

The Effects of Child-Centered Play Therapy (CCPT) on the Social and Emotional Growth of Young Australian Children With Autism

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This rural Australian study explored the effects of child-centered play therapy (CCPT) on the social and emotional growth of 3 young children with autism ages 4–6 years. Parents sought private therapy for the emotional and behavioral difficulties these children were experiencing at home and in educational settings. All children participated in 10 weekly, individual therapy sessions, which focused on targeted goals set by parents. Two instruments, the Adaptive Behavior Assessment System, Second Edition, and the Developmental Behavior Checklist, were used to formally measure social and emotional growth pre- and postintervention. Informal data were also gathered on each child's targeted goal using Goal Attainment Scaling and weekly parent reflections. Data from both formal and informal measures showed positive improvements for all children in several areas of social and emotional functioning. Results indicated that CCPT was an effective intervention for this small sample of young children with autism. Limitations, implications, and recommendations are discussed.

Keywords: child-centered play therapy, autism, social and emotional competence

Child-centered play therapy (CCPT) is a form of therapy that involves children engaging in enjoyable activities of their choice, which symbolically and metaphorically allows them to address their emotional and behavioral distress (Guerney, 2001). While the term *child-centered play therapy* is used in the United States, therapy with the same core elements is referred to as nondirective play therapy (NDPT) in the United Kingdom (Ryan & Courtney, 2009). This therapy draws on Axline's (1969) early work and is based on the Rogerian principles of unconditional positive regard, empathy, congruence, and self-actualization (Rogers, 1976). When applied by the astute therapist, these principles provide a climate that enables the child's innate drive toward optimal functioning to unfold

(Wilson & Ryan, 2005). Overall, the therapy process is aimed to improve self-concept and support children to realign themselves, psychologically and behaviorally (Guerney, 2001).

The structure of CCPT draws on developmental foundations to understand the child's actions in relation to a normal developmental trajectory (Cicchetti & Beeghly, 1987), with an emphasis on progress of the total child, not on specific symptoms (McGuire & McGuire, 2001; Ryan, 1999; Wilson & Ryan, 2005). Additionally, attachment is a crucial part of therapy, ensuring that secure relationships exist to support the child's development of a positive self-concept and a healthy relationship script (Ainsworth & Bell, 1970). It is these positive attachment behaviors that the therapist strives to establish in the play room to empower the child to work toward a healthy sense of self (Fall, 2010; Wilson & Ryan, 2005). This strong sense of self allows children to link their skills and knowledge to current actions (Bandura, 1977), supporting the formation of new behavior schemas necessary for social and emotional growth. An accepting environment provides opportunities for the child to use play to relate to the

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therapist and, through secure attachment, to process “inter and intrapersonal conflicts” (Cochran, Cochran, Nordling, McAdam, & Miller, 2010, p. 131).

CCPT has proven an effective intervention for children across a broad spectrum of social, emotional, and behavioral challenges. To date, studies have demonstrated that CCPT interventions result in desirable social behaviors increasing conjointly with improved self-concept and emotional regulation (Cochran et al., 2010; Fall, 2010; Garza, 2010; Packman & Lebeauf, 2010; Ray, 2010; Wilson & Ryan, 2005). Moreover, CCPT has been found to support children with behavioral concerns, including reductions in aggressive occurrences (Ray, Blanco, Sullivan, & Holliman, 2009; Schumann, 2010), attention problems (Bratton et al., 2013; Ray, Schottelkorb, & Tsai, 2007; Schottelkorb, 2010), and undesirable social behaviors (Cochran et al., 2010).

Autism and CCPT

Autism is a neurodevelopmental disorder with a diagnosis based on the presence of repetitive behaviors and impairment in the critical areas of communication, flexibility, and the development of reciprocal social relations (American Psychiatric Association, 2013). As a result, children with autism struggle to develop and grow socially and emotionally in a pattern similar to their typically developing peers. They frequently have difficulties initiating and joining in play, understanding turn taking, building friendships, and in general enjoying reciprocal social interactions (Ashwell, 2009; Barton & Harn, 2012; Fun, 2009). Areas of input have been identified that support broader development in social and emotional domains (Lai, Lombardo, & Baron-Cohen, 2014). Josefi and Ryan (2004) have specifically identified four pivotal areas that CCPT interventions address: joint attention, imitation response, theory of mind, and symbolic and functional play skills.

Skills involved in joint attention have been found to be connected to language formation and social development (Baldwin, 2014; Delinicolis & Young, 2007). Recent research has suggested that advances in response to joint attention are closely linked to the development of social cognition, a predecessor for building social competency (Schietecatte, Roeyers, &

Warreyn, 2012; Tomasello, 2014). Within the CCPT framework, joint attention is explored as the child shares his or her interest areas with the therapist. These circumstances create a safe platform where the child can be free from inhibitions. Over time, as the child feels more secure, this platform typically broadens, allowing the child to engage in a wider range of activities and increased interactions with the therapist. The repertoire of social behaviors emerging in the therapy room can then be generalized to other supportive environments, such as the home (Axline, 1969; Josefi & Ryan, 2004; Mittedorf, Hendricks, & Landreth, 2001).

Imitation has been found to be important in developing reciprocal social skills, including social responses and verbal communication (Doepke, Mulderink, D’Santiago, & Karlen, 2014). CCPT interventions help develop imitation skills through the therapist modeling behaviors that occur naturally in social interaction. Child-initiated role play, where the therapist portrays different personas and emotions (e.g., “You are my friend now”; “You are really angry now”) within the CCPT framework, invites the modeling of more complex social interactions. Because these interactions are child led, children tend to be receptive to this form of social learning (Wilson & Ryan, 2005; VanFleet, Sywulak, Sniscak, & Guerney, 2011).

Theory of mind—the ability to acknowledge that others have distinct thoughts and beliefs separate from one’s own—is seen as central to social deficits in autism, particularly the development of perspective and empathy (Boucher, 2009; Frith & Happé, 1994). CCPT interventions can strengthen theory of mind concepts as the child works through developmental stages in which awareness is developed with the support and modeling of an empathetic, accepting therapist. The secure connection with the therapist “holds” the child, supporting him/her to move through this process. To support this connection and understand the child’s perspective, the therapist uses developmental frameworks that draw on Piaget’s cognitive theories (Piaget, 1962), Erikson’s psychosocial stages (Erikson, 1968), and Ainsworth’s attachment theories (Ainsworth & Bell, 1970) within the context of the child’s history.

Play is commonly recognized to have a cognitive organizational function, reflecting differing stages of development (Piaget, 1962; Wil-

son & Ryan, 2005). Within this framework, the progression from functional to symbolic play is viewed as a complex process. It involves the child consolidating information from thoughts, imagination, and mental pictures (mental imagery), together with current life experiences in order to work toward the integration of cognitive and personal schemas (Piaget, 1962; Wilson & Ryan, 2005). This developmental step is supported in CCPT interventions that are receptive to the child exploring and integrating these constructs at his or her own pace.

Hence, CCPT interventions can provide the child with developmentally appropriate self-paced input across these four pivotal areas using the support of a skilled therapist. However, despite the general growth in CCPT intervention, the area of individual therapy with CCPT and children with autism has been poorly researched. A comprehensive search of the literature revealed that only four CCPT intervention studies have been conducted to date.

The first study was undertaken in the United States by Kenny and Winick (2000). Therapy involved 11 sessions of CCPT with "Judy," an 11-year-old girl with autism, who presented with aggressive and oppositional behavior. This intervention not only used nondirective play and parental support as a major modality, but also included directive interventions in the areas of personal hygiene and social skills. Results indicated that Judy benefited only from the nondirective component of therapy. Judy's mother reported fewer child-parent arguments and a reduction in Judy's irritability. On the other hand, Judy's teacher reported positive behavioral changes, with increased compliance to requests and fewer tantrums and anger outbursts. The therapist reported an increase in interactive play together with the development of other attachment behaviors in sessions, which was recognized as a foundation for the development of relationship skills.

A second U.S. study (Mitteldorf et al., 2001) reported an intervention of individual biweekly CCPT sessions over approximately 18 months with "Brad," a 5-year-old boy with autism. Prior to intervention, Brad presented with a lack of language development, toileting issues, a reluctance to connect with others, a lack of awareness of his body and objects in space, and a limited sense of self. Following intervention, Brad was seen to be willing to go into the

bathroom and use the toilet, as well as spontaneously engaging in attachment behaviors with the therapist with whom he sought physical closeness. It was also noted that Brad gained a physical sense of himself and was increasingly independent in his play repertoire. Moreover, Brad experienced some level of academic and social success in a mainstream behavior disorder classroom.

A third study, by Josefi and Ryan (2004) from the United Kingdom, involved "John," a 6.5-year-old boy with autism, who had 16 individual 1-hr sessions of NDPT over a 5-month period. Results indicated that John demonstrated an increase in autonomy and initiative, which the researchers related to the successful reworking of the relevant Erikson stage. John also increased his initiation of attachment behaviors; he was more emotionally responsive and developed a secure attachment with the therapist. In regard to play, John was able to play for longer periods of time and increase his repertoire of play activities. These new behaviors were associated with a decrease in ritualistic behavior. Toward the end of the intervention, improvements in joint attention and social interaction with the therapist, together with the development of symbolic play, were also noted.

A fourth study, also in the United Kingdom, was undertaken by Carden (2009), who reported on the progress of "Lisa," a 10-year-old girl with autism. Lisa had weekly sessions of individual CCPT followed by filial therapy and a story-making narrative over a 1-year period. She presented with self-harming behaviors and what appeared to be stress-related symptoms. The researcher reported that Lisa's self-harming behaviors reduced substantially once she was able to communicate triggers for her anxieties during sessions. The documentation of the process revealed that Lisa progressed to developing trust in the therapist, while also increasing her ability and willingness to communicate. Other reported positive changes included her development of a sense of self and others, an understanding of perspective, and an increased ability to cope.

In summary, all studies used a single-case design, and all reported improvements in attachment behaviors and social interactions, together with progression in play skills. These positive outcomes indicated that CCPT could be a successful intervention in supporting the social and

emotional growth of young children with autism.

Purpose of the Study

This Australian CCPT study used a single-case design to investigate the effects of CCPT on a number of young children with autism in relation to their social and emotional growth. The first research question explored the impact of CCPT on the social and emotional growth of participating children. The second research question examined parental perspective on changes in their child's behavior following the CCPT intervention.

Method

Participants

A convenience sample of three children was obtained from referrals to an established independent practice in rural Queensland, Australia. This rural area is 400 km from a major provincial city and generates its economy from mining and agriculture. The three participating boys, under the pseudonyms of "Sean", "Peter," and "John," were between 5.5 and 6.5 years of age, and each had a verified diagnosis of autism spectrum disorder (ASD). All boys lived with both parents, attended formal schooling, and had fluent expressive and receptive language skills. All parents had identified problems, both at home and at school, as causing them to seek therapeutic support.

Sean, a 5.5-year-old with a twin, was a thin pale boy who was anxious most of the time. He constantly sought reassurance through being close to adults and asked repeated questions. Sean also had secondary diagnoses comprising attention-deficient/hyperactivity disorder and epilepsy. Key parental concerns were related to Sean not completing tasks he was capable of (e.g., dressing, eating), his restricted diet, and frequent temper tantrums. In addition, Sean sought continuous physical contact with his mother, and did not allow his dad to assist him with everyday tasks. His parents identified mastery of everyday tasks as a priority, and his goal for therapy was that he would attempt tasks at home of which he was capable.

Peter, a 5.5-year-old, was a freckled, energetic child. His parents' main concerns related

to his frequent tantrums and physical expression of anger, which was mostly directed at his mother and siblings. These behaviors were most common at times of transition (e.g., going to school or bed), meal times (eating refusal), and when he was told "no." Peter's parents identified his hitting as a priority, and his goal for therapy was to decrease physical demonstrations of frustration and anger.

John, a 6.5-year-old, was a tall child who demonstrated heightened anxiety by flicking and blowing on his fingers. The main concerns identified by John's parents were related to his difficulties in separating from his mother. He was unable to play independently or with others for any period of time, and frequently checked on his mother whereabouts. He also had difficulties following instructions at school and in interpreting social cues. John's parents identified the priority of not feeling anxious about his mother's whereabouts, and his goal for therapy was that he be able to calmly play for short periods without seeking out his mother.

Instruments

In the present study, two formal measures were used to obtain quantitative data and three informal measures were used to collect qualitative data. The Adaptive Behavior Assessment System, Second Edition, Parent Form (ABAS-II; Harrison & Oakland, 2003) and the Developmental Behavior Checklist—Parent/Carer (DBC-P; Einfield & Tonge, 2002) were used pre- and postintervention. The ABAS-II measures practical independent functioning, together with the effectiveness of interactions with others both at home and in community settings (Harrison & Oakland, 2003). Skills are assessed in 10 areas: communication, functional academics, self-direction, social, leisure, self-care, home living, community use, health and safety, and motor. These areas can be used independently or combined to form four domain composites scores and an overall score, General Adaptive Composite. By comparison, the DBC-P is an Australian scale designed to assess a broad range of behavioral and emotional difficulties in children ages 4–18 years with developmental disabilities (O'Brien, Pearson, Berney, & Barnard, 2001). This 96-item questionnaire has five subscales: Disruptive/Antisocial, Self-Absorbed, Communication

Disturbance, Anxiety, and Social Relating. Scores across all subscales contribute to a Total Behavior Problem Score (TBPS), with higher scores indicating areas of greater difficulties. According to Einfield and Tonge (2002), DBC-P scores can be interpreted using the individual item scores, subscales, or the overall TBPS.

Both formal measures were used to provide a broad assessment of global functioning and to capture changes in behavior related to social and emotional growth connected to the parent's therapy goal for their child. Three informal measures were used to augment data obtained from the ABAS-II and the DBC-P. First, data were collected from parents on perceived child behavior changes in relation to the goal they set for their child in the form of a numerical rating using a Goal Attainment Scale (GAS). GAS offers a criterion-referenced method to measure child achievements toward functional goals using a simple form of documentation, and has been used frequently in early intervention (Roach & Elliott, 2005). The GAS was formatted as a 5-point Likert scale, with -2 representing the child's behavior level in the goal area prior to intervention and $+2$ representing full attainment of the parent therapy goal. Second, written parent reflections on the general behavioral status of their child were collected. Third, ongoing therapy notes were recorded by the therapist.

Procedure

Prior to the intervention, parents completed the ABAS-II and the DBC-P. During the intake session, parents identified a meaningful therapy goal for their child. The goal was documented using the GAS and this preformatted scale was completed weekly by the parents. Parent reflections were also recorded weekly on this form, providing an outline of the child's general progress and contextual family happenings. These data were collected following each weekly session to capture behaviors indicative of the change process. Additionally, for each session, the therapist documented the child's behavior and interactions, the development and progression of themes, the stage of therapy of the child, and reflections on change. The CCPT intervention was undertaken over 10 weeks, with each child attending individual, weekly 50-min ses-

sions with the same trained therapist in accordance with the structural and procedural processes outlined by Wilson and Ryan (2005). A 10-week block was chosen as the intervention period to align with the school term and to fit with the maximum financial support allowable to families by Medicare. Each child had sessions at the same time each week to encourage stability. Face-to-face parental feedback meetings occurred after the sixth and 10th session (i.e., at the midpoint and conclusion of therapy). Parents also accessed informal support from the therapist via telephone and email. At postintervention, parents again completed the two formal measures (i.e., ABAS-II and DBC-P).

Data Analysis

Following completion of the intervention, scores from the ABAS-II and the DBC-P pre- and postassessment were used to create child profiles to measure change related to the intervention. In addition, the specific skill area (ABAS-II) or subscale (DBC-P) that related directly to the targeted goal for the child was identified and pre and post comparisons were made. The informal data, in the form of the parent weekly GAS ratings associated with the child's goals and parental reflections, were assessed. The GAS results were graphed (see Figure 1), with parent reflections providing an additional perspective (see summaries in Tables 2, 4, & 6).

Results

Data from both formal and informal measures indicated positive improvement for all children following the CCPT intervention. In terms of the impact of CCPT on the social and emotional growth in young children with autism (Research Question 1), results on the formal measures indicated that all children demonstrated measureable behavior change, with strong improvements being evident for Sean and Peter. Improvements for these cases were realized across both scales in the specific areas that correlated with respective parental therapy goals. Formal data are presented separately for each child in sections that follow (see Tables 1, 3, 5). In terms of parental perception of improvement in their child's behavior following CCPT (Research Question 2), there was differ-

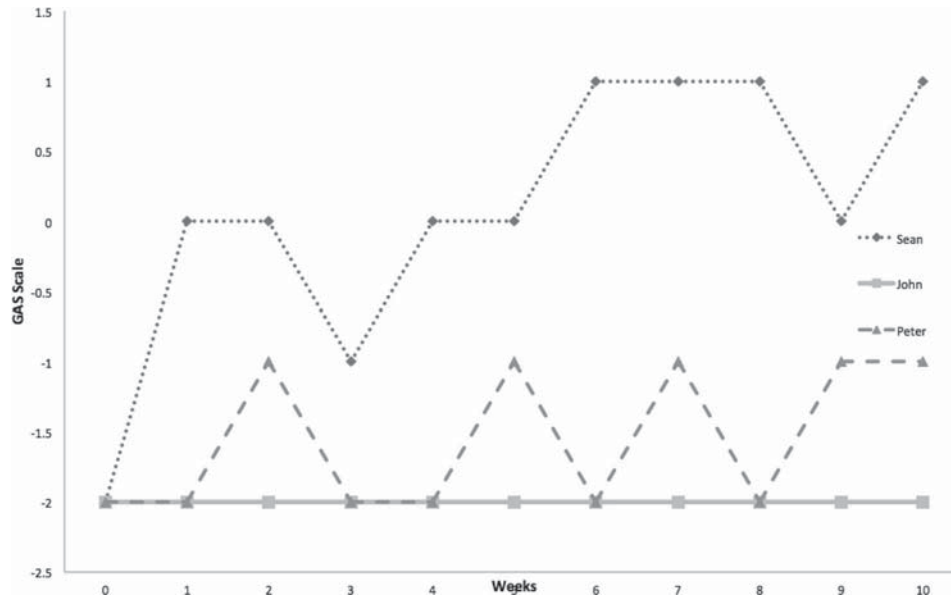


Figure 1. Parental Goal Attainment Scale (GAS) ratings of the therapy goal from intake to the end of intervention for the three participating boys.

ential individual progress. Figure 1 shows that progress was nonlinear, with Sean making the most improvement. These data also reveal Peter's progress was intermittent, with consistent "ups" and "downs," while John's parents reported no progress using GAS ratings. Additionally, parental reflections provided a final snapshot of each child's progress within the family context, with all parents reporting some positive changes. Results for the three children across all measures will now be discussed together, with a brief therapeutic summary.

Sean

As presented in Table 1, the ABAS-II and the DBC-P data strongly supported improvement for Sean postintervention in the targeted goal area, attempting home tasks, as well as improvement in the areas of communication, leisure and social interaction, and motor functioning. Anxiety levels also appeared to decrease. Moreover, parental data on the targeted goal showed that Sean gradually moved toward his goal, increasing three increments on the GAS. Documented parental reflections, for example, "trying to do more for himself" and "feeling more confident in himself, not so clingy to me," also supported increases in auton-

omous behavior for Sean. Taken together, formal and informal data showed strong, progressive, and positive change for Sean after the CCPT intervention and supported both research questions.

Sean's response to play therapy reflected these changes. In early play sessions, Sean continuously sought direction and validation while engaging in short bursts of chaotic play. In the middle stages, he engaged with messy sensory materials (that he avidly avoided earlier) and progressed to be able to verbalize his emotions and to demonstrate increasing autonomy. For example, after Sean independently reconstructed a toy truck, he announced proudly "I figured it out." This was in stark contrast to "I can't do it, you do it" that Sean repeated in earlier sessions. Sean also started to direct the therapist into roles rather than trying to please her. At home, he had started to feed himself, eating some family dinners, was starting to dress himself, and was letting dad put him to bed, with his parents commenting that he appeared happier (see Table 2). In the later stages of therapy, Sean moved into structured play with longer sequences, with a noticeable decrease in female persona dress-ups and an increase in the use of male power icons as he continued work on his identity, mastery, and self-esteem.

Table 1
ABAS-II and DBC-P Pre- and Postdata for Sean

Comparison of Measures	ABAS-II Skill areas	Pre	Post	DBC subscales	Highest possible score	Pre		Post	
						Score	Percentile	Score	Percentile
	Communication	1*	4**	Disruptive/ Antisocial	54	49	100th	30	94th
	Community use	2*	3*	Self-Absorbed	62	44	98th	33	94th
	Functional academics	4**	8†	Communication/ Disturbance	26	19	98th	20	98th
	Home living	1*	3*	Anxiety	18	14	98th	8	86th
	Health and Safety	1*	4**	Social Relating	20	4	58th	3	48th
	Leisure	1*	8†						
	Self-care	1*	3*						
	Self-direction	1*	1*						
	Social	1*	6***						
	Motor	1*	8†						
Overall score	GAC	14*	48*	TBPS	180	139	100th	96	98th

Note. Boldface denotes child therapy goal. ABAS classification of skill areas: 1–3 (*extremely low*; denoted*); 4–5 (*borderline*; denoted**); 6–7 (*below average*; denoted***); 8–12 (*average*; denoted†). DBC is reverse-scored: Higher scores and higher percentiles indicate lower function. Raw scores are used. Range for subscales vary and is indicated, with 0 being lowest score possible. Percentiles indicate the percentage of children in the Australian normative sample who functioned higher than this child on each scale. Classification of Goal Attainment Scale and domain composites: ≤ 70 = *extremely low*. All scores are scaled. Scores for skill areas are out of possible 19. Scores for GAC and domain areas are out of possible 160. ABAS-II = Adaptive Behavior Assessment System, Second Edition, Parent/Primary Caregiver; DBC-P = Developmental Behavior Checklist–Parent; GAC = General Adaptive Composite; TBPS = Total Behavior Problem Score.

Peter

Data from both the ABAS-II and the DBC-P strongly indicated that Peter improved in his targeted goal area (see Table 3) and in following routines and interactions, while decreasing his anger and physical frustration. In addition, parental data demonstrated that Peter gradually moved toward his goal, increasing one increment on the GAS, while parental reflections tracked Peter's decreasing acts of physical aggression and improvements in verbal communication, for example, Peter "has been using his words to voice his anger" and "had a good week at school, happy to go off once there without the usual drama." Hence, all data pointed to Peter's

progressive and positive change due to the CCPT intervention and, in doing so, supported both research questions.

Peter's early sessions were dominated by intense sword fighting games, which could be interpreted as a need for power, control, and expression of anger. In the middle stages of therapy, Peter participated in some nonphysical play, placing the therapist in roles that required working together to "solve" the problem. As Peter progressed in therapy, he engaged in fewer fighting games while increasingly using play that explored nurturing and social interaction. Toward the end of therapy, Peter's primary mode of interaction with the therapist was play

Table 2
Parental Reflection Summary for Sean

Session	Reflections
1	Lots of meltdowns about school/bedtime along
3	Has been calmer and adjusting to new routines (Mum returned to full-time work); only got upset leaving me on Thursday (for school), but Mrs. J (usual teacher) was absent; even tried a few of our meals
5	Trying to do more for himself
7	Feeling more confident in himself, not so clingy to me
8	Is accepting change more easily; he loves going to school at the moment
10	Calmer, settled; doing things for himself again; happy to be on holidays

Table 3
ABAS-II and DBC-P Pre- and Postdata for Peter

Comparison of Measures	ABAS-II skill areas	Pre	Post	DBC subscales	Highest possible score	Pre		Post	
						Score	Percentile	Score	Percentile
	Communication	7***	6***	Disruptive/ Antisocial	54	36	98th	36	98th
	Community use	3*	4**	Self-Absorbed	62	37	96th	29	90th
	Functional academics	7***	9†	Communication/ Disturbance	26	15	96th	13	94th
	Home living	4**	3*	Anxiety	18	13	98th	10	96th
	Health and Safety	1*	3*	Social Relating	20	9	90th	8	86th
	Leisure	1*	3*						
	Self-care	1*	1*						
	Self-direction	2*	3*						
	Social	3*	5**						
	Motor	3*	5**						
Overall score	GAC	32*	42*	TBPS	180	126	100th	112	98th

Note. Boldface denotes child therapy goal. ABAS classification of skill areas: 1–3 (*extremely low*; denoted*); 4–5 (*borderline*; denoted**); 6–7 (*below average*; denoted***); 8–12 (*average*; denoted†). DBC is reverse-scored: Higher scores and higher percentiles indicate lower function. Raw scores are used. Range for subscales vary and is indicated, with 0 being lowest score possible. Percentiles indicate the percentage of children in the Australian normative sample who functioned higher than this child on each scale. Classification of Goal Attainment Scale and domain composites: ≤70 = *extremely low*. All scores are scaled. Scores for skill areas are out of possible 19. Scores for GAC and domain areas are out of possible 160. ABAS-II = Adaptive Behavior Assessment System, Second Edition, Parent/Primary Caregiver; DBC-P = Developmental Behavior Checklist–Parent; GAC = General Adaptive Composite; TBPS = Total Behavior Problem Score.

in which he was able to openly express his needs. For example, in the seventh session, he requested “let’s eat, come and sit next to me and we will eat” (see Table 4). This simple gesture was reflective of Peter’s progress in relationship building and trust, and was in stark contrast to his behavior in early sessions where he moved rapidly, frequently approached the therapist with a weapon, and chose not to touch food or drink when offered. At this stage, improvements at therapy were accompanied by improvements at home, with his parent reporting

that he was playing with others, verbalizing emotions, and happily going to school.

John

Data from the ABAS-II and DBC-P (see Table 5) revealed that John improved in his targeted goal area: His separation anxiety decreased while his ability to play independently increased. These data provided some support for behavioral change due to the CCPT intervention. By comparison, the GAS data on the targeted goal across the interven-

Table 4
Parental Reflection Summary for Peter

Session	Reflections
1	Has been angry this week; has been looking forward to coming
2	Has been using his words to voice his anger; has been playing with other children a bit better this week
4	Is upset and angry a lot at home; is teary at times and demanding of my time; wanting me to play with him lots; has been very affectionate and starting to want to play with dad
6	Has played well for short periods of time this week; has been good at verbalizing his feelings
7	Played well with neighbors young children; got angry and hit and pushed then left the room to calm himself (FIRST) told me he was tired; went better at Kindy; didn’t challenge as much; has no problem telling us how much he hates things and that he is very angry at us
9	Had good week at school, very happy to go off without the usual drama; still having outburst of anger for about 20 min; very keen to invade your space when angry, did have some good days though

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Table 5
ABAS-II and DBC-P Pre- and Postdata for John

Comparison of Measures	ABAS-II skill areas	Pre	Post	DBC subscales	Highest possible score	Pre		Post	
						Score	Percentile	Score	Percentile
	Communication	14 [†]	5**	Disruptive/ Antisocial	54	18	74th	21	78th
	Community use	8 [†]	5**	Self-Absorbed	62	9	38th	12	52nd
	Functional academics	11 [†]	5**	Communication/ Disturbance	26	6	66th	3	38th
	Home living	8 [†]	5**	Anxiety	18	7	86th	8	90th
	Health and safety	5**	10 [†]	Social Relating	20	5	76th	4	58th
	Leisure	6***	10[†]						
	Self-care	6***	4**						
	Self-direction	6***	6***						
	Social	5**	5**						
	Motor	Work	Work						
Overall score	GAC	69*	55*	TBPS	180	49	64th	53	70th

Note. Boldface denotes child therapy goal. ABAS classification of skill areas: 1–3 (*extremely low*; denoted*); 4–5 (*borderline*; denoted**); 6–7 (*below average*; denoted***); 8–12 (*average*; denoted[†]). DBC is reverse-scored: Higher scores and higher percentiles indicate lower function. Raw scores are used. Range for subscales vary and is indicated, with 0 being lowest score possible. Percentiles indicate the percentage of children in the Australian normative sample who functioned higher than this child on each scale. Classification of Goal Attainment Scale and domain composites: ≤70 = *extremely low*. All scores are scaled. Scores for skill areas are out of possible 19. Scores for GAC and domain areas are out of possible 160. Work replaces Motor on the 5–21 years form. ABAS-II = Adaptive Behavior Assessment System, Second Edition, Parent/Primary Caregiver; DBC-P = Developmental Behavior Checklist–Parent; GAC = General Adaptive Composite; TBPS = Total Behavior Problem Score.

tion period showed no improvement, and parental reflections did not indicate any change until half-way through the intervention. However, at that time, John's mother reported that she could "go downstairs now and he is ok" and that John was "playing better with little brother," "demonstrating emotions," and "he seems to be moving forward and main issues are now at school." In summary, the formal data and informal parental reflections pointed to some positive behavioral

change and limited support to both research questions.

John's early therapy sessions were characterized by his struggling to separate from his mother and beginning each session with repetitive and physically aggressive play. This play reflected John's rapid emotional cycling: from being highly excited and animated to being very still and quiet, to suddenly laughing out loud, and then progressing to aggressive play, which

Table 6
Parental Reflection Summary for John

Sessions	Reflections
2	Not really happy about going to school; says he has no friends; often gets very emotional telling me
3	Trying to include him in all day-to-day running of the house and routines; is not watching TV, but joining in and playing with S (younger brother); lots of tickles and games that result in touching; seems to like this though he is showing signs of jealousy with S
4	Enjoying school again, addressed issue of not wanting to go to the unit (teased by another student) hoping that this week will be good
5	Relationship with his dad is much better; playing better with S, demonstrating emotions, showing jealousy of S, this is just starting to happen; main issues are at school now
7	Made breakfast by himself, which we ate together; showing and asking for more affection; at school behavior has been challenging
8	John says he is trying really hard, his teacher is seeing improvements too

involved hitting, stabbing, choking, and fighting with the bop bag. By the middle sessions, John could calmly separate from his mother and did not need to interrupt his session to visit her in the waiting room (see Table 6). At home, his mother reported that he was more open and interactive with her. John then progressed to commencing sessions with nonphysical play such as cooking or dress up, and he engaged in longer play sequences with an emphasis on interaction with the therapist who was alternatively placed in roles of being powerful (and restricting) and powerless. Another dimension of this period was that John noticeably regressed, using baby talk and inviting early nurturing both at home and in sessions as he reworked earlier developmental stages. By the final stage of therapy, John was showing empathy in his role plays of friendship with the therapist, together with some quiet individual play, which was connected to self-esteem and role identity. At home, John was reported to be playing better with others, was able to separate from his mother for short periods, was seeking interaction with his father, and had reduced periods of flicking or blowing on fingers.

Discussion

Given the increasing prevalence of young children diagnosed with autism (Centers for Disease Control and Prevention, Autism and Developmental Disabilities Monitoring Network Surveillance, 2010) and the impact of this disorder on developmental trajectories (Boucher, 2009), this preliminary study offers promising intervention results. Changes in scores on the formal measures indicated that all children improved in several areas of social and emotional functioning and progressed in the targeted goal areas identified by parents. Taken together, these data suggest that each CCPT intervention was effective in assisting participating children to enhance their social and emotional skill sets. Overall findings from the present study are consistent with the literature indicating that CCPT is an intervention that can support the development of social and emotional growth for children both with and without autism (Bratton et al., 2013; Fall, 2010; Josefi & Ryan, 2004; Landreth, 2002; Mittedorf et al., 2001; VanFleet et al., 2011; Wilson & Ryan, 2005).

Moreover, the three children in this study also demonstrated other behavioral improvements indicative of broader social emotional growth outside of the targeted goal area. This holistic change with simultaneous improvement in more than one area of social and emotional growth mimics the normal developmental trajectory (Fun, 2009; Stagnitti & Cooper, 2009; Wilson & Ryan, 2005). As previously outlined, CCPT supports children to move through normal growth stages (Landreth, 2002), and some developmental progressions can lead to long-term changes, with the child's new skills and awareness creating a positive cycle of reciprocal interaction with others and the environment (Bratton et al., 2013; Fall, 2010).

Developmental progressions in this study were monitored in various complementary ways. In CCPT autism-specific research, this is the first published study to use formal developmental measures of social and emotional growth. As previously indicated, the ABAS-II and the DBC-P were used to formally measure changes in each child's social and emotional functioning. The ABAS-II provided comprehensive information across a number of domains so that a meaningful comparison could be made between the pre- and postassessments of each child. In fact, the information was so comprehensive that considerable time and reflection were required to glean data pertinent to the targeted goal of each case. The DBC-P was relatively quick for parents to complete, and was easy to score and interpret. Percentile rankings greatly assisted interpretation, providing a comparative level of functioning within and across cases. Consistent with ASD norms (Thorson & Matson, 2012), children in the present study scored at the very low end of scales in both measures, making it difficult to capture small changes that resulted over the 10-week intervention period. However, measuring the targeted goal area independently from the different lenses of each measure provided a rich comparative analysis.

On the other hand, GAS provided parents with an opportunity to benchmark targeted goals and related behavior. Additionally, this informal scaling process provided an avenue for parents to have weekly input by recording behavior change numerically. As such, GAS graphing (see Figure 1) provided a useful visual reminder to both therapist and parent of the targeted goal and child progress.

Moreover, GAS results generally were consistent with the parental reflections, which added rich contextual insight into the child's behavioral progress at home. Furthermore, the general theme of parental reflections was consistent with therapy notes, which were documented after each CCPT session. In the case of John, there were differences between scores on the GAS and on the formal instruments. It was speculated that his parents were slower than other parents in recognizing behavior change.

Broadly speaking, CCPT sessions fostered development through joint attention, imitation response, theory of mind, and symbolic and functional play skills. These pivotal areas identified by *Josefi and Ryan (2004)* provided a guiding framework for intervening with these young children with autism. Through the lens of joint attention, each child improved his social interactions; moving from having an intense focus on an interest area to having a more open view that enabled greater responsiveness to the therapist and parents. This behavioral change, in turn, allowed the child to learn from imitation opportunities, which progressed to explorations of daily life events (e.g., getting into trouble, relationships) through child-initiated role plays. In relation to theory of mind, each child moved from being very egocentric to beginning to acknowledge the perspectives of others, thereby showing some evidence of empathy in therapy and at home.

Play stages progressed with decreasing amounts of functional play, and increased amounts of rich imaginative symbolic play, including sociodramatic play where the children directed the therapist to an assigned role to explore different perspectives. It was also noted that, although positive outcomes were obtained after 10 sessions of therapy, most of the research on CCPT and children with autism has investigated interventions involving more sessions. Intervention periods ranged from 16 sessions (*Josefi & Ryan, 2004*) to 18 months of therapy, with up to two sessions a week (*Mitteldorf et al., 2001*). It is likely, therefore, that, with an extended intervention period, targeted behaviors of children in the present study would have generalized not only from therapy to home, but also from therapy and home to school.

Limitations and Recommendations for Research

Although this study contributes to research on the effectiveness of CCPT as an intervention to

develop social and emotional growth for children with autism, some limitations need to be acknowledged. Recruitment using a routine intake process in one regional area of Queensland resulted in only a small number of children with a verified diagnosis in the desired age range being available. Although the data obtained were supportive of CCPT effectiveness, the small sample size and the restricted period of intervention limits the generalizability of findings (*Davis & Smith, 2004*). Additionally, all children accessed intervention at a special education development unit, and some behavior change could be attributed to this program. Replication with a larger cohort in therapy versus a wait-list would address the issues of power and provide further evidence of the efficacy of CCPT. Moreover, it would be worthwhile investigating the impact of a more comprehensive intervention undertaken over an extended period (e.g., 18 months).

To further increase generalizability, it would be valuable to replicate the study in a different geographical area and to also include girls with autism. Additionally, effectiveness of CCPT with older children with more mature cognitive processing could also be explored. Finally, another limitation of the present study was reliance on a sole therapist. To investigate intervention integrity, it would be ideal to have a minimum of two therapists involved in the intervention, and to video record sessions to identify strategies that produce meaningful therapy outcomes.

Conclusion

This small-scale Australian study demonstrated that CCPT is an effective intervention to support the social and emotional growth of young children with autism. Findings demonstrated that participating children were not only able to meet targeted behavioral goals, but also to show general developmental progress. Moreover, the guiding framework of joint attention, imitation response, theory of mind, and symbolic and functional play skills (*Josefi & Ryan, 2004*) contributed to these specific and general outcomes. Taken together, these outcomes provide a launching pad for therapists and researchers to further extend our understandings of the impact of CCPT on children with autism.

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