University of Groningen

MBD and de-educationalization

Bakker, Nelleke

Published in:
Folds of Past, Present and Future

DOI:
[10.1515/9783110623451-019](https://doi.org/10.1515/9783110623451-019)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2021

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Bakker, N. (2021). MBD and de-educationalization: a Countertendency in the pre-ADHD Era. In S. van Ruyskensvelde, G. Thyssen, F. Herman, A. van Gorp, & P. Verstraete (Eds.), *Folds of Past, Present and Future: Reconfiguring Contemporary Histories of Education* (pp. 359-380). De Gruyter.
<https://doi.org/10.1515/9783110623451-019>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Nelleke Bakker (University of Groningen, the Netherlands)

MBD and De-educationalization: a Countertendency in the pre-ADHD Era

Abstract: This essay explores the possibility of a process of de-educationalization as opposed to the continuing educationalization that is considered to be a key aspect of western societies. It examines the way school-based children's problems, such as inattention and overactivity, were perceived and treated in the 1960s to 1980s, the pre-ADHD era. The focus is on the Netherlands, where the most prominent forerunner of ADHD, Minimal Brain Damage/Dysfunction (MBD), was diagnosed frequently. Its popularity among the larger public was based on individualized remedial teaching in special schools with small classes, claiming success while removing blame from parents and teachers. These conditions have created fertile ground for a positive reception of ADHD and large-scale use of medication as a quick and cheap fixer of school problems. Therefore, it is concluded that MBD has played a significant role in preparing the way for biomedicalization and de-educationalization of these problems.

Keywords: de-educationalization; neurologization (of causes of behavior); biomedicalization (of treatment of behavior); minimal brain damage/dysfunction; learning disabilities

Introduction

In close cooperation with other Flemish researchers Marc Depaepe has enriched the study of the history of education with the concept of "educationalization."¹ It refers to the process of extension and intensification of education in children's lives and the progressively important role of education and educational expertise in society at large across the West since the age of Enlightenment. Once started, educationalization turned increasing numbers of children into pupils. Unlike Mi-

¹ Marc Depaepe, *De pedagogisering achterna: Aanzet tot een genealogie van de pedagogische mentaliteit in de voorbije 250 jaar* (Leuven/Amersfoort: Acco, 1998); Marc Depaepe, Frank Simon and Angelo Van Gorp, eds., *Paradoxen van pedagogisering: Handboek pedagogische historiografie* (Leuven/Voorburg: Acco, 2005); Marc Depaepe, *Between Educationalization and Appropriation: Selected Writings on the History of Modern Educational Systems* (Leuven: Leuven University Press, 2012). Next to "educationalization," the authors also use "pedagogization" as a synonym.

chel Foucault's critical interpretation of the enlightened disciplinary "knowledge–power" that regulates and controls human life, Depaepe's "educationalization" does not refer to dehumanizing aspects of the power of educational institutions exclusively. Though it allows for the normalizing power of school discipline, "educationalization" focuses on the provision of increasing opportunities to children by the school system and on educationists promoting child-focused knowledge of teaching and learning. For Depaepe there is no "master plan" of duty and discipline in an "imprisoned society" but a balanced understanding of "the subtle paradox of educationalisation: the pastoral compulsion of the educator (...) and the liberating experience of the learning, knowledge-acquiring individual."² Neither is there a single engine behind the ongoing process. Like individuals, societies profit from more and better education and they promote the teaching of national, civic or religious cultural values to be appropriated. Despite criticism that focuses on the limited explanatory power of the concept as regards the powerful and all but liberating "teaching apparatus" of neo-liberal modern states,³ this nuanced perspective has inspired many researchers across the international community of historians of education.

However useful the concept of educationalization may be for the interpretation of historical developments in education, the process to which it refers seems in more recent years to be confronted with a countertendency that manifests itself especially in the English-speaking world. After the 1970s witnessed the replacement of the last remnants of forced disciplining with more gentle and subtle kinds of psychological influencing of children, the 1980s and 1990s saw a considerable decrease in the belief in the power of child-rearing and education in bringing about certain behavior in children. This went together with the regeneration of a romantic focus on a child's inborn talent that should develop itself with the help of a supportive environment. By consequence, this developmentalism leaves little room for the educator's molding hands. Today, development instead of child-rearing governs educational studies. This new romanticism has engaged with a new belief in organic or "natural" causes of behavior, assumingly located in the brain, which reduces adult nurturing largely to optimizing the de-

² Marc Depaepe, "Educationalisation: A Key Concept in Understanding the Basic Processes in the History of Western Education," in Marc Depaepe, *Between Educationalization*, 138.

³ Critical reflexion on the use of the concept for understanding modern societies can be found in the volume *Educational Research: the Educationalization of Social Problems*, ed. Paul Smeyers and Marc Depaepe (New York etc.: Springer, 2008). See for educationalization and neo-liberalism: Maarten Simons and Jan Masschelein, "It Makes Us Believe That It Is About Our Freedom": Notes on the Irony of the Learning Apparatus," in *Educationalization of Social Problems*, ed. Smeyers and Depaepe, 191–204.

velopment of the child's brain through a healthy lifestyle and effective teaching.⁴ If the unfolding of a child's talent does not run smoothly, psychiatric diagnoses implicating a neurological dysfunction such as Attention Deficit Hyperactivity Disorder (ADHD) are sought for and given more easily than ever before.⁵ At the same time psychodynamic theory has made way for neuropsychology as predominant explanatory paradigm for educationists. Therefore, we may interpret this shift of focus from nurture to nature as a process of psychopathologization of children's behavior and of neurologization of the assumed causes of unwanted behaviors. Was the growing belief in the etiological key-role of the brain paralleled by a decreasing belief in the role of education as "treatment" of school-based children's problems? In other words, do we also notice "de-educationalization"? And if so, which forces were driving it forward?

To answer this question this essay discusses the history of the present obsession with the child's brain by focusing on the most prominent forerunner of ADHD, which was literally held to be an illness of the brain: Minimal Brain Damage and later Minimal Brain Dysfunction (MBD), after neuroscientists had admitted in the 1960s that in most cases no proof of brain damage could be found. Like ADHD, the label had its origin in the United States. It was used in the 1960s to 1980s for children with only mild ("minimal") symptoms such as overactivity and inattention at school. Provided that these were the heydays of anti-psychiatry and belief in nurturing approaches, it was remarkably popular among teachers and parents.⁶ Claims have been made that, as compared to ADHD, MBD was much less frequently diagnosed and was a much more serious illness with "clear signs of a cerebral disorder".⁷ Some authors maintain that in Europe MBD was as a rule not treated in the way ADHD is, with medication, because of a "taboo" on the prescription of psychotropic medicine among child psychiatrists.⁸

4 Dick Swaab, *We Are Our Brains: From the Womb to Alzheimer's* (Amsterdam: Contact, 2010); Sheryl Feinstein, *Inside the Teenage Brain* (London: Rowmer & Littlefield, 2009).

5 Laura Batstra, *Hoe voorkom je ADHD? Door de diagnose niet te stellen* (Amsterdam: Nieuwezijds, 2012); Sanne Bloemink, *Diagnosedrift: Hoe onze labelcultuur kinderen tekort doet* (Amsterdam: Amsterdam University Press, 2018).

6 Russell A. Barkley, *Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment* (New York/London: The Guilford Press, 2006, 3rd ed.), 9; Russell J. Schachar, "Hyperkinetic Syndrome: Historical Development of the Concept," in *The Overactive Child*, ed. Eric A. Taylor (Oxford/Philadelphia: Blackwell/Lippincott, 1986), 19–40; Jane W. Kessler, "History of Minimal Brain Dysfunctions", in *Handbook of Minimal Brain Dysfunctions*, ed. Herbert E. Rie and Ellen D. Rie (New York etc.: Wiley & Sons, 1980), 18–51.

7 Timo Bolt, *Van zenuwachtig tot hyperactief: Andere kijk op ADHD* (Amsterdam: SWP, 2010), 69; Schachar, "Hyperkinetic Syndrome"; Kessler, "History".

8 Bolt, *Van zenuwachtig*, 92; Schachar, "Hyperkinetic Syndrome"; Kessler, "History".

But how was MBD treated in the decades before biological psychiatry⁹ took over from the mid-1980s? How serious were the symptoms of the children diagnosed with it and how uncommon was the condition? And, most importantly, what did parents, teachers, and society gain from a neurological diagnosis in times of an overwhelming belief in the forces of child-rearing and education? MBD seems a good case to search for traces of de-educationalization.

In the literature many indications can be found that non-medical professions have for a long time been involved with the study and treatment of children demonstrating the behavioral symptoms that are now labelled as ADHD. Before Ritalin and pharmaceutical companies established their monopoly on the treatment of inattention and restlessness and these behaviors became symptoms of mental illness, child psychologists, neuropsychologists, and special educationists contributed significantly to the study and treatment of these school-based problems.¹⁰ Some authors even maintain that by the mid-1960s child psychiatrists lost their key-role in mental health care for children, as both institutions for the mentally disabled and outpatient clinics were invaded by psychologists, special educationists, and social workers who introduced new cognitive and behavioral therapies, and promoted the training of communicative and social skills instead of medical treatment.¹¹ This warns us that the pre-ADHD era, despite similarities between MBD and ADHD, cannot simply be conceived as a prelude to the age of Ritalin, but must be considered in its own terms.

Across the West the 1960s to 1980s have, moreover, been the years in which each of the child-related research areas succeeded in establishing itself as an academic field of study with chairs and laboratories.¹² Besides, special education grew and diversified in these years, before integration became the keyword in

9 Edward Shorter, *A History of Psychiatry: From the Era of the Asylum to the Age of Prozac* (New York etc.: Wiley & Sons, 1997), 239–328; Timo Bolt and Leonie de Goei, *Kinderen van hun tijd: Zestig jaar kinder- en jeugdpsychiatrie* (Van Gorcum: Assen, 2008).

10 Gerald Coles, *The Learning Mystique: A Critical Look at "Learning disabilities"* (New York: Fawcett Columbine, 1987); James M. Kauffman and Timothy J. Landrum, *Children and Youth with Emotional and Behavioral Disorders* (Austin: Pro-ed, 2006).

11 Kauffman and Landrum, *Children and Youth*; Ido Weijers, "Zestig jaar kinder- en jeugdpsychiatrie in Nederland (1920–1980)," *Kind en Adolescent* 23 (2002): 82–96.

12 Helmut Remschmidt, Herman van Engeland and Jorma Piha, eds., *Child and Adolescent Psychiatry: Historical Development, Current Situation, Future Perspectives* (Darmstadt: Steinkopff Verlag, 1999). Barbara Beatty, Emily Cahan and Julia Grant, eds., *When Child Science Encounters the Child: Education, Parenting, and Child Welfare in 20th-Century America* (New York/London: Teachers College Press, 2006); Rita Hofstetter and Bernard Schneuwly, eds., "History of Educational Sciences," *Paedagogica Historica* 40 (2004): 569–784.

the schooling of special-needs pupils.¹³ Next to the older schools for the “feeble-minded,” new schools and classes were for example established and teaching strategies developed for normally intelligent children with “specific” learning disabilities such as dyslexia, a development that seems to indicate further educationalization, but may also be related to an increased medical interventionism expressed in diagnosing children with neurological dysfunctions.¹⁴

This essay focuses on the unexplored ground of de-educationalization and searches for signs of it in the expert discourse on brain-related illness of school-children in the decades when MBD was used as a label for “difficult” children. It discusses the case of the Netherlands as part of a developing international scientific community in which scientists from the English-speaking world figured already prominently, but did not yet set the standard as regard definitions and approaches in the way they do today. It will be argued that MBD has played a significant role in preparing the way for bio-medicalization and de-educationalization of school-based children’s problems.

Brain Injury and Learning Problems

In the Netherlands the concept of MBD was not used until the 1970s, but a number of other brain-related labels were used from the 1950s, mostly for children with learning problems. In 1949 in Amsterdam at the Second International Congress on Orthopedagogics the recent founder of the first Dutch special school for normally intelligent children with learning and behavioral problems (*leer- en opvoedingsmoeilijkheden*, LOM) discussed these in terms of “partial defects.” This child psychologist who would become professor of special education studies, Wilhelmina Bladergroen, related the story of her successful treatment of a young woman with serious learning problems which she diagnosed as effects of “brain paralysis,” a story she would endlessly repeat during her career.¹⁵ According to the psychiatrist who wrote the report on the conference’s section on

¹³ I.M. Abbring, C.J.W. Meijer and J. Rispen, eds., *Landenstudies. Het onderwijs aan leerlingen met problemen in internationaal perspectief* (Groningen: RION, 1989), 2 vols.

¹⁴ This is suggested for example by Coles, *The learning mystique*.

¹⁵ Mineke van Essen, *Wilhelmina Bladergroen: Vrouw in de eeuw van het kind* (Amsterdam: Boom, 2012).

partial defects, the psychiatrist and leader of the Amsterdam child guidance clinic Nelly Tibout, pupils struggling with these problems were all “brain-injured.”¹⁶

Having travelled to the United States in the 1920s for her training in child guidance work,¹⁷ this psychiatrist was probably well-informed about the neurologist Alfred Strauss’s work. From the 1940s he and Laura Lehtinen had studied mentally retarded pupils and attributed the learning problems of children without a family history of mental deficiency to “brain injury.”¹⁸ In the 1950s Strauss and his team expanded their research to include children with normal intelligence who showed similar disturbances in perception, thinking, and emotional behavior. The ensuing heterogeneity of the category of “brain-injured” children stimulated the use of the label “minimal brain damage” for normally intelligent children with only mild symptoms and “specific” instead of general learning disabilities.¹⁹

The first Dutch expert involved in the study of learning disabilities who discussed brain trauma as a possible cause of learning problems of pupils with normal intelligence in the professional journal on special education was school doctor Dirk Herderschêe, who was responsible for the selection of children for the Amsterdam special schools. In 1955 he deliberately discarded the Freudian reference to parental neglect as cause of these children’s learning problems.²⁰ His contribution was a response to an essay by the first university professor of child psychiatry, Theo Hart de Ruyter, a psychoanalyst who believed in affective neglect as a causative factor of all kinds of children’s problems.²¹ According to the school doctor heredity and the sequelae of birth trauma or inflammation of the brain were much more likely causes.

16 P.H.C. Tibout, “Report of the section partial defects,” in *Proceedings of the Second International Congress on Orthopedagogics*, ed. I.C. van Houte and B. Stokvis (Amsterdam: Systemen Keesing, 1950), 384.

17 Nelleke Bakker, “The Discovery of Childhood Mental Illness: The Case of the Netherlands,” *Bildungsgeschichte. International Journal for the Historiography of Education* 7 (2017): 191–204.

18 A.A. Strauss and L.E. Lehtinen, *Psychopathology and Education of the Brain-injured Child* (Grune & Stratton: New York, 1947), 4.

19 Barry M. Franklin, *From “Backwardness” to “At-Risk”: Childhood Learning Difficulties and the Contradictions of School Reform* (Albany: State University of New York Press, 1994), 49–70; A.A. Strauss and N.C. Kephart, *Psychopathology and Education of the Brain Injured Child* (Grune & Stratton: New York, 1955), 2 Vols.; Schachar, “Hyperkinetic syndrome”; Kessler, “History”.

20 D. Herderschêe, “De prophylaxis der oligophrenie,” *Tijdschrift voor Buitengewoon Onderwijs en Orthopaedagogiek* 35 (1955): 4–9, 21–26, 65–71.

21 Th. Hart de Ruyter, “De betekenis der psycho-analytische paedagogie voor de opvoeding van kinderen met aanpassingsstoornissen,” *Tijdschrift voor Buitengewoon Onderwijs en Orthopaedagogiek* 34 (1954): 38–42, 216–221.

Freudianism dominated the work of the first generation of child psychiatrists and the institutions where they trained and practiced, the child guidance clinics. It also dominated the appointments at the first academic chairs in child psychiatry of the 1950s and 1960s. Like Hart de Ruyter, they looked for causes of childhood problems in the environment, particularly parent-child interaction. The Freudian dominance of the developing academic field would be broken only by the early 1980s, after psychiatry had gone through a revival of bio-psychiatry, a new generation of child psychiatrists had occupied chairs, and a plethora of psychotherapies (such as system therapy and behavioral therapy) had been imported from the United States.²²

Therefore, it is not a coincidence that the first child-psychiatric handbook that described mental deficiency and learning problems as symptoms of children having suffered “brain infection” was authored by one of the few academic child psychiatrists of his generation who had not trained as a psychoanalyst, Arnold van Krevelen.²³ And it is certainly not a coincidence that another one, Frank Grewel, was the one who started to promote brain injury or “encephalopathy” as alternative to neurosis as cause of learning problems. He also was the first Dutch child neurologist to use the electroencephalogram (EEG). From 1959 onward Grewel reported on his research into “partial learning defects” of children whose school performance did not match their IQ. Together with a special educationist he described for instance a “restless, difficult, and uncontrolled” eight-year-old boy, attending a LOM-school with small classes, who was easily distracted, had no friends, and had reading and speaking problems and an uncontrolled locomotion. Because his EEG was “a little instable”, they drew the conclusion that the boy “probably” suffered from “a delay in the development of the brain stem.”²⁴

Gradually Grewel included more serious cases of “cerebral patients” in his research and indicated “encephalopathy” as the cause of more or less serious learning problems. Primary abnormalities were almost always “organic,” he maintained.²⁵ This made him emphasize the importance of extensive neurological diagnostics of all learning-disabled children, including an EEG, testing of all

²² Bolt and De Goei, *Kinderen*, 15–61.

²³ D. Arn. van Krevelen, *Nederlands leerboek der speciële kinderpsychiatrie* (Leiden: Stenvert Kroese, 1952), 75–83.

²⁴ F. Grewel and E. Magadant-Mainz, “Partiële defecten: Analyse van een geval en aanwijzingen voor een paedagogisch-therapeutische behandeling,” *Tijdschrift voor Buitengewoon Onderwijs en Orthopaedagogiek* 39 (1959): 66–67.

²⁵ F. Grewel, “Terug naar het gewone lager onderwijs,” *Tijdschrift voor Orthopaedagogiek* 3 (1964): 2–11.

senses and locomotion, and an analysis of perinatal conditions. Next to psychological testing, special educationists had to draw up an individual school prognosis for each child, he insisted in his inaugural lecture as professor of special education studies in 1965.²⁶ He consistently warned against choosing psychotherapy without having ruled out encephalopathy. Reading problems were, for example, often caused by brain injury, he explained. Psychotherapy could only reduce secondary symptoms, he explained: “Enough mothers of wrongly diagnosed children had been subjected to frustrating psychotherapy or child-rearing advice.”²⁷

More fundamental research into “cerebral malfunctioning” caused by pre- or perinatal injury to the brain was particularly stimulated by the establishment of the Department of Neuropsychology at the University of Groningen, led by H.F.R. Prechtl.²⁸ In 1963 he estimated the prevalence of the less serious variety of overactivity, which he labelled the “choreatiform syndrome,” to be an alarming 20 percent for school-aged boys and eight percent for girls,²⁹ numbers that approximated those found for “brain injury” by Strauss and his colleagues in 1955: 15 to 20 percent of all school children.³⁰ In the next year one of Prechtl’s PhD students presented an even higher prevalence: 24 percent of six-year old boys and nine percent of girls of that age suffered from the syndrome.³¹

Behavior modification

By the early 1960s in the Anglo-American world the use of the etiological label “brain damage” for children with learning problems came under attack. Neurologists had come to the conclusion that children with the behavioral symptoms of “brain damage” very often had no history of trauma to or inflammation of their brain, whereas children who did have this history in many cases did not show the symptoms. In 1962, therefore, the Oxford International Study Group

26 F. Grewel, *Orthopedagogiek in ontwikkeling* (Groningen: Wolters, 1965).

27 F. Grewel, “Partiële defecten: Pariëtaal syndroom,” *Tijdschrift voor Orthopedagogiek* 3 (1964): 254–258.

28 His research into perinatal trauma and diagnosis was reported for example in: H.F.R. Prechtl and J. Dijkstra, *Neurological Diagnosis of Cerebral Injury in the New Born* (Groningen: Noordhoff, 1960). J. Dijkstra pointed at hypoxia as predictor of neurological abnormality: J. Dijkstra, “De prognostische betekenis van neurologische afwijkingen bij pasgeboren kinderen” (PhD diss., University of Groningen, 1960).

29 H.F.R. Prechtl, *Het cerebraal gestoorde kind* (Groningen: Wolters, 1963), 13.

30 Strauss and Kephart, *Psychopathology*.

31 Christina J. Stemmer, *Choreatiforme bewegingsonrust* (Groningen: Van Denderen, 1964), 11.

on Child Neurology held a conference which addressed mainly the problems of definition and diagnosis. The term “minimal cerebral dysfunction” was recommended in place of “minimal brain damage,” primarily on the basis of a consensus that brain damage should not be inferred from behavioral signs alone. In the next year in the United States three task forces were established, sponsored by the federal United States Public Health Service Division of Chronic Diseases. In 1966 Task Force I reported on identification and terminology. The monograph mentions 38 terms used to describe or distinguish the conditions grouped as minimal brain dysfunction. Task Force III, reporting in 1969, listed a total of 99 signs and symptoms exhibited by children with minimal cerebral dysfunction and recommended that an effort was made to identify more homogeneous sub-categories.³²

American child psychologists and other experts also held a seminar assembled by one of Strauss’ co-workers, the psychologist William Cruickshank, to discuss problems of definition. This topic, more than any other, revealed differences of opinion and provoked heated controversy. Looking backward at this 1965 seminar, the conveners stated: “A child in Michigan would be called perceptually handicapped; in New York, brain injured; in California, neurologically impaired or educationally handicapped. In Florida or Maryland, he would be said to have special learning disabilities.”³³ This conference reflects the decreasing concern with etiology, as the general disposition of the conferees was toward an exclusively behavioral definition, like the one that was added to the American psychiatric handbook DSM-II (1968), the “hyperkinetic reaction of childhood,” which replaced the “chronic brain syndrome associated with birth trauma” of DSM-I (1952).

As late as 1972 a conference in New York sponsored by the National Institute of Child Health and Human Development showed a parting of ways between physicians on the one hand and educationists on the other hand. The medical group concerned itself with comprehensive diagnosis and the role of medical treatment, such as drug therapy. Educationists focused primarily on the assessment of learning problems and techniques of remedial teaching, which had become urgent because the 1969 federal Children with Learning Disabilities Act dictated the establishment of programs for “learning disability” pupils. The preparation for this Act had stimulated teachers in this field to organize themselves in the Association for Children with Learning Disabilities, which focused on children with disorders in the development of “language, speech, reading, and as-

³² Kessler, “History”, 42–43; Franklin, *From “Backwardness”*, 65.

³³ Quoted in: Kessler, “History”, 43.

sociated communication skills,” later referred to as “special learning disabilities” of children “with a discrepancy between (his) performance and potential ability.”³⁴

In the Netherlands these developments resonated and stimulated research, though not yet of a critical kind. In 1971 the decades-old Society for Teachers and Physicians working in Special Education (*Vereniging O. en A.*) organized a conference on “Children with minimal organic-cerebral damage” (*Kinderen met lichte organisch-cerebrale beschadigingen*), which brought together the Dutch researchers in this field. About 100 scientists listened to the opening speech of Bladergroen, who promoted a fundamental senso-motoric re-education of children diagnosed with “choreatiform syndrome” or “minimal brain damage,” 90 percent of whom had to cope with serious learning problems, mostly of the hyperkinetic and “attention lability” type, she claimed. As cause of the trouble she pointed at pre- or perinatal hypoxia (a shortage of oxygen), a research finding of one of Prechtl’s PhD students.³⁵

After the lecture some 20 groups or institutions briefly introduced their programs. The research themes, as well as the labels that were used, varied greatly. Some were university institutions like the Institute for Developmental Neurology in Groningen led by Prechtl, who focused on neurological examinations of newborn babies and follow-up studies, whereas the newer group of special educationists of the same university led by Bladergroen studied the learning and behavioral problems of children diagnosed with “choreatiform syndrome”. Others were residential institutions, like the Protestant Helderling Reformatory for girls in Zetten. Its psychiatrist was testing the use of “medicine” and the hypothesis that the girls had been neglected by their parents because of their “minimal brain dysfunction.” Another research focus, in the recently established Roman-Catholic residential Roelant Stichting for children with “minimal brain damage” in Ubbergen, likewise shows that we have reasons to doubt if European psychiatrists did in those days as a rule refrain from administering drug therapy. A multidisciplinary team compared the effects of educational treatment and amphetamine. The team also tried to find out about the biochemical and neurological causes of the behavioral disorders of their patients, whom the special educationist called “structopathic” and the neurologist victims of “minimal brain dysfunction.”

³⁴ Kessler, “History”, 43–44.

³⁵ Wilhelmina J. Bladergroen, “De orthopedagoog en kinderen met lichte organisch-cerebrale stoornissen,” *Tijdschrift voor Orthopedagogiek* 10 (1971): 292–303.

Some institutions focused on diagnostics, like the Child-psychiatric Centre in Amstelveen, which studied the value of a trampoline as a diagnostic instrument for the assessment of “neurological dysfunction” from a kinetic or locomotory perspective. Others focused on the improvement of a particular treatment, like the Leiden University Pedological Institute, which pioneered in systematic observation, computer-assisted instruction, and the use of headphones to improve children’s concentration and attention span. Not surprisingly, at the conference no consensus was reached as to the definition of the disorder or a combined research effort. Even in the same institution two researchers sometimes used different terminology.³⁶ Nevertheless, the conference marks the higher aspirations of the developing field of academic study of learning disabilities and behavioral disorders. In the wake of the conference these topics started to play a more important role in the debate on brain injury or dysfunction as cause of learning problems.

In this climate one of the organizers of the conference and president of the professional society of special educationists, the neurologist J. Valk, introduced Cruickshank’s method of dealing with *The brain-injured child in home, school, and community* (1967).³⁷ The translation of the manual was given a different title: *Buitenbeentjes. Kinderen met hersenbeschadigingen thuis, op school en in de groep* (Outsiders: brain-injured children at home, at school and among their peers, 1970). It was an immediate success.³⁸ The label “outsiders” even got a life of its own, as it became a common name for hyperactive children in pre-ADHD years. Cruickshank propagated a method of maximum structuring of the learning process of MBD-children in a minimal stimulation environment. It was based on behavioristic conditioning and the training of stimulus control in uncontrolled children.³⁹ Cruickshank, who refused to treat children undergoing drug therapy, was invited to the Netherlands in 1972. When, after his lecture, he was confronted with critique of the concept of “brain damage” from a psychologist, blaming it of obscuring social and cultural deprivation, to the surprise of the panel of experts he replicated that he could do without it. Adequate training programs for MBD-children could be developed without knowing the exact

36 “Symposion Zetten mei 1971. Verslagen van verschillende onderzoeken,” *Tijdschrift voor Orthopedagogiek* 10 (1971): 304–307.

37 William M. Cruickshank, *The Brain-Injured Child in Home, School, and Community* (New York: Syracuse University Press, 1967).

38 Between 1970 and 1975 four editions appeared: William M. Cruickshank, *Buitenbeentjes: Kinderen met hersenbeschadigingen thuis, op school en in de groep. Vertaald en bewerkt voor Nederland door J. Valk* (Rotterdam: Lemniscaat, 1975), fourth edition.

39 Cruickshank, *The Brain-Injured Child*.

neurological base of the disorder, he claimed. The Dutch panel of recently appointed university professors of special education studies, however, did not yet want to let go of the “damage” from their vocabulary.⁴⁰ In the meantime, a “structured” approach and behavior modification techniques were widely introduced in special schools.⁴¹

In 1973 a co-researcher of Prechtl at the University of Groningen, the neurologist B.C.L. Touwen, issued a translation of another popular product of Strauss’ research group, authored by Strauss, Lehtinen, and a journalist and father of an MBD-child. The book was titled *The Other Child. The Brain-injured Child* and it was first published in 1960. We learn from this book that the Other Child (with capitals) showed five conspicuous difficulties: “hyperkinesis (hyperactivity), distractibility (short attention span), disinhibition (impulsivity), inflexibility (including perseveration), and emotional instability.”⁴² The authors promoted an approach to the vulnerable Other Child, which focused on the need to “structure” their environment and emphasized good old order and regularity. Awareness of developments in the Anglo-American scientific world made the Dutch translator systematically replace “brain-injured child” with “a child with a functional disorder of the brain.” What an Other Child needed most was understanding and acceptance of his “otherness” from his family, teachers, and environment. Unlike Cruickshank, Strauss and his co-authors emphasized the need to conceive of the Other Child as unique and entitled to not only a small class at a special school but an individual development program and personal guidance as well. Teachers and parents, likewise, needed expert guidance to prevent secondary effects of the child’s “otherness” from disturbing their relationship.⁴³

In the early 1970s child psychiatrists authoring manuals for professionals working with “problem” children easily added the neurological concepts and brain-related etiology to their texts. A new introduction to child psychiatry authored by two psychoanalysts, for example, included a chapter on “organicity,” which explained both minimal brain dysfunction and minimal brain damage along the lines of their many possible symptoms, next to more serious damage to the brain. Choreatiform and hyperkinetic restlessness were mentioned only as

40 “Toespraak van prof.dr. W.M. Cruickshank,” *Tijdschrift voor Orthopedagogiek* 11 (1972): 265–271; “Slothijeenkomst werkbezoek,” *Tijdschrift voor Orthopedagogiek* 11 (1972): 280–282.

41 J. Valk, “De structurerende benadering als opvoedkundig beginsel,” *Tijdschrift voor Orthopedagogiek* 9 (1970): 222–229.

42 Richard S. Lewis et al., *The Other Child. The Brain-Injured Child* (New York/London: Grune & Stratton, 1960), 61.

43 R.S. Lewis et al., *Het andere kind: Herkennen en begrijpen van het kind met lichte hersenfunctiestoornis* (Wageningen: Ouders van Nu, 1973).

symptoms of MBD.⁴⁴ To a manual for teachers and welfare workers on children with learning and behavioral problems a chapter was added on encephalopathies such as hyperkinesia and minimal brain damage, which was said to be usually caused by hypoxia. The author of the manual presented MBD prevalence numbers higher than those reported in the 1960s. He reported researchers like Prechtl to have found neurological abnormalities with 20 percent of school-aged boys and the German psychiatrist R. Lempp to have claimed that 40 percent of children's behavioral disorders were "certainly" caused by brain injury. However, the advice was double edged. Drug therapy might "sometimes" be helpful, but love, understanding, and "firm and consequent control" were always needed to support an MBD-child.⁴⁵

Handbooks on learning disabilities for teachers authored by the first generation of university professors of special education studies gave by comparison hardly any attention to brain injury as cause of learning problems. Bladergroen, for example, preferred "choreoatiform syndrome" as a label for overactive children and mentioned "light cerebral derangement" next to other organic conditions producing the problems of children she treated in LOM-schools.⁴⁶ Another founder of the academic study of learning and behavioral disabilities, a former member of the Ubbergen-team, J.F.W. Kok, briefly discussed children with brain-related impairment as a heterogeneous category, which included those with the "choreoatiform syndrome" who could be handled in normal schools, those with a "weak structure" for whom a LOM-school and "structuring group therapy" were indicated, and the more serious cases of "structopathic" children to be treated with cognitive and behavioral therapy in institutions.⁴⁷ All of these authors emphasized that no two learning-disabled children were the same and that treatment always had to be individualized.

44 Th. Hart de Ruyter and L.N.J. Kamp, *Kinderpsychiatrie* (Deventer: Van Loghum Slaterus, 1972), 123–134.

45 Vedder, *Kinderen met leer- en gedragsmoeilijkheden* (Groningen: Wolters, 1970), eighth edition, 183–199.

46 W. Bladergroen, *Scholen voor kinderen met leer- en opvoedingsmoeilijkheden (L.O.M.-scholen)* (s.l.: s.n., 1970), 7.

47 J.F.W. Kok, *Struktopathische kinderen, een orthopedagogisch behandelingsstype* ('s-Hertogenbosch: Malmberg, 1970); J.F.W. Kok, *Opvoeding en hulpverlening in behandelingssteuizen* (Rotterdam: Lemniscaat, 1970).

Criticism of MBD

Whereas during the 1970s the larger public in the Netherlands got used to MBD as a label for children with learning and behavioral problems, scientists doubted more and more the reality of a childhood syndrome of brain dysfunction. This became particularly manifest when in 1977 the international Society of Biological Psychiatry devoted its annual conference in Amsterdam to “Minimal Brain Dysfunction: fact or fiction.” None of the lectures by international experts in the field was optimistic about the future of MBD as a diagnostic entity. The president of the Society criticized the label as “ill-defined,” “vague,” and therefore open to multiple interpretation. As causes of this vagueness he mentioned the mixing up of symptomatological and etiological meanings of the label, the non-specificity of the behavioral disorders commonly associated with MBD, all of which could just as well be due to causative factors of a different kind, and the ambivalence of the results of drug therapy.⁴⁸ After years of research into the influence of several kinds of drugs on MBD-children’s behavior two Flemish child neurologists warned their co-researchers that stimulant drug therapy should be used only when hyperactivity and distractibility were the main problems. In other cases Cruickshank’s “Minimal Stimulation Program” or behavior modification techniques like Kok’s residential therapy for “structopathic” children were advised.⁴⁹

At the Amsterdam conference an American child psychiatrist criticized not only the ambiguous title of MBD, the speculative notions about etiology, the heterogeneity and non-specificity of its manifestations, but also the practice of diagnosing, based on parents’ and teachers’ reports. These were subjective by nature, he insisted.⁵⁰ A British colleague stated frankly that he conceived of the very loose concept of MBD as “so overinclusive as to be more harmful than helpful in clinical practice.” He also criticized the taking for granted of so-called “soft neurological signs” or slightly deviant neurological functions observed as EEG-irregularities. According to him, these were proof of a “diagnostic of soft thinking.” Likewise, he criticized the neglect of development by researchers in the field. Children outgrew many symptoms and the plasticity of their central nerv-

⁴⁸ H.M. van Praag, “Introduction,” in *Minimal Brain Dysfunction: Fact or Fiction*, ed. A.F. Kalverboer, H.M. van Praag and J. Mendlewicz (Basel etc.: Karger, 1978), 2–4.

⁴⁹ K. Pyck and P. Baines, “The Influence of Drugs on Minimal Brain Dysfunction,” in *Minimal Brain Dysfunction*, 68–83.

⁵⁰ D. Shaffer, “Longitudinal Research and the Minimal Brain Damage Syndrome,” in *Minimal Brain Dysfunction*, 18–34.

ous system had turned out to be much greater than was commonly assumed.⁵¹ This plasticity was the subject of new research of Prechtl, who reported on recent publications in this field. As other neurologists he had shifted his focus away from the brain and toward the highly integrated and differentiated central nervous system as a whole.⁵²

The lecture by a psychologist of the University of Groningen, Alex Kalverboer, was most critical of MBD as a label for a syndrome. Based on a review of the research literature he drew the conclusion that, despite the wide interest, progress in the field was slow. He attributed this to differences in refinement and standardization between disciplines. Although meaningful relationships between neurology and behavior were found, intra- and inter-individual variability turned out to be the main research finding. Therefore, he agreed with researchers who had drawn the conclusion that there was no scientific evidence linking behavioral disorders and independent signs of neurological dysfunction in children that would justify including them all in one syndrome. Labels like MBD were referring to heterogeneous groups of children and should therefore not be used. Further study of neurobehavioral relationships, however, was urgently needed, as was the development of relevant sub-classifications, he insisted.⁵³

The rising interest in MBD, as well as the many mysteries surrounding the label, indeed stimulated research. Neurologists and neuropsychologists continued to look for causes of problem behavior, whereas special educationists focused on methods of remedial teaching. More centers of study were established, including residential institutions. Kok, Touwen, and Kalverboer continued to be involved in this research, which turned out to produce only more fuel for those who criticized the label as too unspecific.⁵⁴ Theoretically, special educationists exchanged the neurological model for social learning models based on empirical research and observation in classrooms,⁵⁵ and gradually also for models that shifted the focus away from the child toward the influence of the environment

51 W. Yule, "Diagnosis: Developmental Psychological Assessment," in *Minimal Brain Dysfunction*, 35–54.

52 H.F.R. Prechtl, "Minimal Brain Dysfunction Syndrome and the Plasticity of the Nervous System," in *Minimal Brain Dysfunction*, 96–105.

53 A.F. Kalverboer, "MBD: Discussion of the Concept," in *Minimal Brain Dysfunction*, 5–17.

54 For example a PhD tutored by Kalverboer: J.J. van der Meere, "Attentional Deficit Disorder with Hyperactivity: a Misconception" (PhD diss., University of Groningen, 1988).

55 For example: J.J. Dumont, *Leerstoornissen 3: Controversen en perspectieven* (Rotterdam: Lemniscaat, 1982).

on their cognitive and emotional development.⁵⁶ A shift of focus in the opposite direction of what the biologizing of psychiatry would soon bring.

In 1982 the professional journal on special education studies devoted a special issue to MBD to compensate for the many oversimplified stories released by the press.⁵⁷ Suggestions had been made that ten to 20 percent of the schoolchildren suffered from MBD.⁵⁸ Numbers of children sent to MBD-consulting hours to be tested had risen to an unprecedented level, whereas scientists' confidence in the use of the label had fallen to an all-times low. The vagueness of the popular label was underlined by the fact that in hardly any case of a tested child traces of a neurological dysfunction were found.⁵⁹ The EEG, moreover, was now discredited by experts as a diagnostic tool. MBD, a neurologist claimed, provided children with "a license for their behavior and parents with a license for failure."⁶⁰ In the meantime, parents' associations had been established, including a foundation to promote the integration of "outsiders".⁶¹ Books, pamphlets, and magazines spread the message about the neurological background of learning and behavioral problems.⁶² Neither children nor parents or teachers were to blame, the brain was.

The rising number of MBD diagnoses had significant effect. When government expenditure on LOM-schools and institutional care for "neurologically impaired" children continued to grow, the National Health Council (*Gezondheidsraad*) installed a committee of experts in 1979 to advise on this matter. Neurologists, such as Touwen, and psychologists, such as Kalverboer, were among its members, as was one special educationist, Kok. The committee did not report until 1985. Consistent with the international scientific consensus the report unanimously discarded the MBD label as "inadequate and unjustifiable." However, because the use of the term was so widespread and established in the lit-

56 J.F.W. Kok, "Structuurzwakte door opvoeding," *Tijdschrift voor Orthopedagogiek en Kinderpsychiatrie* 3 (1978): 21–29; H. Baartman, "Ontwikkelingen in de theoretische orthopedagogiek," in *Orthopedagogiek: Inzicht, uitzicht, overzicht*, ed. R. de Groot and J. van Weelden (Groningen: Wolters-Noordhoff, 1992), 46–73.

57 R. de Groot, "Redactioneel," *Tijdschrift voor Orthopedagogiek* 21 (1982): 203–204.

58 J. Troost, "MBD en de rol van de kinderneuroloog," *Tijdschrift voor Orthopedagogiek* 21 (1982): 239–243.

59 M. de Feijter, E. Lelieveld and A.F.M.M. Verdonck, "Minimal Brain Dysfunction?," *Tijdschrift voor Orthopedagogiek* 21 (1982): 205–218.

60 Troost, "MBD", 243.

61 Landelijke Stichting Integratie Buitenbeentjes, *Meer begrip voor buitenbeentjes* (Lochem/Poeringe: De Tijdstroom, 1979).

62 For example: Elisabeth Lockhorn, *Mijn kind is anders: Ouders en specialisten over Minimal Brain Dysfunction (MBD)* (Amsterdam: Meulenhoff Informatief, 1981).

erature and in common speech, the committee did not recommend throwing it away. The experts emphasized that they used it only to indicate “certain symptoms of a group of behavioral and learning disorders” and explained that the international literature had already got rid of MBD and replaced it with “hyperactivity” and “attention deficit disorder.” In line with Kalverboer’s earlier conclusion, the experts moreover insisted that rather than referring to a syndrome, “the use of the term MBD should be regarded as a signal to commence investigations in various directions for the purpose of drawing up a diagnostic profile of the child in question.”⁶³ The Dutch experts disapproved of the use of drug therapy as there was no proof that a biochemical defect caused the problems of MBD-children. Categorical facilities or rehabilitation centers were no longer needed, as the individual child’s learning problems had become pivotal. More research into these problems and their treatment, however, was an urgent need, according to the committee.⁶⁴ In a second report, published in 1987, the prevalence of MBD-symptoms (without specific learning disabilities such as dyslexia) was estimated to be some five percent of schoolchildren,⁶⁵ a number comparable to modern ADHD’s prevalence in the Netherlands.⁶⁶

By that time the committee’s researchers were by and large the only academics who still used the label MBD. Psychiatrists began to use the American handbook DSM, which never included it. Special educationists continued their research into much more specific fields under the umbrella of learning disabilities, such as dyslexia and dyscalculia. Child-psychiatric manuals for school doctors and professionals in special education and youth care replaced the label MBD with the new DSM-III (1980) label ADD with or without Hyperactivity, and later with DSM-III-R (1987)’s label ADHD.⁶⁷ At the same time LOM-schools were seriously criticized as too expensive and promoting separation instead of integration of children with only minor problems. Pupils with special needs were to receive educational support within the regular school, the new consensus taught.⁶⁸ With the help of the media parents and their associations needed

⁶³ Gezondheidsraad, *Eerste deeladvies inzake Minimal Brain Dysfunction (MBD)* (‘s-Gravenhage: Gezondheidsraad, 1985), 13–14.

⁶⁴ Gezondheidsraad, *Eerste deeladvies*, 115–32.

⁶⁵ Gezondheidsraad, *Minimal Brain Dysfunction (MBD): Tweede Deeladvies* (‘s-Gravenhage: Gezondheidsraad, 1987).

⁶⁶ Batstra, *Hoe voorkom je ADHD?*

⁶⁷ F.C. Verhulst and J.A.R. Sanders-Woudstra, *Kinderpsychiatrie voor de praktijk* (Alphen aan den Rijn/Brussel: Samsom Stafleu, 1987), 100–106.

⁶⁸ K. van Rijswijk and E. Kool, “De ontwikkeling van het speciaal onderwijs in de tweede helft van de 20^e eeuw” in *Het kind van de eeuw: het kind van de rekening?* ed. R. de Groot and J.D. van der Ploeg (Houten: Bohn StafleuVan Loghum, 1999), 131–155.

only a little more time to exchange the overinclusive, etiological label MBD for the symptoms describing one ADHD and to submit to Ritalin's regime.

Conclusion

In search of signs of de-educationalization, the history of the use of MBD as label for assumingly brain-related learning and behavioral problems of schoolchildren in the decades preceding the ADHD era shows that the label has never been uncontroversial. Neurologists and neuropsychologists were the first scientists who expressed their objections, calling it vague, non-specific, and overinclusive. Special educationists were, on the other hand, as a rule positive about "brain injury" as explanation for school problems. They used a variety of apparently "hard-core" neurological labels to successfully promote the study of learning disabilities and methods of individual remedial teaching as an academic discipline. By focusing on treatment rather than etiology, they managed to get round disputed matters such as causation, prevalence, and the use of medication.

The learning and behavioral problems that were labelled with MBD were neither rare – estimations in the Netherlands ran up to 20 percent of schoolchildren – nor more serious than the symptoms of ADHD. They were, however, too differentiated and unspecific to establish a causal link with neurological trauma or any particular brain dysfunction. Dutch researchers recognized these limits of the psychiatric label MBD relatively late. In 1971 none of the experts researching children with "minimal organic-cerebral damage" expressed as yet doubts as to the validity of the diagnosis and the assumed etiology. In the next years neurological and educational research parted ways. The latter focused on the development of American style treatment of overactive or easily distracted children with structuring behavior modification therapy and on remedial teaching of learning-disabled children. It shows that brain-related diagnosing and educational therapy went together well. This combination continued even after Dutch neuroscientists lost confidence in MBD as a label for low-achieving children, while special education studies seem to have gained prestige from the association with neurological trouble.

MBD's popularity among the larger public was based on individualized remedial teaching in special schools with small classes, claiming success while removing blame from parents and teachers. These conditions, next to the high number of MBD-diagnoses, have lengthened the use of the label well into the 1980s and created fertile ground for a positive reception of ADHD and large-scale use of medication as a quick and cheap fixer of school problems. Once more child scientists embraced an overinclusive label with a speculative etiology.

However, our search for signs of de-educationalization shows that it was the attractiveness of the neurological label that provided a much wanted explanation for otherwise unexplainable learning problems, and the sheer volume of the diagnosing of MBD that in the end discredited the didactic and behavioristic treatment of school-based children's problems. Ritalin's regime frames educational intervention as less cost-effective and more time-consuming than medication.

Bibliography

- Baartman, H. "Ontwikkelingen in de theoretische orthopedagogiek." In *Orthopedagogiek: Inzicht, uitzicht, overzicht*, edited by R. de Groot and J. van Weelden, 46–73. Groningen: Wolters-Noordhoff, 1992.
- Bakker, Nelleke. "The Discovery of Childhood Mental Illness: The Case of the Netherlands." *Bildungsgeschichte. International Journal for the Historiography of Education* 7 (2017): 191–204.
- Barkley, Russell A. *Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment*. New York/London: The Guilded Press, 2006, third edition.
- Batstra, Laura. *Hoe voorkom je ADHD? Door de diagnose niet te stellen*. Amsterdam: Nieuwezijds, 2012.
- Beatty, Barbara, Emily Cahan, and Julia Grant, eds., *When Child Science Encounters the Child: Education, Parenting, and Child Welfare in 20th-Century America*. New York: Teachers College Press, 2006.
- Bladergroen, Wilhelmina. *Scholen voor kinderen met leer- en opvoedingsmoeilijkheden (L.O.M.-scholen)*. s.l.: s.n., 1970.
- Bladergroen, Wilhelmina J. "De orthopedagoog en kinderen met lichte organisch-cerebrale stoornissen." *Tijdschrift voor Orthopedagogiek* 10 (1971): 292–303.
- Bloemink, Sanne. *Diagnosedrift: Hoe onze labelcultuur kinderen tekort doet*. Amsterdam: Amsterdam University Press, 2018.
- Bolt, Timo. *Van zenuwachtig tot hyperactief: Andere kijk op ADHD*. Amsterdam: SWP, 2010.
- Bolt, Timo, and Leonie de Goei. *Kinderen van hun tijd: Zestig jaar kinder- en jeugdpsychiatrie*. Van Gorcum: Assen, 2008.
- Coles, Gerald. *The Learning Mystique: A Critical Look at "Learning Disabilities"*. New York: Fawcett Columbine, 1987.
- Cruickshank, William M. *The Brain-injured Child in Home, School, and Community*. New York: Syracuse University Press, 1967.
- Cruickshank, William M. *Buitenbeentjes. Kinderen met hersenbeschadigingen thuis, op school en in de groep. Vertaald en bewerkt voor Nederland door J. Valk*. Rotterdam: Lemniscaat, 1975, fourth edition.
- Depaepe, Marc. *De pedagogisering achterna: Aanzet tot een genealogie van de pedagogische mentaliteit in de voorbije 250 jaar*. Leuven/Amersfoort: Acco, 1998.
- Depaepe, Marc, Frank Simon, and Angelo Van Gorp, eds. *Paradoxen van pedagogisering: Handboek pedagogische historiografie*. Leuven/Voorburg: Acco, 2005.
- Depaepe, Marc. *Between Educationalization and Appropriation: Selected Writings on the History of Modern Educational Systems*. Leuven: Leuven University Press, 2012.

- De Feijter, M., E. Lelieveld, and A.F.M.M. Verdonck. "Minimal Brain Dysfunction?" *Tijdschrift voor Orthopedagogiek* 21 (1982): 205–218.
- De Groot, R. "Redactioneel." *Tijdschrift voor Orthopedagogiek* 21 (1982): 203–204.
- Dijkstra, J. "De prognostische betekenis van neurologische afwijkingen bij pasgeboren kinderen." PhD diss., University of Groningen, 1960.
- Dumont, J.J., *Leerstoornissen 3: Controversen en perspectieven*. Rotterdam: Lemniscaat, 1982.
- Feinstein, Sheryl. *Inside the teenage brain*. London: Rowmer & Littlefield, 2009.
- Franklin, Barry M. *From "Backwardness" to "At-Risk": Childhood Learning Difficulties and the Contradictions of School Reform*. Albany: State University of New York Press, 1994.
- Gezondheidsraad. *Eerste deeladvies inzake Minimal Brain Dysfunction (MBD)*. 's-Gravenhage: Gezondheidsraad, 1985.
- Gezondheidsraad. *Minimal Brain Dysfunction (MBD): Tweede Deeladvies*. 's-Gravenhage: Gezondheidsraad, 1987.
- Grewel, F. "Terug naar het gewone lager onderwijs." *Tijdschrift voor Orthopedagogiek* 3 (1964): 2–11.
- Grewel, F. "Partiële defecten: Pariëtaal syndroom." *Tijdschrift voor Orthopedagogiek* 3 (1964): 254–258.
- Grewel, F. *Orthopedagogiek in ontwikkeling*. Groningen: Wolters, 1965.
- Grewel, F., and E. Magadant-Mainz. "Partiële defecten: Analyse van een geval en aanwijzingen voor een paedagogisch-therapeutische behandeling." *Tijdschrift voor Buitengewoon Onderwijs en Orthopaedagogiek* 39 (1959): 66–74.
- Hart de Ruyter, Th. "De betekenis der psycho-analytische paedagogie voor de opvoeding van kinderen met aanpassingsstoornissen." *Tijdschrift voor Buitengewoon Onderwijs en Orthopaedagogiek* 34 (1954): 38–42, 216–21.
- Hart de Ruyter, Th., and L.N.J. Kamp. *Kinderpsychiatrie*. Deventer: Van Loghum Slaterus, 1972.
- Hart de Ruyter, Th., and L.N.J. Kamp. *Kinderpsychiatrie*. Deventer, Van Loghum Slaterus, 1978, third edition.
- Herderschêe, D. "De prophylaxis der oligophrenie." *Tijdschrift voor Buitengewoon Onderwijs en Orthopaedagogiek* 35 (1955): 4–9, 21–6, 65–71.
- Hofstetter, Rita, and Bernard Schneuwly, eds. "History of Educational Sciences." *Paedagogica Historica* 40 (2004): 569–784.
- Kalverboer, A.F. "MBD: discussion of the concept." In *Minimal Brain Dysfunction: Fact or Fiction*, edited by A.F. Kalverboer, H.M. van Praag, and J. Mendlewicz, 5–17. Basel etc.: Karger, 1978.
- Kauffman, James M., and Timothy J. Landrum. *Children and Youth with Emotional and Behavioral Disorders*. Austin: Pro-ed, 2006.
- Kessler, Jane W. "History of Minimal Brain Dysfunctions." In *Handbook of Minimal Brain Dysfunctions*, edited by Herbert E. Rie and Ellen D. Rie, 18–51. New York etc.: Wiley & Sons, 1980.
- Kok, J.F.W. *Struktopathische kinderen, een orthopedagogisch behandelingsstype*. 's-Hertogenbosch: Malmberg, 1970.
- Kok, J.F.W. *Opvoeding en hulpverlening in behandelingssteuizen*. Rotterdam: Lemniscaat, 1970.
- Kok, J.F.W. "Structuurzwakte door opvoeding." *Tijdschrift voor Orthopedagogiek en Kinderpsychiatrie* 3 (1978): 21–29.

- Landelijke Stichting Integratie Buitenbeentjes. *Meer begrip voor buitenbeentjes*. Lochem/Poperinge: De Tijdstroom, 1979.
- Landenstudies. *Het onderwijs aan leerlingen met problemen in internationaal perspectief*, edited by I.M. Abbring, C.J.W. Meijer, and J. Rispens. Groningen: RION, 1989. 2 Vols.
- Lewis, Richard S., Alfred A. Strauss, and Laura E. Lehtinen, *The Other Child: The Brain-injured Child*. New York/London: Grune & Stratton, 1960.
- Lewis, R.S., A.A. Strauss, and L.E. Lehtinen. *Het andere kind: Herkennen en begrijpen van het kind met lichte hersenfunctiestoornis*. Wageningen: Ouders van Nu, 1973.
- Lockhorn, Elisabeth. *Mijn kind is anders: Ouders en specialisten over Minimal Brain Dysfunction (MBD)*. Amsterdam: Meulenhoff Informatief, 1981.
- Prechtl, H.F.R. *Het cerebraal gestoorde kind*. Groningen: Wolters, 1963.
- Prechtl, H.F.R. "Minimal Brain Dysfunction Syndrome and the Plasticity of the Nervous System." In *Minimal Brain Dysfunction: Fact or Fiction*, edited by A.F. Kalverboer, H.M. van Praag, and J. Mendlewicz, 96–105. Basel etc.: Karger, 1978.
- Prechtl, H.F.R., and J. Dijkstra. *Neurological Diagnosis of Cerebral Injury in the New Born*. Groningen: Noordhoff, 1960.
- Pyck, K., and P. Baines. "The Influence of Drugs on Minimal Brain Dysfunction." In *Minimal Brain Dysfunction: Fact or Fiction*, edited by A.F. Kalverboer, H.M. van Praag, and J. Mendlewicz, 68–83. Basel etc.: Karger, 1978.
- Remschmidt, Helmut Herman van Engeland and Jorma Piha, eds. *Child and Adolescent Psychiatry: Historical Development, Current Situation, Future Perspectives*. Darmstadt: Steinkopff Verlag, 1999.
- Schachar, Russell J. "Hyperkinetic Syndrome: Historical Development of the Concept." In *The Overactive Child*, edited by Eric A. Taylor, 19–40. Oxford/Philadelphia: Blackwell/Lippincott, 1986.
- Shaffer, D. "Longitudinal Research and the Minimal Brain Damage Syndrome." In *Minimal Brain Dysfunction: Fact or Fiction*, edited by A.F. Kalverboer, H.M. van Praag, and J. Mendlewicz, 18–34. Basel etc.: Karger, 1978.
- Shorter, Edward, *A History of Psychiatry: From the Era of the Asylum to the Age of Prozac*. New York etc.: Wiley & Sons, 1997.
- Simons, Maarten, and Jan Masschelein. "'It Makes Us Believe That It Is About Our Freedom': Notes on the Irony of the Learning Apparatus." In *Educational Research: The Educationalization of Social Problems*, edited by Paul Smeyers and Marc Depaepe, 191–204. New York etc.: Springer, 2008.
- "Slotbijeenkoms werkbezoek." *Tijdschrift voor Orthopedagogiek* 11 (1972): 280–282.
- Stemmer, Christina J. *Choreatiforme bewegingsonrust*. Groningen: Van Denderen, 1964.
- Strauss, A.A., and N.C. Kephart. *Psychopathology and Education of the Brain Injured Child*. Grune & Stratton: New York, 1955. 2 Vols.
- Strauss, A.A., and L.E. Lehtinen. *Psychopathology and Education of the Brain-injured Child*. Grune & Stratton: New York, 1947.
- Swaab, Dick. *We Are Our Brains: From the Womb to Alzheimer's*. Amsterdam: Contact, 2010.
- "Symposion Zetten mei 1971. Verslagen van verschillende onderzoeken." *Tijdschrift voor Orthopedagogiek* 10 (1971): 304–307.
- Tibout, P.H.C. "Report of the Section Partial Defects." In *Proceedings of the Second International Congress on Orthopedagogics*, edited by I.C. van Houte and B. Stokvis, 380–385. Amsterdam: Systemen Keesing, 1950.

- “Toespraak van prof.dr. W.M. Cruickshank.” *Tijdschrift voor Orthopedagogiek* 11 (1972): 265–271.
- Troost, J. “MBD en de rol van de kinderneuroloog.” *Tijdschrift voor Orthopedagogiek* 21 (1982): 239–243.
- Valk, J. “De structurerende benadering als opvoedkundig beginsel.” *Tijdschrift voor Orthopedagogiek* 9 (1970): 222–229.
- Van der Meere, J.J. *Attentional Deficit Disorder with Hyperactivity: A Misconception*. Groningen: Universiteitsdrukkerij, 1988.
- Van Essen, Mineke. *Wilhelmina Bladergroen: Vrouw in de eeuw van het kind*. Amsterdam: Boom, 2012.
- Van Krevelen, D. And. *Nederlands leerboek der speciële kinderpsychiatrie*. Leiden: Stenvert Kroese, 1952.
- Van Praag, H.M. “Introduction.” In *Minimal Brain Dysfunction: Fact or Fiction*, edited by A.F. Kalverboer, H.M. van Praag, and J. Mendlewicz, 2–4. Basel etc.: Karger, 1978.
- Van Rijswijk, K., and E. Kool. “De ontwikkeling van het speciaal onderwijs in de tweede helft van de 20^e eeuw.” In *Het kind van de eeuw: Het kind van de rekening?*, edited by R. de Groot and J.D. van der Ploeg, 131–155. Houten: Bohn StafleuVan Loghum, 1999.
- Vedder, R. *Kinderen met leer- en gedragsmoeilijkheden*. Groningen: Wolters, 1970, eighth edition.
- Verhulst, F.C., and J.A.R. Sanders-Woudstra. *Kinderpsychiatrie voor de praktijk*. Alphen aan den Rijn/Brussel: Samsom Stafleu, 1987.
- Weijers, Ido. “Zestig jaar kinder- en jeugdpsychiatrie in Nederland (1920–1980).” *Kind en Adolescent* 23 (2002): 82–96.
- Yule, W. “Diagnosis: developmental psychological assessment.” In *Minimal Brain Dysfunction: Fact or Fiction*, edited by A.F. Kalverboer, H.M. van Praag, and J. Mendlewicz, 35–54. Basel etc.: Karger, 1978.