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CASE STUDY

Play-Modified One-Session Treatment for Young Children with a Specific Phobia of Dogs: A Multiple Baseline Case Series

Lara J. Farrell[1] · Helen Kershaw[1] · Thomas Ollendick[2]

Abstract The one-session treatment (OST) approach for SPs is deemed well-established, and has been found to be highly effective for older children and adults; however, has not yet been trialled with very young children. The present study examines the preliminary effectiveness of play-modified OST for young children with a SP of dogs, using a multiple baseline controlled case series design. Treatment involved play modified one-session of intensive cognitive-behavioural therapy (OST plus Play) which was followed by brief telephone delivered maintenance calls over the 3 weeks immediately following treatment. Four young children (4 years of age) participated and symptoms were assessed at pre-treatment, across a 1–3 week baseline phase, immediately following the OST plus Play, and at 1 and 3 months follow-up. Visual inspection provided evidence for stability of symptoms across the baseline phase, followed by reductions in symptoms over the course of treatment and follow-up. Non-parametric analyses offered further support, with significant improvements in following the intensive OST plus Play intervention.

Keywords Specific phobia · Children · Pre-school · OST · CBT · Play therapy

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Introduction

Recent research has shown that anxiety disorders are as prevalent among younger children as older children, but critically, younger children are less likely to receive treatment [1]. Specific phobias (SPs) are often the earliest form of anxiety to onset, affect almost 10% of young children [1], and tend to be stable across early development [2]. In childhood, SP are also predictive of a host of mental health problems later in life, including depression, other anxiety disorders and substance abuse [3–5]. Importantly, a very recent 10-year prospective study (n > 2,200, 14–24 year olds) projected that about half of all serious adult mental health disorders could potentially be prevented if SPs during the first two decades of life were effectively treated [6].

The One-Session Treatment (OST) approach developed by Öst [7] and later Öst and Ollendick [8] has been deemed *well-established* [9] in the treatment of childhood SP, and provides a time and cost efficient alternative to traditional longer-term CBT approaches. OST incorporates in vivo exposure, cognitive challenges, participant modelling, positive reinforcement and psychoeducation in a single session maximised to 3 h [10]. Empirical support for OST has been demonstrated in ten studies of children and adolescence, including three large randomised controlled trials (RCT) [11–13] and several smaller clinical trials for a diverse range of SP subtypes in youth aged 7 years and over [e.g., 14, 15]. In these studies, OST has been found to be superior to waitlist control [11, 13], psychological placebo [11], and Eye Movement Desensitization and Reprocessing (EMDR) therapy [16, 17]. To date however, there have been no published trials of OST among young children (<6 years of age), which may in part be due to the challenges of engaging young children in the cognitive challenges that are part of the treatment [9].

In recognition of the need for evidence-based treatments for younger children, the field has progressed to modify and evaluate treatment for younger children with broad anxiety [18–24]. As but one example, Donovan and March [19] conducted a RCT whereby they randomly assigned fifty-two 3–6 year olds with anxiety disorders (including social phobia, separation anxiety, specific phobia, selective mutism and generalised anxiety disorder) to either an internet-delivered cognitive-behavioural treatment (NET) or waitlist control group (WLC). The NET intervention was a parent-focused, therapist-assisted treatment condition whereby parents of pre-school children received six parent sessions and two booster sessions of an already efficacious treatment [25] that was originally developed for older children. The results of this trial provided initial support for a parent-focussed treatment of childhood anxiety disorders, with significantly reduced anxiety symptoms, as well as a greater increase in overall functioning for the children in the NET condition compared to the WLC condition. Numerous other trials have also provided support for generic CBT (i.e., CBT techniques applied to any anxiety disorder) for younger children's anxiety [e.g., 26–31], as well as disorder specific CBT for separation anxiety disorder [22, 23], post-traumatic stress disorder [32] and obsessive–compulsive disorder [20, 32–35].

However, treatments *specifically* targeting SPs in younger children are limited by comparison, with only one published randomised controlled trial of behavioural treatments for childhood fears. For example, Santacruz, Mendez and Sanchez-Meca [24] evaluated the effectiveness of two parent led interventions, including bibliotherapy and games (BG) versus emotive performances (EP—games encouraging brief parent assisted exposure tasks and contingency management) in a randomised controlled trial of children with darkness fears, relative to a no-treatment control. Seventy-eight children with darkness fears were recruited from schools in the community and were randomised to one of the three conditions, with both BG and EP associated with reductions in fear at 12 months follow-up. However, given that parents were required to deliver the treatment at home, there was very high attrition across the study with almost 25% of parents not completing the treatment. This study illustrates the burden associated with parent-focussed treatments. Moreover, whilst this study provides preliminary support for a play-based exposure approach, this study utilised a community sample of fearful children, and children were excluded if they experienced comorbid anxiety disorders. Currently, there are no well-controlled trials of disorder-specific, empirically-supported treatments, such as OST, for treatment seeking preschool-aged children with clinical SPs.

Whilst CBT is highly effective for older children and adolescents with anxiety, it is largely underutilised by patients and their families for a variety of reasons, including geographical and financial barriers, and the time intensive nature of treatment [35–38]. Consequently, there is a pressing need to provide more efficient treatments in order to increase accessibility to evidence-based interventions, such as OST [7, 8, 10]. While OST has been found to be highly effective for older children and adults [39], it has not yet been trialled with very young children. One of the most significant challenges in working with extremely fearful and avoidant younger children affected by phobias is that they often possess cognitive limitations to fully benefit from standard CBT and they may have little motivation to face their fears, both of which can be problematic for treatment. Herein, we suggest that a play-modified OST approach may provide a developmentally tailored modification to address the unique needs of a younger sample of children with SPs.

In the play-modified OST intervention, a play therapy framework was adopted in order to increase the young child's engagement in therapy, and thus enhance the feasibility of OST for young children (see [40, 41] for a full description of the approach). Play therapy as defined by Landreth [42] is a child-centered approach whereby the therapist provides selected play materials that facilitate the development of a safe relationship for the child to fully express and explore their feelings, thoughts, experiences and behaviours. Thus, the essential fundamental element of play-therapy is the formation of a safe and trusting therapeutic relationship with the child, which is achieved through the use of child-centred play. Play therapy approaches are used for the first hour of the intensive treatment in order to engage the child at an appropriate developmental level, and socialise the child to the goals of treatment (i.e., to face her fears) in a supportive, fun and non-threatening way. In recognition of the fact that there are many philosophical differences between different schools of play therapy, Yasnik and Gardner [43] proposed a dimensional approach to the conceptualisation of play therapy as an intervention. The two primary dimensions proposed are those of *directiveness* and *consciousness*. The child's play activities and verbalisations are considered to reflect the consciousness dimension, whilst the directiveness refers to the therapists activity in the form of how immersed they are in the child's play (i.e., being non-directive refers to being completely immersed in the child's play activity). During the play therapy intervention, the therapist, guided by the case conceptualisation, moves along the continuum of *directiveness*, beginning with completely child-led play activity at the commencement of OST, to gradually more directive play whereby the therapist engages the child in gently approaching the phobic stimuli. With respect to the consciousness dimension, the therapist also moves

along the continuum, at times offering timely interpretations to facilitate conscious awareness and insight for the child (e.g., the therapist holding a dog play figure says, "I think you might like to play with me! I am a friendly puppy—look at my tail wagging, I want to play with you!"), always informed by the case conceptualisation and moving at the pace of the child. The gradual integration of *directiveness* during play (which included low level exposures through the use of dog stimuli) therefore facilitated the shift into much more directive, behavioural OST introduced in the second hour. Thus, this approach enables the therapist to gradually prepare and scaffold the child within a safe child-centred context to face the more challenging exposure tasks necessary for the treatment of specific phobia.

The present study therefore aimed to examine the effectiveness of a novel one-session treatment for young children with a SP of dogs (given that SP of dogs represents one of the most prevalent fears in young children), using a multiple baseline controlled case series design, given that such a design is supported by the evidenced based treatment movement [44] and allows for the systematic evaluation of the efficacy of innovative treatments in a controlled manner [45, 46]. Treatment involved one-session of intensive cognitive-behavioural therapy augmented with play (OST plus Play) which was followed by brief telephone delivered maintenance calls over the 3 weeks immediately following treatment. It was hypothesised that clinician ratings of SP severity would remain stable during the baseline period and then improve significantly following intensive OST plus Play. Moreover, it was predicted that significant reductions would be observed from pre- to post-treatment on clinician rated global functioning, parent rated anxiety, child rated fear, diagnostic status, and parent rated target symptoms. Finally, it was expected that post-treatment gains would be maintained at 1 and 3-month follow-up.

Method

Participants

Prospective participants were recruited from advertisements placed in the newsletters of local primary schools and day care providers. Inclusion criteria were as follows: (a) child between ages of 4 and 6 years, and (b) met criteria for a diagnosis of a SP of dogs according to DSM-5 criteria [47]. Exclusion criteria included: (a) the presence of autism spectrum or schizophrenia disorders and/or intellectual impairment, and (b) receiving concurrent psychotherapy for their SP. There were no referrals to the project that met the exclusion criteria. Potential participants were initially screened ($N=5$) for suitability on the basis of presence of dog phobia symptoms prior to attending the clinic for a full assessment. One eligible participant withdrew following pre-treatment assessment due to an overseas trip. The final sample therefore included four children (aged 4–6 years), with a mean age of 4.6 years (SD = 0.37), comprising of one male and three females. Table 1 provides descriptive information for the sample, including age, gender, ethnicity, socio-economic status, and diagnostic status.

Design

The present study utilised a non-concurrent multiple baseline single-case design. This involved a series of A–B replications whereby following pre-treatment assessment children were randomly assigned to either a 1-week, 2-week or 3-week baseline condition. Repeated measures were taken prior to OST, at the treatment session and during brief, weekly telephone calls for 3 weeks following treatment, followed by 1 and 3-month follow-up sessions. This type of design allows for the assessment of symptom improvement during treatment relative to baseline phases [45].

Table 1 Participant demographics

Participant	Age	Gender	Ethnicity	SES M and F (Daniel Prestige score)	Secondary diagnosis	Tertiary diagnosis	Overall number of diagnosis including SP dogs
1	4	M	Caucasian	28.76/00.00	None	None	1
2	4.6	F	Caucasian	55.97/44.75	SP (water)	SP (costume character)	3
3	4.9	F	Caucasian	52.87/52.87	None	None	1
4	4.9	F	Caucasian	66.48/40.85	SP (costume character)	SP (BII)	3

Age in years and months; Daniel Prestige scale is used by sociologists to classify occupational status. A score between 0 and 100 is attributed based on this skill based scale with 0 being low and 100 being high

Baseline and Outcome Measures

Anxiety Disorders Interview Schedule for Children, Parent Version (ADIS-P) [48]

The ADIS-P is a semi-structured clinical interview administered to parents designed to assess and diagnose anxiety, mood and externalising DSM disorders experienced by school-aged children and adolescents. Whilst the ADIS-P interview is based on DSM-IV-TR diagnoses, there are no changes in DSM 5 criteria in regards to the diagnosis of SP. The only change is in the duration criteria, where DSM 5 states that the phobic distress would be "typically" present for A diagnosis is assigned based on a clinician rated score (CSR) from 0 to 8 (cut-off of 4 for diagnosis). Although the ADIS-P was designed for use with children 6 years and above, acceptable inter-rater agreement has been reported for parents of younger children (0.77–0.86) [30]. All interviews were recorded and undertaken by trained clinical psychology postgraduate students who were supervised by the lead author. Full ADIS-P clinical interviews were conducted at pre-treatment (by therapist), and at 1-month and 3-month follow-up (by a blinded, independent raters). During the baseline phase and the 3 weekly telephone calls following the treatment session, only the SP module (SP of dogs) was delivered. The ADIS-P has been shown to have excellent reliability, as well as possessing good to excellent inter-rater and retest reliability (0.81–0.96) for both symptom scales and diagnoses [49, 50].

Clinical Global Impressions Scale (CGI) [51]

The CGI is a clinician rated scale of severity of illness and change over time. Scores on the Severity of Illness subscale range from 1 to 7 (7 = among the most extremely ill). The CGI has been found to have sound psychometric properties, has demonstrated convergent validity with other self- report measures of anxiety and depression [52], and has also been found to be sensitive to change [53]. This measure was provided by the same assessor who completed the ADIS-P.

Children's Global Assessment Scale (CGAS) [54]

The CGAS is a clinician rated measure of a child's overall functioning and level of impairment. Scores on the CGAS range from 1 (Needs constant supervision) to 100 (Superior functioning). The CGAS has demonstrated favourable psychometric properties with intra class correlations estimated at 0.84 for inter-rater reliability and 0.85 for test retest reliability over 6 months [54]. This measure was also obtained by the same assessor who completed the complete ADIS-P interview, and was reviewed in supervision.

Idiographic Target Behaviours

Prior to treatment, parents and children worked with the therapist to identify three primary target behaviours related to the child's specific phobia symptoms, based on information gathered during the ADIS-P assessments. Parents were asked to rate their perception of their child's *level of fear* associated with each of the three target behaviours on a Likert scale ranging from 0 (none) to 8 (very much). Example target behaviours include—*how fearful is your child of patting a dog*?

Preschool Anxiety Scale—Revised (PAS-R) [55]

The PAS-R is a 28-item modification of the Pre-school Anxiety Scale (PAS) [56]. It is a parent-based questionnaire for measuring symptoms of DSM-defined anxiety disorders in young children. Parents are asked to indicate the frequency of symptoms (e.g. *is afraid of insects and/or spiders; is frightened of dogs*) on a 5-point scale, ranging from 1 (not at all true) to 5 (very often true). Evidence suggests that the PAS-R has sound construct validity and inter-rater reliability [56].

The Koala Fear Questionnaire (KFQ) [57]

The KFQ is an interview-based, standardised self-report scale for assessing fears in 4–12 year old children. The scale consists of 31 fear provoking stimuli and situations that are all illustrated with a visual scale to assess varying degrees of fear (*no fear, some fear, a lot of fear*). According to Muris et al. [57], psychometric properties of the KFQ among young children 4–6 years of age have proven to be adequate, including satisfactory internal consistency and test–retest reliability (0.87 and 0.89), and total scores of the KFQ correlating positively with concurrent measures of fear and anxiety.

Behavioural Approach Tests (BATs)

A standardised BAT, following the same protocol as Ollendick et al. [11] was conducted for the child's SP of dogs. The BATs were in-vivo and the participants were asked to approach a real dog which was situated in a clinic room, held on a leash by a dog owner, behind a closed door. The BATs consisted of a number of gradually more difficult steps (varying between 0 and 10 steps), and participants were instructed to try their best to approach the dog and achieve the final step of patting the dog on the head (rated 10). In addition, participants rated their degree of subjective units of distress (SUDS) on a Likert scale of 0–8 prior to entering the room with the dog, and at various stages

during the BAT. The percentage of steps achieved for each child is presented at pre-treatment and at post-treatment.

Child and Parent Treatment Satisfaction [12]

At 1-month follow-up, children and parents completed a questionnaire assessing their satisfaction with treatment. The parent survey consisted of 9 items rated on a 5-point Likert scale, and a final item on a 3-point Likert scale assessing satisfaction with the length of treatment (i.e., length of the treatment was just right = 0, too long = 1, too short = 2). The Parent Treatment Satisfaction (PTS) yields a total score ranging from 0 to 45 with higher scores indicating greater satisfaction. The child treatment survey consisted of 6 items rated on a 5-point Likert scale with a total score of 30. Child items include 'My treatment helped me to cope better with my fear of dogs'.

Procedure

Pre-treatment—Assessment and Psycho-Education

Following full ethical approval from the University Human Research Ethics Committee, the study was advertised in the community to assist in recruitment. Interested parents completed an initial brief telephone screen in order to assess their child's eligibility. If the child was suitable, the parent was emailed study information and consent forms and an appointment was scheduled to complete a diagnostic interview (e.g., ADIS-P) over the telephone, since past studies have demonstrated reliable administration via telephone [58]. Clinician ratings of ADIS-P diagnosis (CSR), Clinical Global Impression (CGI) and Children's Global Assessment Scales (CGAS) were assigned and reviewed in supervision at a later time. Children deemed appropriate attended an assessment session at the university Psychology Clinic, whereby they engaged in assessment, followed by brief psychoeducation delivered via play activities.

The room was set up to be conducive to a play-orientated assessment and education session for the young child. Carefully selected toys (see below) were available in the assessment room, which facilitated the following: (1) establishing a therapeutic relationship with the child; (2) enabling the child to become familiar with the toys and clinic setting prior to the treatment session; (3) assisting in a play-based introduction to the concept of fear (see below) and the approach to treatment for the child; and (4) supporting the therapist in developing story stems which could later be used in treatment to assist the child in beginning to think about their fear of dogs.

During this session, parents completed the PAS-R and the Parent Target Behaviour measure, whilst children completed the KFQ and a BAT with the assessor (who was also the child's therapist). Following completion of the measures, a psycho-education component was delivered within this session. This included a discussion directed at the parent on the theoretical formulation of the acquisition of phobias, a description of the symptoms of SP, and strategies to support the child when in the presence of dogs. The intensive nature of the treatment approach was discussed with the parent and a rationale for the time-limited nature of treatment was provided with an explanation that the intensive session would provide a kick-start for the child to begin practicing facing their phobic fear, which should continue with ongoing parent led exposure practice following the OST + Play session. During the psychoeducation session and throughout their involvement in treatment, parents received education with respect to their child's SP, how to support their child during exposure tasks at home, the use of appropriate rewards, and how to support their child in the event of a set-back following treatment. Through non-directed play (i.e., play activity which was led by the child) the therapist engaged the child in dialogue about how the child felt about dogs (using animal and child play figures), what they did when they saw a dog, and how the therapist would work with the child to help the child face her or his fear of dogs together, in order for the child to overcome their fears.

Baseline Monitoring and Assessment of Outcomes

On a weekly basis during the baseline phase, parents completed telephone-administered ratings of the following measures: (1) ADIS-P (SP module only); (2) Pre-School Anxiety Scale—Parent; and (3) the Parent Target Behaviours. These measures were also taken at each assessment time point (pre-treatment, at the time of the OST treatment, and each week following treatment for 3 weeks, and 1 and 3-month follow-ups). Clinician severity of illness ratings (CSR) were assigned, along with CGI severity ratings and CGAS ratings (only when complete ADIS-P was conducted in the case of CGAS ratings) and these were then reviewed in supervision. Additional measures were taken at the major assessment time points (with the exception of the BAT which occurred at pre-, post- OST + Play, and 1 month follow-up only).

OST + Play

The treatment was a modified one-session treatment approach [8, 10] whereby play approaches were integrated into the first hour of intensive treatment in order to engage the children and assist them in being able to successfully engage in the more directive, behavioural approaches of OST which commenced in the 2nd and 3rd

hours of treatment and were consistent with the approaches described by Öst [7] and later manualised by Öst and colleagues [8, 10].

During the first hour the child and therapist worked in a carefully designed play environment, whereby the child had access to a range of materials. Materials were specifically chosen based on information obtained during the pre-treatment session with the aim of facilitating expression for the child and for the therapist to explore the child's cognitions in relation to their dog phobia. Most play materials were dog related and included; automated dogs, a variety of soft toy dogs; dog figures, dog pictures displayed on the clinic room walls; dog puppets; dog dress up costumes and accessories; dog board game; dog art materials, including stickers and colouring in pictures. A doll-house, play-park with fences and a small selection of other animals and human figures were included. The play-based activities were selected to increase the child's motivation for treatment and to encourage the child to be involved in exposure tasks. In addition, story stems were used to assist in eliciting children's emotional responses [59] and distorted beliefs related to the phobic stimulus, and play sequences were used to model how to bravely behave when approached by a dog. Children mostly created the play sequences during these sessions, thus the therapist remained flexible in this approach and was led by the child. The therapist directed the play only when deemed necessary in order to elicit the child's emotional response or to build positive coping statements or model appropriate dog behaviour.

An example of how a story stem was used for a child who identified being fearful of dogs in the park is provided. The therapist directed the child's play to include children playing in the park, and a dog (directed by the therapist) approached and jumped at the child figure (being directed by the child). The therapist asked the child, "I wonder what happens next?" The child indicated that the child figure ran away and hid behind the mother figure. The therapist then modelled another child figure remaining calm and approaching the dog to investigate whether it was friendly. The play sequence was repeated and the child was encouraged to take the part of the brave child figure that would approach the dog. During the sequence positive coping statements such as "I can be brave around dogs," and "this dog seems friendly, I can see he wants to play," were encouraged.

In line with Öst and Ollendick [8] and Davis, Ollendick & Öst, [10], the 2nd and 3rd hour of the intensive session involved graduated in- vivo exposure, embedded in a series of behavioural tests that the child was encouraged to attempt in order to obtain new information about dogs and the child's ability to be brave and cope with feelings of being afraid. The child was encouraged to interact with two different dogs during the 2-h, one for each hour of the exposure session. Each dog had different activity levels, were different sizes, breeds and colours; and each was handled by their owner who was present (i.e., holding the dog on a leash), but passive during the session. During the session, the child was encouraged to engage in a range of different tasks with each dog including approaching and patting the dog, offering the dog treats and walking the dog on the lead. Each task was repeated multiple times until the child's anxiety reduced (by at least 50%) at the end of each task as rated by the child using the feelings thermometer (i.e., a visual representation of a subjective units of distress Likert scale from 0 to 10).

At the end of the session, the child's progress was reviewed with their parent and together homework tasks were agreed on to continue practicing exposure to a variety of dogs in multiple settings. Sessions varied from child to child as the therapist proceeded at the child's pace and adjusted the approach based on the child's response to various exposure tasks. Parents were actively involved in all aspects of the treatment, including the pre-treatment psychoeducation session, following the end of their child's intensive session, and during the short 20-min weekly telephone calls which occurred over 3 weeks to support the parent in ongoing exposure practice, contingency management, and brainstorm any difficulties. During the OST, children were encouraged to share with their parents the progress they had made by way of demonstrating what they had achieved behaviourally in their interactions with the play materials/dogs at the end of each hour (as well as show photos of what they had achieved during treatment). At the conclusion of the intensive session and at 1-month follow-up, children and parents briefly reviewed progress made during session and across weekly monitoring, and they were reminded of the importance of scheduling exposure time at home in order to continue to make progress.

Treatments were undertaken by post-graduate master level psychology students who had previous experience in the delivery of cognitive behavioural interventions for child anxiety and were trained in OST by the first author (LF), and play components by the second author (HK) who also holds a master degree in Play Therapy. There were two trained therapists involved in delivering the program.

Treatment Adherence

All four families completed all pre-treatment, treatment, and post-treatment assessments. Three of the four families completed 100% of homework tasks each week, either to the expected level or above. One family was unable to complete any homework 1 week after treatment due to the mother being unwell. The same family achieved 50% of the homework tasks assigned in the

second week following treatment and less than 50% of the homework assigned for the third week after treatment (Participant 4).

Results

Overview of Analysis

Single-case data were examined via visual inspection of participant's ratings across baseline, treatment and follow-up periods. A series of repeated measures non-parametric Friedman tests were conducted to examine treatment outcome over time on the primary outcome measures: Clinician Severity Rating (CSR); Parent Target Behaviours (PTB); Pre-school Anxiety Scale (PAS-R); Clinical Global Impression Scale— Severity (CGI); Children's Global Assessment Scale (CGAS), and the Behavioural Approach Test (BAT). A Wilcoxon non-parametric t test was used to examine change on the child reported Koala Fear Questionnaire (KFQ).

A Reliable Change Index (RCI) [60] was calculated to determine whether the magnitude of change in children's phobia severity (CSR) was reliable. An RCI cut-off of 1.96 standard deviation units was used to meet criteria for reliable improvement. Test–retest reliability for the ADIS/P clinical severity rating was obtained from Silverman et al. [50] for SP. Clinically significant improvement, defined by Jacobson and Truax [60] as a change of two standard deviations from the pre-treatment mean, was also assessed in relation to phobia severity (CSR) and parent rated anxiety symptoms (PAS-R). Furthermore, children were considered "recovered" if they achieved an ADIS CSR rating of <4 in line with past research [42].

Single Case Multiple Baseline Data

Visual inspection of the single-case data generally demonstrates stability across the baseline periods, with decline following commencement of treatment and across follow-up. As can be seen in Fig. 1, changes in the slope and level of the clinician severity ratings (CSR's) occurred following the commencement of the OST + Play intervention, relative to pre-treatment and baseline phases. These graphs suggest that change in CSR ratings were functionally related to the OST + Play intervention. In Fig. 2, the pattern of results are similar, with considerable changes in the slope and level of the parent target behaviour (PTB) ratings following OST + Play relative to pre-treatment and baseline phases, once again suggesting that the change was functionally related to the OST + Play intervention.

Treatment Outcomes

Across primary outcome measures (see Table 2) there were significant within subjects effects of time (pre-treatment, post-treatment, 1- and 3-month follow-up) using Friedman non-parametric repeated measures tests. There were significant effects for time on CSR χ^2 (3) = 11.70, $p < .01$ indicating a significant decrease in symptom severity from pre-treatment to follow-up. Likewise, there was a significant reduction across time points in CGI severity of illness $\chi^2(3) = 11.18$, $p < .01$. There was also a statistically significant improvement observed across time in children's overall global functioning on the CGAS $\chi^2(3) = 11.74$, $p < .01$.

On parent-report measures, there were statistically significant reductions on ratings of the child's Target Behaviours (PTB) $\chi^2(3) = 11.15$, $p < .01$, and parent reported anxiety symptoms as measured on the PASS-R $\chi^2(3) = 11.37$, $p < .01$. On the child-rated KFQ there was no significant change on the basis of Wilcoxon tests from pre-treatment to 1-month follow-up ($z = -1.83$, $p = .07$). Finally, there was a significant improvement in behavioural approach on the basis of the BAT across time $\chi^2(2) = 6.86$, $p < .05$, whereby children achieved 16% of steps at pre-treatment, compared to 77% at 1-month follow-up.

Reliable Change and Recovery

RCI scores [60] were calculated for CSRs to measure reliable change from pre-treatment to post-treatment, 1- and 3-month follow-up. All 4 (100%) children exceeded the RCI (>1.96) for reliable change on CSR scores at post-treatment and at both 1-month and 3-month follow-up. At post-treatment, n = 3 (75%) of the children were considered to be recovered on the basis of a CSR < 4, which was maintained at 1-month follow-up. At 3-month follow-up, n = 4 (100%) of the children were considered to be recovered on the basis of a CSR < 4. On the basis of clinically significant change (>2 SD of change from pre-treatment mean) [60], all children experienced clinically significant reductions on the CSR at post-treatment through to 3 month follow-up.

Reliable change index scores were also calculated for parent rated anxiety symptoms (PAS-R) from pre to post-treatment, and to 1- and 3-month follow-up. Analyses showed that n = 3 (75%) were reliably improved at post-treatment; and n = 4 (100%) were deemed reliably improved at 1- and 3-month follow-up. Furthermore, all children (100%) experienced clinically significant reductions on the PAS-R following treatment.

In terms of comorbid diagnoses, at post-OST both participant 2 and 4 retained their secondary and tertiary comorbid diagnoses. However, at 1 month and 3-month follow-up there were no participants meeting criteria for a comorbid diagnosis, despite Participant 4 still meeting

Fig. 1 Clinician severity ratings (CSR) on the phobia module of the ADIS-C/P
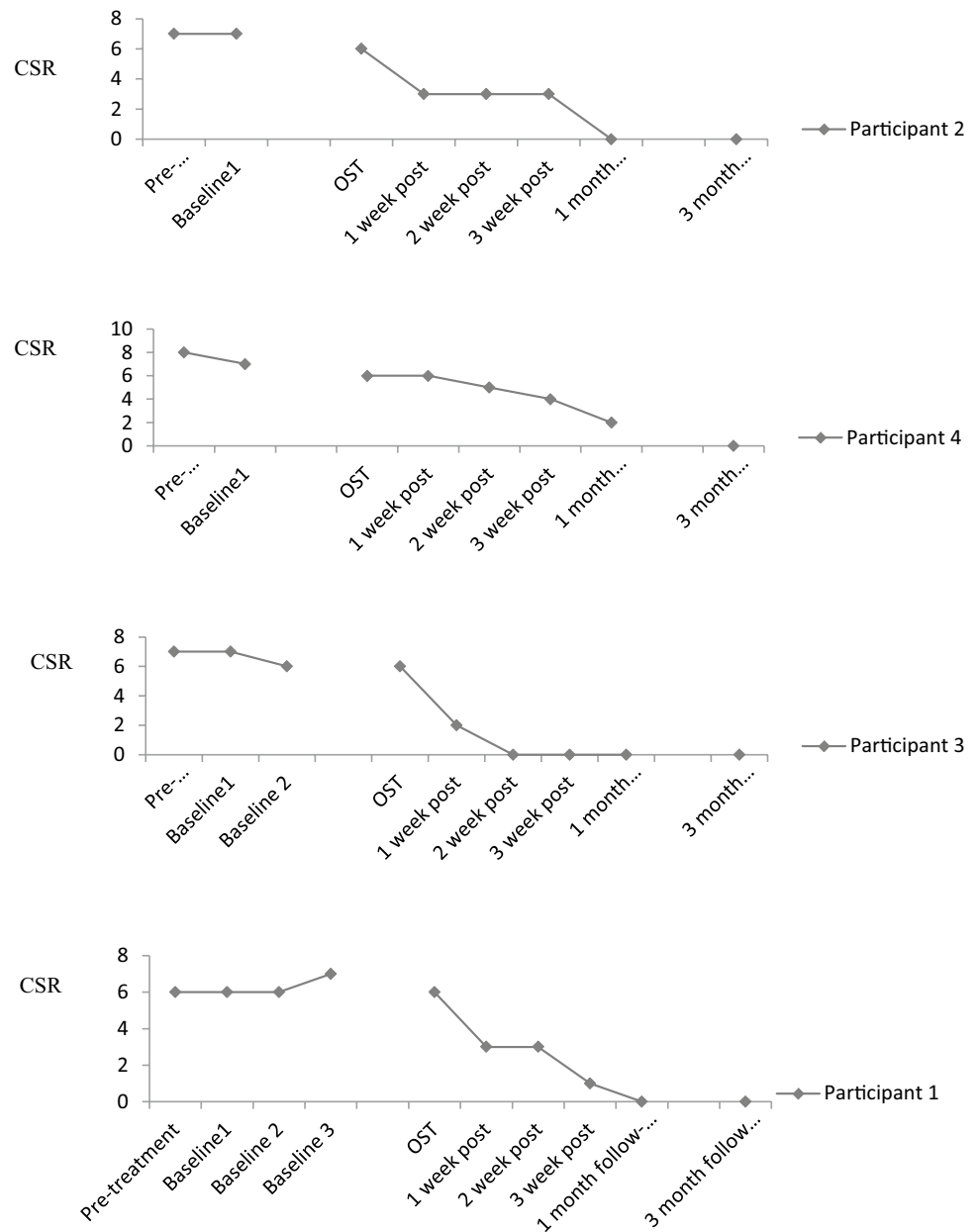
primary diagnosis for a SP of dogs at 1-month follow-up. At 3-months all participants were diagnosis free (including comorbid diagnoses), suggesting that OST + Play was also effective in reducing comorbid SPs.

Treatment Satisfaction Results

Following treatment, 75% of parents reported that their child was better able to cope with their dog phobia, and that their fears no longer interfered with their daily lives. Further, 75% reported the length of the treatment was "just right". Parents overall reported satisfaction with treatment ($M=35.5$, $SD=5.74$), as did children ($M=28.5$, $SD=1.91$).

Discussion

This study explored the preliminary effectiveness of augmenting one-session cognitive behavioural treatment (i.e., OST) with play approaches for children of preschool age with a SP of dogs. The results here provide preliminary evidence for the feasibility and effectiveness of OST, augmented with play, for children as young as 4 years of age. Visual inspection of single case data provided evidence for stability of symptoms across baseline periods, followed by reductions in symptoms over the course of treatment and follow-up. Non-parametric analyses offered further support, with significant improvements in symptoms and functioning across a range of clinician rated and parent rated

Fig. 2 Parental reports of severity of child's fear on idiographic target behaviours
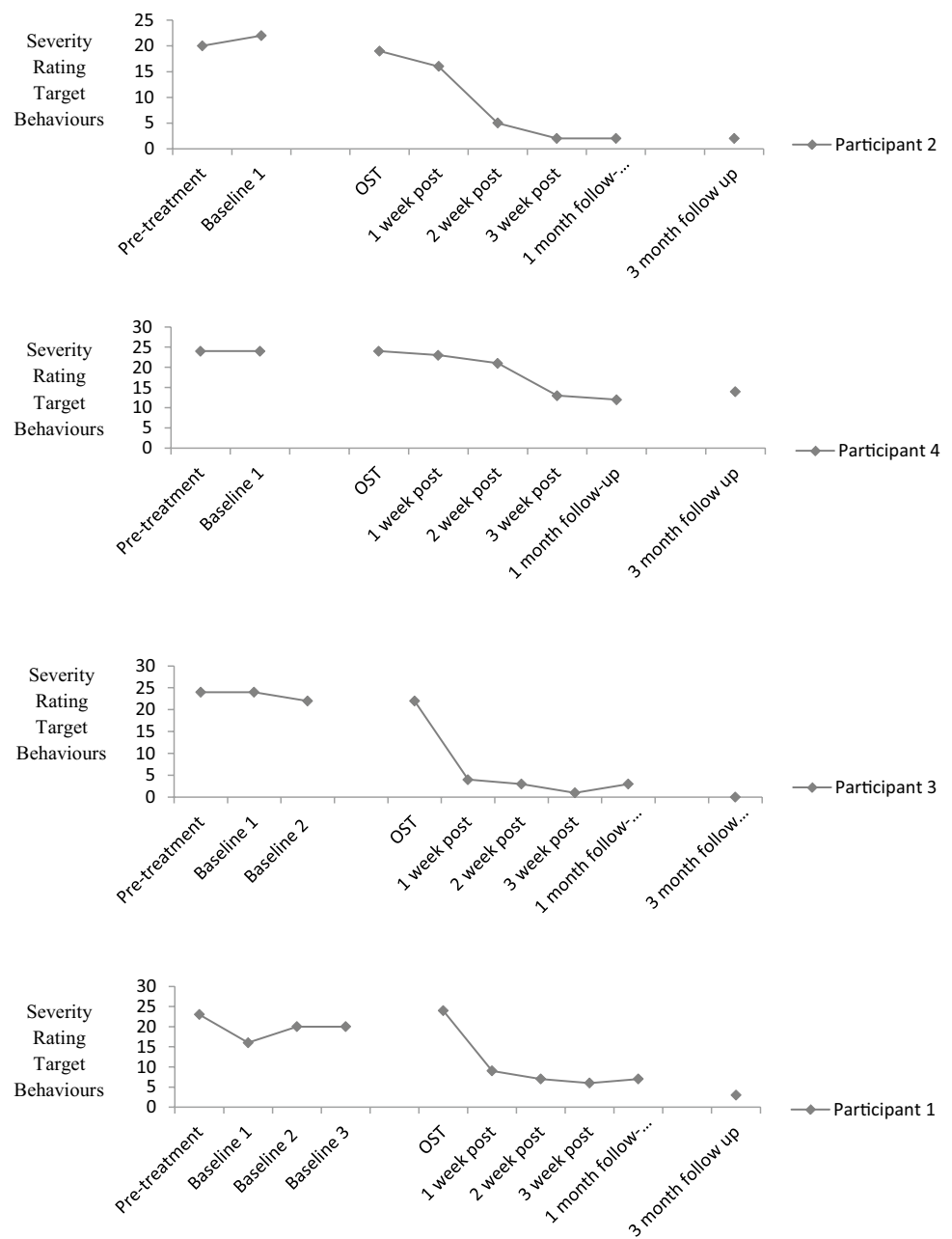
measures. Moreover, 100% of the sample achieved reliable change in phobic symptoms and parent rated anxiety, and 75% of the sample no longer met criteria for a clinical diagnosis of specific phobia, which is in line with previous research [11, 12]. Also in line with past research, post-treatment gains continued to occur over the month following the OST [12]. Results of the current study are therefore in line with previous research supporting for the use of an intensive OST approach to treating SPs in children [8, 11, 12, 14, 15, 17, 61].

Importantly, all four children in this small pilot study remained fully engaged in the treatment protocol and were able to tolerate the intensive in-vivo exposure which occurred over a 3-h session. As predicted, support was found from both parent's and children's satisfaction of treatment ratings, with 100% of parents reporting that they felt the treatment had been effective and they would recommend it to a friend. Children also were positive, with all four saying they found the treatment extremely helpful and that it helped them cope more positively with their fear of dogs. Three of the four families also reported that the dose of treatment was adequate to address their child's SP.

The current study integrated play-based approaches with an evidence-based cognitive-behavioural treatment. The aim was to increase child motivation, readiness for exposure and provide children with an initial sense of mastery

Table 2 Means, standard deviations and time main effects for treatment outcome measures

Measure	Pre-OST M (SD)	Post-OST M (SD)	1 month M (SD)	3 month M (SD)	Friedman's/ Wilcoxon	p value
CSR	7 (0.82)	3.50 (1.73)	1.50 (1.91)	0.50 (1.0)	11.70	p < .01**
CGI	5.25 (0.96)	3 (1.63)	1.75 (0.96)	1.75 (0.96)	11.18	p = .01**
CGAS	61.25 (4.79)	70 (7.07)	91.25 (4.78)	91.25 (4.81)	11.74	p < .01**
PTB	22.75 (1.89)	13 (8.29)	6 (4.54)	4.75 (6.30)	11.15	p = .01**
PAS-R	24.75 (4.92)	9.50 (5.5.)	4 (5.48)	2.50 (2.08)	11.37	p = .01**
BAT	1.75 (1.50)	9.50 (1.29)	8.50 (3.31)		6.86	p = .03*
KFQ	69 (14.28)	–	60 (17.57)	–	−1.83	p = .07

CSR ADIS-P Clinician Severity Rating, *CGI* Clinical Global Impression, *CGAS* Children's Global Assessment Scale, *PTB* Parent Target Behaviours, *PAS* Pre-school Anxiety Scale, *BAT* Behavioural Approach Test

*Indicates significant differences at $p < .05$

**Indicates significant differences at $p \leq .01$

for facing their fears via play experiences. A critical element of this approach was the establishment of a strong therapeutic alliance with the child. Whilst the present study was primarily child-focussed, parents were also included in the assessment, education and treatment phases of the study, and were considered an essential element to successful outcomes for the child. In line with Ollendick et al. [12] and guided by Silverman and colleagues [62], a transfer of control model was used to teach parents how to help their children when in the presence of the phobic stimulus. Due to the young age of the children, parents participated in the second and third hours of OST, at which point the therapist modeled to the parents how to support the child in doing exposures at home, and children were able to demonstrate their newly acquired skills. In delivering the treatment in this manner, parents were equipped with skills to establish ongoing exposure practice following OST. When examining completion of homework tasks, it is interesting to note that the one participant who was inconsistent in achieving homework tasks, had an overall poorer outcome, offering support to the importance of involving parents in the therapy, and providing support during the maintenance period following treatment.

Interestingly in this sample there was very low comorbidity relative to trials with older children [12, 14, 15]. In the present study, all of the children presented with specific phobias alone (two with multiple SPs). In comparison, trials with older treatment-seeking phobic children and youth, report on average 3 or 4 comorbid diagnoses, including a range of anxiety disorders, externalising disorders and mood disorders [14, 15]. Evidence from epidemiological research also suggests that comorbidity is indeed less common among pre-schoolers; however, increases with age [63]. Taken together, it seems important that treatments should indeed be delivered earlier to children in order to *potentially* offset the development of multiple co-occurring anxiety disorders [6].

Strengths and Limitations

There are a number of strengths of the current study. The case series employed a controlled, multiple-baseline design in order to control for the effects of time. The study used gold-standard, psychometrically validated measures of assessment, including multi-methods and informants. There were however several limitations to this study. Despite recommendations by the Task Force [44] for the use of single case series designs as a preliminary test of novel treatments, the current study was a small pilot and as such, was underpowered to perform more complex analyses of outcome. Furthermore, this design does not allow for a comparison group, and the design did not allow for a test of the effectiveness of the play components relative to the standard OST approaches. It is also acknowledged that the treating therapist conducted the initial ADIS-P interview, which may present bias in the overall pre-treatment assessment. In order to minimise this threat, an independent rater was used to conduct the post treatment and follow-up assessments. Moreover, the current study targeted dog phobias only, since these are among the most commonly occurring phobias in young children. Further research is needed to examine the effectiveness of this approach in treating other specific phobias of childhood. Of note, whilst the intervention offers an efficient model of treatment delivery, it is also not without its challenges. In order to implement the play therapy and behavioural component of OST, training of therapists in the approach is likely to be important for achieving effective outcomes for children. Further, the delivery of play-modified OST requires resources and access to phobic stimuli, which can present challenges for therapists (i.e., time and costs of acquiring resources, play materials and phobic stimuli). However, given the high prevalence of phobic disorders, and that there are more common phobia subtypes than others (e.g., dogs and the dark), it is likely that an initial financial outlay in materials and resources

would result in good clinical use. Finally, whilst the treatment was termed a one-session treatment of phobias; the intervention itself involved a psychoeducation session at assessment, in order to provide the child and family with a rationale for the treatment approach, and furthermore, also involved brief, weekly phone calls for 3 weeks following the OST in order to encourage ongoing exposure practice. These components, we would argue, are very important in order to maximise the effectiveness of the OST session; however, we do note that they also add another element of complexity associated with delivery of this otherwise highly efficient treatment.

Future Directions and Conclusion

The current study represents a novel, intensive treatment for pre-schoolers with SPs, and provides preliminary support for feasibility and effectiveness. The obvious next step is to conduct randomised controlled trials of OST + Play with young children who have a broader range of specific phobias. Future research aimed at examining OST + Play, relative to behavioural treatments alone, and no treatment/ placebo are needed in order to provide further evidence for the efficacy, and longer term outcomes for children. Future experimental studies would also benefit from examining the incremental benefits of the play-therapy approaches on child motivation for change, and the therapeutic alliance, in order to examine potential mechanisms of change. In the current economic climate, the drive to develop evidenced-based treatments that can be delivered with minimal costs and high efficiency becomes increasingly significant. Moreover, given the early onset of childhood phobias and the predictive nature of these for later adult mental health disorders', there is a need to intervene early and effectively. These findings provide promise for the treatment of phobias in very young children, which may reduce the risk of children developing more complex mental health problems in the future. Addressing the feasibility of disseminating novel, evidence-based interventions into community practice is therefore another important research endeavour. In order to achieve this, the evaluation of therapists training in such interventions warrants further attention.

Summary

Play modified OST for young children with a SP of dogs was evaluated using a multiple baseline controlled case series design. Treatment involved one session of intensive cognitive-behavioural therapy augmented with play (OST plus Play) which was followed by brief telephone delivered maintenance calls over the 3 weeks immediately following treatment. Outcomes demonstrated significant improvements in symptoms and functioning across a range of clinician-rated and parent-rated measures of symptoms and functioning following the intensive OST plus Play intervention. Moreover, all children achieved reliable change in phobic symptoms and parent rated anxiety, and no longer met criteria for a clinical diagnosis of specific phobia at 3 months following the intervention. Given the SP in childhood onset from an early age and have been shown to be highly predictive of lifelong mental health problems [6], intervening early and effectively represents a high priority mental health initiative.

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