HEALTH BEHAVIOR

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A MANUAL OF GRADED STANDARDS OF HABITS, ATTITUDES, AND KNOWLEDGE CONDUCIVE TO HEALTH OF THE PHYSICAL ORGANISM, AND OF PERSONALITY, HOME, COMMUNITY AND RACE

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PREFACE

This manual has been in preparation by the authors for several years, and within the past few months has benefited by the criticisms of approximately one hundred advanced students and teachers of health education, teachers of biology, and physicians. It is in part an outgrowth of the scale of health habits set up in "Health Education," the report of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association. The scale in "Health Education" was originally set up by the authors of this manual, and submitted to and approved by the Joint Committee and the Technical Committee of Twenty-seven. The scale as set up in "Health Education" includes only habits, not attitudes or knowledge, and is only for the kindergarten and first three grades. In spite of its brevity, it nevertheless suggests the activities which should be included in any scale whether brief or comprehensive, and the authors of this manual have attempted to conform to this suggested standard. A study, "Health Problem Sources" recently completed by one of the authors has also been used as a basis for determining the most important health problems to be included in this manual.

The authors wish to express their gratitude to all those who have so generously given of their time and effort in constructively criticising this manual, helping to increase its accuracy and usefulness.

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INTRODUCTION

This manual of scales is an attempt to express for various age groups appropriate standards of healthful behavior in terms of habits or skills, attitudes and knowledge, showing the stages of educational progress.

The scope of these scales was determined by the idea now widely accepted, that health education should be concerned not only with physical, but with mental and social health. The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association states in its report, "Health Education," that "health education can be promoted only by emphasizing all aspects of health, physical, mental, social, moral. The teacher of health should look for normal development of the child from all of these points of view. The ideal of health is not mere freedom from obvious deformities and pathological symptoms. It is the realization of the highest physical, mental, and spiritual possibilities of the individual."

Health education is the sum of experiences in school and elsewhere which favorably influence habits, attitudes and knowledge, relating to individual, community and racial health. Keeping this definition and the statements of the preceding paragraph in mind, the necessity will become apparent for the inclusion of such a wide range of items as come under Education for Parenthood, the Healthy Personality, or Safety, for example.

These scales have been compiled after careful study of existing health problems,[1] and an attempt has been made to suggest the essential habits, attitudes and knowledge in connection with the most important health problems.

USES OF THE SCALES

This manual is designed for use by teachers, supervisors, and any others who may be teaching, planning or administering programs of health education. The manual should also be of interest and give help to parents who are ready to coöperate intelligently with teachers for the more effective education of their own children. Needless to say, it is not for use by the pupils.

[1] Lerrigo, Marion Olive. Health Problem Sources. Bureau of Publications, Teachers College, Columbia University, New York. 1926.

Planning a Course of Study

It should be an aid in planning a course of study, or in setting up the objectives for a program of health education. It is probably true that a course of study should be flexible enough in its order, arrangement and subject matter to be adapted to local needs and situations. A comprehensive enumeration of the health habits, attitudes and knowledge which seem to be involved in solving the most important existing health problems should make it easier to plan a flexible health education program. Such an enumeration can be used as a basis for surveying the local situation, and discovering wherein the school system or class room is weak or strong. The results of such a survey indicate what points will need emphasis in the health education program.

Measurement of Results

The demand is increasing for means of measuring the results of health education. The results of health education fall into two classes, educational outcomes and health outcomes. Educational outcomes include habits, skills, attitudes, and knowledge. These desirable educational outcomes are stated in these scales, but the scales are not in the form of an educational test. A health knowledge test of limited range has been constructed and published;[2] health habit and health attitude tests are still to be made.

This group of scales should be a useful basis for selecting the kinds of items which would be included in such tests. The scales set up standards of achievement; they indicate what behavior is significant; what items are worth testing.

Health outcomes, as contrasted with educational outcomes, include among other things, physical growth, illustrated most frequently and practically by height and weight; the correction of remediable health defects; decreasing number of absences from school due to illness; healthful mental growth, and healthful development of the emotional and social life. On pages 5 to 12 is given a fuller description of the healthy growth of the child. These health outcomes should, of course, result from a program of health service and health education. It is, however, only the educational outcomes that are listed in this scale.

[2] Gates-Strang Health Knowledge Test. Bureau of Publications, Teachers College, Columbia University, New York. 1926.

POSSIBILITY OF ACHIEVING OBJECTIVES

The scales are intended to be comprehensive and as nearly complete as possible. To some they may seem to include more than a program of health education in the schools can accomplish, while to others they may seem to lack many useful details of information. To the authors, it is evident that a consistent, well-planned program of health education, begun at home by parents and continued both by parents and teachers throughout school life, would easily result in the acquisition of the most significant of the habits, attitudes and knowledge items in the scales. All the items in these scales seem to be desirable and possible of attainment at the different levels indicated, if health education has been efficient and successful. However, it is not to be expected that one year, or even two or three, would secure these results. They come only as the result of efforts begun in infancy and continued to adult life.

ADAPTATION TO LOCAL NEEDS

It is usually the case that a program of health education is begun too late in life. This is a situation which will be remedied in time, but which now exists almost universally. Children who have had no adequate health education until, let us say, the fifth grade, cannot expect in one year or two to acquire all the habits, attitudes and knowledge listed in this scale to be attained by the end of the sixth grade, where sixth grade achievements are planned upon a thorough program begun in pre-school years. This means that teachers and supervisors, in using this scale, should study the needs of the children with whom they deal, and should select from the scale the items most needed by that group of children, placing their emphasis upon those items.

Adaptation of the health education program to fit the local situation is one of the most important factors in the success of the program. These scales have been planned with the thought of what might be accomplished under ideal conditions. In use, however, they should be modified in accordance with a thoughtful, careful study of actual conditions in any definite locality for which a health education program is being planned. Beginnings must always be made with conditions as they are; plans for the future should aim at changing the existing conditions in the direction of the ideal, or the optimum.

For example, there are neighborhoods where the weekly bath is rare, and not only rare, but difficult to arrange owing to meager

plumbing facilities. In such a situation it would be futile to begin a health education program, advocating the daily bath or shower. "A bath more than once a week" would be a big first improvement for the children of such a community. When that first goal had been reached, it would be time to set another, more advanced goal.

As another example of the necessity for adaptation to the community, it may be pointed out that the items to be emphasized in rural and in city schools will differ in some particulars. The problems of procuring a safe water supply, of making a sanitary disposal of sewage, of safeguarding food supplies, require treatment in rural communities differing from that in cities. The safety items also require a different emphasis in rural districts. For example, one of the most important safety items in rural schools, especially those on main highways, is to teach the children to form the habit of walking on the left side of the road, as a protection against automobile accidents.

ORDER OF ITEMS

These scales contain no suggestions for method, or for the order and arrangement of units of the course of study. The order of items in these scales does not indicate that a similar order should be followed in carrying out health education activities. The order is roughly as follows: The manual contains six scales. Scale I sets up standards which should be attained by the time the child enters kindergarten; Scale II, by the end of the third grade; Scale III by the end of the sixth grade; Scale IV, the ninth grade; Scale V, the twelfth grade; and Scale VI is for college and university graduates and adults. It would probably be more satisfactory in many respects to divide the groups upon a basis of mental age or educational age. However, that does not seem practicable so long as school groups are generally, in fact, almost universally, based upon grade in school.

In each scale, there are three sections. Section I includes items dealing with The Healthy Organism, essentially personal hygiene; Section II contains items relating to the Healthy Personality and Section III deals with The Healthy Home and Community.

With regard to the order of the items, it should be said that in each group, the new items added are placed at the first of the list, and the items which should have been acquired during preceding years, but practice of which should continue are listed under "repeated" items.

Authorities differ with respect to such minor details in the scales as the number of glasses of water to be used daily; hours in bed or of sleep required at different ages; number of baths necessary for health. In such cases, the most authoritative standards known to the authors have been used.

THE HEALTHY GROWTH OF THE CHILD

It is difficult to describe adequately such a complex process as the healthy growth of a child. It is more difficult still to picture the healthy child himself. But these are difficulties which it is very important that we overcome. Undoubtedly, one of the reasons why children are permitted to grow up, handicapped by defects which might have been corrected, is that many parents and teachers have not a definite, clear-cut picture of what the really healthy child is, or should be; they do not recognize defects, even when they are fairly obvious; they do not realize that the child is failing to reach a standard of good health, and they fail to realize it because they have no adequate conception of what good health is.

The attempt is made here to indicate briefly some of the important, easily observable points to note in judging whether or not a child is showing normal, healthy growth. This attempt is necessarily tentative and incomplete, and should the effort be made to give a full detailed description of the healthy child, the result would not be satisfactory because, as yet, even the medical profession has no generally accepted standards of positive good health for growing children. However, the American Child Health Association is working upon this problem now, and it is hoped that its report will, in the near future, serve to clarify in a scientific way both the lay and professional conception of what a healthy child should be.

The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, in its report "Health Education," makes a statement regarding the meaning of health, which contains a significant description of certain of the characteristics of the healthy child. This statement follows:

A. "The Healthy Organism: Physiologic Health: Physiologic Health implies the well-being of each cell and organ, and their harmonious coöperation. Two tests of this are:

1. "Proper growth in height, weight, structural and functional development. This includes more than mere freedom from malformation, abnormal growth or structural defects.

2. "Full efficiency of functions: muscular, nervous, mental, emotional, glandular, nutritive, circulatory, respiratory, excretory, and reproductive. This means that there is a feeling of abundant energy for all the ordinary activities of life, and some reserve for unusual strains.

"It may require a careful physical examination to discover in detail the condition of the child on all the points mentioned above. But there are certain simple evidences of bodily health which any one may easily observe.

a. "The healthy child is largely unconscious of his body. He has a general sense of well-being, a feeling of muscular power and of pleasure in movement. He is not conscious of the vital organs. When a child is in pain, or in ill health, on the other hand, he becomes conscious of parts of his body, which so far as he knew before might have been non-existent.

b. "He possesses sufficient vigor so that a reasonable amount of work and play is more stimulating than fatiguing.

c. "His appetite is steady, wholesome and not capricious.

d. "His weight does not vary widely from the standard weight for his age and height.

e. "He sleeps well, and during the normal regular hours of sleep, he recovers satisfactorily from fatigue.

f. "He is able to adapt himself to new conditions of environment, climate, or modes of life without undue physiologic disturbances.

B. "The Healthy Personality: Mental, Emotional, Moral, and Social Health: To picture the healthy mental, emotional, moral and social qualities of the child is to describe the healthy personality. In describing the characteristics of a healthy personality, it is desirable to allow for a variety and range of individual differences. To be well balanced it is not necessary to suppress one's individual qualities, or to conform to a uniform pattern. It is nevertheless useful, keeping this in mind, to describe the simplest and most significant evidences of a healthy personality. They are as follows:

1. "The child possesses intelligence adequate to meet the demands of his life. This includes the whole range of intelligence from very superior to somewhat below the average. Some very healthy personalities are found among those whose intelligence is inferior to the average, but is nevertheless sufficient to meet the demands of their simple lives of manual work.

2. "He is able to concentrate his attention upon the matter before him, and to perceive the important elements of the situation with accuracy and alertness.

3. "He is interested in the world about him, and curious to understand it.

4. "He is generally self-confident; he expects success and achieves it with reasonable frequency.

5. "He is active in overcoming difficulties; he does not 'day dream' so much that he fails to meet the actual situation.

6. "His predominating emotional qualities are happiness, cheerfulness, courageousness. He is not troubled by unnecessary fears, shyness, or timidity. His emotional responses are those that are appropriate and useful for the occasion.

7. "He does not ordinarily brood or sulk, or indulge in morbid introspection.

8. "He has many objective interests; friends, hobbies, games in which he finds adequate self-expression.

9. "He is companionable and mingles easily with other children. He adapts himself easily to coöperative enterprises; to leadership or followership.

10. "The child's relationships with children of the opposite sex are wholesome.

11. "He has a sense of responsibility for the happiness and well-being of his friends, school mates and members of his family."

In addition, certain more specific statements of detail may be useful.

Growth in Height

Growth in height and growth in weight are most obvious measures of growth, and are crude, but important, measures of health. That is, average growth in height and weight does not necessarily indicate good health, but prolonged or marked lack or cessation of growth in height and weight during years when growth should proceed, usually indicates some serious defect.

The child at birth has attained a little less than one-third of his total adult height. In the first five or six years of his life, he grows approximately another third of his total height. The rate of growth in height is never again so rapid, as it takes ten or twelve years, sometimes more, to add the last third. There is, however, a slight adolescent increase in the rate of growth, which usually occurs in the early stages of adolescence.

Growth in Weight

Baldwin estimates that at birth children weigh about five percent of what they will weigh at seventeen years, and that at the age of seven, they have reached from thirty-eight to forty percent of their probable weight at seventeen.

From two years until puberty, the child grows slenderer in proportion to height; after adolescence he grows heavier in proportion to height. In other words, growth is especially of the skeleton before puberty and of the organs and muscles after puberty.

It is generally believed that for optimum health, the child should be not more than seven percent under, nor more than fifteen percent over the average weight for his age and height, as expressed in such weight-height-age tables as the Baldwin-Wood tables. Ten

percent underweight, or twenty percent over-weight is usually an indication of defective nutrition, or other defect.

Other Indices of Good Nutrition

It is also true that a child may be within the healthy zone of weight for height and age and yet be suffering from malnutrition. Other signs of good nutrition for which the observer should look are firm flesh, covering a moderate amount of subcutaneous fat; good musculature; good posture, good carriage, straight legs (no rickets); soft clear skin; good color; eyes clear and bright, without fatigue circles; good color in mucous membrane; an air of vigorous vitality; cheerful, interested temperament and attitude; and enjoyment of activity, both mental and physical.

Skeletal Development

The skeleton of the child is characterized by provisions made for growth. The child's skeleton contains a larger proportion of cartilage than the adult's. Ossification proceeds gradually during the first six years of life, but at the age of six the bones are still comparatively soft and easily deformed. The joints of the long bones are still partly cartilaginous and unossified. Ossification is not complete until late adolescence. In healthy development the long bones of arms and legs will be straight and strong. This normal development depends upon adequate nutrition and upon hygienic habits of posture and activity. "Bow legs," for example, are often an indication of rickets due to inadequate diet, lacking fresh animal and vegetable foods; which contain the essential vitamine factors favorably influencing growth and dependent upon beneficial effects of sunshine.

Muscular Development

No new muscle fibers are formed after birth. Increase in size of the fibers already formed accounts for the growth in weight of the musculature.

The great growth in muscular force comes for boys at adolescence, especially in the latter part. For girls, the chief growth in muscular strength comes before the age of fifteen.

Neuromuscular control increases throughout the growing years. In the first five or six years of life, the child shows a marked inability to perform movements requiring fine, delicate muscular coördinations. It is not until he is ten or twelve years of age that he

may, without difficulty or risk of harm to progressive development of neuromuscular coördination, acquire skills which demand finely coördinated movements.

Posture

Habitual good posture is one of the evidences of healthy growth. The mechanical elements of good posture may be briefly described as follows:

1. Toes straight ahead.
2. Weight on outer borders of the feet (and not transmitted to the ground through the heels entirely) but lightly on the heels, then instep, then toes; the whole foot touching the floor at practically the same time.
   The foot should be strong and pliable.
   The arch should be high enough to admit finger tips to first joint.
   The toes should be straight, and joints straight.
3. The knees are straight or slightly bent.
4. The hips forward.
5. The abdomen well held back.
6. The shoulders flat.
7. The head up, neck straight.

In this position there is no strain on muscles or ligaments, and the vital organs are so situated as to function most easily and efficiently.

Circulation

A healthy condition of the blood and circulatory system results in good color in cheeks, lips, mucous membrane lining lips and skin covering ear lobes.

Skin

The skin should be not too dry, or abnormally moist with perspiration. It should be clear and smooth.

Nervous System

The infant at birth is controlled nervously by reflexes. The areas of the brain upon which thinking depends are the last to develop. Neuromuscular control increases from birth to maturity.

The ability to use language is perhaps the most outstanding psychomotor skill acquired by the child in pre-school years. Upon it depends most of his mental development.