Dance/Movement Therapy as an Alternative Treatment for Young Boys Diagnosed as ADHD: A Pilot Study

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Dance/Movement Therapy as an Alternative Treatment for Young Boys Diagnosed as ADHD: A Pilot Study

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This article is based on a pilot study concerning a short-term dance/movement therapy (DMT) for two young boys with symptoms related to Attention Deficit Hyperactivity Disorder (ADHD). The aim was to investigate the effect and value of DMT as an alternative treatment and to describe the process. The DMT lasted ten sessions and took place once a week during three months. In a case study multiple data sources were used to triangulate the data and describe the DMT process. The DMT has promoted a positive change to a certain extent. Two hypotheses, which will be tested in a forthcoming study, are generated from this study. DMT provided in paired groups for a minimum of ten weeks will (1) improve the motor function and (2) reduce the behavioural and emotional symptoms of boys aged 5–7 diagnosed with ADHD.

KEY WORDS: dance/movement therapy; ADHD; young boys; triangulation; effect and process study.

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Introduction

Epidemiological studies show that about 20% of all children and youth under the age of twenty suffer from mental handicaps such as emotional or behavioural disturbances (Costello, 1989; Kazdin, 1993; Zill & Schoenborn, 1990). Neuropsychiatric problems are so common and the risks for abnormal mental health development and social maladjustment so great that we may speak of a public health problem (Official Reports of the Swedish Government, 1997:8). About 5% of the children in a normal population have been diagnosed as suffering from Attention Deficit Hyperactivity Disorder (ADHD) (Target & Fonagy, 1996).

ADHD, according to The Diagnostic and Statistical Manual of Mental Disorders, DSM-IV (American Psychiatric Association, 1994) is a disruptive behavioural disorder with early childhood onset, characterized by symptoms of inattention, hyperactivity and impulsivity. In a review article, Barkley (2003) found that research in ADHD is beginning to focus more on poor inhibition and deficient executive functioning (self-regulation) as being central to this disorder. ADHD is associated with a variety of cognitive, psychiatric, educational, emotional, and social impairments. Some of these are a consequence of ADHD, while others may be associated conditions, arising from other primary disorders that overlap with ADHD. There is a strong relationship, for example, between ADHD and motor-perception dysfunction (Kadesjö & Gillberg, 1998). It has been estimated that 50% of all children with ADHD have some type of motor dysfunction (Barkley, 1990) related to Developmental Co-ordination Disorder (DCD), (American Psychiatric Association, 1994).

Boys are overrepresented in almost all child neuropsychiatric disorders and those with aggressive and destructive behavioural problems do not receive adequate treatment (Swedish National Board of Health and Welfare, 1997). There is strong evidence that genetic factors have a great influence on the genesis of ADHD, but environmental factors are also central (Swedish National Board of Health and Welfare, 2002). Landgren, Kjellman, and Gillberg (1998) found that lower socio-economic class was associated with ADHD. The causal connections will best be explained by some kind of stress/vulnerability model, in which psychosocial and biological factors interact (Assarsson & Hoffsten, 1997).

Psychodynamic treatment models with long-term therapy have been applied to children for nearly a century. However, the circumstances have changed. Resources today are primarily restricted to short-term therapy yet children seem to have more complicated problems. To meet these challenges, treatment models must adapt to individual needs and the conditions in which children live (Eresund, 2002).

Child and adolescent psychiatry uses an eclectic approach, combining medical treatment and a variety of psychotherapy methods in combination or in succession. Art therapies such as art, dance, drama, and music therapy offer parents more treatment alternatives. For children with ADHD, dance therapy may be the creative arts therapy of choice for ADHD manifests somatically. Besides having the characteristic symptoms of inattention, hyperactivity and impulsivity, children with ADHD usually have problems with body tensions, disturbed body image and fragmented movement patterns. It seems logical, therefore, to attack the problems through the body by working with breathing, rhythm and movement. Also from a neurological point of view it is relevant to choose dance and movement since:

> Children with ADHD benefit the most—more than any other disorder—from regular exercise, because movement exercises increase dopamine in the human brain, just like the stimulus does (Barkley, 2004).

According to Dulicai (1999) the information discussed at a Consensus Development Conference focused on the diagnosis and treatment of ADHD has implications for research and clinical practice in dance/movement therapy (DMT). In addition, to following the developments in diagnosis and treatment of ADHD, Dulicai states that the control of motor responses and the multiple biological bases for this disorder have particular implications for dance therapy research. Dulicai emphasizes that such research studies by dance therapists could greatly contribute to the understanding of ADHD.

In a longitudinal study Grönlund (1994) described and evaluated five years of DMT work with emotionally disturbed school children in two special classes. DMT proved successful since, by simultaneously processing both body and emotion, it had a two-pronged effect. The study focused on the turning points that led to a positive change in the treatment and the identification of the curative factors. Another study (Grönlund, Alm, & Hammarlund, 1999) demonstrated different ways of using DMT with destructive children who could not modulate aggression.

Although qualitative studies report improvements related to DMT for a variety of childhood disorders, Ritter and Graff Low (1996) note that the effects of DMT for neuropsychiatric disorders in children remain unexplored. In that connection, we decided to start a program, consisting of both the clinical and the evaluative. The purpose of the clinical work was to examine and develop DMT as a treatment of support for boys diagnosed as ADHD, thereby attempting to break a negative trend with risk for criminality (Barkley, 2003; Eresund, 2002; Teeter, 1998). As part of a larger

study, we started with a pilot, designed to identify and control possible methodological problems and to generate hypotheses for the coming study.

Theoretical Background

Children with ADHD have problems relating both to adults and children. Since they need help forming relationships, object relations theory provides a logical theoretical base for working with them. Concepts of special importance include Winnicott's (1971) ideas about the "transitional space", the place where the psyche of the therapist and child can play together, and "holding environment," or the mother's ability to provide a secure place for the child. Additional concepts include Bowlby's (1988) "attachment theory", where touch is of vital importance, Fonagy's (1994) ideas about the connection between disturbed attachment and low ability of reflection, and Stern's (1985) "affect attunement."

For Siegel (1984), it is obvious that children with early disturbances have strong urges to move. Since most of these children have motor problems, Schilder's (1950) theories about body image and Reich's (1972) proposal about a link between personality and posture are also useful. Reich shows that loosening up the body's armouring and letting go of muscular tensions releases emotions.

To understand the connection between motion and emotion Tomkin's (1991) affect theory is of great help. In dance therapy the connection between motion and emotion is stressed (Berger, 1972). Chodorow (1991) argues that dance therapy is involved with both the expression and transformation of emotion. Nathanson's (1987) theory of shame helps to explain the destructive impulsivity that characterizes the behaviour of children struggling with ADHD. The importance of focusing on the healthy parts of the individual is maintained by Antonovsky (1987). He points out that the ability to resist stress of life depends on our sense of coherence. Since children with ADHD often suffer from low self-esteem, dance therapy can provide the very avenue they need to (1) express their strengths and personal resources and (2) transform underlying emotions such as shame which lead to the destructive impulsivity that characterizes their behaviour and coping methods.

Aims of the Pilot Study

The overarching objective of the pilot study[1] is to investigate the effect and value of dance therapy as an alternative treatment for aggressive

[1] The Committee of Ethics at Karlstad University approved the study.

and destructive young boys that show symptoms related to the DSM-IV's ADHD criteria. The specific aims are to

- evaluate movement and socio-emotional changes;
- measure changes in mental health with focus on strengths as well as difficulties;
- evaluate motor development/problems before and after dance movement treatment and describe the DMT process.

The pilot study will also

- identify and control the methodological problems;
- generate hypotheses for the future study.

DMT: The Clinical Component

DMT for children build on the joy of movement and lust for life. Grönlund (1994) found that when children are inspired to have fun together in a group they can more easily share problems and even show compassion.

Sherborne's model of creative dance for the special child speaks to the premises and clinical approach of the study.

> Creative dance and movement can enable the children to rebuild a healthier connection with the body, senses and cognitive skills, improving body awareness and body image. It can help to give children a 'sense of wholeness' by connecting body, mind and emotions (Sherborne, 1990, p. 23).

Siegel's (1984) emphasis on insight and verbalization to make it easier to integrate the nonverbal expression were also vital elements of the clinical component. Thus, "small talks" about important topics aimed during every session to help the children better understand their problems.

Methods

Participants

Subjects for the whole project were 5–7 year-old boys of average intelligence who met the diagnostic criteria for ADHD according to DSM-IV. Although recruited by medical doctors and psychologists from one clinical department of child and adolescent psychiatry, the boys were not psychotic. The pilot group, consisted of two six-year-old boys who both fully met the criteria for participation. They started school and DMT at

the same time. They were not on medication and did not attend any other form of intervention during the treatment period. Both boys were present at all sessions.

Characteristics of the DMT in the Pilot Study

The DMT consisted of ten 40 minute sessions, which took place once a week across a period of three months. The sessions took place in the clinic in a room especially arranged for dance therapy. It had a thick carpet, and enough space for running and jumping. In one of the corners there was a pile of cushions. A video camera was installed in the ceiling in one corner of the room. A mirror on one of the walls was covered by a curtain. On another wall there were lots of props in beautiful colours. The tape-recorder and tapes were in the back of the room. No interruptions from outside were allowed. Two dance therapists together led the DMT in the pair group.

Why "pair groups" and why two therapists? That is indeed an unusual way to work in psychotherapy. Most boys with ADHD who attend the child and adolescent psychiatry, receive individual treatment because they are extremely hard to handle. However, they are also unable to play or work in groups with other children. We thought that the boys needed group-training to be prepared for school. To have a better chance of success we decided to try DMT in pair groups, a modified form of group therapy to learn social skills such as cooperation. Because early treatment is important in trying to obstruct later maladjustment and criminality (Barkley, 2003; Eresund, 2002; Teeter, 1998), we decided to concentrate on young boys who have not yet started or who have just started school.

We thought that working with DMT, even with just two boys in a group, might sometimes be too hard for only one therapist. For example, it might be necessary to physically hold a boy who panicked. Therefore, we decided to engage two dance therapists as leaders. Although expensive this pair group model gave the researchers two perspectives.

The dance therapists met their supervisor once a week to discuss process, plans for coming sessions, and countertransference. They also danced together. Siegel accentuates that

> It is particularly important for dance therapists to deal with their countertransferences, because the bodily and affective moving with another person resonates much more strongly in dance therapy than in verbal therapies (Siegel, 1995, p. 125).

The DMT, short term, supportive, and goal directed, had distinct rules and strict boundaries such as not hurting anyone or anything and not leaving the room during sessions. After setting goals, both for the

group and for each child, a program was planned. The program was well structured but the dance therapists were free to leave the structure and just follow the children. To establish trust and create a safe "transitional space" (Winnicott, 1971) the session started and ended each time with the same rhythmic exercise. Sitting in a ring on the floor they clapped hands and sang greetings of welcome or good-bye. The therapists made eye contact and addressed each boy by name. Then there was a quick warm up, in a fast tempo, to tire the hyperactive boys, followed by a relaxation pause to calm the boys down. The dance therapists massaged the boys' tense necks and shoulders to help them loosen their muscular tensions (Reich, 1972) and relax enough to speak about their personal problems. Sometimes there was also room for teaching small dances. To help the two boys find a balance between internal and external reality (Winnicott, 1971), the dance/movement therapists grounded the boys by focusing on the concrete at the end of each session.

Design of the Pilot Study

The study employed an emergent design that entails simultaneous data collection and analysis. It is both an effect and process study which uses multiple methods. The use of multiple methods to collect and interpret data about a phenomenon is one type of triangulation. To use different theoretical perspectives is another. We used both types of triangulation in this study. Denzin (1971) concludes that triangulation, though difficult, is definitely worth doing, because it makes the data and findings credible and the uncertainty of the interpretations is greatly reduced.

The data presented as case study illustrate the use of DMT and evaluate changes in hyperactive boys. The case study's greatest strength is the simultaneous consideration of multiple factors. Chaiklin (2000) maintains that case studies which do not create experimental conditions or use probability statistics, but adhere, nevertheless, to scientific methods are major tools for DMT researchers.

> No other form of research allows you to simultaneously see the whole and the parts or to move the parts around to create different combinations (Chaiklin, 2000, p. 48).

Berrol (2000) notes that experimental designs involving statistical procedures are sometimes viewed as inappropriate to a process-oriented form such as DMT. The subjective may be an asset in research, a way of capturing the unique in man. Berrol claims that

> both scientific quantitative and phenomenological qualitative inquiry are needed for a comprehensive view of DMT in terms of what it is, what it does or can do, and of special import, how it works (Berrol, 2000, p. 33).

Both quantitative and qualitative methods are used. Thus the study has a quasi-experimental approach and a repeated-measures design. The effectiveness of the treatment is expected to show the differences between each participant's pre-test and post-test measurements (Cruz & Sabers, 1998).

Measures

Measures included: an original self-designed socio-demographic questionnaire, the Strengths and Difficulties Questionnaire (SDQ), a self-administered behavioural scale (parent version) and the Movement ABC Motor Test. Data included the dance therapists' participant observations, videotapes of the DMT sessions, and interviews with the parents.

Strengths and Difficulties Questionnaire (SDQ) is a behavioural screening questionnaire developed by Goodman (1997). The SDQ is available in over 30 languages and is widely used in epidemiological, developmental, and clinical research. Goodman and Scott (1999) showed that the SDQ provides a useful measure of inattention and hyperactivity. Either the parents or the teachers of children and teenagers (by themselves) aged between 4 and 16 can complete the informant-rated version of the SDQ (Goodman, Meltzer, & Bailey, 1998). We used the parent version. It is a twenty-five-item ordinal scale with five subscales of five items each: Hyperactivity scale, Emotional Symptoms scale, Conduct Problems scale, Peer Problems scale and Prosocial scale. The scoring of SDQ is in a 0,1,2 format for "Not true", "Somewhat true" and "Certainly true" responses. Five items are reverse scored. The scores for hyperactivity, emotional symptoms, conduct problems and peer problems can be aggregated to generate a total difficulty score ranging from 0 to 40. In the parent version a score of 0–13 defines normal, 14–16 borderline and 17–40 abnormal (Goodman, 1997). The prosocial score is not incorporated since the absence of prosocial behaviour is conceptually different from the presence of psychological difficulties. The prosocial subscale, range 0–10, measures an aspect of social competence and the higher the score the better.

The SDQ has five items that examine the need for psychiatric help, the impact rating. The most straightforward system for scoring impact adds the scores for the distress plus social incapacity items, using a "0, 1,

2, 3" scale for each item (0 = not at all, 1 = only a little, 2 = quite a lot, 3 = a great deal). The impact rating ranges between 0 and 15 with a cut-off point of 5. The burden rating is calculated from the response to the burden question rated on a 4-point scale with a range of 0 to 3. The cut-off point is 1 (Goodman, 1999).

The Movement ABC motor test, published in 1992 (Henderson & Sugden, 1992), is a screening test that assesses motor function in children 4–12 years old. The test can be used (a) as a normative test, (b) for clinical exploration, and (c) as a measure of the capacity for improvement. The reason for choosing the Movement ABC motor test was to use it for measuring the capacity for improvement after DMT. The test has four age bands: 4–6, 7–8, 9–10, and 11–12 years, each with eight items. The difficulty level of the tasks varies with age, but each child performs (a) three activities requiring manual dexterity, (b) two tasks requiring ball skill and (c) three balance tasks. Each item is scored 0–5. The maximum total score is 40 with the higher scores indicating lower motor competence (Pless, 2001).

In addition to the quantitative data, there is also a qualitative element. For every item in the test, the assessor is encouraged to record how the child performs by using a series of descriptors (Barnett & Henderson, 1998). There is also a guide to behavioural factors (13 factors) that may influence motor performance e.g. timidity, fear of failure.

Both Movement ABC and the earlier version Test of Motor Impairment (TOMI) have been tested for reliability and validity in several studies with acceptable results (Henderson & Sugden, 1996).

Procedure

The parents completed a socio-demographic questionnaire with questions about family situation, age, education and occupational status before DMT started and the SDQ before and after the full course of treatment. A trained physiotherapist, the third author, administered the Movement ABC Test before and after DMT.

The parents were interviewed before and after DMT and also two years later in a follow-up interview. The researcher in health care did the initial interview. The researcher in DMT joined her colleague for the second interview after the DMT was completed. The origins of the questions and the questions themselves varied. Some came from an interview guide. Others asked the respondent to reflect on dance therapy and on comments the respondent had made in previous interviews. The qualitative interview, as described by Starrin and Renck (1996) and Kvale (1997), was used.

The dance therapy process was documented on videotape. Each session was filmed. That was of great help in the supervision. That also made repeated detailed analysis of the therapeutic process possible. The dance therapists' observations supplemented the video documentation.

Data Analysis

The audio-taped interviews were transcribed verbatim. Since the purpose of the videotaping each session in its entirety was for supervision, the 400 minutes, were edited down to a workable size of approximately two hours. The researcher in dance therapy and the chief technician at the University College of Dance cut the unclear and inaudible sections and any unnecessary repetitions. The purpose was to get a fair picture of the whole process capturing the specific traits of the development for each boy. The abbreviated videotape was repeatedly analysed in relation to attention, activity, impulsivity, movement changes, socio-emotional changes, interactions and motor development. Self-esteem was also analysed.

As a strategy for qualitative data analysis we used content analysis, to test theoretical issues to enhance understanding of the data (Cavanagh, 1997). The data from the interviews were also used for interpretations, discussions and conclusions.

Results

Results presented as case studies describe the two boys' development in the DMT process.

Case 1

Tom, aged 6, an only child diagnosed with ADHD/DCD, lives with his thirty-nine year old mother. Diagnosed as an adult as having ADHD, Tom's mother has some postsecondary education, unemployed, and lives on a temporary disability pension. Tom's father is a drug addict. The parents separated when Tom was two years old. Tom seldom meets his father.

Tom's mother brought Tom to child psychiatry because she was concerned about his hyperactivity and aggressive behaviour. Early on, Tom's mother knew that something was wrong. The boy could not sit still and

often burst into fits of rage. He was strong willed, had to control everything, especially his mother and could not tolerate change. Tom's mother said

> There were no problems during his first year but when he was one year old all the problems started. He never slept a whole night, he could wake up at two o'clock and scream hysterically. He stopped sleeping in the middle of the day when he was one year old.

When Tom was four years old, he had his first contact with child psychiatry and was diagnosed as ADHD/DCD. Tom's hyperactivity is described in terms of lack of patience and an extremely quick tempo. His motor difficulties were apparent in the playground. Tom did not have friends because other children were afraid of his aggressive outbursts. His impulsivity had escalated. The psychologist who had tested him referred Tom to DMT when he was six years old.

Movement and language

Although Tom is in constant motion, he is a clumsy child with low tonus who often stumbles over his own feet. Gross motor ability, balance, and coordination are all poor. Very tense, particularly in his neck and shoulders, he primarily uses stiff and controlled movements that can be stopped at any moment, according to Laban's concept of "bound flow" (Laban & Lawrence, 1947). His movements are not directed and sometimes give a fragmented impression. He also has language difficulties and childish intonation that makes him sound younger than his chronological age. Despite his immature movement and language, he has a good sense of rhythm. He is also fond of music.

Affect

Tom is shy, does not make eye contact, or express feelings other than fear and aggression. He acts out but does not direct his anger. Afraid of failure, he refuses to try new activities and is a bad loser. However, he can also be friendly and affectionate. He developed a good relationship with the dance therapist who focused her attention on him.

Assessments

Table 1 shows no difference between SDQ Total Difficulties pre- and post-test and the scores after dance therapy are still at an abnormal level with the impact rating of 10 suggesting that Tom's problems continue to affect his daily life. Not surprisingly, Tom's mother's burden rate remains at the highest level. The prosocial behaviour subscale score has

Table 1
Behavioural and Emotional Symptoms in Two Cases Measured with the Strengths and Difficulties Questionnaire (SDQ) before and after Dance–Movement Therapy

	Case 1		*Case 2*	
Score	*Pre-test*	*Post-test*	*Pre-test*	*Post-test*
SDQ Total Difficulties*	24	24	23	16
Hyperactivity	9	9	10	7
Emotional symptoms	7	6	5	3
Conduct problems	6	6	5	2
Peer problems	2	3	3	4
Prosocial behaviour**	5	5	7	7
Impact rating***	-	10	10	4
Burden rating****	3	3	3	3

Note: The Informant-rated parent version of SDQ was used.
*SDQ Total Difficulties score range 0–40 (normal 0–13, borderline 14–16, abnormal 17–40).
**Prosocial behaviour range 0–10 (normal 6–10, borderline 5, abnormal 0–4).
***Impact rating range 0–15.
****Burden rating range 0–3.

not been changed. The score 5 (borderline-score) suggests that despite his high impact score, Tom has some degree of social competence.

The quantitative data/total score of Movement ABC shows a positive change after DMT. Tom's improvements in motor skills include manual skills, ball skills and dynamic balance. See Table 2. The qualitative

Table 2
Motor Function in the Two Cases Measured with the Movement ABC Motor Test before and after Dance/Movement Therapy

	Case 1		*Case 2*	
Movement ABC motor test	*Pre-test 4–6 years*	*Post-test 4–6 years*	*Pre-test 4–6 years*	*Post-test 4–6 years*
Total score	18.5	7.0	3.5	0
Manual skills	7.5	3.0	2.5	0
Ball skills	8.0	4.0	0	0
Static and dynamic balance	3.0	0	1.0	0

Note: Movement ABC Motor test, total score range 0–40 (Manual skills 0–15, ball skills 0–10, static and dynamic balance 0–15).
Higher scores indicate lower motor competence.

elements, how Tom performs the tasks, show that the remaining difficulties are not as obvious—an improvement in relation to the number of observations. Regarding the thirteen behavioural factors, there has been an improvement. Tom is not as timid as before and he can better organise his ability. He has more staying power and higher spirits. His concentration has improved and he is less impulsive.

Interview with Tom's Mother after DMT

Tom's mother reports that Tom is still rather clumsy even if he has better balance. But Tom has learned

> to be more patience and listen ... he has learned to wait. I think that dance therapy has been very good to him. He is not quite as angry as before. He has become friendly.

His mother says that Tom now sleeps better at night and has fewer nightmares. However, he still has aggressive outbursts, but they occur less frequently. He has learned to play with other children without getting in conflict all the time and relates better to adults. Tom's mother was astonished that Tom never hesitated to follow the dance therapists in spite of the fact that mother was not there with him. Tom's mother noticed that after the dance therapy sessions Tom was relaxed in a way that was not possible before. Tom was so exhausted that he sometimes fell asleep in the car. That had never happened before. His mother told us that dance therapy obviously was important to Tom, because when she asked him to tell her what they were doing in the dance therapy Tom said: "I won't tell you, that's private".

> I think that Tom needed dance therapy for a longer period...but even if Tom had dance therapy just for a short period, I still think that dance therapy has helped.

Tom's mother was pleased that the DMT was in a pair group, which allowed Tom to play with another boy in a secure situation. She could see that Tom had developed socially. Both Tom and his mother were sad when the dance therapy ended.

In a follow-up interview, two years after DMT, Tom's mother told us that Tom still has problems in school, but he has an understanding teacher, who helps him. The teacher says that Tom concentrates better and his relationships are acceptable. However, Tom still has outbursts at home. Not surprisingly, Tom's mother wanted him to receive more DMT.

Case 2

Peter, aged 6½, diagnosed with ADHD, not DCD, lives with his mother, age 32, father, age 37, and a sister two years older than he. Both parents had postsecondary education and were regularly employed.

Peter's parents brought him to child psychiatry when he was nearly six years old. He was hyperactive, aggressive and lacked concentration. At the day nursery Peter often came into conflict with other children, who were afraid of his sudden temper tantrums and therefore, avoided him. However, Peter's mother tells us that she had noticed that Peter had certain problems during infancy:

> He was just a baby when I understood that something was wrong ... he didn't sleep and he was never satisfied. I could handle Peter during the early years but the situation got worse. As long as we had to fight with his hyperactivity I thought it was okay, then we just had to set limits for him. But when he became so tremendously aggressive and I felt that he completely lost control then I felt that we could not handle him on our own. We needed help—professional experts to talk to.

Peter appears tough, but according to his mother, he is a scared little boy, afraid of many things such as crowds. He has panic anxiety, is afraid of change, and needs to control everything, especially his mother. He cannot play with other children if he is not the leader who decides everything. He is strong and quick to use his fists. The psychologist who had tested him referred him to DMT when he started school.

Movement and language

Peter has fine gross motor ability, good balance, and he can climb high and do several summersaults in a row. Hyperactive and in constant motion, he runs and jumps at high speed, babbling at the same time. His language is rather good. Peter cannot sit still at all. When running he attacks the room furiously; when jumping, climbing high, or throwing himself on to the floor, he has no fear. Although well coordinated, he is seldom relaxed and has tensions in his neck and shoulders. Yet he can engage both spontaneous, free flowing movement and more controlled, bound movement (Laban & Lawrence, 1947). Peter's basic motor skills are fine. His problems are related to modulating time and intensity.

Affect

Peter shifts between acting omnipotent and complaining that he is a complete failure. He is afraid of trying new activities and cannot stand to

lose. He has a good imagination and responds well to attention, positive feedback, and physical play.

Assessments

For Peter there has been a progress of change. SDQ Total Difficulties declined from 23 to 16 after the DMT. The hyperactivity score, emotional score and conduct problems scores have dropped, which is a progress. The prosocial behaviour subscale remained normal. That the impact rating declined from 10 to 4 suggests that Peter's problems do not appear to be affecting his daily life, yet his mother still feels the burden of parenting him. See Table 1.

For Peter the total score on Movement ABC indicates a change after DMT, however his original scores did not suggest poor motor competence. See Table 2. The qualitative elements, how Peter performs the tasks in the test show, nevertheless, that though there are still problems, there has been an improvement over time. Analysis of the thirteen behavioural factors show improvement in hyperactivity, organization and the ability to estimate one's own capacity. Impulsiveness to a certain degree and undesired movement are still present.

Interview with Peter's mother after DMT

Peter's mother tells us that before DMT, when playing Peter wanted to be the leader all the time. Now he can play more constructively on equal terms with other children. Peter is not as tense and stressed as before. However, his need for control is still there as are his problems with change. She notes that

> last autumn he was very angry and he furiously hit everybody in the family and his friends. Today he doesn't hit us at all but he can still threaten us. However, he has learnt to stop his anger before an outburst ... I have also noticed that Peter is more concerned about other children nowadays.

That the two boys have not been competing is astonishing because Peter always wants to be number one. He is rather good at running, jumping and climbing and he has good balance. Peter is also older than Tom so it is surprising that he has not been competing with Tom.

> As I see it ... that depends on the fact that Peter cares for Tom and doesn't want Tom to be a sad loser. A kind of friendship has developed between the two boys.

She also tells us that Peter has been very fond of going to dance therapy, although he has not said anything about the sessions. When driving home after the session he remained silent in the car.

According to Peter's schoolteacher, Peter is not as hyperactive in school. A couple of months before DMT started Peter could not sit still for more than ten minutes before he rushed out of the classroom. Today he can sit still and listen with concentration for the whole hour. He can also wait for his turn, and does not have to get his needs fulfilled immediately.

In the follow-up interview, Peter's mother told us that Peter really missed the DMT. However, she also told us that there had been many ups and downs for Peter. During the first year after DMT, she noticed a remarkable positive change. Peter's everyday life and school situation were under control. His relationship to other children was fairly good. But gradually the situation got worse, both at school and at home. He appeared confused and neither parents, teachers nor his peers, could understand him. Peter became depressed and self-destructive with suicidal thoughts. He had to take an antidepressant. Since DMT had helped Peter, the parents turned to the clinic with their request for more DMT, but their request was rejected. The project had ended and the clinic did not have any resources. A year later, at the time of the interview, Peter had recovered. He was not on medication and the parents did not feel as stressed.

The results of this pilot study have generated the following hypotheses for a coming study:

1. Dance/movement therapy provided in paired groups for a minimum of ten weeks will improve the motor function of young boys aged 5–7 diagnosed with ADHD.
2. Dance/movement therapy provided in paired groups for a minimum of ten weeks will reduce the behavioural and emotional symptoms of young boys aged 5–7 diagnosed with ADHD.

Analysis of the DMT process

The Phases of the Dance Therapy

The DMT process divided into three phases: the initial phase (sessions 1– 3), the middle phase (sessions 4–8) and the final phase (sessions 9–10).

The initial phase, designed to create a "conflict-free sphere," (Hartmann, 1958), emphasized the boys' strengths, countering the potential for revealing weaknesses and shame, feelings which can lead to either aggression or depression (Nathanson, 1987). When the boys eventually dared to try something new, the dance therapists gave them positive

feedback. That enabled the boys to become aware of their own resources, increasing their self-esteem. During this phase the dance therapists were directive, followed the program to maintain boundaries, and engaged mirroring and movement empathy to build trust and the therapeutic relationship. The contact was rapid. Each boy had their "own" therapist. During this initial phase the boys played primarily with their therapists, rather than with one another.

The middle phase, characterized by the children's feelings of increased security and familiarity, allowed the dance therapists to be non-directive, following the boys' creative ideas and improvisations, thereby helping the children to explore their movement potential and develop their fantasy in playing. Focus was on improving the boys' body awareness and body image to give the boys a sense of wholeness (Sherborne, 1990). Now the boys were not especially dependent on having the same therapist. They seemed comfortable with both therapists. In the middle phase the boys started to play more together. Verbal sharing was more frequent (Siegel, 1984). By encouraging the boys to support one another, the therapists created a friendly atmosphere. Each boy seemed happiest when getting positive feedback from his peer.

The final phase—separation—highlighted the boys' growth and development. The boys turned again at times to their "own" therapist, but now they connected in a more self-dependent contact. Cooperation between the boys continued to develop and it was now obvious that they had learned to share their conflicts and fears. By the end, they could even show compassion for one another, both by helping one another and by sharing problems and sorrows. This was a major step towards de-centring, and becoming more interpersonally aware.

Structure of the Dance Therapy

The Dance/Movement Therapists

The dance therapists were physically active in playing and dancing. By doing so, they reduced the chaos triggered by these highly anxious young boys who could not control their impulses. Sometimes it was necessary to hold a boy physically when he was frantic. Later on, it was possible for the therapists to be more passive in the dance, to sit beside and just comment on how the boys were playing and dancing together. Then the therapists were active in listening and giving feedback.

Having two leaders was an advantage. The boys could choose the therapist whose personality best suited them at a particular time. This was especially important because each boy had strong needs to be seen all the

DMT Objectives and Related Methods

Objectives for the boys	*Methods*
Build trust, structure and security	Provide structure, e.g. begin and end in the same way with a rhythmic exercise, music of all kinds (classical, folk, pop, compositions for children
Respect for personal space	Assign special spaces on cushion selected by the child
Cooperate and help one another, non- aggressive problem, solving	Introduce challenging, non-competitive exercises
Impulse control, increase patience	Introduce exercises that involve turn-taking and turn yielding
Relaxation to foster physical release and verbal expression	Massage (necks, shoulders, and backs); breathing exercises
Develop visual perception, accurate body image, and balance	Props such as balloons, large gymnastic ball
Creative and appropriate expression of frustration and aggression	Large gymnastic ball

time. With two therapists present, they could have the attention they required, avoiding competition and jealousy, as well. Further, it also showed that a group with two boys and two therapists can deftly play together.

Music

Music of all kinds provided structure, overriding occasional expressions of resistance. The dance/movement therapists created challenging, non-competitive movement exercises with varying tempos that called for turn taking, turn yielding, and problem solving. At times, the therapists removed music from the process to give the boys opportunities to experience stillness in contrast to motion.

Props

The creative use of props such as pillows, balloons and a large gymnastic ball gave the boys concrete opportunities to develop visual perception, accurate body image, and balance. Sitting on assigned pillows provided concrete, opportunities to learn about personal space. When playing with balloons the boys used different parts of their bodies to toss the balloons. Standing on top of the gymnastic ball required good balance. Props also

helped the boys grow emotionally. Being permitted to handle the ball as hard as they could, provided an outlet for aggression and frustration. Yet, they also understood that physical violence against themselves or others was not allowed. The boys ridded themselves of aggression without hurting anyone.

The sessions also included periods of relaxation that incorporated massaging the boys' tense necks, shoulders and backs and breathing exercises. Conversation emerged during these quieter times, covering themes important to the boys, such as longing for a friend, how to handle pet-animals without being destructive, shame of not being as clever as other boys and fear of being abandoned.

The study suggests that a dance movement therapy program for young boys with ADHD should address fundamental movement skills before attempting to address the concomitant behavioural and emotional symptoms. Coherence at the body level appears to set the stage for positive prognoses.

Discussion

Although Kazdin's (2000) review of the literature suggests that cognitive behavioural therapy is the only successful approach to working with aggressive boys who have behavioural problems, Eresund (2002) found that boys with severe conduct disorders benefited from psychodynamically oriented supportive play therapy. This pilot study supports Eresund's perspective, however, this study focused on the use of dance therapy rather than play therapy.

The study's primary purpose, investigating the effect and value of dance therapy as an alternative treatment for young boys with symptoms related to ADHD, also generated hypotheses for a coming larger study. Although dance therapy only partly reduced the behavioural and emotional symptoms of the boys, it had, however, a positive effect on the motor function of both boys. Therefore one can suggest that attention to kinaesthetic coherence or motor coordination may be the stepping stone to the successful treatment of young boys diagnosed with ADHD.

ADHD presents life-long challenges. DMT can only reduce and relieve symptoms. According to Pelham (1993) when children with ADHD have completed treatment, independent of treatment model, the problems often recur. The parents could see differences in their sons before, during and after DMT. Since they had noted the positive changes DMT had on their sons, it was natural that, when the boys had relapses, they expressed their request of repeated DMT. Another important positive point is that DMT gives boys with ADHD a possibility, like other children, to have an activity outside school, which increases a child's quality of life.

This study only allowed for ten dance therapy sessions, but it did so in a unique approach which we call the paired group in a one-to-one ratio between therapist and child. The results suggest that short-term dance therapy treatment in a paired group setting produces positive results, but with two subjects, the study can only be viewed as hypothesis generating. Questions for the larger study to consider include the length of dance therapy, and the efficacy, feasibility and cost effectiveness of paired group therapy.

Limitations

As in all research on human beings the concept of having control groups raises a spectrum of questions ranging from the ethical to the practical. Studying children in child and adolescent psychiatry magnifies them. Besides having to attend to the fundamental conundrum of whom to deprive of treatment, researchers must deal with limited numbers, families who lack motivation, and the uncontrollable variables associated with child development. A quasi-experimental study design where there is a lack of control groups that employed triangulation was the alternative. Triangulation countered the variables that might have confounded the study and ensured that the data could be interpreted from different angles, thereby improving validity.

Treatment or management of ADHD also develop the parents' and the teachers' ability to handle the problems (Teeter, 1998). One obvious limitation of the study was that we had no contact with the boys' teachers. We had to rely on the answers we got from interviewing the parents to get information about how the boys managed at school. The forthcoming study will include the teachers' perspectives on the children. Although the study cannot specify what role DMT played in the boys' progress, it is reasonable to suggest that DMT has been of importance, and that motor coordination may be a vital building block in the treatment of ADHD.

Knowing where to start from, e.g., building motor coordination in children struggling with ADHD, is especially important in Swedish schools today. Special needs pupils, who have only limited resources for individual support (The National Agency for Education, 2004), must take more responsibility for their own studies, sit in fairly noisy classes where different grades are integrated, and work in groups and with projects that challenge their problems with concentration and communication.

By stimulating the joy of movement and creative playing, the study showed that DMT could give the two boys, perhaps for the first time, the pleasure of playing and dancing together with a peer. By focusing on the

boys' strengths and inner resources their self esteem and quality of life improved (Antonowsky, 1987). However, the positive results are vulnerable as the problems with ADHD recur without continued intervention (Barkley, 2004; Pelham, 1993). Therefore, children with ADHD should be offered DMT for extended periods of time and repeatedly if necessary.

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