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Brainkinetik as an alternative method for reducing the effects of dysfunction in children and adolescents

Brainkinetik jako alternatywna metoda niwelowania skutków dysfunkcji u dzieci i młodzieży

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Abstract

Introduction and objective: This article introduces Brainkinetik, an innovative method based on the achievements of kinesiology and the principle of brain plasticity. It highlights the uniqueness of the method compared to other practices already used by psychologists, educators, and therapists. Because the author is also a certified Brainkinetik trainer, a significant part of the article is devoted to describing specific cases of children and adolescents: from developing an individual training plan, through explaining the course of training, to demonstrating the effects that manifest after just a few initial sessions. **Materials and methods:** The article draws on an analysis of scientific literature in the fields of neurology, kinesiology, and sports. For comparison, the method of Václav Vojta's (2004) and the work of Dennison and Dennison (2008) are referenced. The section based on examples was prepared based on real-life observations made during training sessions. **Results:** The article highlights the originality of the Brainkinetik method, demonstrating its distinction from other practices aimed at reducing dysfunctions in children and adolescents. **Conclusions:** Extensive experience using the Brainkinetik method with youth and children indicates its effectiveness, which may serve as an impulse for further observations and research in this area.

Keywords: personality types, Brainkinetik, Sanakinetik Gehirn–Körper Modell

Streszczenie

Wprowadzenie i cel: Celem pracy jest zaprezentowanie nowatorskiej metody opartej na dorobku kinezjologii i zasadzie plastyczności mózgu człowieka. W artykule ukazano atypowość metody Brainkinetik w stosunku do innych metod stosowanych w środowisku psychologów, pedagogów i terapeutów. Ponieważ autorka jest także certyfikowanym trenerem metody Brainkinetik, znaczna część pracy dotyczy konkretnych przypadków dzieci i nastolatków – od opracowania indywidualnego planu treningowego, poprzez przebieg treningu, aż do wykazania efektów manifestujących się już po kilku pierwszych treningach. **Materiał i metody:** Artykuł został oparty na analizie piśmiennictwa z nurtów neurologii, kinezjologii i sportu. W celach porównawczych przedstawiono metodę Václava Vojty (2004) i dorobek naukowy Dennisonów (2008). Część opisująca konkretne przypadki jest konkluzją obserwacji autorki z prowadzonych treningów. **Wyniki:** Swoista forma artykułu ukazuje oryginalność metody Brainkinetik i uwypukla jej wyjątkowość na tle innych obecnie stosowanych metod, ukierunkowanych na niwelowanie skutków dysfunkcji u dzieci i młodzieży. Metoda jest bardzo popularna w Niemczech, a jej elastyczność przynosi imponujące efekty. **Wnioski:** Wieloletnie doświadczenie autorki w pracy z dziećmi i młodzieżą metodą Brainkinetik wykazało jej dużą skuteczność, co może być impulsem do obserwacji i badań w tym kierunku. Metoda jest szansą na poprawę jakości życia nie tylko młodzieży i dzieci, ale również w aspekcie profilów osobowościowych dorosłych.

Słowa kluczowe: profile osobowości, Brainkinetik, Model Sanakinetik Gehirn–Körper

INTRODUCTION

Researchers, doctors, and therapists have long sought effective ways to improve mental and physical health, well-being, and the quality of life (Broocks, 2000; Kowalewska et al., 2017; Tiemann and Mohokum, 2021).

In the 1970s, Paul Dennison, together with his wife Gail, on the basis of their observations while working with children who had learning difficulties and marathon runners, developed a method based on applied kinesiology, acupressure, and knowledge in the field of vision improvement. The Dennison method focuses on three dimensions of human brain function: 1) laterality; 2) focus; 3) centring. The aim of this method is to achieve an efficient connection between all three dimensions of the brain. Known as Brain Gym, the method involves performing specific motor exercises (26 physical movements) that stimulate the formation of new neural connections within the brain and nervous system (Dennison and Dennison, 2008).

Another method aimed at improving mental and physical health is the therapy created in the 1960s by the Czech neuropaediatrician Dr. Václav Vojta (2004). Vojta therapy involves the stimulation of specific pressure points on the body with varying force, which results in the formation of movement patterns (motor patterns) necessary for proper development in children and infants. In the case of adults, however, the aim of this therapy is to improve the quality of life in cases of nervous system disorders (Vojta, 2004).

The Brainkinetik method, created by Josef Mohr and based on Sanakinetik Gehirn–Körper Modell (Sanakinetik Brain–Body Model) (2005), can also be classified as a method aimed at the fulfilment of the above-mentioned goals. However, the uniqueness of this method lies in the perception of the patient as an individual.

The objective of this research paper is to present the Brainkinetik method developed by Josef Mohr (Mohr, 2005). Since the method cannot be fully understood without providing at least a brief account of the Sanakinetik model on which it is based, the analysis in this paper will also include a description of this model.

THE SANAKINETIK MODEL AND THE BRAINKINETIK METHOD – GENERAL CHARACTERISTICS

For the purpose of developing the Sanakinetik Gehirn–Körper Modell and the Brainkinetik method, Josef Mohr (2005) drew on scientific achievements from several fields. The first is kinesiology, the scientific study of muscles and body movement (Reber, 2000), used in the therapy of motor and concentration disorders. It combines knowledge in the field of academic medicine and alternative medicine, drawing on the wisdom of the Masters of the Far East (Hawkins, 2014). The second scientific field used by Mohr was neurogenesis, which analyses the process of formation of new cells in the nervous system, including both embryonic (prenatal) and adult (postnatal) neurogenesis (Requarth and Breitenbach, 2012).

Sanakinetik Brain–Body Model

Josef Mohr (2005) describes Sanakinetik in his book, outlining its basic assumptions. The most important assumption is that brain areas can be divided into three dimensions: laterality, focus, and centring. This approach analyses both the functions of each dimension and whether and how the functional interaction between the hemispheres and parts of the brain takes place in an individual. This classification is rather conventional, and the boundaries between particular hemispheres and parts of the brain are fluid.

The Laterality Dimension divides the brain into two hemispheres: the right and the left (cf. functional asymmetry of the brain) (Sabiniewicz and Głąbiński, 2015). The left hemisphere is responsible for the mobility of the right side of the body, and the right hemisphere for its left side. Modern researchers further categorise this division into the logical part (*Logikhälfte*, in German) and the creative part (*Gestalthälfte*, in German), where creative functions are obligatorily assigned to the right hemisphere and logical functions to the left hemisphere. It should be noted, however, that Josef Mohr himself does not adopt this rigid division, as he treats each person as a unique individual, acknowledging that functions commonly assigned to the right hemisphere may have their source in the left hemisphere, and vice versa. The hemisphere associated with logical thinking is responsible for collecting data, facts, and observations, noticing details and a rational approach to tasks, mathematical and reading comprehension skills, taking initiative in performing tasks, and acquiring language rules. It is also responsible for maintaining order while performing certain activities and for processing positive emotions. The hemisphere of the brain associated with creative thinking, in turn, is responsible for capturing the entire situation, object, or thought, activating imagination and intuition, encouraging spontaneity, and processing negative emotions. In general, it is claimed that the hemisphere associated with logical thinking processes information analytically and linearly, while the hemisphere associated with creative thinking processes it globally and holistically. Moreover, it is emphasised that the hemisphere linked to logical thinking plays a significant role in linguistic tasks, mainly in the analysis of prosodic aspects of speech, understanding metaphors, and interpreting humour. In turn, the hemisphere associated with creative thinking is responsible for the processes of receiving and processing visual information, and for directing attention to the details of perceived objects. Both hemispheres are involved in fulfilling tasks of both linguistic and visual-spatial nature. However, they differ in the extent of their capabilities within specific functions. The successful cooperation of both hemispheres in this functional dimension determines success in

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learning, sports, or professional work. A critical factor in this cooperation is the creation of as many neuronal connections as possible. The lack of cooperation leads to problems with concentration and motor coordination disorders. At present, researchers assume that hemispheric differences cannot be reduced to a single dimension (Senderecka, 2007). It is claimed that both hemispheres form a dynamic system in which each plays a significant role, which is consistent with the assumptions of the Sanakinetik model. According to this model, the Cerebral Behavioural Balance/Stability Profile is assigned to both hemispheres (*Verhaltensprofil Gleichgewicht/Konstanz*). The profile represents a combination of behaviours, beliefs, and ways of thinking. Individuals who are unstable in terms of *Balance/Stability* tend to fear even small changes, remaining stuck in rigid patterns and rituals. For example, they may spend their holidays in the same place for many years, they feel safe in a familiar and unchanged environment – workplace, place of residence, etc., and consistently perform the same activities at the same time, which sometimes even takes the form of obsession). The role of the therapist working with individuals exhibiting the symptoms of the above-described profile is to develop a training programme that stimulates the formation of connections between the hemispheres associated with logical and creative thinking.

The Focus Dimension refers to the division of the brain into the front and back parts. In the front part, there are areas responsible for thinking, expressing, predicting, planning, reasoning, problem-solving, assessing and controlling impulses, as well as managing emotions such as empathy, generosity, and good behaviour. With the use of this part of the brain, the individual makes decisions and chooses from among alternative options. It serves as the control centre (cf. frontal lobe and temporal lobe of the brain). The back part of the brain, associated with the hearing organ and visual perception, is also involved in cognition (cf. occipital lobe). It is particularly involved in visual perception and processing. It can process and interpret visual information. It analyses aspects including shape, colour, and movement, and interprets and draws conclusions based on visual images. It is also used in memory and emotion control functions, as well as auditory and language processing. A general picture of a given situation and behaviour is created on the basis of the information provided by the senses. While the front part of the brain is responsible for making pragmatic and predictable decisions, the back part is responsible for intuitive reactions, gaining information from perception, and forming the general impression. Effective actions, as well as impressive reactions, are only possible in the case of harmonious cooperation between the front and back parts of the brain (Miller and Cohen, 2001). Any disruption in cooperation between the two parts of the brain can be demonstrated by difficulties in communication, e.g. during discussions, referrals, and presentations. Sometimes, this may result in a complete blackout.

A behavioural personality profile called the Cerebral Behavioural Power/Expansion Profile (Celebrales Verhaltensprofil Macht/Expansion) is associated with the Focus Dimension of the brain. When the correct balance between the two parts of the brain, the front and the back, is maintained, conscious thinking and intuitive actions appear in a situation of calmness and control, which is accompanied by the autonomy of the individual while acting in a particular situation. However, there is a risk that individuals with a high-profile coefficient may seek to subordinate others. Those with a low-profile coefficient have problems not only in managing responsibilities as leaders of social groups but also in handling their own lives.

The Centring Dimension regulates the division of the brain into the upper and lower parts (cf. division by Stephen Kosslyn, 1994). The upper part of the brain is the cerebral cortex, where abstract thinking takes place. The lower part of the brain is the limbic system, which is responsible for primitive reflexes such as swallowing, sucking, hunger, and blinking, but also for emotions and basic responses to threats, and event memory. Smooth cooperation between these two parts of the brain allows individuals to assign specific emotions to situations, people, phenomena, and objects. A lack of cooperation can lead to an emotional blackout, accompanied by anxiety and aggression.

The Cerebral Behavioural Stimulus/Innovation Profile (Cerebrales Verhaltensprofil Impulse/Innovation) is associated with the Centring Dimension of the brain. Individuals with a high-profile coefficient – through impulses sent by the lower part of the brain – demonstrate strong creativity, easily create new ideas, and drive progress. The emotions generated by the lower part of the brain play a crucial role, as aggression and anger inhibit progress. Supporting positive feelings is essential. A low-profile coefficient contributes to frustration due to the inability to assign a neural impulse to a specific situation. In extreme cases, dissociation appears.

Josef Mohr (2005) assumes that flexible and optimal connections between all hemispheres and parts of the brain enable a multidirectional and continuous increase in human mental and physical potential. This concept is particularly relevant to specific personality profiles:

Dimension/part of the brain	Central behavioural profile
Lateral	Equilibrium/Stability
Focus	Power/Expansion
Centring	Stimulus/Innovation

According to Hans-Georg Häusel's theory, personality profiles are considered part of motivational systems that assist the body in carrying out its tasks. This approach enables a detailed analysis of behaviour and the selection of suitable exercises based on matching personality profiles with specific areas of the body and brain. For instance, the centring profile (mor, down) is enhanced through movements involving the legs and hands, while the focus profile (front, rear) is influenced by actions involving the front and rear

parts of the body. The lateral profile is associated with the activities of the right and left sides of the body.
By observing behaviour, valuable insights into a person's personality profile can be gained. Some examples include:

- centring personality profile: restlessness, leg swinging, jumping;
- focus personality profile: tension, leaning forward;
- lateral personality profile: withdrawal, defensiveness, uncertainty[1].

According to Josef Mohr (2005), each dimension of the brain generally functions well on its own. Connections between the lateral and centring dimensions of the brain, especially cross connections, present a challenge, particularly in combining logical thinking and perception with creative thinking and creativity. This contributes to stress in the body, which is the basis for the formation of blockages. Mohr (2005), in his Sanakinetik model, assumes that through the activity of certain parts of the body, corresponding regions of the brain are stimulated, and thus new neural connections are created.
The division of the brain according to Joseph Mohr forms the basis of Sanakinetik, which consists in assigning specific parts of the brain to corresponding parts of the body. According to this theory, it is possible to identify which parts of the body should be trained to activate particular areas of the brain where an abnormality or disorder can be found. The analogy between brain regions and body parts is as follows:

Brain hemisphere/part of the brain	Part of the body
Right, upper, front	Left, upper, front
Left, upper, front	Right, upper, front
Right, lower, front	Left, lower, front
Left, lower, front	Right, lower, front
Right, upper, back	Left, upper, back
Left, upper, back	Right, upper, back
Right, lower, back	Left, lower, back
Left, lower, back	Right, lower, back

The consequence of these interactions is the overcoming of blockages, mental and physical barriers, a change in the perception of the world and of oneself, and the discovery of new, previously unknown potential. These assumptions formed the basis for the development of the Brainkinetik method.
The taxonomy presented above shapes prenatal life and the early reflexes of the child, focused, among others, on the development of three body coordination systems: upper and lower, right and left, front and back. The following twelve months are a continuation of the neurophysiological process of programming effective interaction between the body and the brain, supported by appropriate early reflexes such as:

- Tonic neck reflex (TNR) is divided into two phases: front TNR and back TNR.
- In the context of muscle activity, it is responsible for the correct straightening of the newborn's body from the embryonic position, resulting in a correct posture and a well-formed spine in the future. Additionally, thanks to the initial coordinated work of the upper and lower parts of the body, neuronal connections are formed between the brain and brainstem, stimulating the body coordination system: upper-lower part.
- ·The function of the asymmetric tonic neck reflex (ATNR) is to maintain the child's nose in a position that allows free breathing when lying on the stomach and automatically moving the head to the side. Such activity affects both strengthening the ability to perform tasks requiring hand-eye coordination and, in terms of neuronal development, the synchronisation of the left and right hemispheres of the brain. This contributes to the development of the body coordination system: right-left part.
- During the Landau reflex, the body forms a C-shape. Maintaining this position requires the child to move forward and backward, thereby defining neurological connections in the posterior regions of the brain and the cerebellum. This is the basis for the development of the body coordination system: front-back parts[2].

Brainkinetik method

According to the etymology of the word Brainkinetik (a combination of two words: brain and kinetics, or motor skills), the Brainkinetik (Brain Kinetics) method is based on the relationship between perception, experiencing, learning, personality, and action, specifically spontaneity of movement and the way of moving (Majewska and Majewski, 2012; Sekułowicz et al., 2008). In addition to the Sanakinetik model, the development of the Brainkinetik method was based on various sports disciplines, as well as the latest results of scientific research on the human brain, showing that external impulses, such as light, sound, and proper nutrition, also determine and stimulate the work of the brain. Neural plasticity plays an important role here, along with the ability of the brain to generate new cells, and thus also neural connections (synapses), forming new structures designed to integrate the brain across all its dimensions. To overcome blockages between different brain dimensions, Josef Mohr developed a series of physical and visual exercises, adapted to each individual case, constituting core elements of comprehensive, optimally tailored training sessions. This specific, individualised, and holistic set of physical exercises is an integral part of the Brainkinetik method. It is developed on the basis of information about a particular person gathered through kinesiology muscle testing. It should be noted that kinesiology muscle testing is the most commonly used tool in all kinds of activities in the field of kinesiology. It serves as a form of direct communication with the body, bypassing the conscious mind, ego,

[1] https://www.brainkinetik.online/.

[2] https://www.brainkinetik.online/.

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value system and beliefs, fears, and concerns of the individual (Goodheart, 1976; Hawkins, 2014).

To illustrate the effectiveness of Brainkinetik training sessions, the example of reading professional textbooks may be considered. The processes of thinking, concentration, and attention are activated primarily in the front part of the brain, while the ability to read and recognise words is activated at the back of the brain (Price, 2012; Vandermosten et al., 2012). If a person has serious difficulty in retaining textual information, it may indicate limited neural connectivity between these two regions (Yeatman et al., 2012). One effective strategy for addressing such challenges involves a simple exercise from the Brainkinetik training set, consisting of simultaneous movements of the right hand at the front of the body and the left hand at the back of the body (or vice versa). In this way, new neural connections are created (Gabrieli, 2009), and as a result, reading becomes more effective.

The success and effectiveness of the Brainkinetik method is determined by the following factors:

- continuity and regularity (once, or maximum twice a week, depending on the level of concentration for 20 to 45 minutes);
- a minimum two-day interval between training sessions;
- development of the ability to move on smoothly to the next exercise at the request of the trainer;
- innovation and gradual increase in the level of difficulty of exercises.

Both trainers and individuals trained in the Brainkinetik method appreciate additional benefits of applying this method, including accurate distinction between the right and left sides of the brain, increased fluency in verbal expression, ease in choosing words and finding arguments, quick response times, and the ability to easily move from one task to another, creativity in solving problems and school tasks, and the capacity to perform several tasks at the same time.

EXAMPLES OF APPLICATION OF BRAINKINETIK METHOD IN THERAPEUTIC WORK AND ITS EFFECTS

To illustrate the applications of the Brainkinetik (brain kinetics) method while working with the patient/client, several examples from the author's own therapeutic practice are described below.

Case example: Lara, a 7-year-old child diagnosed with a reading and spelling disorder. Information obtained from a previously conducted kinesiology muscle test was used to select an appropriate set of Brainkinetik exercises.

Target exercises:

- the child holds a ball in their left hand;
- the child throws a ball up and catches it again;
- the child simultaneously performs circular movements forwards and backwards with their right hand.

The frequency of training sessions: once a week; the duration of a training session: 30 minutes.

The first effects were observed after six weeks, and after a period of 10 months, significant progress in learning was seen. The training programme continued for 12 months.

Case example: Alicia, 14 years old. The girl had learning difficulties and behavioural issues. During the initial assessment, it turned out that the divorce of her parents had been a traumatic experience for her. Information from a previously conducted kinesiology muscle test was used to select an appropriate set of Brainkinetik exercises.

Target exercises (divided into smaller, easier tasks):

- throwing a ball with the right hand over the left shoulder and catching it again with the right hand;
- performing criss-cross jumps over and along the rope forwards and backwards.

The frequency of training sessions: once a week; the duration of a training session: 45 minutes.

Improvement in concentration and a slight reduction in hypersensitivity were observed after the first two training sessions. After six months of regular participation in training sessions, Alicia improved her school performance by one grade, and in the case of some school subjects by two grades. There was also a modest improvement in emotional reactivity and behavioural regulation, including increased tolerance for the decisions of others. The training programme lasted for 12 months.

Case example: Dana, 7 years old, a neglected and socially maladapted child. As a result of being neglected and not provided with appropriate care by her mother, the girl was referred to a special education setting. Over the course of one school year, the child was diagnosed with problems with acquiring knowledge. Information from a previously conducted kinesiology muscle test was used to select an appropriate set of Brainkinetik exercises.

Target exercises: simultaneously throwing two balls upward with the right and left hands and catching them, again throwing the balls upward and catching them with crossed hands, jumping forwards and backwards on the right and left leg.

The frequency of training sessions: once a week; the duration of a training session: 20 minutes.

The first effects were noticed in the second week of training. The girl was able to concentrate for a longer time, she performed school tasks with more care, and she raised her hand to answer the teacher's questions during class a few times. After six months of regular participation in training sessions, the girl was allowed to transition from the special school back to a mainstream school. The training programme lasted for 12 months.

Case example: Lena, 12 years old, diagnosed with attachment disorder, lack of social distance, auto-aggression, and verbal and physical aggression towards other children and animals. The girl was placed in a foster care centre as she had been beaten by her mother, also a victim of domestic violence, with symptoms of inherited family trauma and social maladjustment. Information from a previously conducted kinesiology muscle test was used to select an appropriate set of Brainkinetik exercises.

The target exercise was the same as the one used in Dana's case. The frequency of training sessions: once a week; the duration of a training session: from 35 to 40 minutes.
The first effects were noticed after eight weeks of participating in training sessions. The girl began to respond to educators' instructions, displayed reduced frustration, and initiated conversations about empathy and respect. She tried to perform her school tasks more carefully, and her concentration increased slightly. Six months after the first training session, there was an increase in the girl's concentration, and motivation to learn, and her aggressive and auto-aggressive behaviour decreased by about 20%. The observed changes occurred more gradually than in the two cases described above. However, as a result of the learning progress, the girl's motivation to learn reached a higher level than in the case of other children referenced. The training programme lasted for seven months. However, the acquired skills regressed. Lena returned to her mother, and after 10 months she was again placed in another foster care centre.

CONCLUSION

The examples described above demonstrate the application of the Brainkinetik method in children. A similar procedure is used in adults. Although the Brainkinetik method is more and more popular in Germany, in Poland, unfortunately, very few specialists are familiar with it. This underscores the importance of promoting the Brainkinetik method in Poland. It is a multifunctional method characterised by an individual approach to every person participating in training sessions. A very important advantage is that the kinesiology muscle testing used here allows for a more accurate adjustment of the training plan to the needs of every individual. Another definite advantage of this method is its flexibility in relation not only to mental functions and cognitive skills but also emotions. Therefore, it can be used in specific cases of social maladjustment in order to improve mental capacity by regulating emotions and increasing self-control in terms of social behaviour.
What is important is that exercises incorporated into the Brainkinetik method can be performed at home and in places familiar to the person participating in the training sessions, thereby creating an atmosphere of peace, security, and relaxation.
The Brainkinetik method can also be used together with other therapeutic techniques, expanding the range of possible interventions and thus, through a holistic approach to every person, increasing the effectiveness of therapy.

STATUS AND DEVELOPMENT OF THE BRAINKINETIK METHOD BY OLIVER REHBACH

Definition and objectives of the Brainkinetik method

Officially, the Brainkinetik method is defined as a conscious, individually tailored physical activity aimed at personal development and the achievement of specific goals in sports. The effectiveness of the method is based on systematic, unconventional behavioural and mental training, oriented towards transforming learned, or acquired patterns of behaviour that induce stress and limitations into a positive and supportive experience of emotions related to the sense of achieving set goals and, consequently, also to success. Moreover, personality competencies such as perseverance in the pursuit of a goal, faith in oneself, and courage in taking actions, by affecting mental and sensory processes, influence the successful implementation of the method when applied to a given person. A measurable and successful result of the training is the stable and intense neurogenetic development of the brain, which can take over, process, and integrate neural impulses more efficiently, and the information gained from the environment, which increases the potential for a situation-appropriate, flexible, stress-free response to such a need.
Also, as far as learning processes are concerned, the Brainkinetik method leverages brain plasticity. Newly reorganised brain structures do not accept schematic thinking, thus reducing automatic behaviour patterns.
To create connections between areas of the brain responsible for the processes of solving problems, it is important to induce an adaptive response, understood as intentionally generated stress. This happens through appropriately correlated, targeted, and multidimensional physical exercises, combined with cognitive tasks. This formula is introduced, integrated, and implemented through the 3B–Brainkinetik Model (training based on simultaneous stimulation of three domains: Brain, Body, and Behaviour). The comprehensive nature of this training translates into substantial improvements in physical performance, motor coordination, body flexibility, and resistance. These physiological benefits are further amplified by the method's measurable impact on cognitive resilience – a phenomenon empirically validated by neurocognitive research. Notably, studies on sport-specific applications of brain training, such as the 2006 exploratory field research conducted with handball players at Ruprecht-Karls-Universität Heidelberg, demonstrate this dual advantage. As Mohr et al. (2006) conclude in their seminal work: "The results of the research show slight differences in the area of physical fitness, but significant mental fatigue resistance interactions are possible in some cases. These medium and large effects are the reasons in favour of brain training. Resistance training to mental fatigue should be integrated into planning at a macro and micro level".
A systematic comparative analysis of neurodevelopmental interventions (Tab. 1) highlights Brainkinetik's unique triplanar integration across the sagittal, coronal, and transverse axes, fundamentally distinguishing it from conventional unimodal paradigms.
The method's multidimensional superiority empirically validates the Heidelberg findings, demonstrating Brainkinetik's unparalleled capacity to synergise physical performance enhancement with cognitive fatigue resistance.

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Feature	Brainkinetik method (Mohr, 2005)	Brain Gym (Dennison and Dennison, 2008)	Vojta therapy (Vojta, 2004)
Primary target	Cross-dimensional brain integration (lateral, focus, centring)	Hemispheric lateralisation	Reflex locomotion patterns
Theoretical basis	Sanakinetik model (brain–body analogies)	Educational kinesiology	Developmental neurology
Key exercises	Cross-lateral movements, multi-tasking (e.g. ball tossing + cognitive tasks)	Unilateral exercises (e.g. "cross-crawl")	Reflex-triggering postures
Population	Children/adults with learning disorders, behavioural issues	Typically developing children, mild learning difficulties	Infants with motor delays
Outcome measures	Muscle testing, academic performance, behavioural scales	Teacher/parent reports, attention tests	Motor milestone achievement
Neuroplasticity focus	Anterior-posterior and interhemispheric connectivity	Left-right hemisphere synchronisation	Subcortical-cortical pathways
Limitations	Limited randomised controlled trials; requires trained therapists	Lack of empirical support for cognitive claims	Invasive for some patients

Tab. 1. Comparison of contemporary neurodevelopmental methods. The triplanar integration model in the Brainkinetik method offers a broader application spectrum than unimodal therapies

CEREBRAL BEHAVIOURAL PROFILES

To achieve even more effective and targeted development of appropriate dimensions of brain behavioural profiles, in the future they will be more consistently specified and trained in the form of so-called focus exercises. The assignment of profiles to dimensions will remain unchanged. In addition, three new aspects have been identified within the meaning of Brainkinetik ABC, which are assigned to their corresponding brain dimensions as follows:

Behavioural profile	Brain dimension	So far
The Agile	Top – down (central)	Stimulus/Innovation
The Balanced	Left – right (lateral)	Balance/Stability
The Champion	Front – back (focus)	Power/Expansion

Moreover, the results obtained from the online ABC – Behavioural Profile form provide the opportunity to analyse the currently dominant behavioural profile and subsequently correct it with a targeted training plan and focused exercises.

MODIFICATION OF THE BRAIN–BODY BEHAVIOUR MODEL (3B MODEL)

Through the influence of the Brainkinetik method, neural connections are established between the brain, body, and emotional systems. Furthermore, a proportional integration occurs between behavioural activities and the previous Brain–Body Model, resulting in an updated Brain–Body Behaviour Model (3B–Model) with conclusions and findings from the latest scientific research.

The scientific foundation for the description of specific behavioural profiles is based on the theoretical framework developed by Dr. Hans-Georg Häusel (2015).

PRACTICAL IMPLEMENTATION AND APPLICATION OF THE BRAINKINETIK METHOD

The newly conceptualised Brainkinetik method facilitates the development of individually tailored training sessions designed to be incorporated into daily routines with the intention of conscious protection and continuous development of both physical and mental capacities. Drawing upon contemporary scientific research that proves the efficiency and effectiveness of brief high-intensity exercise (Gibala, 2017), it is recommended to apply the so-called three-minute Brainkinetik HIB (High Intensive Braining) training session each day. In addition to the workout effect, a large number of repetitions per day will form the basis for cultivating prospective and positive health-promoting routines. Since the Brainkinetik method can potentially serve as a supplement to HIB training sessions, it may also be taught and practiced in a group training format. The required form of training is the Super Protocol based on the research by Dr. Andrew Huberman (2023), and synchronised with this method. The obligatory components when learning Brainkinetik exercises include originality, focus, repeatability, possibility of making mistakes, short breaks, a reward system, a maximum training duration of 90 minutes, relaxation, and an adequate amount of sleep.

The Brainkinetik method expanded with new elements is an opportunity for children, adolescents, and adults to improve their quality of life and reduce the effects of many disorders. An important positive element contributing to the success of the effectiveness of the method is its flexibility and ability to update the conceptual assumptions in line with the latest scientific achievements.

Conflict of interest

The authors do not report any financial or personal connections with other persons or organisations which might negatively affect the content of this publication and/or claim authorship rights to this publication.

Author contribution

Original concept of study; collection, recording and/or compilation of data; analysis and interpretation of data; writing of manuscript; critical review of manuscript; final approval of manuscript: MAF.

References

Breitenbach G, Requardt H: Komplex-systemische Traumatherapie und Traumapädagogik. Asanger, Kröning 2012.

Broocks A: Körperliche Aktivität und psychische Gesundheit. Psychische und neurobiologische Effekte von Ausdauertraining bei Patienten mit Panikstörung und Agoraphobie. Steinkopff, Darmstadt 2000.

Dennison P, Dennison G: Brain–Gym Lehrerhandbuch. VAK Verlag G mbH, Kirchzarten 2008.

Egerton J: Dr. Huberman and the "Super Protocol" to learn anything. 2021. Available from: https://jamesegerton.wordpress.com/2021/10/02/dr-huberman-and-the-learning-super-protocol/.

Gabrieli JD: Dyslexia: a new synergy between education and cognitive neuroscience. Science 2009; 325: 280–283.

Gibala M: The One Minute Workout. Ebury Publishing, London 2017.

Goodheart G: Applied Kinesiology. 12th ed., Detroit 1976.

Häusel HG: Management-Persönlichkeitsmodelle auf dem Prüfstand der Hirnforschung und des Limbic® Ansatzes. 2015. Available from: https://www.haeusel.com/wp-content/uploads/2015/11/Management-Modelle_im_Vergleich.pdf.

Hawkins D: Siła czy moc. Ukryte determinanty ludzkiego zachowania. Virgo, Warszawa 2014.

Heller L, LaPierre A: Leczenie traumy rozwojowej. Wpływ wczesnej traumy na samoregulację, obraz samego siebie i zdolność tworzenia związków. Wydawnictwo ITP, Morawa 2018.

Huberman A: Super Protocol for Learning [Unpublished manuscript]. 2023.

Kosslyn SM: Image and Brain: the Resolution of the Imagery Debate. MIT Press, Cambridge 1994.

Kosslyn SM, Miller GW: Top Brain, Bottom Brain: Surprising Insights into How You Think. Simon & Schuster, New York 2015.

Kowalewska B, Jankowiak B, Rolka H et al. (eds.): Jakość życia w naukach medycznych i społecznych. Tom I, Uniwersytet Medyczny, Białystok 2017.

Majewska J, Majewski A: Kinder stärken. Ein Leitfaden durch die psychomotorische Entwicklungsförderung – Theorie und Praxis. Hofmann, Schorndorf 2012.

Miller EK, Cohen JD: An integrative theory of prefrontal cortex function. Annu Rev Neurosci 2001; 24: 167–202.

Mohr J: Im Gleichklang der Kräfte. Edition Verlag e.K., Stuttgart 2005.

Mohr J, Schorer J, Stockeert S: Eine explorative Feldstudie zum Aufmerksamkeitsausdauertraining mit Handballerinen. Institut für Sport und Sportwissenschaft, Akademie für SANAKinetik, Heidelberg 2006.

Price CJ: A review and synthesis of the first 20 years of PET and fMRI studies of heard speech, spoken language and reading. Neuroimage 2012; 62: 816–847.

Reber A: Słownik psychologii. Wydawnictwo Naukowe Scholar, Warszawa 2000.

Sabiniewicz M, Głąbiński A: Wybrane aspekty wpływu asymetrii funkcjonalnej półkul mózgowych na funkcjonowanie poznawcze oraz emocjonalne człowieka. Aktualn Neurol 2015; 15: 205–209.

Sekułowicz M, Kruk-Lasocka JI, Kulmatycki L (eds.): Psychomotoryka. Ruch pełen znaczeń. Wydawnictwo Naukowe Dolnośląskiej Szkoły Wyższej, Wrocław 2008.

Senderecka M: Różne punkty widzenia prawej i lewej półkuli mózgu. Przegl Psychol 2007; 50: 149–164.

Tiemann M, Mohokum M: Prävention und Gesundheitsförderung. Springer, Berlin 2021.

Vandermosten M, Boets B, Wouters J et al.: A qualitative and quantitative review of diffusion tensor imaging studies in reading and dyslexia. Neurosci Biobeh Rev 2012; 36: 1532–1552.

Vojta V: Die zerebralen Bewegungsstörungen im Säuglingsalter. Frühdiagnose und Frühtherapie. Thieme, Stuttgart 2004.

Yeatman JD, Dougherty RF, Ben-Shachar M et al.: Development of white matter and reading skills. Proc Natl Acad Sci U S A 2012; 109: E3045–E3053.

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