Research Article

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Long-term Psychotherapy Using Play Therapy for Young Children with Tic Disorder Comorbid with Attention-Deficit/Hyperactivity Disorder: A 3-Year Cases Series

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Abstract

This case study explored long-term play therapy's efficacy for a young child with comorbid Tic Disorder (TD) and ADHD. It evaluated whether psychoanalytic play therapy with parental involvement improved the child's ADHD/TD core symptoms, emotional regulation, and narrative coherence. A 5-year-old boy with TD and ADHD participated in the study, completing 227 play therapy sessions rooted in psychoanalytic and analytical psychology, emphasizing symbolic expression and unconscious processes over 3 years and 5 months. Concurrently, his caregivers had 97 interviews, supported therapeutic progress, and tackled family dynamics. Symptoms were assessed via the SNAP-IV scale, with qualitative observations tracking emotional regulation, narrative coherence, and symbolic play.

Significant improvements occurred: SNAP-IV scores for inattention decreased from 15 to 8, hyperactivity/impulsivity from 14 to 8, and overall ADHD symptoms from 29 to 16. Qualitative findings included enhanced emotional regulation, narrative coherence, and fragmented experience integration via symbolic play, along with the child's better rule adherence and verbal expression. Findings suggest long-term psychoanalytic play therapy, with active parental involvement, may be an effective treatment modality for children with comorbid TD and ADHD. This approach addresses core symptoms and supports emotional narrative development. Clinically, this study highlights non-pharmacological interventions' potential for children with complex neurodevelopmental disorders.

Keywords: Tourette's Disorder, Attention Deficit Hyperactivity Disorder, Play Therapy, Parental Involvement, Case Study, Psychoanalysis

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is the most frequently diagnosed neurobehavioral disorder among children and adolescents, with prevalence estimates ranging from 5% to 12% in developed nations [1]. Importantly, research indicates a significant overlap between Tic Disorder (TD) and ADHD. Approximately 50% of individuals with TD also have ADHD, and over 43% of children with ADHD exhibit tic symptoms (Hansen et al., 2018). The co-occurrence of Tic Disorder (TD) and ADHD is a prevalent phenomenon that significantly impacts the quality of life of affected individuals, leading to challenges in academic, social, and emotional functioning [2-6].

Despite the well-documented co-occurrence of ADHD and TD, systematic research on its effects and interventions remains limited, particularly in the areas of long-term non-pharmacological interventions for young children [7]. Coffey also highlighted that despite the well-documented co-occurrence of ADHD and tic disorders, further research is needed to understand the underlying genetic and pathophysiological mechanisms [8]. Additionally, guidelines by Pringsheim et al. (2019) suggest that clinicians should consider the burden of ADHD symptoms when diagnosing and treating TD. Therefore, patients with comorbid TD and ADHD must undergo multi-level diagnostic assessments and receive personalised and condition-specific treatments [1,9,10]. However, intervening with these young children, who typically present with TD around ages 5 to 6 and ADHD symptoms as early as 2.25 years remains a significant challenge for clinicians [11,12].

Current approaches often rely on pharmacological treatments, which may not be suitable for all children, highlighting the need for non-pharmacological interventions.

In the present study, we aim to address this gap by investigating the effectiveness of long-term play therapy in managing the comorbidity of TD and ADHD in young children. By focusing on a detailed case study and utilising psychoanalytic and analytical psychology frameworks, this research seeks to provide valuable insights into tailored therapeutic approaches.

Tic Disorders (TD) and Attention Deficit Hyperactivity Disorder (ADHD)

Tic Disorders (TD), including Tourette Syndrome (TS), are prevalent neuropsychological conditions characterised by involuntary movements and vocalisations. According to the DSM-5, Tourette Syndrome is a developmental neuropsychiatric disorder defined by the presence of multiple motor tics and one or more phonic tics lasting at least one year, with onset typically occurring during childhood or adolescence [13]. TS is a complex condition where motor tics are often accompanied by comorbidities that can significantly impair the patient's quality of life [14].

On the other hand, Attention Deficit Hyperactivity Disorder (ADHD) is a persistent neurodevelopmental disorder marked by inattention, impulsivity, and hyperactivity (Jorge et al., 2020). A core feature of ADHD is executive dysfunction, which affects cognitive processes such as planning, organising, and self-regulation (Andreia et al., 2019; Livia et al., 2020). Epidemiological data indicate that ADHD is diagnosed in approximately 44.5% of children visiting mental health services, with boys representing 68.5% of these cases.

Concurrently, 17.7% of these children are diagnosed with TD, with boys constituting 77.8% of these cases (Hansen et al., 2018). This high prevalence underscores the frequent co-occurrence of TD and ADHD.

The comorbidity of ADHD and TD can exacerbate the challenges faced by affected individuals. ADHD can impair response inhibition and cognitive attention functions, leading to deficits in cognitive control [15]. These deficiencies can impact personality development, self-awareness, and behavioural habits, affecting social adaptation and overall quality of life (Joseph et al., 2023; Openneer et al., 2021). Additionally, ADHD, in conjunction with tics, is linked to increased disruptive behaviour and learning difficulties [16]. Despite the recognised overlap between ADHD and TD, there remains limited evidence on the neurodevelopmental impacts of their comorbidity [7]. This gap highlights the need for comprehensive diagnostic assessments and personalised, condition-specific treatments for children with TD and ADHD [1,9,10].

Notably, The onset age for Tic Disorders (TD) is typically around 5 to 6 years, with symptoms peaking between 9 and 12 years [11]. In contrast, the earliest mean age of onset for Attention Deficit Hyperactivity Disorder (ADHD) symptoms can be as young as 2.25 years, and the mean age at diagnosis for ADHD ranges between 6.2 and 18.1 years [12]. This early onset highlights the complexity and challenges of clinical intervention.

When TD and ADHD co-occur, early intervention becomes even more arduous.Formulating effective intervention strategies remains a substantial challenge for very young children, particularly those merely beginning to exhibit symptoms. Although research has recognised the prevalence of this comorbidity, existing intervention strategies often lack optimisation for the specific needs of this age group. One of the critical challenges in current research is how to effectively intervene in cases of TD and ADHD comorbidity in younger populations to improve their cognitive functions and quality of life.

Therefore, it is crucial to explore personalised intervention approaches for very young children and develop treatment methods tailored to their developmental stage. Addressing this complex clinical issue will be a focus for future research, aiming to enhance the overall well-being of these children.

Play Therapy in Treating Tic Disorders and ADHD for Children

Currently, standard psychotherapeutic methods for children and adolescents include cognitive behavioural therapy (CBT), play therapy, family therapy, and interpersonal therapy (IPT) [17]. Previous studies mainly adopt the Comprehensive Behavioural Intervention for Tics (CBIT) as a guideline for treating tic disorders (TD) and as a primary psychotherapeutic approach [9]. However, some researchers have noted challenges in applying this therapy to children under eight [18]. Research has indicated that Play Therapy (PT) is effective in helping children with neurodevelopmental disorders overcome behavioural issues, and long-term, child-centred play therapy can improve children's academic performance [19,20].

Play Therapy (PT), which originated in the early 20th century, has been recognised by contemporary theorists as a method to explore the emotional inner worlds of children.

Therapy rooms are equipped with specially selected play materials — carefully chosen toys designed to facilitate children's expression of their emotions, the development of new coping mechanisms, and healthier behaviours (Gupta et al., 2023). PT is primarily intended for preschool and school-aged children. It is especially beneficial for those experiencing transitional life phases or facing emotional regulation, social interaction, and behavioural challenges. Moreover, PT has proven effective for children who have experienced physical or emotional trauma or who suffer from developmental disorders such as autism or attention-deficit/hyperactivity disorder (Koukourikos et al., 2021). Recent studies have demonstrated

that PT can significantly reduce negative emotions and behaviours. Studies have highlighted its efficacy in alleviating conditions such as post-traumatic stress disorder (PTSD), emotional disorders, autism, and fear of medical procedures in children (Adarsh et al., 2022; Elbeltagi et al., 2023; Sahoo et al., 2022; Zengin et al., 2021). Additionally, child-centred PT has been found to enhance cognitive flexibility in children with ADHD (Wong et al., 2023) and to improve their self-regulation and empathy (Wilson & Ray, 2018). More importantly, sand PT, applied in the present study, has improved adolescent ADHD-related characteristics (Lee et al., 2023).

The efficacy of PT in treating children can be attributed to several factors. First, play is the natural mode of communication for children, who often lack the cognitive ability to express their emotions verbally. PT provides a safe space where children can express their emotions and present their inner symbolic worlds through play. Second, play affects all areas of the brain, including those involved in trauma processing. Neuroscientific research

indicates that trauma affects non-verbal brain regions such as the hippocampus, amygdala, thalamus, and brainstem, while the prefrontal cortex verbalises these experiences. PT's symbolic and role-playing activities help transfer traumatic experiences from these non-verbal regions to the prefrontal cortex, facilitating trauma processing (Elbeltagi et al., 2023; Kool & Lawver, 2010). Third, PT can elevate children's levels of self-awareness by permitting children to explore and comprehend their world, which aids in their self-concept and empathy (Chinekesh et al., 2013; Koukourikos et al., 2021). Fourth, play therapists foster the play process, helping children engage with and experience various roles within their play. This safe environment allows children to immerse themselves in challenging, 'bad', or dangerous scenarios without real-world threats. Last, the play process provides therapists with insights into problematic behaviours and emotional states, allowing them

to use displacement techniques to address and modify these issues.

Parental Involvement

In addition, parental involvement is crucial in child psychotherapy, significantly impacting both treatment outcomes and the therapeutic process. Research indicated that clinicians consider factors such as the child's age, diagnosis, parental stress levels, and the parent's willingness to collaborate with the clinician when determining the degree of parent involvement in therapy [21]. The relationship between parent and therapist is a key factor in child counselling, with trust and parental expectations playing a central role in shaping the therapeutic dynamic [22]. Furthermore, early identification and intervention of behavioural or mental disorders in children are essential. Effective parent-child therapy should focus on identifying and addressing dysfunctional interaction patterns to prevent long-term negative consequences and chronic issues [23].

In the current study, we report on our work with Thomas, a young child with 5 years old from mainland China, including his individual Play Therapy and concurrent sessions involving his parents. Since the preparation of this article coincided with ongoing sessions with Thomas and his family, some treatment decisions were adjusted based on real¬time developments. Identifiable information about Thomas and his family has been omitted, and we have obtained permission from his parents for this report.

Background Information

Thomas, a 5-year-old Chinese boy, was diagnosed with Tourette's Syndrome and ADHD. His main symptoms included involuntary blinking, mouth opening, inability to stay quiet in class, difficulty falling asleep, and reduced sleep duration. His mother received "doula" therapy with escalating electrical stimulation for pain management during his birth, which she suspects affected his nervous system development. At 17 months, Thomas was weaned and separated from his mother for a week due to his grandmother's surgery. Subsequently, his mother frequently left for three days every ten days for four months to accompany his grandmother for treatment.

Until the age of two, Thomas woke up 7-8 times each night and was diagnosed with idiopathic thrombocytopenic purpura, from which he has since recovered. At four and a half, he underwent adenoidectomy under general anaesthesia for enlarged adenoids. Thomas's maternal grandfather drowned under mysterious circumstances during a promising career period when Thomas's mother was ten.

Thomas started Play Therapy (PT) at age five, four months after beginning medication for Tourette Syndrome. Over three years and five months, he attended 227 PT sessions, and his caregivers participated in 97 interviews. The therapeutic intervention significantly improved his ADHD symptoms, as shown by a comparative analysis of his SNAP-IV scores before treatment and after three years of therapy, detailed in Table 1.

Written informed consent was obtained from participants for both participation and publication.Table 1 Comparison of SNAP-IV Rating Scale Scores Before and After Treatment

Table 1: Comparison of SNAP-IV Rating Scale Scores Before and After Treatment

	Before Treatment	After 3 Years of Treatment
Inattention	15	8
Hyperactivity/ Impulsivity	14	8
ADHD 18-item	29	16

Assessment and Diagnosis

Before meeting with the psychotherapist, Thomas had undergone a series of psychological assessments at another hospital and was diagnosed with Tourette Syndrome and ADHD. His doctor recommended that, in addition to medication, he should receive psychotherapy. The psychological assessment covered various aspects, including behaviour, attention, sensory integration, IQ, temperament, and parenting, as detailed in Table 2.

Notably, there were significant discrepancies between the parental evaluations. The mother reported pronounced behavioural and attention deficits, while the father noted only minor behavioural issues.

Additionally, Thomas exhibited sensory integration imbalances, and his verbal IQ scores were below the normal range, affecting his overall intelligence. His temperament suggested he might be a challenging child to raise. The mother's assessment indicated difficulty maintaining objectivity and a lack of focus on developing self-regulation in Thomas.

The therapist's observations during the initial stages of therapy confirmed the psychological test results, revealing several issues during play therapy:

Emotional Issues:

- **Fear or Anxiety:** Thomas created imaginary scenarios where Santa Claus turned into a monster, a tiger destroyed a mermaid's home, and a snake threatened to eat a camel;
- **Anger or Defiance:** His play included various confrontations, such as battles between a small fish and a duckling;
- **Disappointment and Helplessness:** Scenarios depicted a construction vehicle breakdown, three fire trucks rescuing a little girl, and children injured by gunfire awaiting help.

Impulse Control Issues: Thomas often became overly excited during play, scattering sand despite repeated reminders. He habitually wiped his hands on his clothes after touching the sand, reflecting his caregivers' emphasis on hand hygiene. At the end of sessions, he resisted stopping play, displaying anger by throwing toys and sand.

Neglect and Disconnect: Thomas showed little response to questions or interaction attempts from the therapist or parents. During his play therapy, his parents seemed uninterested in participating, and when asked about their feelings, they expressed uncertainty about how to engage.

Interviews with the parents and observations of early parent-child interactions revealed challenges in parenting Thomas. At the start of each session, Thomas appeared withdrawn, clinging to his caregivers until they became impatient, seemingly unaware of their emotional cues. His parents struggled to adjust their communication style to meet his needs. The mother's subdued demeanour suggested underlying issues affecting their parenting dynamics, contributing to emotional tension between Thomas and his parents.

Treatment Planning

Considering Thomas's young age and below-average verbal IQ, play therapy was chosen, with sand play therapy providing sensory inputs to aid his sensory integration.

Adjustments were made to accommodate his difficulties with rule-following and behaviour control, emphasising the need for a tailored therapeutic setting. Parental involvement was deemed crucial, with regular interviews in the treatment plan.

Thomas's treatment posed several challenges, including the need for long-term, consistent therapy, which required significant time and financial commitment. The lack of insurance coverage and the hour-long travel for sessions added to the strain on the family. Additionally, the therapist, despite having extensive experience, faced the complexity of Thomas's case with uncertainty about the therapy's effectiveness relative to the costs involved.

The therapist openly communicated with the parents to address these challenges, explaining the treatment plan and the necessary commitments. This included a discussion of the potential difficulties and the inherent uncertainty in therapeutic outcomes. Regular supervision with an experienced child therapist was also conducted to navigate the complexities of the case and ensure effective treatment strategies. The focus of the therapy was on addressing Thomas's psychological issues, promoting normal psychological development, helping the parents understand and support the therapy process, and exploring and improving parenting strategies. Continuous attention was given to maintaining the therapeutic alliance and framework, ensuring a supportive environment for Thomas's progress.

Course of Treatment

Development of the Therapeutic Alliance

Creating a Holding Space

During Thomas's initial sessions, he appeared withdrawn and timid, clinging to his mother's clothes and hesitant to engage. The therapist set a timer, informing him that he could play or talk freely within the allotted time. Initially, Thomas was curious about the various sand toys but showed an aversion to the sand itself, frequently needing to wash his hands or wipe them on his clothes. Thomas used the sandbox in these early sessions to "present" his challenges. As the therapeutic relationship developed, Thomas became more proactive and engaged. The boy expressed a desire to take home the therapist's toys and wished sessions would last longer. He began bringing his own toys to show the therapist and actively invited her to join his play, responding more positively and frequently to verbal and non-verbal cues. Gradually, Thomas learned to express dissatisfaction with certain questions or actions by the therapist.

Parents Paralleling Work

Synchronised sessions with Thomas's parents were crucial for maintaining the therapy's stability and continuity and provided valuable analytical insights. The parents' discussions often resonated with themes in Thomas's play. For instance, during a session, Thomas's grandfather's drowning came up, a theme that also appeared in Thomas's sand play. Later, Thomas verbalised this connection: "Did you know my current grandfather isn't my real grandfather? My real grandfather died a long time ago." Such reflections helped the therapist understand the symbolic meanings in his play. Discussions with the parents also deepened their understanding of Thomas's symptoms and helped them confront their feelings of disappointment and sadness. This understanding allowed them to recognise the difficulties Thomas faced due to his psychological issues and supported personal growth that influenced their parenting. Addressing the mother's inner grief and sense of powerlessness from losing her father enabled her to see herself as the adult she is now and maintain more explicit boundaries and rules for Thomas. Parallel work with the parents deepened their understanding of the significance of play therapy, strengthened the therapeutic alliance, and prevented premature termination of therapy, ensuring a supportive environment for Thomas's ongoing treatment.

Understanding, Formulating, and Adhering to Rules

Rule-related issues emerged early in Thomas's therapy. As with other therapeutic settings, Thomas was informed of the engagement rules: each session would last 50 minutes, including time to tidy up the toys, and he was expected to handle all equipment and toys in the therapy room responsibly. Thomas struggled with adherence to these rules in several ways: he frequently wanted to enter the therapy room early, was reluctant to end sessions on time, and would become upset if forced to stop at the scheduled time. The therapeutic approach to managing these issues involved several strategies:

Empathy and Emotional Expression

The therapist worked to empathise with Thomas and help him express his feelings. This included addressing his discomfort with waiting, eagerness to start immediately, reluctance to end sessions, and frustration with abrupt endings. The therapist also validated Thomas's emotions and frustrations related to these issues.

Positive Feedback

Immediate affirmation and encouragement were provided when Thomas adhered to the rules. This positive reinforcement helped Thomas recognise his own need for acknowledgement and approval.

Clarification of Family Rules in Parental Work

The therapist worked with Thomas's parents to clarify and reinforce family rules. Activities such as the game "Who's in Charge" were used to establish clear boundaries and authority within the family context.

By the midpoint of the therapy, significant improvement was observed in Thomas's adherence to the rules. For example, during the 175th online session, Thomas independently set up the virtual sand tray, arranged his toys in front of the computer, and hummed a song while awaiting the commencement. This behaviour indicated a notable advancement in his ability to follow the structured routine of the therapy sessions.

Development of Emotional Issues and Coping Abilities

Under the stable therapeutic alliance and supportive environment, Thomas's emotional themes became increasingly evident in his sand play sessions. These themes included fear, anger, disappointment, sadness, and helplessness. This report focuses on the theme of fear, highlighting how it was addressed in therapy.

During his sandbox play, Thomas frequently depicted elements of danger. For example, in the 51st therapy session, he built a train track using a fence with nails and set up a "trap" at the end of the track, declaring that the train would fall into this trap. He described the blue base of the sandbox as toxic river water poisoned by monsters and claimed that horses would die if they drank from it. Despite the therapist's attempts to neutralise the river's toxicity, Thomas insisted that the monster would poison it daily, with the monster being protected by scorpion and snake spirits, making it indestructible (see Figure 1).

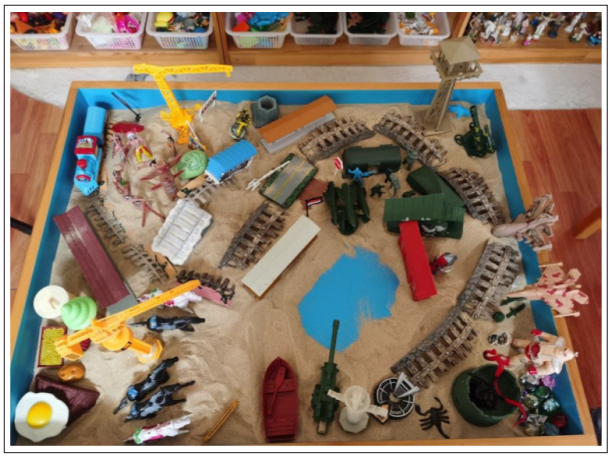

Figure 1: 51st Therapy Session

These scenarios revealed that Thomas viewed his inner world as permeated by overwhelming and uncontrollable dangers. His acceptance of these dangers was so profound that he felt incapable of counteracting them. This acceptance of danger prevented him from experiencing fear; instead, he displayed excitement while orchestrating these dramatic scenes. Even when the therapist used imagery to evoke fear, Thomas appeared indifferent.

As therapy progressed, Thomas began to introduce elements of awareness and rescue into his play. For instance, in the 138th session, he depicted a large ship encountering an underwater whirlpool, which prompted a rescue operation by divers. However, some rescuers were depicted as coveting the ship's treasures (see Figure 2). This shift indicates that Thomas started recognising and addressing the dangers in his inner world, although the outcomes remained uncertain. A scene depicting a young boy being carried aboard the ship on his father's shoulders reminded Thomas of his experiences, suggesting that despite facing dangers, he felt a sense of support and security.

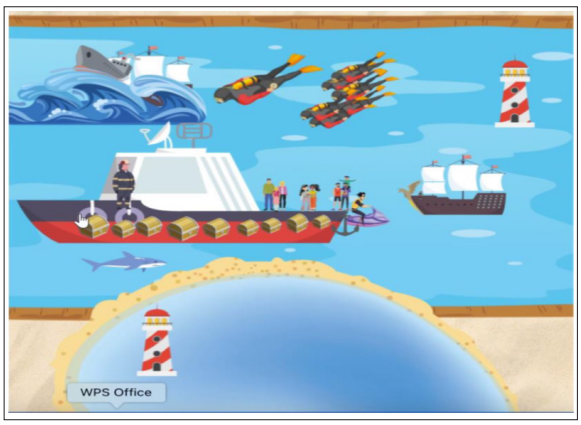

Figure 2: 138th Therapy Session

Continuous Growth and Transformation

As Thomas's ability to process and manage fragmented emotions improved, his sand play became increasingly clear and structured, moving away from the earlier chaos and disorganisation. He engaged in sustained play around specific themes within single sessions, creating coherent narratives such as "The Growth of Dinosaurs" and "The Evolution of Dragons."

The Growth of Dinosaurs

Initially, Thomas observed the small dinosaurs in the sandbox but did not incorporate them into his play. Later, the therapist introduced a wooden structure into the playroom, which Thomas placed in the sandbox, using it as a platform for the dinosaurs. When asked about the significance of this setup, Thomas explained that it represented a training ground for the dinosaurs. He frequently recreated this scenario, guiding the small dinosaurs to climb and explore the structure. Over time, the dinosaurs would grow larger and eventually leave the platform to hunt outside. Adult dinosaurs laid eggs within a fenced area, and the cycle would repeat with the newborns being sent to the training ground (see Figure 3 from Session 207).

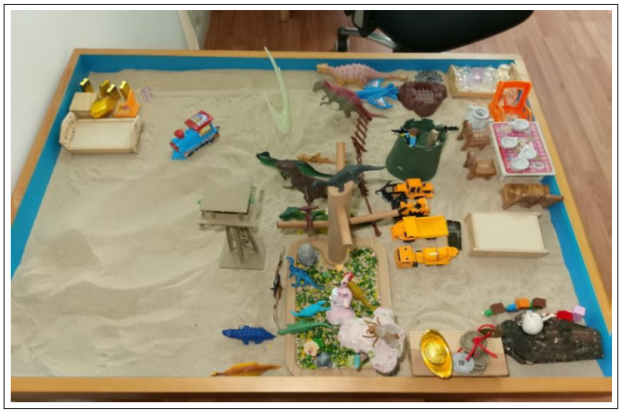

Figure 3: 207th Therapy Session

The Evolution of Dragons

Thomas found two dragon figures in the playroom. Initially, he held them and detached their wings repeatedly. He then placed the wingless dragons in the sandbox for battle and positioned the detached wings in front of them, suggesting that battle training could help the dragons "level up." Eventually, the dragons regained their wings and transformed into guardian figures capable of protecting children and even the pharaohs of Egypt (see Figures 4 and 5 from Session 245).

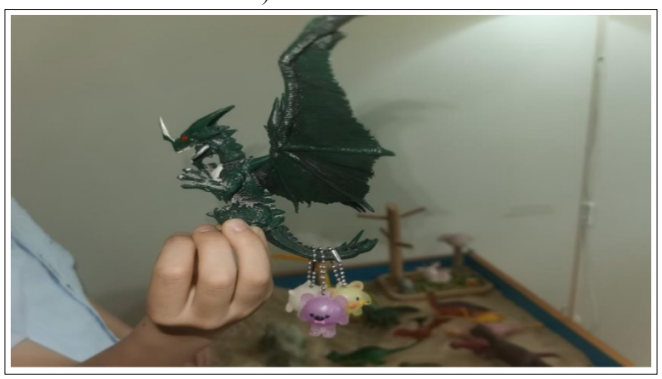

Figure 4: Dragon Figure of 245th Therapy Session

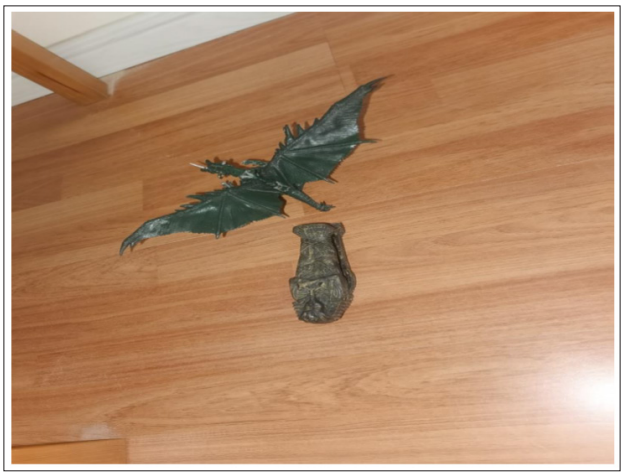

Figure 5: Dragon Figure and Pharaohs of 245th Therapy Session

These narratives reflect Thomas's evolving ability to integrate and manage his emotions, illustrating his transition from chaotic to structured play and his growing capacity for creative storytelling.

Developmental Milestones: Integration and Differentiation

By Session 259, Thomas demonstrated significant progress in his integrative abilities. He requested the therapist's assistance in creating a "T-shaped river channel" in the sandbox, which he divided into three distinct zones: a hunters' area, a soldiers' area, and a dinosaurs' area, with a bridge linking the soldiers' and dinosaurs' areas. Thomas then used the soldiers' area to train small dinosaurs (see Figure 6).

Figure 6: 259th Therapy Session

Thomas's capacity for integration was also evident in his play with Pokémon characters. Initially, he would bring one or two Pokémon figures to show the therapist. Over time, he began to identify each Pokémon's elemental type, such as water or electricity. Eventually, he introduced multiple Pokémon figures into the sandbox, where they engaged in various interactions, including chatting, comparing skills, and discussing different matters (see Figure 7 from Session 318).

Figure 7: 318th Therapy Session

These advancements highlight Thomas's growing ability to organise and synthesise complex elements within his play, reflecting his enhanced integrative and differentiated functions.

Persistent Issues and the Following Plan

Despite the significant improvement in Thomas's symptoms of ADHD, the impact of this condition cannot be overlooked. Firstly, he fears falling ill because he does not want to take additional medications. Secondly, his overall performance at school is poor, with evident problems in language learning, writing, and interpersonal relationships. After undergoing psychotherapy for three years and five months, he is now capable of completing self-assessment questionnaires. The results of the Piers-Harris Children's Self-Concept Scale (PHCSS) indicate that his level of self-awareness is low, characterised by a lack of self-confidence, self-deprecation, or a tendency towards self-abandonment. The specific scores are presented in Table 2.

Table 2: Results of the PHCSS Psychological Test

Category	Raw Score	Raw Score
Behaviour	9	10
Intelligence and Learning	5	3
Physique and Appearance	4	8
Anxiety	7	18
Socialisation	8	34
Happiness and Satisfaction	8	58
Total Score	44	10

Discussion

The long-term collaboration with Thomas's family provides valuable clinical material for professionals working with ADHD and TD, revealing the characteristic features of psychological dysfunction: unclear boundaries, aggressive conflicts, chaos and disorder, and feelings of helplessness. This may explain why children with attention deficit disorders often exhibit destructive or oppositional defiant behaviours. The chaos in their inner world indicates their inability to remain calm and their difficulty in following rules and order like their peers. They often face criticism and mistreatment from caregivers, leading to feelings of frustration, helplessness, and even fear. Research suggests that ADHD is a major driver of cognitive deficits (Jurgiel et al., 2023), which may cause children to struggle with understanding their caregivers' reactions and fail to see the connection between their problems and others' responses, making it difficult for them to adapt to their surroundings. They easily display defensive reactions, such as oppositional defiance, indifference to criticism,

or emotional dysregulation. Individuals experiencing fear tend to exaggerate threats (Perkins et al., 2010), which is confirmed in Thomas's case.

Thomas's temperament questionnaire results show that he has a higher activity level and poorer rhythmicity, and his behaviour at home is often out of control. When family members cannot restrain him, they use his father as a threat, leading to Thomas's strong rejection of his father, who has become a stereotypical fearsome punisher in his mind. Thomas denies having any negative emotions; for example, when asked if he feels sad or upset after being criticised by his teacher, he shows an indifferent attitude, as if it has nothing to do with him.

The harm caused by the occurrence of ADHD and TD is evident in Thomas's case. First, he faces significant difficulties in his studies, particularly in language and writing, which aligns with Ricketts et al.'s (2022) research findings. Their study found that children with both TS and ADHD experience more functional impairments compared to those with only one of the disorders (Ricketts et al., 2022). Second, he has severe sleep difficulties. According to his parents, he had trouble falling asleep and easily woke up since he was young, often requiring parental care during the night until he was two years old and could sleep through the night. During treatment, he claims that he cannot fall asleep even after lying down for a long time, reflecting his problems with inhibiting excitement. This seems consistent with relevant research results, suggesting that children with TS and ADHD have reduced inhibitory control (Morand-Beaulieu et al., 2022), and children with ADHD experience disordered maturation of the cerebral cortex (Upasana et al., 2022).

The co-occurrence of two neurodevelopmental disorders has been a torment for Thomas's caregivers and has posed significant challenges to treatment. The treatment plan for Thomas combines medication with psychotherapy. The therapist meets separately with Thomas and his parents. This aligns with the American Academy of Pediatrics' clinical practice guidelines for ADHD, which emphasise addressing the impact of ADHD on children and their families and encourage the involvement of parents and children/adolescents in the care and treatment of the disorder (Wolraich et al., 2019). Thomas's psychotherapy is conducted within a psychoanalytic framework. The psychoanalytic setting, along with the analytic attitude, creates a unique space that sets clear boundaries for the therapeutic relationship (Lemma, 2019), allowing Thomas to explore his inner world within specific rules freely and enabling the therapist to observe better and understand the relationship between his external behaviours and internal psychology. From the beginning of treatment, Thomas is informed of the rules of the game: he can only enter the therapy room during his allotted time, he has 50 minutes per session, he needs to ensure the safety of the therapy room items and himself, and he must tidy up the toys at the end. On this basis, his behaviours that conflicted with the rules, such as wanting to start early, not wanting to conclude, or wanting to destroy toys when angry, became vivid material in the treatment. Using this material, the therapist helps him understand the relationship between his behavioural reactions, internal feelings, and the consequences of his actions.

The treatment setting provides a holding function, relying on the therapist's psychological containment, which is manifested through the practical aspects of the setting (Lemma, 2019). Thomas's treatment is reflected explicitly in the discussion and adjustment of rules. For example, his desire to take toys from the therapy room was initially not allowed. After discussion, the therapist understood that he wanted to bring the feeling of treatment or the therapist back home and did not want to be separated. The therapist shared this understanding with him and allowed him to borrow a toy, but he had to bring it back next time; otherwise, he would not be able to borrow it again. This allows Thomas to experience a different object relationship, where he is no longer just forced to obey but can fulfil his reasonable desires by expressing his wishes. In the relationship, he can experience equality and respect.

The relationship is no longer determined solely by the will of one party. He gains a certain sense of control. This change in the relationship is also reflected in his role-playing during treatment, gradually transitioning from him setting all the rules to being able to relinquish some authority to the therapist. In this way, the treatment framework becomes a container, allowing him to unfold his story and understand his inner world within a safe range without worrying about punishment. Sometimes, he also brings his toys from home, which the therapist interprets as his desire to bring his feelings from home. During treatment intervals, the toys taken away or brought become "transitional objects" (W. Winnicott, 2009). Discussing these transitional objects helps Thomas see his difficulty with separation and aids him in dealing with separation anxiety and reconnection.

The nurturing environment may have played a significant role in the development of Thomas's disorder. Although privacy concerns limit the extent of the analysis, a descriptive overview can be provided. Thomas is raised in a joint effort by his grandparents and parents, who have demanding work schedules, resulting in an unstable and unpredictable nurturing environment. Family members frequently engage in intense arguments and avoidance regarding his upbringing, which is also evident in their inconsistent attitudes towards treatment. As Winnicott emphasises, integration towards maturity is not an automatic process but relies on a facilitating environment. For an infant or young child to develop into a genuine individual, they must be immersed in an environment that offers support and fosters mature development. Failure of the facilitating environment can lead to psychological issues. Thomas often experiences a lack of mirroring, with few individuals showing curiosity about his inner world. In his words, "Everyone is most interested in their phones.

Moreover, family members engage in minimal discussion and exchange of views, prioritising task-oriented arrangements and execution. This lack of mirroring hinders the coalescence of Thomas's self, preventing him from experiencing the joy of self-control and leaving him to maintain vitality through fragmented, fleeting, and exciting impulses. The impoverished language environment further impedes the maturation of Thomas's verbal expression, while arguments among family members create the impression that language is bad. To address these nurturing aspects, efforts were made to ensure Thomas remained in his own home, accompanied by his parents. Consequently, Thomas's stereotypical impression of his father was corrected to a certain degree, enabling him to express fear and dissatisfaction towards his father.

Family trauma may have also led to emotional isolation among caregivers, making them unable to discuss emotions. Thomas's maternal grandfather drowned in middle age under unknown circumstances. This traumatised Thomas's mother at a young age, and she is unable to talk about this experience; their family also avoids discussing it. The therapist suspects that Thomas's mother has symptoms of depression and anxiety, which affects her nurturing function for Thomas, especially in her unlimited indulgence of him, even though she knows it is not conducive

to his development. Winnicott described a mother's hate for her child in 1949, pointing out that infants have an early integration that may occur at the height of excitement and anger, after which the infant can possess hate (Winnicott's theory of the maturation process). However, Thomas's mother cannot refuse the child, which keeps him in the stage of omnipotent self-object. Edna pointed out that the infant's belief in their own and their parents' omnipotence must yield, giving way to the autonomous functions of the self (Winnicott, 1949). It is not surprising that Thomas has difficulty developing his autonomous functions.

Simply put, Thomas's mother could not allow herself to be perceived as a bad mother; she dared not refuse the child. She adopted a defensive mode of omnipotence, believing she should solve problems as soon as they arose. This is related to her childhood trauma of losing her father. In her fantasy, if someone had discovered her father's depression earlier, perhaps he would not have died. Thomas's mother is recommended to undergo individual psychotherapy. When they can discuss conflicts and contradictions, she can gradually impose some restrictions on Thomas and see his abilities and the responsibilities he should bear. The mother-child relationship is loosened to a certain extent, and they both gain a sense of control and independence.

The present case also highlights the secondary damage caused by the disease, specifically the disparity in academic performance and interpersonal skills compared to peers, which can be attributed to impaired cognitive function in the early stages of development. As Thomas's capacity for self-observation improves, he gradually gains awareness of these discrepancies. At times, he expresses depressive emotions and impulses towards self-abandonment, while his level of self-awareness remains low. These issues necessitate careful attention and intervention from clinical practitioners and caregivers alike.

Conclusion

Working simultaneously with children and parents within the psychoanalytic framework can improve the symptoms and psychological functioning of children with TD and ADHD. However, this therapeutic approach must undergo more demanding empirical scrutiny to move beyond anecdotal success. This approach also requires further empirical research to validate its effectiveness. Such research should systematically evaluate the efficacy of this dual-focused therapy, exploring symptom reduction, long-term functional outcomes, and quality-of-life improvements for these young patients. Measures could involve the development of controlled studies with clearly defined parameters and reliable measurement tools to ensure that findings are robust and generalisable. Moreover, understanding the interplay between child therapy and parent involvement could yield insights into the dynamics of change, helping to identify the intervention's most effective aspects. Acknowledging that behavioural and psychosocial interventions often require customisation, future research should also consider the variability in response to therapy, potentially leading to more personalised therapeutic strategies [24,25].

Declarations

Ethical Approval: This study was approved by the City University of Macau Ethics Committee. Written informed consent was obtained from participants for both participation and publication.

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Availability of Data and Materials: All data and materials are available from the corresponding author upon reasonable request.

Authors Contributions: XH conceived and designed the research. XH conducted research methods. WX and XH wrote the manuscript. XL reviewed the manuscript. All authors read and approved the manuscript.

Conflict of Interest Statement: None.

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