

# Metaphoric Technology-Based Scenarios for the Experiential Diagnosis of Children with Attention Deficit Hyperactivity Disorder

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## **Abstract**

**Introduction:** Children diagnosed with attention deficit hyperactivity disorder (ADHD) present a significantly higher risk for numerous emotional and social problems than those without ADHD, including poor self-image, depression, and interpersonal difficulties, which lead to academic and social underachievement.

**Objectives:** Since these children are included in the general education classroom, the teachers need to understand their emotional difficulties better, in order to collaborate efficiently with the psychotherapist and to adapt their teaching strategies for an effective instruction of these children.

**Methods:** The paper describes the development of two experiential technology-based metaphoric scenarios aimed to help teachers and psychotherapists in the diagnosis of self-image improvement in experiential psychotherapy of children diagnosed with ADHD.

**Results:** There is a correlation between the way a child assesses himself and relates to himself, and how he evaluates and behaves in relation to his peers. This means that the improvement of self-image can be a primary goal in the psychotherapy of disruptive behavior disorders.

**Conclusions:** The construction, validation and implementation of these scenarios in school settings is part of a larger research project that proposes a combined research strategy regarding the efficiency of expressive experiential psychotherapy in treating disruptive and emotional disorders in children.

**Keywords:** ADHD, social problems, emotional disorders, development

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## **I. Introduction**

Attention deficit hyperactivity disorder (ADHD) is one of the most common behavioral disorders of childhood and is characterized by hyperactivity, impulsivity, and inattention (American Psychiatric Association, 2000). A large proportion of children are diagnosed with disruptive behavior disorders, 3-5% of the European Union children population suffering from ADHD (Attention Deficit Hyperactivity Disorder) and 8-12% of the children population suffering from Conduct Disorders (CD) or Oppositional Defiant Disorder (ODD) (European Commission, 2005).

Due to the high prevalence in population, ADHD in childhood has an important social and economic impact not only on children, but also on their families, their teachers and colleagues, because of the externalized character of this disorder, capable of disturbing the activity of all the actors in the children's environment. Thus, making the treatment of childhood attention-deficit hyperactivity disorder more efficient will have important social effects, which could be linked to a better life-quality of these children's families, teachers and colleagues.

A child who is hyperactive is not feeling in control of his body. His motor difficulties cause poor eye-hand co-ordination and affect his ability to write easily and clearly. This child has severe learning disabilities caused by the impairment of perceptual abilities (visual, auditory and sometimes tactile). He is confused and irritated by the many stimuli in his environment. There are also many secondary effects that contribute to the child difficulties. Adults are impatient with him, do not trust him, yell at him and sometimes cannot stand him. He has few friends, since he has poor interpersonal relationship skills. He feels bad about his learning impairments and his self-image is usually very poor.

Over time, the studies regarding the efficiency of the treatment of ADHD children have been classified in three categories: psycho-stimulant drug therapy, psycho-social psychotherapy and combination of approaches. For many decades, psycho-stimulant medication has been and still seems to be the choice of treatment for children with ADHD, because it can improve the neural substrate of behavioral inhibition and the executive functions dependent on such inhibition. Unfortunately, psycho-stimulants do not produce long-term positive changes (Pelham, Wheeler, & Chronis, 1998). The limitations of pharmacotherapy for ADHD highlight the need for the augmentation of psychosocial and psycho-educational treatments.

(Pelham & Gnagy, 1999). Children with apparently „pure” attention problems, whose grades improve with stimulant treatment, may have short-term improvement without long-term benefit, and the child's apparent improvement (or worsening) can mask the need for treatment of an underlying problem (Pelham, 2007).

A recent review of the non-medical interventions used on children with ADHD was made in 2007 by Trout, Lienemann, Reid and Epstein. This review examined 41 studies that evaluated the impact of non-medication interventions on the academic functioning of students with ADHD. The findings revealed that a wide range of traditional and nontraditional interventions had been used to improve students' academic outcomes. Yet, systematic lines of research were clearly missing. Moreover, important demographic and descriptive information, such as participant characteristics and classroom settings, were often poorly defined and generally did not reflect the current population of students with ADHD. Despite some indications of promise, significant limitations in literature allow few conclusions about intervention effects and generalization (Trout, Lienemann, Reid and Epstein, 2005).

### **Introducing experiential diagnosis techniques**

In the process of ADHD diagnosis in children, the clinician often needs to face the challenge of an approximation of the underlying problem, based on a functional symptoms description, observed and described by a collateral informant, given the fact that referral and diagnostic assessment rely on information provided by parents, teachers or other observers.

This challenge has been met by operationalizing diagnostic criteria and developing standardized screening tools and diagnostic interviews. Thus, children depend on evaluations of other people and it is only if others perceive a mental health problem that the child will be evaluated by a professional at all. „The main drawback of ADHD rating scales is the lack of clinical ascertainment of the diagnosis, and thereby insecurity as to whether respondents have appropriately understood the questions asked” (Posserud & all., 2013).

Experiential diagnosis is often used in the child's clinical evaluation and psychotherapy, especially due to the fact that the therapist uses techniques, materials and modalities of action that are familiar to the child: drawing, stories, play provocative situations, modeling and so on. The child can experiment himself in action, he can achieve satisfaction by creating the object he is working on and also, the effect of self-awareness and self-knowledge is spontaneous.

These diagnosis techniques are particularly relevant to self-image, because the child is allowed a high level of freedom in action. The psychologist has access to how the child relates to himself in the current action: what claims he has, which kind of distinctions he makes between objects, if he has the capability to combine ways of expression, for what purposes he uses these ways of expression. Complex and complete information is obtained which often exceed the child's ability to verbalize, but also his parents' ability to recognize and disclose. Thus, the child is freed from the need for expressing himself adequately with words, which can be difficult for him, and he is encouraged to use alternative ways of communication that are more familiar and in which he sets the relevant differences for his internal dynamics better.

Creative-expressive diagnosis modalities are the most appropriate for the way in which children experience emotional significance of various events. Such experiences can shade the type, intensity, but may also signal a certain dynamic of their own. Through expressive creative methods, the child can communicate important information about the dynamics of the unconscious: either one that holds on to certain past experiences or the one on the collective unconscious. The diagnosis techniques fulfill their purpose when the child finds himself a meaning, creating a unit, a correlation between the dynamics of personal and collective unconscious, gaining access to a greater self-knowledge, self-acceptance and self-development.

The experiential diagnosis techniques provide information about self-image, which will be the base of the psychotherapist's assumptions about predisposing factors, determinants, triggering and maintaining the disorder, and also for the subsequent psychotherapeutic targets. The therapist can select those expressive creative ways that are more appropriate for that particular child.

The experiential diagnostic techniques that we use consisted in small group exercises that allow the capture of the child's self in relation to peers. Starting from the idea that man is related to others as he relates to the self, the child's behavior in the proposed group exercise allows capturing the child's attitude towards himself.

Adequate social functioning and healthy relationships with peers are considered basic conditions for the children's optimal development. In general, social issues are an important predictor of long-term social consequences in adolescence. Since children with disruptive disorders frequently encounter

problems with social interactions with peers and they often face rejection and social isolation, social skills can be an important factor for optimal personal and social development (DeBoo & Prins, 2005).

However, this type of diagnosis can introduce a high risk of biases, often due to the psychologist's subjectivity to assess and interpret the child's behavior. In order to reduce the therapist's interpretation subjectivity, the entire experiential diagnosis session can be recorded on video. This way, the therapist is not concerned with saving the child's behavior and comments along the way, and can focus more attention on the emotional support of the children involved, so the obtained behavior samples are as relevant as possible to the child's usual pattern of behavior.

The video recording of the experiential diagnosis session has several advantages: it allows subsequent careful analysis of the child's behavior; it releases the therapist from the structured observational tasks, so that he can even consider his own experiences as relevant to how the child relates to adults; it allows capturing behaviors that stand out during the entire session from the point of view of frequency, intensity and emotional tone; it allows diagnosing more children working together in the meeting, also the children whose behavior may be subjected to individual assessment; it also allows the analysis of the child's behavior by other specialists and thereby can increase the objectivity of the evaluation; the video may contain details that are looked over during the concrete conduct of the action due to limitation of the psychologists' observational capacity; allows the use of standardized rating scales of behavior that can help making inferences about the child's general functioning.

We created two experiential diagnostic dynamic techniques called „The Orchard” and „Our World”. When structuring these exercises, we started from classical projective techniques (*draw a person* test and the *tree* test) that would generate data regarding self-image. Methods were transformed into dynamic exercises that were closer to the children's natural ways of action. They allow observation of behaviors with the purpose of increasing the objectivity of diagnosis in order to enable a clearer identification of therapeutic targets.

Starting from this kind of diagnosis, the therapeutic intervention on children is an experiential expressive art therapy one, in the spirit of the person-centered expressive art therapy work of Natalie Rogers. The therapeutic plan consists in involving children in a series of provocative exercises, specific to experiential psychotherapy, based on art-therapeutic techniques

(drawing, sculpture, modeling, dance-therapy, music-therapy), psycho-dramatic techniques (drama, role-playing, playing with puppets) and metaphoric techniques, which facilitate the identification of disruptive behavior patterns, their causes and effects. The acknowledgment of all these increases children's compliance to therapy and change. When a child discovers new and alternative ways of interaction, a rapid self-transformation and improvement of self-image is guaranteed. *Expressive arts therapy uses the expressive arts – movement, art, music, writing, sound, and improvisation - in a supportive setting, in order to facilitate growth and healing. It is a process of discovering ourselves through any art form that comes from an emotional depth* (N. Rogers, 1993). The idea is for the client to express his inner feelings by creating outer forms. These art forms that the client produces during the therapy sessions represent feelings in a metaphorical way. They offer new ways to discover, experience, and accept the unknown aspects of the self.

### **Subjects**

The exercises were applied to an overall of 10 children (3 girls and 7 boys, aged 7-8), 5 of them diagnosed with attention deficit hyperactivity disorder, the combined type, and 5 of them being normal children. The children were divided into 2 groups of 5, an experimental group and a control group. In terms of the gender variable, in the first group there were three girls and two boys, while in the second group there were only boys. The children are pupils in the second grade in one of the local schools.

## **II. Methods**

For each of the 2 groups two experiential psychological diagnosis sessions were performed for the two dynamic exercises created. Experiential diagnostic sessions were led by two therapists with the right of free practice in experiential psychotherapy, who also videotaped. The children were gathered in the school counseling office, where there was enough space for optimal use of the two exercises. Also, children were provided materials such as crayons, chalk and colored modeling clay, elements from nature (shells, pieces of colorful plants etc.), wildlife and plastic components of building creative games. Sheets of paper and paperboard have been used.

The first dynamic exercise was „The Orchard”. Children were seated around a table, which was placed so that they would have enough room to move and to be able to work comfortably. Initially, a large cardboard piece of modeling clay of various colors was placed on the table.

One of the therapists gave the following instruction: „Today, we'll play and we'll talk. I invite you to choose a piece of modeling clay, the one that attracts you. Meet the piece of modeling clay that you have chosen, start shaping it, playing with it... until it warms up and becomes soft. Once you've soaked it, try to shape a shrub. Not so fast... now please look at your little tree and imagine what it would be like if you completed it to make it more beautiful than it already is. Look at the colors and try to add more ornaments, to make it look like a sapling that is doing very well in its shell. Each sapling focuses on you and makes you feel better... We are slowly getting closer to the completion of the trees. Everyone will say something about his little tree. Try to stay in your place, next to your colleagues and tell them about yourself as if you had that little tree. For example: I am sapling Diana... (show and tell everyone). Now that I've met all the trees, imagine this board was an orchard. I invite you to place the little tree where it feels best in this orchard and draw the rest of the orchard. Draw everything around you so that the trees would feel alright in the orchard. What season is it now for your trees? Let us imagine that it is spring, a late spring, late summer too. The trees have blossomed, they have flowers... (everyone says what it does and how his little tree feels about it). Heat is slowly coming... and while summer heat is coming, let's see what the trees are doing (the children are encouraged again to talk about their experience). It's getting warmer outside, it's summer and it's hot, hot all over the place. The sun is shining, warming all the trees. What are the trees doing? How do they feel? What do they need right now? (Each child is asked). Gradually, the clouds gather up in the sky and it starts to rain. Inside the orchard, it starts pouring, the wind is blowing, there is a storm coming! What are the trees doing? (The children describe their experience while they are representing it). Slowly, the rain stops and the trees find out that summer has already finished and now it's fall. How do they feel? What happens next? It's getting colder; the leaves begin to fall.... Winter comes and it starts to snow. What do the trees do in winter?

The children are finalizing the drawing. Each tree has to look around and tell the others how it feels in the orchard and how he went through all four seasons. „Throughout the dynamic exercise, the children are encouraged to talk about what they experience, here and now. Finally, each child is asked to write, with a chosen crayon, an appropriate name for this drawing.

The second dynamic exercise was „Our

World". Unlike the first exercise, in which children worked mainly with modeling clay and crayons, this time we also provided them with other materials (elements of nature - shells, pieces of colorful plants, wildlife plastic animals and components of some creative construction games). The instructions were: You choose the colors that you like the most. You can choose pencils, pens, whatever attracts you more... you have to fill these sheets of paper with the colors you have chosen. Please draw a little man as you would like it to be.... (After everyone finished drawing, each child sets the paper with the little man onto his chest). Now that you all set the drawing on your chests, let's find out the story of every little man. What can you say about yourself? (Children are encouraged to say more about themselves: What is your name? What do you like to do the most? What do you usually do? What do you like the most about yourself? What don't you like about yourself?). Now imagine that these little people created their own world... use all the items you have to create the world where you feel ok. (Children are encouraged to take the drawing off their chest and put in on a large paper. Then, they were allowed to build around them). Each child says how he feels like in the world they built.

The experiential diagnosis sessions were video recorded. Then, the video footages were analyzed by qualified experiential psychotherapists. We used an observation sheet for video images, centered on self-image, as a basic tool for the session analysis. This instrument was especially built for this research, according to the expert groups' method.

The approach comprises three steps: 1) six experienced therapists in experiential psychotherapy generated items as observable behaviors, relevant to self-image (as it is conceptualized in experiential approaches); 2) a group of 10 experts, all skilled therapists in experiential psychotherapy, generated variations in response to each item (five choices for each item, or the Likert-type scale for discrete behavior); 3) a group of 33 independent psychologists watched the videos of the experiential diagnostic sessions and rated the children involved in these meetings on the observation chart.

### III. Results

Initially, data analysis focused on evaluating the psychometric qualities of the observation sheet for video images centered on self-image. The reliability was assessed by means of two methods: 1) Inter-evaluator reliability, measured by the rank correlation coefficient. The Spearman Rho coefficient value

obtained was medium to strong and statistically significant at a threshold of 0.001 (Spearman rho = 0.5, Sig. = 0.000), which indicates a high inter-evaluators agreement.

Analyzing the data separately, by group and type of exercise, we noted that the Spearman coefficient ranged from 0.54 (in the group of children with behavior disorders - „My world" exercise) and 0.65 (in the group of children without behavior disorders - „Orchard" exercise). The only situation, in which a statistically significant coefficient value was not obtained, was for the group of children with behavior disorders in „My World" exercise (Spearman rho = 0.13, Sig. = 0.152); 2) Internal consistency, as measured by Cronbach's Alpha coefficient. Cronbach's Alpha coefficient indicates a very good internal consistency (0.914), which allows us to say that the designed instrument has a high level of reliability.

The next step was the assessment of the observation sheet validity. Content validity was ensured by involving experts in building the exercises, the items and the response options definition. We used the t test for independent samples, in order to assess the discriminative validity.

The conducted t test revealed a significant difference between the group of children with behavior disorders and normal children, with the global score obtained in the observation sheet ( $t = 2.294$ , Sig. = 0.029). The observation sheet successfully discriminates between the two groups of children on different levels and variables of interest. Thus, it can be used to identify disruptive disorders in children. We can state that the observation sheet has good validity.

### IV. Conclusions

The experimented experiential diagnosis techniques aimed not only to reveal the projection, but also the „here and now" action, allowing comments on the way the child passes through the phases of gestalt experience, as well as how he integrates new experiences.

One of the criteria to be fulfilled by a psychological assessment tool is its utility (Barlow, 2005). The proposed experiential diagnostic modality has the capacity to assess a large quantity of information about many aspects of the children's self-image that can be obtained in a short period of time. Moreover, the observation sheet for video images was created in a comprehensive manner, thus making it easy to fill in and interpret. Because it contains enough items, the scale is sensitive to alterations in the child's behavior during psychotherapy. Therefore, it can also be used to monitor the effects of the therapeutic intervention.

Not only certain sides of the mental development are evaluated through the proposed experiential assessment method, but their interactions with behavioral disorders are also assessed, as previously pointed out by De Boo and Prins (De Boo & Prins, 2007). Factor analysis procedures did not reveal the existence of the observation sheet for video images subscales, thus supporting this idea. Therefore, it was noted that disruptive disorders emerge in the interaction between the different psychological mechanisms.

During the construction of the experiential diagnosis procedure, it has been observed that there is a correlation between the way a child assesses himself and relates to himself, and how he evaluates and behaves in relation to his peers. This means that the improvement of self-image can be a primary goal in the psychotherapy of disruptive behavior disorders.

The two dynamic exercises and the possibility of artistic expression provide a first indication of how the child engages in the therapeutic process and the extent to which it is possible for him to benefit from a treatment program of this type. Speiser and Speiser (2007) believe that the artistic production group serves as a container in which conflicts can be expressed and shared and it can be used as the way to work on multiple sides of the conflict: intrapersonal, interpersonal, socio-cultural, institutional and spiritual (Speiser & Speiser, 2007).

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