6-1964

Some Essentials Of Child Health Appraisal Relating To School Adjustment

Brenton M. Hamil

Follow this and additional works at: https://scholarlycommons.henryford.com/hfhmedjournal

Part of the Life Sciences Commons, Medical Specialties Commons, and the Public Health Commons

Recommended Citation


Available at: https://scholarlycommons.henryford.com/hfhmedjournal/vol12/iss2/7

This Article is brought to you for free and open access by Henry Ford Health System Scholarly Commons. It has been accepted for inclusion in Henry Ford Hospital Medical Journal by an authorized editor of Henry Ford Health System Scholarly Commons. For more information, please contact acabrer4@hfhs.org.
SOME ESSENTIALS OF CHILD HEALTH APPRAISAL
RELATING TO SCHOOL ADJUSTMENT*

BRENTON M. HAMIL, M.D.*'

This general subject from any angle of its discussion must be approached with the
accepted philosophy that all physicians dealing with children attempt to aid the inten­
tion for survival of the organism and to help to accomplish a state of well being con­
sistent with the aims of educational programs for the present generation. These aims
are directed toward helping children attain their highest potential for participation in a
democratic society. The physical development, mental, emotional, social, recreational
and spiritual development are all aspects of growth which are inter-related and inter­
dependent. There are numerous established ancillary services in the community other
than those within the school structure whose basic reason for being is to aid this
over-all growth process toward its fullest accomplishment for each individual. Fortu­
nately today more attention is being paid to the individual child and more especially
to the child as a part of a family and community. The family and the community
together, including all of its professionally oriented components, should in some way
support the treatment and care of the child each being “ancillary” to the other in their
efforts and functions. Unfortunately many such professional groups wish to maintain
a status of “consultative” one to the other because of individual professional rivalries
which plague much of the good work being done. They are loth to “share a case”
and to work as a team toward a common goal of accomplishment. Our present day
need is not for more services, but better integration and functional accomplishment of
those which we have. This seems to be a situation which is more or less universal.¹
Physicians and school people have been slow to acknowledge one to the other their
joint responsibility for the welfare of the school child. Defenses are usually up and
frank committal about a child is often withheld. Teachers are fearful that their observa­
tion will be considered too lightly and physicians may doubt the need for specific
information which he may have about a child or members of the family. It has been
my observation that in a cooperative school-community inter-disciplinary effort, the
sharing of special discipline techniques and background knowledge has given the
individuals from different fields of endeavor more security in the basic knowledge which

*Presented in part to Dearborn Oakwood Hospital Pediatric Staff 9-6-63; Dearborn School Health
and Public Health Nurses and Health Education and Counseling Staff 4-22-64.
**Associate Physician, Department of Pediatrics.
they possess in common with the other participants and they function more efficiently in their endeavors.

The pre-school age child who is presented to the physician for examination before entrance to nursery school or to kindergarten will either show the need of such social group experience or will reflect in his behavior during the procedures of the examination his "readiness" for school attendance. This may vary over a wide range of special trait accomplishments which may be assessed in numerous established test procedures and which do not necessarily measure a child's readiness for school. Anton Bremer, the group leader for the Merrill-Palmer study of school readiness in children, emphasizes that readiness for school encompasses the whole child's developmental and maturational level, his physical, mental, emotional and social development, and is the result of growth due to both hereditary and environmental interactions. It is the result of the interaction of factors from all personality areas; the result of all of the constant interaction between the child and the surrounding influencing forces in which he lives. This "readiness" at the chronological age designated for school attendance is only a transient phase of his over-all physical, mental, emotional and social progress which he has accomplished at this time in his life journey from the instant that he was conceived. It reflects the success of his organismal intention for survival and his achievement of a state of well being. Transitions in readiness for any growth progress, be it physical, mental, emotional or social, is usually very gradual, smooth and almost imperceptible. The situation in which some people require a conscious effort toward readiness occurs because of an "imbalance" of the individuals evolving growth. One must appreciate the great variability among individuals in the various dimensions and patterns of readiness for any given situation at any time throughout life. The child's readiness, happiness and successful performance in school, as well as his successful mental hygiene or self-development depends also upon the readiness of the parents, of the teachers, of the siblings, playmates and classmates, in fact the physician at any given time of his contacts with him.

I have thought of the health status of a child as being relative to a number of considerations. These include his background of heritage; to some extent the background of economic stability of the family and of the community in which he lives, the efficient functioning of the various community services which he enjoys and his inter-family and inter-community personal social-emotional relationships which he develops. It would seem then that from the time of his conception he is the product of "happenstances" and continues to be so effected for better or for worse by elements in our social order with its progressively developing planned economy.

The physician who has the privilege of seeing for school health appraisal a child whom he has cared for from birth or who is a member of a family which depends upon his services for medical advice may be able to fill out the school form with accurate, but brief assessment of the child's abilities and possible disabilities or handicaps. One must be consciously or sub-consciously alert during the examination of either the preschool child, the child for elementary, intermediate or high school to observe things which might alter the individual's efficiency in this learning progress.
CHILD HEALTH APPRAISAL

whether it be physical, mental, emotional or behavioral, social, recreational or spiritual. This should necessarily include dietary advice to prepubertal and adolescent age children aimed against the development of obesity and extensive acne which may often precede the distressed emotional state and the obsessions that are apt to arise at the time of pubertal increase of growth impulse and the related physiologic increase in appetite. It is quite necessary to orient girls and their mothers before or at the time of their borderline pubertal development that the body hair and breast development begins at approximately one birthday and menstruation not until about a year or more later and that they should try to avoid too rapid increase in weight by controlling diet in a sensible way so that they may avoid the embarrassment associated with stretch marks on hips and breasts because of the excess subcutaneous fat developing beyond the extent that the skin growth occurs. It also may be reassuring to boys who may be of small stature at the junior high or even high school age in some instances, that growth and development studies have shown that boys who have a liberal amount of pubic hair at age 12 grow an average of 4" beyond this time while boys who develop pubic hair at the age of 14 grow an average of 7" and that they shouldn't let their own or the parents interest in the beginning of their sexual development over shadow their greater interest in larger stature at maturity because the boys who mature later in puberty as a rule become the tallest men in adult life. I also find it effective to caution the boys at this age about keeping their weight under control. I caution them that 50 per cent of boys during pubertal development, because of the lactogenic hormone which is produced by their putuitary glands to a lesser extent than it is in girls at pubertal age, causes a variable small amount of breast tissue to develop under their nipples and the greater the amount of excess pectoral fat that they have, the more they will be embarrassed and get kidded about large breast contours. Fortunately the breast tissue goes away in most boys after a few months, but if there is too much pectoral girdle fat the breast tissue contour is accentuated and if there is an abundance of hip fat and belly fat the penis may pull up into the fat pad so that they may resemble girls in both areas. I find that a little attention to these subjects at this age in a frank manner helps the individual to avoid the apprehension that might develop otherwise and helps to give moral support to his intention to the control of dietary indiscretions. There has been no instance to my knowledge when such frank honest discussion produced a state of anxiety rather than cooperative effort to control the physical situation. I offer these extreme examples of significant areas in which a physician may be helpful during the course of a school health examination because frank discussion may be conducive toward the accomplishment by the individual of a better balance of growth progress by conscious effort. We are all familiar with such situations when the child has assumed the complete responsibility for his weight control, as is necessary for effective results, and has become as a result, more self-reliant in other areas of his development. We also are cognizant of other situations when the child, because of too much home or school pressure about his physical state, has become withdrawn and non-social or has reacted with defiance and aggressive avoidance of situations which emphasize to him his insecure feelings about himself. He may become truant, fail in school performance, become an early drop-out and a community social misfit. One must admit some emotional etiology as being
operative in the continued eating of too much of the wrong kind of food, but in an approach toward the control of obesity by careful exploration to uncover the deep-seated subconscious emotional cause one only hopes to accomplish a better balance of overall growth maturity by helping to establish in the patient self-reliance and self-esteem.

There are findings on a routine health appraisal examination which may seem to be insignificant in relation to school accomplishments, but which, if not given attention, may result in the child failing to perceive certain parts of the basic essentials for the learning process as given in the lower grades and be handicapped in his progress thereafter. Such things as removal of impacted cerumen from the ears and instructions to the mother to avoid pushing the wax back into the ear in her effort to help the body do a job which if left alone could be done very efficiently. This may involve breaking down a family pattern of obsession about ear wax which has caused much emotional trauma to the child. This same type of failure to get all of the basic essentials for learning progress may occur when there has been periodic recurrence of middle ear involvement with or without serous or purulent drainage. Many young children are subject to mucous accumulation in the middle ear which may cause partial deafness for several weeks at a time and may recur several times a year. The cause is recognized by otologists as not always being bacterial, but due to either a virus, some allergic rhinitis or both. Whether this child attends school or is absent for intermittent periods, unless he is given some individual help he will miss much that is essential to future school progress. This or other extensive absences from school for non-medical reasons perhaps may ultimately result in the child's gradual withdrawal from voluntary participation in the school program or he may develop subconscious defenses of inattention, purposeless activity to distract attention away from his inability to perform at the level of his intelligence and soon he is a behavioral school problem to be labelled "socially immature, hyperkinetic brain injured or of subnormal intelligence" by those trying to deal with him.

**SPEECH AND LANGUAGE**

Impaired speech development is difficult to assess in a young child. Information from the parents if one suspects deafness is often of little value. This is especially true when one tries to appraise a child with poor language ability. It is well to remember that an only child in the home develops language ability more rapidly than children with siblings. Twins and other children of multiple birth are particularly slow in language development. Babbling usually begins around six months; by nine months imitative vocalization normally appears and by 18 months the average child can consistently name objects. The Illinois test of psycholinguistic abilities which is designed specifically for children has an age range extending from about three to nine years. This range covers what is considered to be the critical period of language growth in children from the onset of true language to the development of near adult ability. One might, through logical reasoning, expect a child to develop language more readily if there are one or more siblings in the home. It seems that in this situation the child's wants are too readily anticipated by the sibling and the information is related to the
CHILD HEALTH APPRAISAL

parent so that the need for self independence for communication does not develop. Twins often develop a lingo-type of speech which they each understand and use to communicate with each other to play teasing practical jokes on other members of the family and their playmates. I have observed this several times in my practice and in one instance had the family arrange to move into an area where these twin boys could attend a school for handicapped children at the pre-kindergarten level in an effort toward language accomplishment sufficient for kindergarten attendance. I suspected these children of having some element of aphasia or perceptual handicap in their language disability. One made adequate adjustment sufficient to ultimately reach high school and the other had more marked learning disabilities.

READING DISABILITIES, APHASIA AND DEAFNESS, RESTLESSNESS AND HYPERACTIVITY; CEREBRAL PALSY AND EPILEPSY.

Children with one of these problems, combinations of two or more or of all of them in any grouping which you wish to imagine are either brought to the physician before or following school entrance to see if something can be done to make him acceptable for school attendance. It may be that after he has been accepted in school he fails to make satisfactory progress or fails to adapt himself to the disciplines of the school social community and someone suggests that he be seen by a doctor. Children with one or more of these problems are difficult to appraise and one needs careful specialty assistance in their study and the assessment of their learning potentials. I group them together in this discussion because they are all recognized to be the result of developmental abnormalities in the brain or central nervous system from genetic heritage, from intra-uterine trauma or toxic cause, from birth trauma or from brain illness or accident in infancy or earlier childhood.

Because of the handicaps in learning which so frequently result from minor evidences of CNS damage it is helpful in assessment of the child in doing a school health appraisal examination to have the child do the finger-to-nose test, finger-to-finger test, heel-to-knee test or heel-to-toe test for suggestive evidence of ataxia or neuromuscular incoordination. The test for alternate motion rate of the hands in extension and lateral rotation and of the tongue in extension and lateral movement are especially informative. It is not only important to have the child off the examining table to observe his foot, leg, hip and back posture and his gait, but it is especially informative to know how efficiently he can walk a chalk line heel-to-toe without and with the eyes closed and how well he can hop rhythmically on either foot. If there is impairment of any of these neuromuscular coordinated functions, further history of the pregnancy, birth, early infancy and childhood development with particular inquiry about severe illnesses, injuries, convulsions accompanying or without fever and the age at which the child could ride a tricycle or a two-wheeler without training wheels may be explored. Perhaps if there is no known difficulty with school progress the parent may be advised to consult with the teachers and if there seems to be some area of developing difficulty a more complete neurological survey with electroencephalogram and psychological appraisal of special abilities or disabilities and projective testing should be arranged. Cerebral palsy may be evidenced by mild degrees of athetosis or hypertonicity of the
extremities or much of the skeletal musculature may be involved with spasticity or athetosis. It is recognized that mild degrees of brain damage may result in minor evidences of cerebral palsy and associated learning disabilities related to hearing or speech or some area of aphasia which may be classified; A. auditory disturbance, B. reading disturbance, C. speech and language disturbance, D. visual and writing disturbance or any combinations of all of these. Pasamanik and Knoblock are quoted as claiming that minor brain traumata are commoner than is realized and that these are more likely to occur in the deprived strata of society. Siegel has tried to point out how brain injured children have difficulty perceiving and assimilating the various stimuli of their surroundings into a clear and accurate structure. This prevents them from being able to filter out unimportant visual and auditory detail, so that they are constantly at the mercy of all of these stimuli which results in their hyperkinetic purposeless uninhibited behavior. There is a wide discrepancy between their maturation development and their chronological age which doesn't permit relating themselves in a healthy manner to other children and they become ostracized and more and more emotionally disturbed. This group of children often show remarkable behavioral improvement from treatment with one of the large group of drugs which cause various degrees of cerebral stimulation or mood elevation. Dextro-Amphetamine is especially effective although Levo-Amphetamine is not effective. Ritalin, Preludin, Deaner 100 and a number of others of similar pharmacology have been used with favorable effect on the personality and manageability. The nature of its action to control this receptor mechanism of the brain is not known, but there is a calming or tranquilizing effect as it pertains to the hyperkinetic, purposeless activity observed without this medication. Special educational technique should be available for these children and early systematic educational and social conditioning is recommended by most mental hygiene authorities and special attention given to the likely associated perceptual handicaps which complicate learning progress.

Gibbs et al speak of cerebral palsy as a general term rather than a specific syndrome although it is recognized as an entity. They state that cerebral palsy implies permanent motor deficits resulting from damage to motor centers of the brain in infancy and childhood. This damage is rarely limited to motor centers, however, and it is common for cerebral palsy patients to have "such associated abnormalities as perceptual defects, aphasia, epilepsy, intellectual impairment, sensory defects and personality disorders." Their report deals with 2,124 consecutive cases all below age 20. They attempt to correlate the electroencephalogram findings with the outstanding clinical features of cerebral palsy excluding, however, perceptual defects and behavioral disorders. They urge the use of antiepileptic medication if cerebral dysrhythmia is present on the electroencephalogram even though clinical signs of epilepsy are absent. Medication may alleviate some of the symptoms and disabilities that may be due to an epileptic process in the patient. It is a common observation that epileptics show great improvement in personality when they are on adequate anticonvulsant medication.

Brown defined aphasia as a primary disorder of reception, manipulation and expression of language. The terms reception and expression are self-explanatory, the term manipulation is used to designate the conceptual language processes going on between
the sensory perception and the motor activities comprising expression. These processes covered by the term manipulation have been variously designated as inner speech, inner language symbolic formulation, etc. The speech center or the area of the brain having the most control over language development has been considered to be in the left hemisphere; however, the inter-relationships between laterality of lesions and handedness have been divergently disputed. Among right-handed persons, aphasia is usually the result of a lesion in the left hemisphere. Among those who are left-handed or ambidextrous aphasia is also usually the result of a lesion in the left hemisphere, but in a few it is in the right hemisphere.

Heller has surveyed the literature and reported 28 cases of word blindness which in some way is related with cerebral dominance. These were screened from 6000 observed between 1949 and 1956. It was noted that when these children made an attempt to read they appeared to see the word differently than did the observer. After a thorough review of the literature it is reasoned this condition may be the result of a developmental causative factor such as “delayed myelination of the nerve fibers.”

Orton used the term strephosymbolia which means twisted symbols to explain the cause of such reading disabilities on the basis of failure to establish lateral dominance of one cerebral hemisphere which in turn led to confusion of perception of certain letters, confusion in the direction of reading etc. Eustis studied carefully 23 children with specific reading disability. They were followed for an average of eight years and all were private patients from 21 families. The family trees, when accurate histories were obtainable, were found to contain a large number of similarly constituted persons who were more or less ambidextrous and who had language difficulties. In this group of 23 children the factor which played a large part in their reading difficulty was thought to be an inherited sex-associated weakness of the language function combined with a tendency to ambidexterity. Ambidexterity, left-handedness and speech defects are not causes of a specific reading disability, but are merely frequently associated findings and as such are to be regarded as part of the same picture. This author expresses the opinion that children who do not learn to read in the first grade should be studied carefully and, if they are found to have specific reading disability, they should be taught to read, write and spell by phonetic and kinesthetic methods. This reading disability should be discovered early because the longer the child remains unable to progress in reading the more bizarre his behavior pattern may become. First, confusion because he cannot know why his reading is unsatisfactory, possible panic later when called up to read, subsequent disinterest or defiance and an attempt to get attention to himself by undesirable disturbing activities. In this form of reading disability there is generally no history or evidence of an acquired brain lesion and there is a tendency for it to show gradual and spontaneous clinical improvement especially during the years of rapid adolescent growth and development.

The difficulties of accurate diagnosis of aphasia in children with language difficulties is brought out in a neurologic study by Goldstein, Landau and Kleffner. One
hundred and eighty three children were studied, 114 were deaf only and 69 were aphasic. Thirty two per cent of the aphasic children were found to have no other discernible neurologic findings. However, the auditory and speech behavior and the educational progress of this “neurologically normal” one-third of the group could not be distinguished in any way from that of the remainder. On the basis of clinical similarities it was presumed that all had pathophysiologic features in common.

Goetzinger et al\textsuperscript{5} state that the research relative to auditory discrimination and reading ability is in conflict. Various difficulties of vision, esophoria, exophoria, hypermetropia, myopia, etc., have not been shown to have a direct relationship to persistent reading difficulties. The perceptual function or the central processes that are initiated by sensory stimulation are of obvious significance. Their study which was devised to investigate auditory discrimination and visual perception in good and poor readers and to explore the relationship between such factors and reading achievement, offered confirmatory evidence that poor readers are significantly inferior to good readers in auditory discrimination. They found that this inferior discrimination was a function of the level of difficulty of the test, which is not correlated with intelligence per se as measured by the Binet scale. Poor readers show a deficit in auditory memory span. The difference in score for the two groups suggests a reduction in function at the primary auditory cortical level. Visual perception tests showed no differentiation of the good from the poor readers.

Osgood and Miron\textsuperscript{4} in their editorial preface to the reporting of an interdisciplinary conference on aphasia indicate that discussions by different disciplines participating in the conference indicated a salient area of overlap when the aphasic syndrome is interpreted “as an aberration of symbolic function.”

Aphasia in children often does not resemble adult aphasia either in symptoms or treatment. Developmental aphasia, sometimes called congenital aphasia, exists when either “poor endowment or brain injury” occurs before, during or after birth which prevents the child from acquiring language. Childhood aphasia refers to language impairment occurring after language has been acquired in the normal manner.

Nancy Wood\textsuperscript{6} classified peripheral problems relating to hearing or vision impairment as perceptual distortions; aphasic-like fluctuations in ability to receive, manipulate and express language symbols as perceptual disturbance; delayed development, but normal potential as perceptual immaturity and intellectual deficiency which affects language performance as perceptual retardation. She states development aphasia and childhood aphasia should not be diagnostic labels alone because they are “dynamic directives for educational pursuits.”

Zagora\textsuperscript{7} made observations on the evolution and neurophysiology of eye-limbs coordination in the infant in its progress toward maturity and states that it reflects to a certain extent maturation of the central nervous system. The conditioning to eye-limbs coordination increases only within the age range of one to five years. After
CHILD HEALTH APPRAISAL

dthis there is gradual diminution despite the fact that the central nervous system is undergoing further maturation. After the fifth year the child resists conditioning because other psychological incentives play an increasingly important role. Confusions regarding established cerebral dominance may need attention after school age. Eye-hand coordination difficulties can best be detected by careful teacher observation.

Brain states that the failure to establish a dominant hemisphere is the result and not the cause of congenital anomalies of brain function which express themselves in disabilities of speech, reading and writing. The task of the future is to use all the available modern methods of psychological testing, linguistics, phonetics and communication theory, to correlate psychological with physiological functions. Brain, in his treatise on perceptual disorders, speech disorders, aphasia, apraxia and agnosia, states that the causes of aphasia are very numerous, including all lesions which may involve the cerebral cortex or subcortical white matter in the areas concerned with speech. He states that encephalitis is an uncommon cause, but that diffuse lesions may involve a large or small part of the speech area and may include various forms of encephalitis and meningitis, severe head injuries, toxic states such as carbon monoxide poisoning, lead poisoning, etc. Brain suggests that the source of all of the confusion arising from the diversified viewpoints of the “naive” psychoanatomical, the “holistic” clinic psychologist and the “empiricist” who stress disorders of function, is the failure to recognize a three-term relationship or a description at three levels and an understanding of the relationship between them: These are the psychological, and physiological, and the anatomical. An anatomical lesion of the brain, if it disturbs speech, does so disorganizing the physiological functions upon which speech depends. This leads to an associated psychological disorder.

Tarjan has enumerated disease entities known as the inborn errors of metabolism with associated mental retardation which he has labelled “the enzymatic mental defects.” These necessarily have to be identified and classified for the school in relation to expected rate of school progress and adjustment.

Beyn has emphasized that experiments have demonstrated that the activity of the cerebral cortex, in particular of the auditory temporal systems, is not confined to a mere reception of acoustic stimulation. The cortex of the temporal region is an apparatus which subjects the acoustic stimuli to analysis and synthesis. Owing to this, a lesion of the cortex of the temporal lobe may leave the audition itself intact, and at the same time greatly disrupt the analysis and synthesis of sounds.

The extensive epidemiologic studies of Pasamanic and Knoblock were done in relation to a number of neuropsychiatric disabilities and submitted in support of the findings of other studies. The magnitude of their evidence seems to be sufficiently great to support their conclusion that there exists a continuum of reproductive insult, at least partially socioeconomically determined.
These authors believe that minor brain traumata are much more common than is usually realized especially in the deprived lower socioeconomic strata of society. The reproductive casualty may result in various shadings from the death of the fetus in utero off to the "minimal reversible discomforts of normal birth." Their studies supply evidence that the interaction of factors associated with deprivations and with minor brain lesions are significant etiologic factors in a large variety of neuropsychiatric disorders in children; such as mental deficiency, cerebral palsy, epilepsy, behavior disorders, reading disabilities, tics, etc. They even extend this reasoning to include emotional traumata which derive from greater anxiety of the parents because of the birth injury, the greater degree to which these children are subject to illness and hospitalization with its resultant emotional traumata, etc. They caution the child psychologists that "what may be attributed to maternal deprivation may actually be due to underlying minimal brain damage from birth."

Dr. Allan C. Barnes, Professor of Gynecology and Obstetrics at Johns Hopkins has recently discussed the baffling variety of factors relating to congenital malformation in an article which covers very thoroughly "The Hazards of Being Born." This brings into clear focus the percentage value which should be given to the primary efforts to detect or suspect physical causes for psychological, behavioral and school adjustment problems.

REFERENCES


