The other face of the Attention Deficit Hyperactivity Disorder

A outra face do Transtorno de Déficit de Atenção e Hiperatividade

El otro rostro del Trastorno por Déficit de Atención y Hiperactividad

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Abstract

There are a high number of people that search for speech treatment due to unsatisfactory performance at school. They are considered to have writing and reading "disorders" or "difficulties". Many of these subjects are diagnosed with ADHD (Attention Deficit Hyperactivity Disorder). The studies on this field are very vast and it is possible to identify two theoretical and methodological tendencies that try to explain the problem. On the one hand there are the organicists who believe in the existence of the ADHD as a mental disorder that is responsible for symptoms like hyperactivity, lack of attention and impulsiveness. On the other hand, there are researchers who think that these diagnoses are a process of medicalization of education. This second point of view is related to a sociohistorical paradigm and its followers defend the idea that learning problems are related to social issues (not biological ones), i.e. learners are victims of inefficient pedagogical process. Thus, the objective of this paper is to develop a discussion about the diagnose of the ADHD. Here, we are going to consider the two presented points of view and their possible implications on the developing process of writing language and we are also going to propose a theoretical reflection about the scope of these paradigms.

Keywords: Attention deficit disorder with hyperactivity; learning disorder; medicalization.

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Resumo

É alta a procura pelo atendimento fonoaudiológico por sujeitos que, por terem desempenho escolar insatisfatório, são considerados portadores de "distúrbios" ou de "dificuldades" de leitura e escrita. Muitos desses sujeitos, ao serem avaliados por médicos, acabam recebendo diagnóstico de TDAH (Transtorno de Déficit de Atenção/Hiperatividade). Os estudos na área são muito abrangentes e é possível observar duas principais tendências teórico-metodológicas que tentam explicar o problema. De um lado, estão os pesquisadores (organicistas) que acreditam no caráter orgânico do TDAH e o tomam como um transtorno neurobiológico, de cunho genético, responsável pelo aparecimento de sintomas de impulsividade, hiperatividade e desatenção. De outro lado, estão pesquisadores que veem nesse diagnóstico um processo de medicalização da educação. A segunda vertente, que se enquadra em um paradigma sócio-histórico, preconiza que os problemas de atenção e aprendizagem ocorrem em virtude de questões sociais, políticas e educacionais e não decorrem, portanto, de aspectos de ordem biológica. O objetivo deste trabalho é realizar uma discussão em torno dessas duas visões sobre o chamado TDAH e suas possíveis implicações para os processos de apropriação da linguagem escrita por escolares. Propõe-se, desse modo, uma reflexão conceitual tomando por escopo dois paradigmas antagônicos.

Palavras-chave: *transtorno do déficit de atenção com hiperatividade; transtornos de aprendizagem; medicalização.*

Resumen

Es alta la demanda por terapia fonoaudiológica en sujetos que, debido a un rendimiento escolar insatisfactorio, son considerados portadores de "trastornos" o de "dificultades" en la lectura y la escritura. Muchos de estos sujetos, al ser evaluados por médicos, acaban por recibir el ser diagnostico de TDAH(Trastorno por Déficit de Atención/Hiperactividad). Los estudios en el área son muy anchos y es posible observar dos principales corrientes teórico-metodológicas que tratan de explicar el problema. De un lado están los investigadores organicistas, que creen en la naturaleza orgánica del TDAH y lo toman como un trastorno neurobiológico, de carácter genético, responsable de la aparición de los síntomas de impulsividad, hiperactividad y falta de atención. De otro lado están, investigadores que ven en este diagnóstico un proceso de medicalización la educación. En esta segunda vertiente, que se inscribe en el paradigma socio-histórico, se propone que los problemas de atención y aprendizaje se deben a cuestiones sociales, políticas y educacionales y, por lo tanto, no se deben a aspectos de orden biológico. El objetivo de este trabajo es realizar una discusión en torno a estos dos puntos de vista sobre el TDAH y sus posibles implicaciones para los procesos de apropiación de la lengua escrita por estudiantes. Se propone, de ese modo, una reflexión conceptual tomando por base dos paradigmas opuestos.

Palabras clave: *trastorno por déficit de atención con hiperactividad; trastornos del aprendizaje; medicalización.*

Introduction

There has been increasing demand for speech--language pathology by children and adolescents who are considered to have "disorders" or "difficulties" in reading and writing because they do not meet the school's expectations. Many of these individuals, when evaluated by medical professionals (neurologists, pediatricians and psychiatrists), are diagnosed with ADHD (Attention Deficit Hyperactivity Disorder).

Studies in the area are quite broad and there are two main theoretical and methodological approaches that are used to explain the problem. Organicist researchers[1-6]believe in the neurobiological nature of ADHD and take it as a genetic, neuropsychiatric disorder responsible for the appearance of symptoms of impulsivity, hyperactivity and inattention. By contrast, there are researchers[7-10] who support

the socio-historical movement; they consider this diagnosis to be a process of pathologization/medicalization of education.

The term *medicalization* refers to a process of turning non-medical issues (i.e., social, cultural, educational and political issues) into medical issues. In other words, it is the attempt to find, in the medical field, the causes and solutions to non-pathological problems. Medicalization considers the health/disease process as something as individual-centered, according to an organicist approach[7]. When medicalized, social issues lose their collective dimension; the problem is no longer social, historical, political, interactional and emotional; it becomes an individual problem. As professionals other than physicians (psychologists, speech-language pathologist, educational psychologists) started to support the "medicalization" of education, this term was resignified and referred to as: *pathologization*.[7,11]

Some children are considered to be healthy before they attend an exclusionary school; then, they are prediagnosed as having invented diseases, because of failures that are not theirs, and end up confined in "invisible institutions"[7]. Finally, when these children receive referrals for clinical evaluations, they are often diagnosed with disorders/disturbances by health professionals. Because they are labeled both at school and at the clinic, they have a low self-esteem as learners. Accounts such as I *don't know, I can't, I write it all wrong, I hate reading and writing, I'm hyperactive, I have attention deficit, etc.,* begin to permeate the discourse of students, who become less and less at ease with the written language, and only assimilate and sustain a condition of linguistic incompetence. Massi[12], when addressing the topic of appropriation of writing by children "labeled" in the school environment, says:

> Whereas children's subjectivity is marked by effects of discursive meanings, when a child is identified as someone who is "failing" at school because of difficulty learning the written language, we understand that any child may have low self-esteem and little interest in this type of language, especially when the school advertises a given child as incapable or unable on the grounds of assumptions and "errors" that are part of the learning process [our translation] (p.18).

Based on this problem, the objective of this paper is to ponder over two main views on the same object - the so-called ADHD - and the possible implications of this diagnosis for the processes of appropriation of written language by schoolchildren. We propose, therefore, a conceptual discussion by considering two opposing paradigms. For this purpose, we will make a literature review.

The history of ADHD

One of the first references to a child with attention deficit was found in poems by German physician Heinrich Hoffman in 1856. In his poems, Hoffman described childhood diseases that he became acquainted with in his clinical practice. However, George Still and Alfred Tredgold received the scientific merit, since they paid special attention to a particular clinical condition of child behavior that was very similar to what is now known as ADHD. The researchers studied children who, in their opinion, had difficulty sustaining attention. They believed that this "defect" could be a result of an acute brain disease that would regress by healing such disease[1].

In 1917, in North America, interest in ADHD came after an encephalitis crisis, in which the children who survived began to show significant behavioral and cognitive sequelae, or had symptoms found in the clinical picture of ADHD, such as limitations on the capabilities of attention and memory, and disruptive behavior[1]. The appearance of post-encephalitis sequelae created a cause and effect hypothesis, as researchers began to assume that if a brain injury could be responsible for the appearance of symptoms for behavior and attention, children that already showed these "symptoms" at a young age (even without evidence of injury) would have developed them due to congenital lesions in the brain. Many of these children began to be treated outside the home; they were sent to special schools far from normal education institution[s1].

In subsequent years, there have been many studies with an attempt to prove that changes in behavior could be the result of brain injury. Perinatal traumas, diseases such as measles, lead toxicity, epilepsy and trauma to the skull began to be studied

and correlated with behavioral characteristics and cognitive changes, many of which were found in the triad (hyperactivity, inattention and impulsivity) of the so-called ADHD1.

In 1930, there were some studies attempting to correlate symptoms of hyperactivity in primates that had suffered injury in the frontal lobes with behavioral changes in children. In the following decade, any child with hyperactivity was considered to suffer from brain damage. As there were no noticeable signs of impairment in the brain, the expression "minimal brain damage" began to be used, as recommended by Strauss. The term "minimal" was used because the lesion was considered too small to affect other neurological functions beyond behavior and learning[13]. However, in a workshop held in Oxford in the 1960s, by means of anatomic-pathological studies of the brains of people who were monitored until their death, Strauss was found to be wrong: there was no injury1[3]. Thus, the term "minimal brain damage" was replaced with "minimal brain dysfunction".

The term dysfunction was considered as an alternative to the lack of evidence of brain injury; it equated with altered brain function, which could cause symptoms such as difficulties in attention and memory[1]. Nowadays, there is the prevailing notion that ADHD is supposed to occur because of a "dysfunction"; not a minimum dysfunction, but specifically a malfunction in the prefrontal cortex.

For Massi[12], the theory that defends the idea of "brain dysfunction" is associated with the organicist thought, which cannot prove what it advocates. In the author's own words:

> [...][...] such dysfunction would be characterized in terms of neurotransmission abnormalities - natural chemicals that transmit messages between brain cells. These abnormalities could lead to child behavior disorders described as part of a hyperkinetic syndrome which, in turn, would cause learning difficulties. However, as all hypotheses presented, this explanation is only an assumption [our translation] (p.36).

There is a strong tendency to believe that the etiology of ADHD can be caused by imbalances in neurotransmitters, particularly related to a reduction in brain dopamine. However, even organicists admit that "little evidence" that seems to point to a selective loss in the availability of dopamine and norepinephrine cannot be considered conclusive at this point1. This inefficiency of the dopaminergic system occurs because of a genetic flaw which in turn leads to dysfunction of the forebrain.

The dysfunction referred to by organicists relies on the results of neuroimaging studies, which show a reduced function in areas related to attention in the case of ADHD and reading with respect to dyslexia[13]. However, nothing is as simple and linear as far as brain function is concerned; for example, when faced with a text in an unknown language, we healthily turn off and "our thoughts fly by other landscapes; at that moment, neuroimaging shows that the areas of attention and reading are not very operative"[13]. And this also occurs with people who cannot read. Thus, these results are predictable, because they are obvious; neuroimaging studies, therefore, are not reliable instruments, when used alone, to claim that a person has dyslexia and/or ADHD[13].

Still on the history of ADHD, during the 1960s, the concept of minimal brain dysfunction was criticized; it was considered as too vague, with no neurological evidence and with little descriptive value. Barkley[1] stated that the term minimal brain dysfunction

> was finally replaced with more specific labels applied to cognitive, behavioral and learning disorders that were somewhat more homogeneous, e.g., "dyslexia", "language disorders", "learning difficulties" and "hyperactivity". *These new labels were based on observable and descriptive deficits in children, rather than some underlying etiologic mechanism to the brain, which could not be observed*. With growing dissatisfaction with the term "minimal brain dysfunction", clinical researchers shifted their focus to the behavioral symptom that was considered to be the more typical of the disorder - hyperactivity (p.20).

For more than a century, there have been countless hypotheses about possible neurological disorders that impair learning and/or behavior only. These hypotheses could never be proved and are refuted by physicians and medical researchers[14]. Along the way, whenever a hypothesis is severely criticized, it is transmuted to another; nomenclatures are changed so that it hopefully reaches somewhere[14].

Dissatisfaction with the term MBD gave birth to the concept of hyperactivity, which was defined by Chess[15] as follows: children with hyperactivity are those who perform activities in a higher than normal speed compared with the average child, or those who are always moving, or both situations. The phrase "average child" shows the perspective of individual, health and normality as found in organicist studies.

It was then that hyperactivity, as defined by Chess, appeared in the diagnostic nomenclature of the Diagnostic and Statistical Manual of Mental Disorders (DSM-II, American Psychiatric Association, 1968). At the end of the 1970s, the defining characteristics of the hyperkinetic disorder were extended. They included other characteristics that were once only associated changes, such as impulsivity, low attention span, little tolerance for frustration and aggression1.

Back in the 1970s, researcher Virginia Douglas[16] published a paper in which she argued that attention deficits were more significant symptoms and more likely to be observed than hyperactivity, i.e. inattention was more relevant than hyperactivity. Such evidence, she said, was verified as the stimulant medication seemed to produce more effects on inattention symptoms, but was less effective for hyperactivity. Douglas's research has been so influential that it resulted in a redefinition of the disorder, which was eventually named as Attention Deficit Disorder - ADD - in the DSM III (in 1984), i.e., attention deficits have been recognized as more significant for diagnosis than hyperactivity itself. ADD subtypes were created, with or without hyperactivity[1].

In 1987, as a result of studies that questioned the prevalence of symptoms of inattention, the DSM-III was revised (DSM-III-R) and ADD suffered another change of nomenclature: ADHD. The revisions were significant at various points. Now, a list of symptoms has replaced the previous three lists (of DSM-III), which divided the symptoms of inattention, hyperactivity and impulsivity[1].

Moysés and Collares[13] cited these changes of nomenclature using the original terms in English:

> In 1984, the American Academy of Psychiatry, considering that the diagnostic criteria for MBD were vague, subjective and confusing and, also, that the defect was located in the area of attention, proposes a new change by releasing the newest sensation: the Attention Deficit Disorders (ADD), whose criteria were even more vague, all started with often, adding actions such as *does not seem not hear, acts without thinking, failure to complete tasks, has a learning disability*. To claim that such criteria are objective, quantifiable, easy to evaluate, and that a child would only fit in them if he had any neurological problem escapes any scientific rationality (p.78).

They continue:

> Less than two years later, new cosmetic change: ADD was subdivided into two subgroups: ADD and, when there was also relevant hyperactivity, ADD-H. While maintaining the attention deficit as a central problem, hyperactivity recovered its importance, returning to stage. Soon after, there was a new amendment: ADHD (Attention Deficit and Hyperativity Disorders) [appears]. In Brazil, perhaps because of criticism, the term *distúrbio* - equivalent to disorder in the English language - was replaced with *transtorno* (p.78).

"Changes" continued and in 1994, the DSM-IV was created with new criteria for diagnosis. These criteria have begun to take into account the different manifestations of the disorder: predominantly inattentive type (ADHD-PI or ADHD-I), with predominance of inattention symptoms; predominantly hyperactive-impulsive type, where there

is a predominance of hyperactivity symptoms; or combined type (TDAH-C), with the presence of symptoms of inattention and hyperactivity equivalently. The criteria also consider the full range of signs and symptoms between environments and suggest that there is a significant impairment in at least two areas of life of the individual.

In the following section, we discuss the diagnostic criteria in more detail.

Diagnosis of ADHD

LIt should be noted that the diagnosis of the so-called ADHD can only be given by a physician. However, the medicalization of childhood [and learning], and its implications, is a problem of social relevance; it is, therefore, a problem of the whole society.

The diagnostic criteria of the DSM-IV are discussed below. Importantly, the listed criteria are based on signals that are widely cited by teachers in child evaluation reports. Attention should be paid to the use of the term 'often", something already mentioned by Moses in her research. Consider:

A.Or B (1) or (2)

(1) six (or more) of the following symptoms of inattention have persisted for at least six months in maladaptive degree and inconsistent with the level of development:

Inattention:

(a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities

(b) often has difficulty sustaining attention in tasks or play activities

(c) often does not seem to listen when spoken to directly

(d) often does not follow through on instructions and fails to finish school work, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)

(e) often has difficulty organizing tasks and activities

(f) often avoids, dislikes, or or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)

(g) often loses things necessary for tasks and activities (e.g. toys, school assignments, pencils, books, or tools)

(h) is often easily distracted by extraneous stimuli

(i) is often forgetful in daily activities

(2) six (or more) hyperactivity segments persisted for a minimum of six months in maladaptive degree and inconsistent with the level of development:

Hyperactivity

(a) often fidgets with hands or feet or squirms in seat

(b) often leaves seat in classroom or in other situations in which remaining seated is expected

(c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)

(d) often has difficulty playing or engaging in leisure activities quietly

(e) is often "on the go" or often acts as if "driven by a motor"

(f) often talks excessively

Impulsivity

(a) often blurts out answers before questions have been completed

b) often has difficulty awaiting turn

(c) often interrupts or intrudes on others (e.g., butts into conversations or games)

B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.

C. Some impairment from the symptoms is present in two or more settings (e.g. At school [or work] and at home).

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety

Disorder, Dissociative Disorders, or a Personality Disorder).

Code based on type:

314.01 Attention Deficit Disorder/ Hyperactivity, Combined Type: if both criteria A1 and A2 are met during the past 6 months.

314.00 Attention Deficit Disorder / Hyperactivity Disorder, Predominantly Inattentive Type: if criterion A1 is met but criterion A2 is not met for the past 6 months

314.01 Disorder Attention Deficit / Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type: if criterion A2 is met but criterion A1 is not met for the past 6 months.

It is found that eighteen items complete the list of symptoms. When six items in a subgroup are responded affirmatively, the diagnostic of prevalence of attention deficit hyperactivity disorder or ADHD is performed; this diagnosis had already been set when the family members were advised that the child had problems.[13]

Moysés and Collares[13] expressed their view on these constant changes in the criteria that guide diagnosis in Psychiatry:

> The appearances change, but the structure remains the same. Born under the discourse of scientific and objectivity - to assess behavior and learning, it is worth remembering - how is the newest version (ADHD) diagnosed? Just visit the page of the association that organizes, regulates and controls the discourse on it. There one can find diagnostic criteria that have no major changes, not even cosmetic ones, compared with the MBD [Minimum Brain Dysfunction], thus certifying and authenticating its metamorphosed character (p. 78-79).

When visiting the page cited in the extract above, one can see that there were new changes in diagnostic criteria, because the DSM V was released in 2013. In this version, the list of symptoms remained unchanged compared with the DSM IV, but the number of affirmative items for receiving the "label" was reduced to five (instead of six) in the case of adults, expanding the possibilities of diagnosis for this group. For children, the possibilities of diagnosis were expanded as well, since there was a change in the age criterion. Before, it was recommended that some symptoms should be present before the age of seven. By current criteria, age was increased to twelve, i.e., it reinforces the notion that the signs of inattention/hyperactivity arise at school.

It is worth mentioning that this criterion was already used on a recurring basis in medical practice. Moreover, the term "subtype" was replaced with "presentation". The above-mentioned page on ADHD contains the following explanation:

> The subtypes were removed from the manual; instead, the term "presentation" is used, denoting that the profile of current symptoms may change over time (which is quite common). The term subtype favors the wrong interpretation of a stable and fixed category of ADHD. The presentations maintain the same divisions as old subtypes: predominantly inattentive, predominantly hyperactive-impulsive and combined presentation.

It should be noted that the replacement of "subtype" with "presentation" aims to promote the notion that the profile of symptoms changes, which means that when the child grows up and stops *running or climbing excessively*, it will still have ADHD, only there will be a change in the "presentation" of diagnosis. Such an understanding is already advocated by the latest organicist literature. According to some researchers[2], until the 1980s it was believed that the disorder could be cured with the arrival of adulthood. Nowadays, by contrast, it is widely reported that ADHD is chronic, i.e., it remains with the individual in the course of his entire life. Thus, a change in nomenclature only reinforces the idea that the so-called ADHD is not only a mental disease; it is also incurable.

Thus, it is noticed that the weakness manifested in diagnostic criteria has increased over the years. One of the biggest inconsistencies present in this diagnostic tool, which remains in the DSM V, is the statement that "some impairment from the symptoms is present in two or more settings" (home and

school, for example). It is suggested, therefore, that sometimes the symptoms are present, and sometimes they are not; something that strengthens the view that the problem is interactional/contextual/social, rather than pathological.

Following the line of thinking that advocates the *alternation* of symptoms, Barkley[1] says "these children" are usually able to mask the signs of the disease in the office. Hence, if they are well-behaved, attentive, organized, focused, it is because they have the "skill" to disguise the problem; and such "healthy" attitudes shown in front of the clinician, should be disregarded for diagnostic purposes. In other words, teachers' reports on the child usually have value to classify them as having an assumed disorder, rather than their attitude in an assessment situation, or even their socio-cultural actions.

As stated by Martins, Tramontina and Rodhe[17]:

> A proper development interview should be carried out with the child or adolescent assessing their view of the presence of disease symptoms. It is crucial to remember that the absence of symptoms in the doctor's office does not exclude the diagnosis. These children are often able to control the symptoms voluntarily or in activities of great interest. Thus, they can often spend hours on the computer or video game, but no more than a few minutes in front of a book or in the classroom (p.154). Parece consensual entre os defensores da corrente dominante (a organicista) que as crianças sejam capazes de controlar os sintomas em situação de avaliação. Tais discursos nada mais fazem do que denunciar as contradições presentes nos estudos que tentam comprovar o caráter neurobiológico do chamado TDAH. O discurso acima vai além disso, mostra a visão distorcida acerca das condições de leitura no Brasil. Importante comentar que os autores citados são brasileiros. Nesse sentido, caberia perguntar: quem no Brasil passa mais do que alguns minutos na frente de um livro?

It seems consensual between advocates of mainstream thought (organicist) that children are able to control symptoms in an evaluation situation. Such speeches do no more than report the contradictions in studies attempting to prove the neurobiological character of the so-called ADHD. The speech above also shows the distorted view on reading conditions in Brazil. It should be noted that the authors cited are Brazilian. In this sense, it should be asked: who in Brazil spends more than a few minutes holding a book?

Surveys[19] report that Brazilians are not keen on reading literary works, especially individuals from the least privileged social classes. If lack of reading habits is part of the reality of the country we live in, how can Brazilian researchers, who are probably aware of this, say that children with ADHD spend hours in front of computer and do not spend more than a few minutes holding a book? Could that be a criterion to think about a supposed disorder?

Regarding the use of computer and video games, it is worth asking: is it possible to believe that a child who spends hours doing any intellectual activity has an attention disorder or is hyperactive? As far as reading is concerned, for children to actually show a liking to reading in general, they have to experience significant literacy events ever since early childhood. How can a child that did not listen to stories read by parents/teachers or did not see them reading, can enjoy reading literature? The love of reading has to be developed; it is primarily a social construct. It cannot be used as a diagnostic criterion. The lack of reading of literary books is collective, by Brazilians at large; it is not specific to a group.

Furthermore, the purpose of evaluation, for organicist researchers[17], is to establish a differential diagnosis for decisions on a treatment plan. It is necessary to investigated the reasons why a family has sought clinical care[17]. For proper diagnosis, the physician should be knowledgeable of child development and be aware of what is expected in terms of behaviors for each age group[17].

About this last piece of information, one may wonder: What is expected in terms of behavior for each age group? Are children identical to one another; do they evolve along stages? What about their reality? Their life history? Their social and cultural environment? Their social relationships? Can these factors influence anyone's "behavior"? How do different life histories influence the relationships

people have with the world around them and with themselves? How can that be measured? How can one consider someone detached from their historicity? How can one consider behavior in terms of age?

For advocates of the hegemonic power, the diagnosis also includes additional assessments in other medical specialties. For example, there needs to be an assessment of visual and auditory skills, as attention deficits may occur in the presence of sensory changes[17]. In addition, it is important that children's teachers respond to a questionnaire, with objective scales to measure inattention and/or hyperactivity/impulsivity[17]. Other questions may arise: how can behavior be measured? Through objective scales?

Organicists[1,17] say that school information is relevant to complete the diagnosis. However, they said, some teachers tend to maximize the symptoms, especially when there is an association with other disorders such as oppositional defiant disorder; another label that is often associated with the so-called ADHD (it is a comorbid disorder)[17]. These researchers argue that the neurological evaluation is required for discarding pathologies that may be confused with ADHD[17]. They also recommend that evolutionary neurological assessment, especially the motor persistence test, can be important for diagnosis completion[17]. In neuropsychological assessment, one of the most reliable instruments, according to the organicist paradigm, is the Wechsler Intelligence Scale for Children, in its third version, the WISC III[17]. This instrument is an intelligence scale for children, and it is already available in the Brazilian standard[17].

A very controversial point among researchers is the use of batches of tests for clinical assessment. In clinical medicine, speech-language pathology, psychological, pedagogical and neuropsychological therapies, most experts maintains their evaluations through tests applied randomly to any subject, as if all people were equal or homogeneous as humans. Such tests end up resulting in misdiagnosis because they disregard what they should actually consider: the individual. The intelligence assessment scales, for example, have been strongly criticized by scholars of the socio-historical thought for their evaluative inconsistency. Moysés and Collares[8] believe that the only purpose of the tests is to classify people:

> Intelligence tests, instruments which are mainly aimed at sorting people, are affiliated with the eugenic ideology. In such tests, psychology gives visibility to its foundations in clinical thinking, through the need to abstract the individual, silencing him, to get him conflicted about his "clinical eye". It discusses the need to subvert the assessments, abandoning the search for defects to try to find the actual child, as a historical being (p.63).

We agree with the authors and add that not only intelligence tests, but any testing situation in a clinic, whatever the field, aims to the suppress individuals, and they are used on a large scale because they are easy to use. It is very simple to mark an 'x' in objective questions and then count hits and misses and reach diagnostic conclusions through predetermined scores. Intelligence tests have conceptual errors resulting from their design[8].

Let us take an example related to the evaluation of visual-motor coordination[8]:

> Some children make kites, other draw. They both have the same motor coordination. Each of the different expressions of the same coordination. Expressions whose acquisition is stimulated, driven by values of social belonging. Which of the two activities best represents visual-motor coordination, which should be elected as a parameter for normality? None can be considered the best in that both are merely different expressions; there is no hierarchy between them in the same coordination, which cannot be accessed[8] (p.65).

Thus, there is no access to motor coordination itself but the expressions of this coordination. It turns out that the tests elect one of many possible expressions as the normal parameter[8]. If a child has difficulties to draw a cross on a test situation, but can make kites, skate, climb trees, build wooden toys, they are regarded as having a deficit in this area anyway[8]. However, even if observed that the

child has unlimited capabilities of movements that allow skating, kite making and climbing a tree, it has no access to motor coordination itself but to these movements. "Thus, this direct observation of movements, in the light of conceptual references, allows the theoretical deduction of coordination, balance etc."[8].

In addition, one may question the fact that many of the questions in the tests are completely unrelated to the reality of some children. Such questions are focused on the expressions of the most privileged social classes. For example: *Who was Monteiro Lobato? What do the piano and the guitar have in common? What are hieroglyphics? Which children can answer these questions? What is the point in asking them*? What can be evaluated through them? Most children who get high levels in IQ scores do so because they grew up in favorable conditions[18]. However, the WISC has been considered an important tool to measure children's cognitive functions. The tests are used on a large scale and have served as a tool for the diagnosis of ADHD.

What should be evaluated is the cultural, political and social barrier imposed on children's developmental possibilities[8]. Such an assessment should aim to establish ways of coping and overcoming these socially constructed barriers, rather than the product, namely the difference between children, "turned into another justification for social inequality"[8]. Moreover,

> The transfer of assumptions of Darwinian theory - evolution and natural selection - to the understanding of phenomena that occur in human societies is the land that underpins theories which attempt to justify the discrimination between men. And at this point, one cannot forget that Galton, who developed intelligence tests, was engaged in the selection of the fittest to improve the human species, in an explicitly eugenic posture; a cousin of Darwin's, Galton is considered one of the creators of social Darwinism and to this day, intelligence tests are founded on eugenics and social Darwinism[8] (p.66).

Even assuming the organic element of intellectual functions, one can not relativize that we only have access to expressions of these functions8. Thus, there is no access to cognition, there is no access to learning or intelligence. We only have access to expressions of these dimensions, and these expressions carry along traces of life histories of each individual and their sociocultural actions[8].

ADHD in speech-language pathology

In speech-language pathology, as regards the application of the standard tests, the situation is not different from the one described in the previous section. Although the assessment of language skills considers some qualitative aspects, what prevails in the assessment of oral and written language is the applications of tests; however, as can be seen through the analysis of these instruments, they do not achieve their goal, i.e., they do not evaluate language in all its complexity.

We also emphasize that in speech-language pathology, advocates of the organicist paradigm adhere to the assumptions that argue that the symptoms can be "controlled" by the subjects depending on the situation they experience. According to this understanding, it is stated that the difficulties in writing can be masked during the evaluation, because in this case, children with [alleged] ADHD tend to perfect more and end up organizing themselves more than usual[20]. This can be seen when comparing performance in assessments with the notebooks of these children, which often are dirty, wrinkled and torn, thus highlighting the difficulty in motor planning, spatial organization and handwriting, which is often illegible[20].

The claim which states that the symptoms can be "masked" in evaluation situation fosters reflections: How is it possible that a child, when being assessed, produces a more organized text with more legible handwriting, and yet, because it has "dirty and crumpled" notebooks, is considered as having difficulties? Moreover, does giving such importance to the motor and spatial conditions mean taking the written language into consideration? What is the concept of language considered in traditional clinical practice? For Costa Lima and Albuquerque[20]

> Writing can be explained in a simple way, as a set of

> conceptualization processes, lexicalization and formulation, in which semantic representations are associated with phonological representations, going forward for the phoneme/grapheme conversion, featuring the discovery of the alphabetical basis of our writing system. The next step is the acquisition of spelling (p.124).

By analyzing the concept of written above, we can understand that the assessment based on the organicist paradigm ignores language itself, i.e., the text as a place for production of meaning. Instead, attention is directed especially to a writing dimension: the writing code. Writing is taken as a code and, when seen this way, it is "natural" for children to receive diagnoses of disturbances or disorders, because when form is considered, one does not see written speech; what one sees is a neat notebook, crumpled sheets, the handwriting style, if there are missing letters, if there are excessive letters, or if they are reversed. It is even more troublesome, when observing excessive or missing letters, that the professional disregards that such events do not represent signs of a disorder; rather, they are part of the process of appropriation of written language.

With regard to procedures for handwriting analysis, Costa Lima and Albuquerque[20] perform the evaluation in "four stages": copying, dictation, self-dictation (by presenting pictures) and text production. "In all these tasks, the following aspects are observed: graphic-motor aspects, writing strategies, mastery of phoneme/grapheme correspondence, grapheme discrimination, and acquisition and consolidation of spelling conventions"[20] (p.135).

Dictation is performed with words and pseudowords and the authors[20] warn that "nothing can be repeated," because it is important to check if the child has a good working memory. "Thus, it evaluates the capacity to remember phonological representations to be transcribed from an auditory stimulus"[20] (p.135). Through the analysis of the "dictation step", one understands that the assessment is not aimed at language; the main objective is to assess working memory. But why? Why assess working memory rather than language, which is the object of speech-language pathologist? Is it because the supporters of the mainstream thought advocate that children with ADHD have a change in this area? However, to produce a text, a note to someone, don't they need to have integrity in their working memory? Besides, why can't the dictated word be repeated? Isn't it natural, when we do not understand something or do not hear something said by someone, to ask the person to repeat?

The dictation of pseudowords proves equally meaningless. Why dictate words that do not exist in the language if what we usually write is meaningful words? The copying and self-dictation activities are also similarly decontextualized and artificial. This assessment does not create a dialogical situation, where the child has a reason to write; a real interlocutor.

Finally, the authors [20] say that text production allows the evaluation of syntactic-semantic structures and the development of a narrative sequence, vocabulary, punctuation, as well as logical and temporal ordering.

Further questions may arise: Why, in text production, is attention deviated from the discursive aspects of the text? Why are all the efforts directed towards the formal, temporal, sequential, logical aspects? We believe that this narrow view of language is intended to consider language as a closed system of immanent standards, reducing language to a code that is used to communicate. We believe, instead, that the evaluation of written language should be performed in a situation of effective use of the language, where, through interactive processes, meaning is what is actually pursued[7]. Thus, "in view of the artificiality of the tests, children can not contextualize their writing, since all the coordinates of the dialogic process are canceled"[7] (p.136).

Thus, in between these "assessments" (medical, psychological, phonoaudiological), one can understand how easily diagnoses of *neurobiological disturbances* and/or disorders are given to subjects in the process of appropriation of written language.

We should also reflect - with special emphasis - on language practices that are established in most schools. Costa Lima and Albuquerque[20] claim that, in view of the difficulty of writing, "it is not uncommon for children [with ADHD] to report that they do not like writing and to reluctant to writing tasks, thus feeling anxious to finish them" (p. 135). Differently from this view, we believe that decontextualized writing proposals that predominate in

schools (and in evaluative situations) cause children to dislike writing. We understand that if there is no one to write to (besides the teacher) - and no reason to write - there is no purpose for writing something[21]. It is known that, in most schools, the texts are produced as a pretext for teachers to point out spelling errors.

Thus, many children oppose to reading and writing activities; in turn, this favors pre-diagnosis ("diagnosed" given by the teacher) and diagnosis of alleged disturbances or disorders. The problem is that a "diagnosed" child may develop a relationship of suffering with language, with school and sometimes with themselves. A student stigmatized at school [and at the clinic] ends up experiencing a process of social exclusion, which often extends beyond the school. If the student does not feel part of a group, either in the classroom or elsewhere, they will have trouble remaining there, leading to complaints such as "can not stand"; "seems bothered"; "their gaze is always far".

Evaluation of the writing of a child diagnosed with adhd: *an example* from a dialogical perspective

In this section, we aim to illustrate the dialogical view of the speech-language pathologist that grounds their practice in the socio-historical paradigm. For this purpose, we quickly present a clinical case of a girl (J.), who was our patient (and subject of research). At the time of the study, this child was 10 years old and attended the 4th. year of elementary school. After phonoaudiological assessment was performed and the need for intervention was identified, J. was invited to join a group therapy, along with four other subjects. The therapy sessions took place weekly in a speech-language clinic of a Children's Hospital. Data were collected for one year. All the research participants signed an Informed Consent Form. The study was approved by the Research Ethics Committee of the Federal University of Santa Catarina under protocol number: 132/09. The objective of this study[22] was to present a proposal for therapy in written language based on the concept of Bakhtin's speech genres. Another goal was to verify that learning occurs satisfactorily when promoting interests and creating favorable conditions for the advancement of learners.

J. and the other participants in the therapy group had been referred by their schools with complaints about behavior, attention and learning. Two of the members, including J., were evaluated by doctors and were diagnosed with ADHD. These are excerpts from the Pedagogical Report (referring to J.) sent by the school at the time of the evaluation process:

> (1) Evaluation Report
> "reading: no rhythm, no punctuation"; "Writing: slow - reversing letter order - exchange of letters"; "speaks quietly and lacks confidence"; "struggles to find words to express her thought"; "raises her arm to talk and when given the turn, she says she has forgotten"; "attention is intermittent, daydreaming"; "there are many complaints of pain: head, stomach and bladder"; "seems often bothered and asks permission to go out and take a walk"; "is apathetic, does not seem content"; "her figure shows differences between the healthiest, cheerful, communicative, creative students"[22]. (p.87).

It should be noted that the supporters of the socio-historical movement do not deny the existence of problems. What is denied, with respect to the alleged ADHD and dyslexia, is that they derive from the biological aspects of the individual. Thus, we accept many of the children that are referred to us for clinical care for *resignification of the complaint*; which implies, among other actions, including the subject in social reading and writing practices. We therapy aim to deconstruct the child relationship of suffering with writing, with school, and, ultimately, with the diagnosis received.

With regard to the initial assessment of J.'s writing, we proceeded as follows: as we discovered through interviews that she had a passion for dogs and, therefore, had five of them, we asked her to produce a text about a topic of their choice, or about the things she liked to do, for example, playing with her dogs. We explained that her text would be red by other readers (besides the therapist) and the goal of textual production was to record a bit of her history. J, thus, produced the following text in an individual evaluation session:

(2) Textual production of J (evaluation of language)

Era uma vez uma menina que tinha 5 cachoros que eram muito baqunceiros a

tuli é branca equau a néve. A mel é muinto bagunceira porque ela sobe em/sima

da cama e duas puldos que latem muinto. e a belinha que só pega roupa, e a mel

dome com migo e poriso eu gosto dela22. (p.90).

We performed the analysis of the text above, considering the discursive, textual and formal aspects of written language.

J. begins her text with the adverbial there was once a girl that [...], producing her account in the genre that she is most familiar with: the tale. She tells the story of a girl (herself) who has five dogs that are very messy. Her written speech had a definite interlocutor and she was able to achieve her discursive intention: to produce a text about her relationship with her dogs, so that her interlocutors could get to know her better. Her account was entirely true, including features and names of animals.

With regard to textual aspects, we realize that J. produced a story in narrative form, placing the initial events in the past tense: [...] *5 cachoros que eram muito bagunceiros*. *(5 dogs that were very naughty.)* However, J. was aware that she was depicting her own history, so she changed the narrative axis finishing her account in the first person and at the present time (moves from an impersonal to a personal account): *poriso que eu gosto dela. (that is why I like her.)*

Her text is consistent and appropriately makes use of referencing elements such as, for example, pronominal anaphora present in lines four *(porque ela sobe em/sima da cama)* [because she climbs in/ to bed] and seven *(poriso que eu gosto dela) [that is why I like her]*. The use of these strategies is aimed at maintaining referential progression.

We also observed that when J. says dogs were very naughty, she justifies this claim, ensuring topical progression to the text: *A mel é muinto bagunceira porque ela sobe em/sima da cama e duas puldos que latem muinto* e a *belinha só pega roupa. (Mel is very naughty because she climbs in/ to bed and two poodles barking a lot and belinha only fetches clothes.)* However, later in the text - e *a mel dorme com migo e poriso eu gosto dela* (and Mel sleeps with me and that is why I like her) - it would take a better structuring of the text so that there was an adequate seizure of J.'s discursive intention.

We also found when analyzing the written production of J., she (predictably) develops the following reflections on the formal aspects of written language:

1) Hypersegmentation in *com migo* (with me): such an occurrence indicates that J. is already aware of the conventions that permeate the writing system and realize that there are units (articles, prepositions, conjunctions) such as *com, de, em* (with, of, in) etc.

2) support on oral speech: *poriso* rather than por isso; muinto instead of *muito; cachoros* rather than *cachorros*; néve instead of neve (that is why, dogs, snow). In the expression *emsima* (into), she demonstrates her reflection on language, because after writing, she puts a dash to mark the separation between the proposition em and the noun cima. Also in relation to the adverb *muito* (very), J demonstrates her (natural) oscillation, because she sometimes spells the word in the conventional way, and sometimes with the inclusion of "n" (marking the nasality found in pronunciation).

3) Exchanges between voiceless and voiced graphemes: *baqunceiros* instead of *bagunceiros*; however, in this example she also shows her knowledge, because she then writes the word *bagunceiro within conventional language standards. She also writes equau for igual (equal)*. Such exchanges are common in the phase of appropriation of writing because these words have phonemes with the same point of articulation and only differ by voicing features.

Thus, aspects of her text that could be considered as "errors" can be explained as facts that make up the process of development/ appropriation of writing. J. reflected in relation to the writing system of her language and this can be seen in her textual production. We emphasize that most of the words she wrote were spelled in the standard spelling and the instabilities cited are inherent in the process of appropriation of language, as already mentioned.

We understand, however, that the lack of contact between J. and the written text, that is, her history and her relationship to writing, caused

her productions to be considered "deviant" of the standard expected by the school (reason for the referral). That was also the reason why we accepted her for therapeutic care, as the school's complaint translated into a shaken self-esteem by J. and suffering in a relationship with reading and writing that needed to be re-signified in the context of therapy. This relationship of suffering made her reject school and the practices of schooling literacy: "I do not like my school and do not like my teacher, she tells me to read aloud and I am ashamed, the other students keep laughing at me" (J.'s words).

Also in relation to J.'s textual production, we can say that she has no writing disorder because her text conveys an organized linguistically message, which was built according to a specific purpose, for a defined interlocutor, with enunciative mechanisms and textualization, thus ensuring that meanings are attribued to her production.

We emphasize that our analysis moves away from the notion of language as code (instrument used to communicate). Thus, we do not focus on isolated linguistic forms, obtained in standard, artificial tests, with reduced production capabilities. We believe that the analysis of textual productions of the subjects should be focusing on language as object on which we act, by which we interact and that manifests itself in the text12, and this is how we focus on the written productions of our subjects.

With regard to behavioral issues, evaluated during the process, we can ensure that in the therapeutic context, J. was quite cheerful, communicative, committed and healthy, a fact that contradicted the school's speech. She remained for up to three hours at a time (once a week) in speech-language therapy group, and all the while she did not make complaints of "pain" nor asked to leave the therapy room. Thus, the fact that the student cannot sit still in class, as we found, did not represent a disturbance signal, but a "flight" away of a context in which she was not accepted.

At the end of this discussion, we would like to mention that we intended to conduct a critical analysis of what is meant by traditionally ADHD, presenting, therefore, the two views on the problem. It must be said that most speech-language pathologists only know the current hegemonic thought; therefore, presenting the other side of ADHD favors an analytical view. We know, of course, that different paradigms will always coexist. Thus, organicist researchers will continue their relentless pursuit of defective genes by substances in the nervous system, which in excess or missing, would lead to a brain impairment, or any other etiologic mechanism, to confirm the hypothesis of what, in their view, is a neuropsychiatric disorder. The supporters of the socio-historical movement, in turn, would also continue their search for a somewhat more egalitarian society; a school that meets all students' needs without distinction. In this school model, there is no longer the "hyperactive", the "inattentive", the "dyslexic", but rather "learners", without labels other than the latter.

Final remarks

The explanations for the facts of learning are divided into two main views: one that pathologizes, which charges subjects with the causes of their difficulties. And another view, which considers the historicity of the subject and its relations with the written language. It is understood, according to the socio-historical paradigm, that possible instabilities around the written object are inherent in the process of appropriation of a given language mode. In this view, spelling errors, an important source of referrals to the clinic, can be explained by linguistic theories. Such errors are evidence that learners reflect on language and prepare their own hypotheses, which do not always coincide with conventions[23]. We believe that it is by reading, writing, revising, rewriting, and publishing the written text, that subjects will gradually appropriate the written language dimensions, i.e., discursive, textual and formal[24].

However, one should remember that the activities of reading, writing, rewriting, revising, and publishing written productions of the students are not properly developed in the context of many Brazilian schools. As a result, students show "reading and writing difficulties" and are always among the worst ranked in international reading literacy assessments, such as the PISA (Programme for International Student Assessment). In 2009, Brazil ranked the 54th. position among 65 participating countries[24].

In this paper, we specifically question the two main views on the so-called ADHD. Adhering to the socio-historical paradigm, we particularly described the implications of pathologizing processes. Our aim was to promote the following reflection: Whether it is through social interactions that we

are constituted, that is, if the speech of others about us builds our self-image, a child, when considered as someone who has reading difficulties, attention disorders, behavioral and / or writing disorders, assimilates this view and believes that it is someone with individual disorders that affect and hinder, if not prevent, the appropriation of written language and the development of reading and writing practices[25-27]. The big question that arises, then, is not the diagnosis itself, but its meaning for the person who receives it.

We agree with Moysés[7] when she says that is not by studying the pathology of a "theoretically possible but rare learning disability", that we will possibly be aware of the processes involved in teaching and learning relations. The problem of school failure cannot be understood and solved by the transformation of this area of "teaching" and "learning" into clinical space; space of diseases, disorders, labels[7].

Speech-language pathologists, before accepting the school complaint, or the medical diagnosis, should examine in detail the quality of interactions the child is exposed to. Such consideration is extremely important because, depending on the view of professionals, we can, on the one hand, *promote health*, or on the other, promote disease, with all the implications for the subjectivity, learning and development of the child inside and outside the school.

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