

Promoting Well-Being and Healthy Lifestyle Habits Among Left-Handed Students During School Adaptation

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Abstract

Guiding left-handed students toward a healthy lifestyle during their adaptation to primary school education is a critical pedagogical and psychophysiological issue. This transition involves profound psychological restructuring that demands both mental resilience and significant physical stamina from young learners. School readiness for left-handed children encompasses multifaceted requirements, including overall physical development, foundational knowledge acquisition, self-care skills, behavioral culture, effective speech, fine motor development for handwriting, collaborative abilities, and learning motivation. Contrary to the widespread assumption that school adaptation concludes within the initial 3-5 weeks or the first quarter, empirical evidence shows that for first-grade left-handed students, this adaptation phase often extends through the fourth quarter. This protracted adaptation necessitates sustained health-preserving educational environments, ergonomic adjustments, and systematic healthy lifestyle promotion to prevent premature physical exhaustion and psychological strain. This article explores comprehensive methodologies for educators and parents to support left-handed learners, fostering enduring healthy lifestyle habits, reducing motor stress, and ensuring a seamless, health-oriented integration into primary education.

Keywords: healthy lifestyle; adaptation; rehabilitation; healthy physical education; functional laterality profile; sinistrality; left-handedness; left-handed schoolchildren; left-handed students; school adaptation; healthy lifestyle habits; student well-being; primary education; psychological restructuring; fine motor skills; adaptation period length

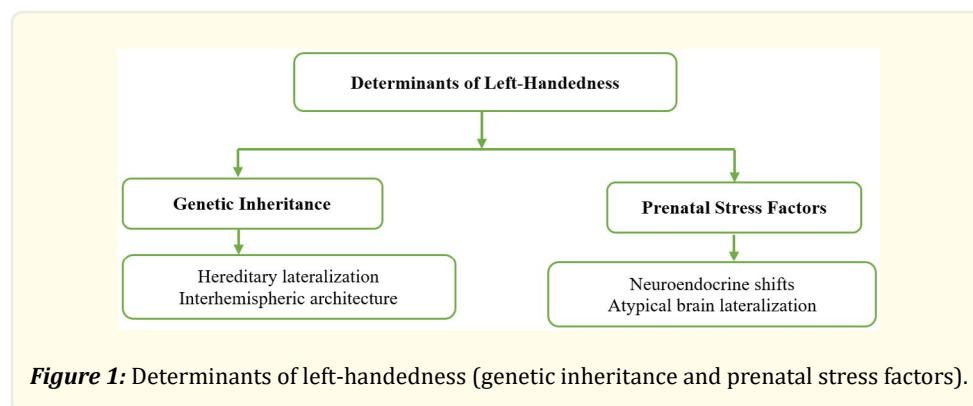
Introduction

The initial transition to primary education marks a critical stage of cognitive, physiological, and psychological restructuring for young learners. This adaptive process becomes considerably more intricate for left-handed children, whose manual dominance is a direct neurophysiological manifestation of functional brain lateralization and genetically determined cerebral architecture.

Contemporary neurophysiology and developmental pedagogy firmly prohibit the forced retraining of left-handed children to write or perform daily tasks with their right hands. The left hemisphere of the brain plays a pivotal role in motor coordination, right-handed actions, and speech centers, while natural left-handedness reflects distinct interhemispheric interactions. Consequently, artificial intervention in this hardwired neural organization constitutes a severe disruption of delicate brain mechanisms, particularly speech activity and fine motor control. Empirical studies confirm that forceful lateral re-education frequently induces acute child neuroses, emotional dysregulation, chronic cognitive fatigue, and severe speech pathologies, such as stuttering (logoneurosis).

Literature analysis and methodology

Left-handed individuals constitute approximately 10-13% of the global population. Hand dominance is primarily governed by genetic mechanisms and functional brain asymmetry. While monozygotic twins share an identical genetic profile, discordance in hand preference occurs in roughly 17% of twin pairs, highlighting the contributory role of prenatal environmental factors. Research indicates that maternal psycho-emotional stress during pregnancy increases the probability of atypical cerebral lateralization and left-handedness in the fetus.



Despite well-established neurobiological foundations, educational settings often resist natural lateralization. Empirical studies reveal that up to 71% of left-handed children experience direct pressure from educators and parents to switch to right-handed writing. Such forced retraining achieves superficial motor conformity in only 26% of boys and 33% of girls. However, the adverse psychophysiological consequences—including logoneurosis (stuttering), motor dysgraphia, chronic anxiety, and cognitive exhaustion—occur in 100% of retrained children, representing an impermissible intervention in cerebral functional organization.

Entering primary school demands a comprehensive structural restructuring of a child's psychological and somatic systems. School readiness is governed by neurocognitive, physical, and socio-emotional parameters:

Morphological and motor competence. Development of fine hand musculature and coordinated graphomotor prerequisites;

Cognitive and semiotic maturity. Voluntary attention, receptive and expressive language fluency, and rule compliance;

Social and emotional self-regulation. Independent self-care routines, interpersonal communication skills, and intrinsic academic motivation.

For left-handed children, school adaptation is uniquely protracted. While parents and teachers often expect complete integration within 2 to 3 weeks, physiological and behavioural metrics demonstrate that the adaptive period for left-handed first-graders frequently extends through the entire academic year, concluding only in the fourth quarter.

<i>Dimension</i>	<i>Typical Right-Handed Learner</i>	<i>Left-Handed Learner</i>
Adaptation Period	3-5 weeks (1st Quarter)	Extended (up to 4th Quarter)
Cognitive Dominance	Balanced visual/verbal processing	Superior verbal stimulus processing; lower visuospatial automation
Stress Vulnerability	Standard transitional tension	Elevated school anxiety, heightened emotional reactivity
Primary Risk Factors	General cognitive fatigue	Forced lateral retraining, postural asymmetry, social withdrawal

Table 1: Comparative analysis of left-handed and right-handed students in terms of cognitive adaptation, stress resistance, and risk factors.

Because left-handed people process verbal stimuli more efficiently than complex visual-spatial patterns (diagrams, inverted spatial models), poorly organized learning materials lead to rapid fatigue and feelings of inferiority. High emotional sensitivity, combined with misunderstanding from peers or criticism from adults, often provokes psychotraumatic reactions, leading to emotional dysregulation or defensive social isolation (introverted defensive behavior).

The study uses an interdisciplinary framework that combines theoretical analysis, empirical observation, and pedagogical modeling to assess the adaptation trajectory of left-handed elementary school students:

Theoretical analysis: A systematic review of the neurobiological, psycholinguistic, and ergonomic literature on functional brain asymmetry and school adaptation.

Empirical observation and diagnostic evaluation: A longitudinal monitoring of 1st grade students to monitor fine motor fatigue, posture during writing, classroom anxiety, and academic resilience across all four quarters of the school year.

Comparative analysis: A qualitative and quantitative assessment of adaptation timelines, assessing the differences between standard classroom requirements and adapted, health-promoting ergonomic conditions.

Pedagogical modeling: Developing ergonomic interventions (lighting direction, workstation configuration, writing angle) and psychohygienic recommendations to support sustainable healthy lifestyle habits in left-handed students.

Discussion and results

Adaptation to school is a demanding period for every first-grader, but for left-handed students it carries an additional layer of physiological and emotional strain. Models and schemes built around a right-handed standard are used almost universally in teaching, and this can be genuinely difficult for a left-handed child to master: left-handers more often confuse right and left, and sometimes even up and down, which places extra cognitive load on a child who is simultaneously trying to master reading and writing. Recognising this, in recent years schools have largely abandoned the practice of retraining left-handed students to write with their non-dominant hand. From the standpoint of well-being, this shift is important: it removes one of the most direct sources of physical and psychological discomfort a left-handed child could face at school. Before formal education begins — in kindergarten or at the time of school admission — it is crucial to determine the child's dominant hand orientation so that healthy habits can be formed around the child's natural profile from day one rather than corrected for later. R.A. Qo'ldoshev's research on the content of pedagogical support during the school-adaptation period of first-grade left-handed students confirms that early identification of handedness, combined with a structured programme of support during the adaptation months, meaningfully reduces the stress this transition places on the child.

Physical well-being: coordination, perception, and the organisation of a healthy learning environment. A number of features in how left-handed students organise their learning activity have direct implications for physical and neurocognitive well-being. These include reduced visual-motor coordination — difficulty performing graphic tasks well and difficulty maintaining a straight line while writing or tracking a line while reading — together with weaknesses of spatial perception and visual memory that surface as unusual

letter formation, omitted or rearranged letters, and optical errors. Weakness of attention and difficulty switching or sustaining concentration are frequently observed alongside occasional speech-related errors in sounds and letters. N.K. Korsakova, Yu.V. Mikadze, and E.Yu. Balashova's neuropsychological research on underachieving children's learning difficulties shows that these features cluster together as a recognisable neuropsychological profile rather than isolated weaknesses, and that they respond well to targeted developmental correction rather than punitive academic pressure. Framed through a well-being lens, this means that visual-motor and attentional difficulties should be treated as a signal for supportive intervention — not as evidence the child is failing to try.

Writing ergonomics as a health intervention. Left-handed students find it equally awkward to write toward the right or the left, because the working hand blocks the line just written; an unsuitable hand position, or an uncorrected posture compensating for it, can translate into physical tension and fatigue over a full school day. A well-being-oriented adaptation programme therefore treats classroom ergonomics as a health intervention rather than a stylistic accommodation. The hand should be positioned so the line remains open, and the student should be free to choose whichever grip is comfortable — the conventional grip, a hooked grip, or an inverted grip with the hand resting above the line. Left-handed students are best seated to the left of the window, and desk placement should also account for the leading eye, so that information sources such as the blackboard fall within the student's dominant visual field — a recommendation grounded in Korsakova and Mikadze's broader neuropsychological diagnostic framework for classroom-relevant lateral preferences. Taking the leading eye into account benefits classroom comfort for all students, not only left-handed ones, but it is a specific, low-cost lever for reducing physical strain in this group. Qo'ldoshev's methodological work on forming schoolchildren's graphic and calligraphic ability adds that notebook angle, desk height, and pen grip should each be adapted individually for left-handed pupils rather than copied from right-handed instructional norms.

When learning to write, left-handed students should choose whichever option is comfortable for them. It is worth noting that left-handed students often draw and write with a different directional logic, frequently moving left to right and top to bottom; their writing tends to show more breaks, with letters joined by short straight strokes rather than a continuous line. Special left-handed writing tools should be used, and requiring a left-handed student to write without lifting the hand — in imitation of right-handed fluency — is not an effective or healthy goal, since it demands disproportionate effort for little benefit. Qo'ldoshev and Jumayeva's study on forming writing skills in left-handed students demonstrates that a stepwise, individually paced writing methodology produces both stronger handwriting outcomes and a calmer, more confident attitude toward writing among left-handed first-graders, while Qo'ldoshev and Subhonova's work on innovative technologies for teaching left-handed first-graders to write recommends structured calligraphy exercises as part of a routine that keeps habit-formation comfortable rather than corrective.

A coordinated developmental-support model. Special measures aimed at developing writing skills and broader competence in left-handed students should address several dimensions together: visual-motor coordination; accuracy of spatial perception; visual memory; visual-figurative thinking; the ability to process information holistically; motor skills; phonemic hearing; and speech. Meeting these needs typically requires collaboration between the classroom teacher, a speech therapist, and a school psychologist, reflecting the fact that a left-handed student's difficulties are rarely purely academic — they are physical, emotional, and social at once. Qo'ldoshev's research on the content of pedagogical support during the adaptation period frames this coordination as a continuous programme rather than a one-off accommodation: identification of the leading hand, ergonomic classroom arrangement, individualised writing methodology, and ongoing monitoring of the child's emotional state are treated as linked stages spanning the first months of school.

Emotional well-being and the psychological profile of left-handed learners. Among the most consistent characteristics reported for left-handed students are heightened emotional sensitivity, increased vulnerability, anxiety, decreased performance under stress, and faster fatigue. Their entry into school life tends to be slower and more emotionally taxing than that of right-handed peers, which places adaptation-period well-being at the centre of any healthy-lifestyle strategy for this group. Bezrukikh and Knyazeva's well-known guide for parents and educators on left-handed children catalogues a broader psychological profile frequently associated with left-handedness, including:

- Poorer hand-eye coordination and corresponding difficulty with graphic tasks;
- Particularities of spatial perception, including distorted proportions in figures and weaker visual memory;
- Difficulty sustaining concentration and switching attention;
- Increased emotional sensitivity and heightened impressionability;
- Rapid fatigue and a lower ceiling for sustained effort;
- A pronounced level of creativity and talent for original artistic expression;
- Lower self-control and a tendency toward an unstable or subdued mood;
- A tendency toward passive perception of reality, drowsiness, heightened anxiety, and shyness or specific fears.

This profile makes clear that emotional-regulation support should be built into the adaptation period from the outset, rather than introduced only after difficulties appear. At the same time, early struggles should not be read as a deficit: the same profile carries protective resources — strong creativity, impressionability, and artistic talent — that a teacher can use to build confidence and engagement rather than anxiety. It is worth noting that although approximately 20% of left-handed students have a documented history of birth complications or birth trauma, this association may not, in itself, be clinically significant. Left-handedness should therefore not be treated as a risk factor in its own right; it may instead be associated with certain disorders or developmental particularities in specific children, and adaptation support should be individualised rather than applied on the basis of handedness alone. The health cost of forced retraining. The consequences of forcing a left-handed student to write with the ‘correct’ right hand are well documented and go well beyond handwriting quality. M.M. Bezrukikh, professor and director of the Institute of Developmental Physiology, has shown across decades of research that forced retraining works against the child’s neurological nature and can produce genuine psychological trauma: retrained left-handers show elevated rates of neurotic symptoms — including sleep disturbance, tics, obsessive movements, and in some cases stuttering — together with a persistent sense of inferiority, reduced social adaptation, and lower self-confidence that can extend into adult life. When a struggling left-handed student is pushed to write with the non-dominant hand rather than accommodated, a sense of self-doubt can settle in and the desire to learn can fade; in the most severe cases documented in this literature, children have responded to sustained pressure with school avoidance or withdrawal from learning altogether. Conversely, when handedness-appropriate accommodation is normalised — including instructional language that no longer assumes every child writes with the right hand — left-handed students are freed to build the same emotional security and healthy classroom habits as their peers.

Teaching methods that support well-being, not just achievement. Left-handed students are frequently right-hemisphere dominant learners, and dry, abstract, sequential repetition of material is poorly suited to how they process information. Their memory works involuntarily and retains vivid images more readily than abstract sequences; thinking tends to be emotional and intuitive, so sustaining engagement in the lesson benefits from problem-based tasks rather than rote drills. New theoretical material is best introduced through practical tasks, active use of intonation in speech, and visual reinforcement, since reading rules directly from a textbook — closer to studying a scientific text — is processed less comfortably by the right hemisphere than material presented through story or image. From a well-being standpoint, this is not merely a pedagogical preference: a teaching style mismatched to how a right-hemisphere-dominant child actually processes information is itself a source of chronic classroom stress, while a well-matched style reduces frustration and supports a calmer, more confident relationship with learning. In every classroom, both right-brain and left-brain teaching demands exist and both should be taught — a balanced approach benefits non-dominant students as well as those with a clear lateral preference.

Given that delays in the formation of higher mental functions are frequently observed among left-handed and mixed-handed students, it is worth stressing that these are not the majority of academic difficulties in any given class. Involving a speech therapist and school psychologist early, rather than waiting for a crisis, keeps intervention proactive and supportive rather than remedial and stigmatising.

Parents as partners in a healthy adaptation. It is almost impossible to support an underachieving student without parental involvement, since children need reinforcement and encouragement at home as much as structured teaching at school. The first step for

parents and teachers alike is to correctly identify the nature of a student's difficulties — whether related to handedness or not — recognising that academic delays can occur in entirely healthy children who are simply developing at their own individual pace. Timely, coordinated support from teachers, parents, and psychologists is what allows a left-handed student to fully develop both their academic knowledge and their sense of self, rather than the passage of time alone.

Promoting well-being for left-handed students during school adaptation is not a matter of a single intervention but of a consistent, health-conscious environment: correct early identification of the leading hand, ergonomically sound seating and desk placement, handedness-appropriate writing instruction, attentiveness to emotional vulnerability without pathologising it, teaching methods matched to how the child actually processes information, and coordinated support from teachers, specialists, and parents. Under such conditions, a left-handed student is markedly more able to enter school life with confidence, develop durable healthy habits, and realise the creative and cognitive strengths associated with left-hand dominance, rather than being defined by the difficulties of adaptation.

Conclusion

A professionally conducted neuropsychological assessment can help identify the underlying causes of the difficulties left-handed students face in adjusting to school and identify appropriate ways to support them. However, assessment is only the first step; effective outcomes depend on an individualized approach that takes into account the child's neurological development, psychological well-being, learning needs, and personality.

Parents and teachers should avoid attempting to change a child's dominant hand without professional guidance. Left-handedness is closely related to the organization of brain activity, and improper retraining can lead to additional difficulties in motor skills, learning, and emotional well-being. Therefore, left-handed students should be supported rather than forced to adapt to right-handed standards.

Promoting healthy lifestyle habits during the school adjustment period is equally important. Adequate sleep, a balanced diet, regular physical activity, appropriate rest periods, a supportive learning environment, and emotional support can help students manage academic demands and reduce stress. Teachers should use flexible teaching strategies and create opportunities for left-handed students to develop their strengths and self-confidence.

Ultimately, successful adjustment to school requires a partnership between parents, teachers, psychologists, and other professionals. By respecting individual differences, promoting healthy habits, and recognizing left-handedness as a natural trait rather than a disadvantage, adults can help students develop their abilities, maintain psychological well-being, and achieve greater success in school and in everyday life.

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