the toys and activities used during sessions. This presents a particular challenge during the CARES module as the child must remain seated at a table while completing the various activities. Thus, CARES was carefully designed to ensure activities were interactive, engaging, and personally relevant to the child (e.g., utilizing technologies such as tablets, framing skill development activities as “games,” personalizing social stories). Child motivation to remain on task was also enhanced via frequent reference to the in-session token economy system, such that reinforcers are provided for target behaviors such as good listening and remaining seated, which could then be “traded in” for a reward from the clinic prize box at the end of the session.

Reward Learning

A related challenge concerns the way in which children with CP + CU learn to exploit the reward-integrated discipline system. During PCIT-CU sessions, it was observed that some children who received labeled praise (e.g., “thank you for listening, you get a sticker for listening so quickly”) and a token for complying with a par-

ent's command (e.g., "please use your gentle hands") aimed at stopping a misbehavior (e.g., rough play), almost immediately afterwards repeated the transgression in order to earn additional tokens, leading to multiple instances of "manufactured" reinforcement experiences. This required modification to the discipline sequence such that the child did not earn tokens for compliance to parent commands given for repeat transgressions. These observations are consistent with those reported by Miller et al. (2014), who described a pattern of behavior in which children with CP + CU engaged in high rates of negative behavior to obtain a reward for compliance with counselors' commands to cease the behavior.

Parental Psychopathology

A major challenge to delivering PCIT-CU effectively relates to the influence of parental personality disorder symptoms on parents' capacity to engage in and learn from the program. Although maternal psychopathology is associated with reduced parent training efficacy across externalizing disorders (Reyno & McGrath, 2006), this effect may be more pronounced in treatments targeting children with elevated CU traits given the high heritability of these traits (Viding et al., 2005); however, this hypothesis has not been subjected to empirical investigation. Not only does the mechanism underpinning the intergenerational transmission of CU traits remain elusive, with bidirectional evidence for both genetic (e.g., Robison, Azores-Gococo, Brennan, & Lilienfeld, 2016) and environmental (e.g., Auty, Farrington, & Coid, 2015) influences, but the question of whether personality disorders—including but not limited to psychopathy and antisocial personality disorder (APD)—are more common in the parents of children with elevated CU traits remains unanswered. Whether or not psychopathology is present, some parents may find it particularly challenging to increase their levels of warmth with the child due to family of origin or other issues. It can be helpful to make time for parents to share their experiences to gain a better understanding of why they are struggling with

the skill in order to use the information during coaching.

Bidirectional Parent–Child Effects

The mutually *unresponsive* and "cold" pattern of interaction observed between parent and child with CP + CU may have developed early in life such that it is entrenched by the age of 3 when PCIT-CU can first be delivered, thus requiring intensive and sustained intervention. In the first 6 months of life, reduced mother-directed gaze and a preference for objects over faces predicted greater CU traits in later development, with higher levels when maternal sensitivity was also low (Bedford et al., 2017); however, the direction of influence between parenting and child characteristics is not clear. That is, longitudinal studies testing the potential bidirectional effects have found that child CU traits drive changes in parenting over time to a greater extent than parenting predicts changes in CU traits over time (Hawes, Dadds, Frost, & Hasking, 2011; Muñoz, Pakalnisikene, & Frick, 2011). It is unclear, however, how early these influences take effect as neither study examined the infant developmental period. Given the malleability of very young children, future research is needed to examine whether PCIT adapted for use with infants (12–15 months old; Bagner, Rodríguez, Blake, & Rosa-Olivares, 2013), and further adapted in a similar way to PCIT-CU to enhance parental warmth and responsiveness, reduces later CU traits for those with early risk factors (i.e., fearlessness, reduced mother-directed gaze).

Use of Diagnostic Labels

The final challenge to be discussed relates to therapists' use of the diagnostic label of "callous-unemotional traits" or "limited prosocial emotions" when communicating with parents and others involved (i.e., educators, medical professionals), such as when providing a treatment rationale. The primary concern is that these labels will have a stigmatizing effect by negatively influencing others' perceptions and decision-making about the child and/or family. To date, this question has only been

examined as it relates to justice-involved juveniles and with mixed findings. While one study found that assigning a CD + LPE label led jurors to hold more negative perceptions relative to a CD-alone diagnosis (Edens, Mowle, Clark, & Magyar, 2017), another study found that a diagnosis of CD + LPE was no more stigmatizing than a diagnosis of CD (Prasad & Kimonis, 2018). Somewhat paradoxically, one of the concerns driving the introduction of the LPE label was the pejorative connotation associated with the term “callous-unemotional”; however, some argue that any term used to describe individuals with antisocial behavior or traits will acquire negative connotations (Frick & Nigg, 2012). Further research is certainly needed to understand how using labels such as LPE and CU influences attitudes and decision-making with younger children and in educational and clinical settings. Until then, there is little to inform clinician guidelines regarding use of the labels in clinical settings. It is recommended that the PCIT-CU therapist draw on research regarding the stigmatizing effects of diagnostic labeling for alternative childhood mental health disorders. For example, in a review of studies examining the stigmatizing effects of the diagnostic label of ADHD, Lebowitz (2016) reported that teachers and parents were more likely to hold negative perceptions of students’ academic ability in the presence of an ADHD diagnosis than in its absence, even when controlling for actual academic performance. However, it is also recommended that the therapist consider any additional benefits to informing the parent(s) of the child’s diagnostic status. For example, using the diagnostic label may serve to normalize parents’ experiences and thoughts and feelings toward their child. Moreover, describing the diagnosis and its associated features (e.g., reward dominance and punishment insensitivity) may be important for helping parents and teachers “buy into” the strategies used in PCIT-CU (e.g., greater emphasis on reward system than punishment). In this case, the diagnostic label may play an important role in the psychoeducational component of treatment.

Case Example

Case Introduction

At intake, “Joel” was a 4-year, 10-month-old Caucasian boy referred to treatment by his parents due to severe behavioral and emotional problems. Joel lived with his mother, father, and 6-month-old brother, who was described as having significant health difficulties since birth. Joel presented with significant conduct problems in both home and preschool environments, including physical and verbal aggression toward family members, educators, and peers; extreme defiance with commands and rules and argumentativeness; emotion dysregulation characterized by frequent angry moods and temper tantrums; blaming others for his misbehavior; and lying and stealing. His parents also described him as lacking in empathy and in remorse or guilt following misbehavior, noting that he often “taunted” peers, took joy in their distress, and rarely took responsibility or apologized for his actions. Many of these difficulties had been present since infancy, but had worsened significantly with the birth of Joel’s younger brother.

Assessment

A comprehensive assessment of Joel’s behavioral and emotional symptoms was conducted utilizing a multi-informant and multimodal approach that assessed symptoms across settings. Joel met diagnostic criteria for childhood-onset CD, with mild severity according to the *Diagnostic Interview Schedule for Children, fourth edition* (DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000) completed with his mother. Joel’s mother, father, and teacher rated the intensity and problematic nature of his conduct problems as at or above the clinical cut-off *T*-score of 60 on the ECBI and *Sutter-Eyberg Student Behavior Inventory-Revised* (SESBI-R; Eyberg & Pincus, 1999; Intensity *T*-scores of 62, 66, and 64, respectively; Problem *T*-scores of 61, 62, and 60 respectively). Two instruments were used to assess Joel’s level of CU traits, the *Inventory of Callous-Unemotional Traits*

(ICU; Frick, 2004) and the *Clinical Assessment of Prosocial Emotions: Version 1.1* (CAPE 1.1; Frick, 2013), a clinician-administered interview and structured professional judgment tool. On the preschool version of the ICU completed by his mother, father, and teacher, Joel demonstrated elevated levels of CU traits with scores of 27, 31, and 35 respectively. These scores correspond to an average informant response of *somewhat true* as rated by Joel's parents and *very true* as rated by his teacher across ICU items. On the CAPE 1.1, administered to his mother, Joel met diagnostic criteria for the LPE specifier with three out of the four diagnostic criteria endorsed: lack of remorse/guilt, callous-lack of empathy, and shallow or deficient affect. Thus, Joel was assessed as meeting criteria for childhood-onset CD with LPE. Finally, parent-child interactions observed and coded using the DPICS-IV indicated that his mother and father used several ineffective commands to which Joel displayed a high level of noncompliance.

Treatment

Given quantitative and qualitative evidence supporting the role of elevated CU traits in the development and maintenance of Joel's conduct problems, the PCIT-CU protocol was implemented. The family completed 21 treatment sessions in total, including 7 sessions each of CDI-CU, PDI-CU, and CARES, with assessments conducted at pretreatment, post-CDI, post-PDI, post-CARES, and 3-month follow-up. Joel's mother participated in all sessions, while his father attended eight sessions due to work commitments.

Outcomes

At post-treatment, Joel no longer met diagnostic criteria for conduct disorder according to the DISC-IV completed with his mother. Joel's mother, father, and teacher rated the frequency of

his disruptive behavior on the ECBI and SESBI-R Intensity scale as below the clinical cut-off (*T*-scores of 46, 44, and 50, respectively). They also reported greater tolerance for and less distress over his behaviors, as reflected by Problem *T*-scores below the clinical cut-off (*T*-scores of 41, 42, and 46, respectively). Qualitatively, Joel's mother reported that planned ignoring was effective for reducing Joel's sassing, and that he was extremely motivated by the token economy system as evidenced by reductions in his aggressive behavior and covert conduct problems (e.g., stealing, lying). On the CAPE 1.1, Joel's mother reported significant improvement in his ability to accept responsibility for his misbehavior, and was able to generate several examples of times when Joel appeared to feel bad about hurting someone (e.g., younger brother); however, she reported that his refusal to apologize for his actions remained challenging. In contrast, Joel's mother reported a marked improvement in his ability to empathize, especially with her own expressed emotions, and she reported that she would no longer describe Joel as being "mean" or "cruel." She reported several instances of spontaneous "nice" behavior; for example, wanting to take banana bread to a neighbor and expressing affection for an animal for the "first time." She also noted some improvement in his ability and willingness to express emotions, although he preferred to do so "in secret" to her. Thus, though Joel's emotional functioning still appeared to be below developmental expectations, he no longer met diagnostic criteria for the LPE specifier. ICU scores did not reflect as much positive change as parent ratings were stable and teacher ratings showed only a slight reduction, although it is possible that its restricted four-point scale was less effective at capturing treatment-related change. Finally, both parents demonstrated an improved ability to implement effective commands, follow-through calmly with the discipline procedure for noncompliance or with labeled praise for compliance, according to the DPICS-IV observation. Treatment gains were maintained to 3-month follow-up.

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