A COMPARISON OF TRANSESCENT MALE DEVELOPMENT IN TWO ORGANIZATIONAL PATTERNS CENTERING ON MIDDLE SCHOOL GRADE REORGANIZATION

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ABSTRACT

A COMPARISON OF TRANSESCENT MALE DEVELOPMENT
IN TWO ORGANIZATIONAL PATTERNS CENTERING
ON MIDDLE SCHOOL GRADE REORGANIZATION

By

John Patrick Fallon

Review of the literature revealed that decision makers in school systems perceive the relative advantage of middle schools for transescents without a known research tradition supporting it. The study defined transescence as the period extending over preadolescence and covering those children at the onset of puberty, and those in early adolescence. Middle school planning and adoption is occurring without sufficient research knowledge of the degree of advantage it has over the grade organizational patterns it is replacing.

There was strong suggestion in the literature that middle school organization may be a better setting for the changing self-concepts of pre and post pubertal males, and their quality of interpersonal relationships with peers as 'significant others,' especially in grades six and seven.

This study was posited on the notion that the school as a social setting should have an organizational and

curriculum design which fosters interaction, with every experience undertaken by a child intended to help him to become aware of his own potential as a human being.

In comparing the factors of general self-concept (Piers-Harris General Self-Concept Scale) and self-reported personal and social problems (Mooney Problem Checklist Form J) of transescent sixth and seventh grade boys in two organizational settings (K-6 and 7-8-9 conventional grade setting and 6-7-8-9 middle school setting), few dissimilarities and no statistical differences were found among 277 boys observed in two suburban Long Island, New York counties.

Health and physical development, peer groups, and self-centered concerns were slightly less a social-personal problem among the middle school sixth grade boys than among the conventional school sixth grade boys.

Home and family, money, work and the future were slightly less a social-personal problem among the conventional seventh grade boys than among the middle school seventh grade boys.

The following is a summary of the findings based on two testable major hypotheses stated as follows:

Hypotheses

I. There is no difference between mean scores of general self-concept of sixth grade boys in middle schools and the mean scores of general

self-concept of sixth grade boys in K-6 conventional school units. The statistic used was a "t" test and the result was not to reject this hypothesis at the .05 level.

II. There is no difference between mean scores of general self-concept of seventh grade boys in middle school units and the mean scores of general self-concept in 7-8-9 conventional school units. The statistic used was a "t" test, and the result was not to reject this second hypothesis at the .05 level.

Setting appeared to have no function per se. To reorganize middle grade learners to save money, space, or satisfy a transient population pressure appears to be a pattern non-functional both for the individual and according to the axioms of normal child development. Furthermore, a variety of grade groupings appear to serve a number of reorganizational purposes. The selection of an age-grade arrangement does not necessarily disqualify a school district from having a good middle school program.

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By

John Patrick Fallon

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CHAPTER I

INTRODUCTION

General Statement of the Problem

The history of American education succinctly chronicles the context of grade reorganization and the construct of the middle school as it relates to transescents. (The term transescents extends over preadolescence and covers those children at the onset of puberty, and in early adolescence.)

In 1847, Quincy, Massachusetts actualized Comenius' thesis, expounded by Horace Mann, on grading instruction by opening the first graded American public school,[1] the first graded setting for transescent learners.

In 1903, the term "middle school" was expressed in the literature of education as a referent for that school unit between elementary and college, namely the secondary high school.[2] Now the notion of a school-in-the-middle,

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[1]Adolphe E. Meyer, An Educational History of the American People (New York: McGraw-Hill Book Co., 1957), pp. 187-188.

[2]Elmer E. Brown, The Making of Our Middle Schools (New York: Longmans, Green Co., 1903).

a school between the elementary and the high school, and a cyclic trend toward grade reorganization, are again the subjects of frequent educational discourse, more than sixty-five years later.

Current discourse depicts the middle school as a grade reorganizational movement with implications for change in instructional patterns and a promise of a suitable setting for transescent learners. Since the construct of this school-in-the-middle pivots organizationally on relocating and joining grade six with grade seven, it apparently is an antithesis to the existing 7-8-9 junior high school and the K-6 elementary school, which separate grade six from grade seven.

The extent of this current grade reorganization movement was prophetically heralded by the welcoming speaker at the 38th Annual Conference of Junior High School Administrators. That audience was reminded that they were simultaneously attending the last conference on junior high school education and the first conference on middle school education.[3]

In effect, the current reorganizational movement is a departure from the dominant 6-3-3 grade pattern and a trend to 5-3-4, 4-4-4, and possibly, 5-4-3 patterns.

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[3]Meyer Jacobson, cited in "A Report of Proceedings," Bulletin of the National Association of Secondary Principals, LI (February, 1967), 67.

Specific Statement of the Problem

The purpose of this study is to compare the factors of general self-concept and self-reported problems of transescent sixth and seventh grade boys in two organizational settings.

The two settings are descriptively defined as: (1) the conventional 6-3-3 pattern or twelve grades splitting sixth and seventh grades into separate plant units; (2) the new patterns of twelve grades joining sixth and seventh grades into one school unit, commonly called a middle school.

The problem of this investigation, stated in the form of a question, is:

Do sixth and seventh grade boys at the onset of pubescence when housed and programmed in middle school settings, evidence significantly better achievement in self-concept (and coping with their self-reported problem world) than sixth and seventh grade boys at the onset of pubescence who are housed and programmed in conventional school settings?

The major hypothesis with which this study is concerned is that:

Transescent boys non-separated in sixth and seventh middle school grade patterns will perform higher on factors of general self-concept when compared to sixth and seventh grade boys separated in K-6 and 7-9 grade patterns.

The study will isolate common developmental problems voluntarily self-reported by transescent boys in the two school settings. The purpose of this part of the study is to answer the related question--Is there a contrast between the problems encountered and identified by boys from the two school settings?

Importance of the Investigation

Inherent in the purpose of the study is the controversy over the multiplicity of grade organizational schemes. James B. Conant, after his classic investigation into ninety school systems in twenty-three states concluded:

> Clearly, the present variety of organizational schemes is due partly to the accidents of local situations--enrollment pressures, existing buildings, and financial resources. State laws, including state-aid formulas, have their influence as well. But what has impressed me is the extent to which educators with considerable experience disagree as to what should be the organizational scheme.[4]

The basis for the disagreement which impressed Conant may lie in the paucity of research evidence supportive of the superiority of one grade organization plan over another. "Even now there is no firm basis in research for support of the 7-9 pattern--or for any pattern for that matter."[5] Lack of clear support was recently exemplified

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[4]James Bryant Conant, Recommendations for Education in the Junior High School Years (Princeton, N. J.: Educational Testing Service, 1960), p. 11.

[5]William Van Til, George Vars, and John H. Lounsbury, Modern Education for the Junior High School Years (2nd ed.; Indianapolis, Ind.: Bobbs-Merrill Co., 1967), pp. 56-57.

by the inability of research to demonstrate the superiority of non-graded over graded patterns.[6]

The junior high school grade reorganizational movement in the 1920's, divided the then dominant 8-4, two-level pattern into the present three-level 6-3-3 plan. This development is the historical antecedent for current grade restructuring on the intermediate level. Yet, after nearly forty years as the "bridge" school between the elementary and secondary units, the junior high school concept is not fully developed,[7] and the question remains as to which unit of public school organization is functionally suitable for learners between childhood and adolescence.

Six reasons are cited for the retarded development of the junior high school construct:

1. Hand-me-down inadequate facilities.
2. Lack of standards and policies.
3. Shortage of specifically trained teachers.[8]

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[6]William P. McLoughlin, "The Phantom Nongraded School," Phi Delta Kappan, XLIX, No. 5 (January, 1968), 248-250.

[7]Van Til, Vars, and Lounsbury, op. cit., p. 56.

[8]Otto E. Buss, "The Changing Role of the Junior High School in California" (unpublished Ph.D. dissertation, University of California Los Angeles, 1965); Roy Lee Bragg, "A Comparison of Two and Three Year Junior High Schools" (unpublished Ph.D. dissertation, University of Arizona, 1965).

4. Lack of status and prestige.[9]
5. The rationale for reunifying grade 9 with a four year comprehensive high school for purposes of strengthening course sequence, program control, and program verification.[10]
6. The rapid adoption of the emerging middle school construct which purports to be a more suitable setting for preadolescents and early adolescents in the upper elementary grades.[11]

A study of any new grade arrangement, which might supplant or coexist with the junior high school grades 7-8-9, might be challenged on the grounds that a change in revitalizing administrative organizational structure of a school system is subordinate to curricular program changes. Furthermore, a structural change may not necessarily mean a better program.[12]

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[9]Paul J. Zdanowicz, "Changes in Junior High Schools in Northeastern U. S." (unpublished Ph.D. dissertation, Temple University, 1965).

[10]Van Til, Vars, and Lounsbury, op. cit., p. 54.

[11]William Alexander and Emmett L. Williams, "Schools for the Middle School Years," Educational Leadership, XXIII (December, 1965), 217-223; William Alexander, Emmett L. Williams, Daniel Prescott, and Vance Haynes, The Emergent Middle School (New York: Holt, Rinehart, and Winston, Inc., 1968), pp. 58-59.

[12]Robert F. Carbone, "Achievement, Mental Health, and Instruction in Graded and Nongraded Elementary Schools" (unpublished Ph.D. dissertation, University of Chicago, 1961).

This investigation, therefore, since it uses two organizational settings as independent variables, is premised on the following assumptions:

1. That a grade (or grades) should be placed where the maximum benefit to the pupils assigned to them is derived.
2. That the form of administrative organization employed in a school system will have a measurable effect on the curriculum offered.
3. That any study of grades or structures is, in effect, a study of the degree to which pupils adjust to a particular learning setting.

The assumptions grant that, in theory, a good program for pupils of any age may exist in any setting. But in actual practices, it would appear that school environment and atmosphere affect quality of program and the learner's experiences occurring within a program. The assumptions may be summarized by stating that given the tools and conditions necessary to carry out a behavior to be learned, attainment of that behavior will be facilitated.

The need and importance of this investigation, however, cannot be justified on organizational setting alone. The study seeks to clarify that part of the middle school concept which is concerned with the learner's development reputedly occurring earlier, in the stage between childhood and adolescence, a stage of least

developmental homogeneity. Specifically, this concern is both with the psychological period of growth termed pre-adolescent and early adolescence, and the physiological period of growth beginning with the body changes indicative of the onset of puberty, and the chronological age of males between the eleventh and the fourteenth years.

Like the junior high school the middle school is an age-grade postulant. However, the middle school is building a theoretical base and construct unique to itself. Its curricular design is usually characterized by the following criteria:

1. Freedom of pupil movement
2. Opportunities for learner independence
3. Pupil voice in running their own affairs
4. The intellectual stimulation of different groups and teacher specialists
5. Experiences different from those of the elementary years and suitable to young adolescent maturation
6. The absence of total departmentalization
7. Social separation from older adolescents
8. Freedom from the pressures of inter-school athletic competition
9. Realization of the ideal of individual instruction
10. High priority placed upon the intellectual components of curriculum
11. Exploratory experiences
12. An emphasis on values, personal and social.[13]

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[13]William Alexander, "The Junior High School: A Changing View," Bulletin of the National Association of Secondary School Principals, XLVIII (March, 1964), 15-24; "The Middle School: A Working Paper," NDEA Institute for Middle School Teachers (University of Florida, September, 1966-June, 1967); Alexander and Emmett, op. cit., p. 222.

The growth of the middle school movement is considered as a final need for this study. For the movement itself has a scant research tradition and this study may be a modest contribution to such a developing tradition.

The extent of diffusion and rate of adoption of the middle school as an educational innovation is depicted in the following table drawn from data reported by Cuff.[14] The table reveals that the diffusion and the adoption of the middle school concept is concentrated along coastal areas and in northern midwestern states.

TABLE 1.1.--Middle schools in the United States by eleven selected states for the school year 1965-66.

Region	States	No. of Middle Schools	Districts Surveyed
South	Texas and Louisiana	127	107
Midwest	Ohio, Illinois, Michigan	124	108
West	Oregon, Washington	51	47
East	New York, Connecticut, New Jersey, Maine	147	140

[14]William A. Cuff, "Middle Schools on the March," Bulletin of the National Association of Secondary School Principals, LI (February, 1967).

Whereas, Cuff reported nearly 500 middle schools operating in 1966, Alexander's[15] survey for the 1967 school year reported 1,100 operating middle schools, double the number of the previous year. Both surveys employed different definitions of middle schools, but agreed that grades six and seven were not separated in the grade reorganizations surveyed. Therefore, grade reorganization plans involving grades six and seven housed in a single plant appear to be increasing from these partial surveys.

Most of the reporting districts in the aforementioned surveys were rural or suburban. The extent of growth of middle schools is still incomplete without survey reports which include large cities. The cities of Pittsburgh and New Haven are reorganizing on a 5-3-4 plan. New York City announced phasing out 138 junior high schools and adoption of middle schools. Completion of this plan was expected by 1971.[16] Massive urban adoption, as well as increasing rural and suburban adoption, could mean an eventual preponderance of middle schools over junior high schools.

These adoptions of grade reorganization plans are directly dependent upon five traits as perceived by the

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[15]William Alexander, "The New School in the Middle," Phi Delta Kappan, I, No. 1 (February, 1969), 355-356.

[16]Schoolhouse in the City (New York: Educational Facilities Laboratories, 1966), p. 10.

adopting school systems. According to Everett Rogers the middle school as an innovation must have:

1. Communicability to publics that will subsidize its costs.
2. Divisibility to the degree that a school district may examine the idea of a school-in-the-middle on a trial basis.
3. Low complexity so that there is a minimum of difficulty in understanding its purpose and application.
4. Compatibility with existing values and past experiences, that is the older grade organization of junior high schools is used as a planning criterion to assess the newer organization of the middle school.
5. Relative advantage or superiority over graded organizations superceded.[17]

In general, decision makers in school districts perceive the relative advantage of middle school for transescents without a known research tradition supporting it. If there is any significance in a study centering upon middle schools, it is in the fact that middle school planning and adoption is occurring without sufficient research knowledge of the degree of advantage it has over the grade organizational types it is replacing. Furthermore, the separation of sixth and seventh grade boys lends itself to the hypothesis that learner placement may be occurring without regard to learner maturation and may in effect be a damaging alteration of peer grouping and socialization patterns.

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[17]Everett M. Rogers, Diffusion of Innovations (New York: The Free Press, 1962), pp. 124-134.

Limitations of the Study

Generalizations derived from the findings of this study may be limited for the following reasons:

1. Changes in puberal growth of sixth and seventh grade boys over the period of data collection, approximately thirty school days, is an uncontrolled phenomenon of the sample. Furthermore, the reliability coefficients of most indices for identifying the onset of male pubescence are low. Therefore, the period of data collection had to be limited to a relatively short span of time.
2. This study was geographically limited to children in suburban school systems in the counties of Nassau and Suffolk, Long Island, New York.
3. Lack of direct control over differences in plant designs and quality of programs offered and operating in schools sampled is considered outside the purview of this investigation.
4. The difficulty in validation of self-reporting, such as found in self-concept instruments, without direct observation of each respondent is an inherent limitation.
5. The interactional effect of grade nine on grades 6-7-8, even when grade nine was housed and programmed in separate 'houses' and buildings of the middle schools sampled, is unknown.

6. Concept of self is subject to change. Therefore, the reported self-concept of the subjects is their self-concept at the moment they were tested.
7. Inherent limitations are present in pencil and paper instruments, which reveal only what an individual is able and willing to communicate.
8. There are semantic limitations with the meanings communicated by the terms "onset of puberty," "self-concept," "preadolescence," and "middle school unit." Precision of terms, even though unique definitions were made in the study, is felt to be a cause for communication difficulties.

Definition of Terms

Since this study focuses on that portion of the middle school construct which is concerned with the transescent male, he is defined descriptively by:

Transescent Male

1. Extreme physical restlessness coupled with accelerated growth in height and weight and termination in the union of epiphyseal centers.
2. Running as a more natural posture than walking.
3. Hands in need of constant occupation.

4. Scratching of hair, nose, and ears especially.
5. Return to infantile habits and jerky movements.
6. Oddity, fantastic, surrealistic, and gore fascination.
7. Finding well-organized explanations of parents boring.
8. Judging girls as inferior to him.
9. Little pride in sex, but direct pride in strength and biceps.
10. Sex habits usually experimental on an organic level accompanied by the development of the ability to reproduce.
11. Physical skill which becomes a basis for gang solidarity and changes in conduct and interests.[18]

Onset of Pubescence

The expression "onset of pubescence" is stipulated for purposes of this study to mean the beginning of the developmental period of the year of maximum physical growth before puberty and usually occurring in a normal population of boys, regardless of body type and ethnic stock, during the beginning of the eleventh year and before the end of the thirteenth year.

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[18]Fritz Redl, "What Makes Preadolescents Tick?" Childhood Study Association of America, 1964; Arthur W. Blair and William H. Burton, Growth and Development of the Preadolescent (New York: Appleton-Century-Crofts, 1951), Chs. 6 & 7.

There is a distinct necessity to separate terms in the vernacular surrounding the physical and cultural areas of pubescence, puberty and adolescence. Much of the literature about these periods of growth is popularized and hardly precise.

Pubescence

"Pubescence refers to the period of about two years preceding puberty, and to the physical changes taking place during that period," according to Church and Stone.[19] Apparently the confusion arises when writers refer to preadolescence as the whole period of pubescence.

Puberty

Puberty is the point of development in which the biological changes reach a high point usually marked by signs of sexual maturity. Adolescence begins after this pubescent growth spurt.

Self-concept

General self-concept is postulated herein to mean that the transescent boy acquires from "significant others"--parents, teachers and especially peers--a perception of his own ability as a learner in a school setting. The child, who perceives that he is able or unable to learn some area of behavior in the school

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[19] L. Joseph Stone and Joseph Church, Children and Adolescence (New York: Random House, 1957), pp. 268-269.

setting, will have a self-concept of ability functionally limiting his school achievement.[20]

Physical Growth

Physical growth is all the processes of biological and organic growth, both morphological (structural) and physiological (functional).

Skeletal Age

Skeletal age (S.A.) is the ossification or bone age and the true biological age. It is the real age of maturational achievement. For example, two boys with a chronological age of eight years, three months may have skeletal ages of 9.3 or 7.3 years. These are the true levels of behavioral ability and expectancy.[21]

Behavior

Behavior is the way a living system adjusts to its environment.

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[20]Self-concept is a term whose genus is 'self' and in current literature the notion of 'self' is incomplete and defies description and definition. The term as used here is a synthesis of tested self-concept as defined by Brookover and reported in Frank Cookingham, "Changes in Pupil Feelings About School Performance Expectations in Themselves and Significant Others," Paper #54, Michigan State University, Learning Systems Institute, August 18, 1967.

[21]Donald H. Eichhorn, "New Knowledge of 10 Through 13 Yearolds," Paper presented at the Conference In the Middle School Idea, College of Education, University of Toledo, November 11, 1967. (Mimeographed.)

Behavioral Development

Behavioral development is the total cultural integration of the child in social and psychological patterning.

Conventional Setting

The term conventional setting refers to graded school units in a three level 6-3-3 organizational arrangement of twelve grades.

Middle School

Middle school is generally defined as an administrative unit and program following the elementary school, ideally housed in a building expressly for its purpose, and covering at least three grades; the age range is usually ten to fourteen years. For purposes of this study, a middle school is uniquely defined as "including grades six and seven."

The middle schools sampled in this study agreed with criteria set by Batezel[22] in terms of physical facilities and staff. Grade nine was contained within these middle school settings which is in agreement with Strickland's research and NASSP Policy statements on junior high school education.[23]

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[22]W. George Batezel, "The Middle School: Philosophy Program Organization," The Clearing House, (April, 1968), 490.

[23]Virgil E. Strickland, "Where Does Ninth Grade Belong?" Bulletin of the National Association of Secondary School Principals, LI (February, 1967), 74-76.

The middle schools sampled featured:

1. Distinctive divisions of houses or buildings each containing several hundred students, in one or two consecutive grades, usually grades six and seven or seven and eight, for academics.
2. Each house or building has an administrative and teaching unit with a house coordinator, administrator, secretary and counselor. Learning specialists and team leaders functioned as staff in these houses.
3. A "large" or general area house had a principal administrator, secretarial staff, paraprofessionals, media specialists, nurse, teacher, a psychologist, and a reading teacher or a reading consultant.
4. A cored building or house unit, usually centered in the plant's main area containing a materials resource center, also called the library, and the central resource area. The library staff consisted of two librarians, four paraprofessionals, and housed the Media Specialist's area.
5. Provision in each house for large and small group instruction and independent study carrols.
6. Common facilities in a central building, special interest areas, and a theatre with a seating capacity of 400 to 600 and convertible into

partitionable, large group instructional areas.

7. Industrial arts, home economics, gymnasiums, cafeteria and dining areas located centrally to all houses or buildings. (See Appendix D for a floor plan of one middle school in this sample.)

Plan and Content of This Thesis

This initial chapter has presented both a general and a specific statement of the problem to be investigated. The research hypothesis and a related question have been stated. The importance of this study and its limitations have also been described. Operational definitions of terms were presented.

Chapter II contains a review of pertinent literature and research.

Chapter III delineates the methodological procedures involving 277 boys from four school districts located in affluent suburban counties adjacent to New York City. The chapter also includes a detailed description of the samples used in this study, a description of the instruments, and a description of the statistics used to test two hypotheses.

Chapter IV contains an analysis of the data. Cumulative summaries and comparisons of the responding groups in their school settings are made.

Chapter V concludes the study. The research findings and implications for further study are presented.

CHAPTER II

REVIEW OF THE LITERATURE

A discussion of the literature is undertaken to clarify and establish the middle school concept and belief as an organizational setting especially appropriate to the development of children--children, who are ten to fourteen years, who are becoming aware of themselves as individuals and who are attempting physical, social, intellectual, and emotional assessment and reassessment of themselves. A digest of the literature will reveal the prominent theoretical constructs underlying the relative advantages and disadvantages perceived by adopters of the middle school innovation. In general, the literature on middle school grade reorganization is profuse, contradictory, and unusually subjective. The literature of transescence is scant when measured against the literature of adolescence and childhood. Unique to the literature is its source in the interdisciplinary evidence and opinion of the fields of elementary and secondary education, urban sociology, child development, and psychology.

Grade Reorganization Appropriate to Transescent Development

The specialists in educational administration and curriculum perceive several relative advantages in the middle school curricular and organizational design.

Middle school is reported to permit greater administrative and curricular flexibility than does the 6-3-3 or 8-4 graded patterns. This flexibility is apparent in versatile grade combinations and consolidations in patterns such as 5-3-4, 5-4-3, 4-4-4, and 4-4-6 the educational park plan. (In each pattern the definition of middle school unique to this study, is applicable, since grades six and seven are housed together in every middle unit of three or more grades.) Popper contends that historically, the junior high school is the middle school unit, and the issue is not the semantics of the two terms, middle and junior, but which are functionally appropriate to this middle organization.[1]

Flexibility of organizational plan is a fiscal necessity in view of inevitable population shifts, housing problems, scarcity of land sites, program changes, and escalating operating costs. Middle school purports to give this organizational flexibility.

Curricular trends to introduce continuous learning skills into the grades of early childhood, and the

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[1]Samuel H. Popper, The American Middle School: An Organizational Analysis (Waltham, Mass.: Blaisdell Publishing Co., 1967), p. 11.

proliferation of pre-school experiences and earlier learning readiness appear to be supportive of a design differentiated for the development of transescents.[2] This educative activity in lower elementary is reputed to affect positively the design of the upper elementary school.

Review of the research on secondary school staff development and utilization in relation to organizational setting led to the conclusion that deployment policy research was totally inadequate.[3] Meanwhile, common professional parlance appears to support the horrendous notion that if one can not teach in high school, then teach in junior high school. Rejection of competency for one level of the secondary unit may mean reassignment to another without any change in certification and the retraining mandated by such reassignment. Middle school proponents would reverse this disadvantage by giving status to the intermediate school unit rather than its current junior classification. Middle school is perceived as an attempt at redeployment of retrained or specially trained personnel. The consequence is felt to be a

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[2]Pearl Brod, "Middle School: Trend Toward Adoption," Clearing House, XL (February, 1966), 331-333.

[3]Robert H. Anderson, "Organizational Character of Education: Staff Utilization and Deployment," Review of Educational Research, XXXIV (October, 1964), 455-469.

raising of the low morale and status found among junior high staff members.[4]

The typical, graded, self-contained classroom of the elementary school is assailed as inappropriate to young adolescents in upper elementary grades in view of the developments in new instructional materials, guided learning programmed "hardware," and increased utilization of independent study, pupil contracts, interest area selectives, and discovery methodologies. On the other hand, middle school plants are characterized by flexible instructional spaces, facilities for earlier learning experiences with laboratories, especially in language and science, and freedom from departmentalization and simulated high school scheduling.[5]

The demand for separate and equal provisions for middle school teachers in training and retraining is increasingly evident. The movement seeks reorganization of teacher education, at least to the extent that middle school teachers have an opportunity for training equal in extent to that of the elementary and secondary teachers.[6]

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[4]Gerald L. Schmidt, "Preservice Professional Preparation of Junior High School Teachers" (unpublished Ph.D. dissertation, University of Colorado, 1965).

[5]M. Ann Groom, Perspectives on the Middle School (Columbus, Ohio: Merrill Books, Inc., 1967), pp. 121-127.

[6]Brod, op. cit., p. 331.

The projection of a department of middle school teacher education is not inconceivable and is perceived as an advantage by those who would refine the levels of teacher education.

Currently, there is instructional advantage seen in utilizing the specializations of teachers. Staff utilization and deployment policies based on teacher specialization are fostered by middle school units employing a variety of techniques for cooperative planning, group instructional decisions and analysis, and team teaching.[7]

Middle school advocates see advantage in the possibility of extending the availability of guidance services into upper elementary school grades five and six to the extent that such guidance services are currently available in grades seven and eight.[8]

In the 5-3-4 and 4-4-4 patterns, grade nine is reunited with the high school resulting in the reputed advantages of greater course coordination and record and achievement verification in four year high schools bound to the still dominant high school Carnegie unit of credit sequences.

The specialists in educational administration and curriculum perceive disadvantage in the middle school curriculum and organizational design. Bough, for example,

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[7]Groom, op. cit., pp. 62-64.

[8]Brod, op. cit., p. 331.

argues that the three phased model middle school curriculum--learning skills, general studies, and personal development--might be applied to any school level from kindergarten through college. He reasons that:

> All four aspects of the suggested organization for instruction--the homeroom, the wing unit, the vertical unit, and special learning centers--have been taken in whole from junior and senior high schools where they have been used for some time. A junior high school staff might adopt any or all of the proposed guidelines, the three phase curriculum, and the organization for instruction suggested by Alexander and Williams, with hardly a break from the past. Such theoretical factors and philosophical positions appear to be inadequate justification for changing from the 6-3-3 plan of internal organization to the 4-4-4 plan.[9]

He continues his discussion with the point that any school in the middle level is a mere mechanical grade rearrangement unless it focuses on human development. Griffiths concurs: "The middle school is seen as an organic whole with all the relevant factors--cultural, mental, physical, and emotional--focusing upon the child."[10]

In addition to the administrative and curricular advantage generally perceived in middle school grade reorganization, there is a sociological base lending importance to the middle school concept. The two-fold societal

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[9]Max Bough, "Theoretical and Practical Aspects of the Middle School," Bulletin of the National Association of Secondary School Principals, LIII (March, 1969), 10-11.

[10]Donald H. Eichhorn, The Middle School (New York: The Center for Applied Research in Education, 1966), pp. 7-8.

demand for racial balancing and an end or reduction in the so-called "drop-out" problem have contributed to the growth of the middle school movement, especially in urban school systems.[11]

Focus on the drop-out problem has indicated its origins in pubescence and its fruition in adolescence. Supporters of integration in urban situations theorize that the intermediate or middle school child can be transported and housed away from his racially secluded environment more easily than the younger primary school student in need of specialized course work, equipment, and the curricular specialization of the comprehensive metropolitan high school, which, in many instances, may already be integrated.[12]

A review of the literature also indicates that present graded patterns for the junior high school are inconsistent with the psychological and physiological needs of transescent learners. There is conflicting evidence and opinion, more of the latter, generally unsupported in research, that the prevailing assumption, underlying the junior high school for nearly five decades, is still tenable. This assumption is that the junior high school, separate and distinct from the elementary and

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[11]John A. Fischer, "The School Park" (unpublished paper prepared for the United States Civil Rights Commission, undated), pp. 12-13.

[12]Cuff, op. cit., p. 84.

secondary, is really a necessity because of the unique traits of its age group, comprising early and older adolescents. Middle school, on the other hand, is considered suitable for transescents, that is, children in later childhood, in puberty, and through early adolescence.

Post states that the middle school movement is a questionable innovation of low priority. He writes in defense of junior high schools and in opposition to the middle schools:

> There are many challenges facing educational leaders today. Because of the importance education plays in improving the quality of life, there is a new commitment to educational improvement. A move to shift grades from one institution to another hardly seems worthy of consideration when we are on the verge of beginning to understand the teacher-learner relationship, and when fundamental changes in the nature of teaching could result. Another realignment of grades seems ridiculous when the graded school itself may be on its way out.[13]

Bough too, argues that the middle school is not an innovation, at least he does not perceive it as a new curricular design. Rather he states that its guidelines, namely subject matter integration, exploration, guidance, and socialization, are the same as the junior high school guidelines that Gruhn and Douglas expounded in the mid-1950's.[14]

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[13]Richard L. Post, "Middle School: A Questionable Innovation," The Clearing House, (April, 1968), 485-586.

[14]Bough, op. cit., p. 10.

Even stronger is the reinforcement of an organizational status quo from the National Association of Secondary School Principals, who through its Committee on Junior High School Education, favors the continued maintenance of the 7-8-9 junior high school. In its 1967 policy statement expressed by the Committee's secretary, J. Lloyd Trump: "Anyone contemplating a grade combination other than 7-9 needs to have compelling reasons for making the change."[15]

This declaration was made paradoxically at a time when nationally approximately one in every seven or eight junior high schools had been reorganized into a middle school. It is made despite the context of a decrease in the number of junior high schools and an increase in middle schools.[16] The Committee is not clear when it uses the terms "junior high school," "middle school," and "middle unit" synonymously. Curtis points out a similar reluctance at specificity in identifying nomenclature for this school unit, when he cites only five schools of thirty-three that were in 4-4-4 or 5-3-4 patterns in New York State, actually calling their

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[15]Committee on Junior High School Education, "Recommended Grades in Junior High Schools or Middle Schools," Bulletin of the National Association of Secondary School Principals, LI (February, 1967), 69.

[16]Cuff, op. cit., p. 82.

organizations "Middle" schools.[17] The Committee appears to recognize and recommend, somewhat cautiously, a middle school in a 5-4-3 pattern including grade six but not grade five, in the following pronouncement: "The Committee sees greater merit in a middle school that encompasses grades six through nine than one that has grades five through eight."[18]

Significance of the need for middle school research may be inferred from the following:

> The Committee urges the importance of research regarding such all-important matters as present levels of physical and social maturation of pupils . . . and the special characteristics of existing grade organizations.[19]

Although the Committee recognized that the onset of puberty was no respecter of grades, Margaret Mead appears to disagree with their position on the 7-8-9 school unit. She contends that this unit is inappropriate to pupil strength, size, and stage of puberty, and merely a chronological age-grade postulation. As a result, and in support of the middle school plan joining grades six and seven, she observes:

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[17]Thomas E. Curtis, as cited by Alexander et al., op. cit., p. 9.

[18]Committee on Junior High School Education, op. cit., p. 69.

[19]Ibid., pp. 69-70.

> They have resulted inadvertently in classifying together boys and girls when they vary most, within each sex, and between the sexes, and are least suited to segregated social existence. Also, they have divorced them from the reassurances of association with the children like their own recent past selves and older adolescents like whom they will some day become. When a type of school that was designed to cushion the shock of change in scholastic demands has become the focus of the social pressures which were once exerted in senior high school, problems have been multiplied.[20]

Mead is supported in a study of pupils in grades five through ten on measures of social, emotional, and physical maturation and opposite-sex choices. Dacus found the least differences on these measures between pupils of grades six and seven. Unlike the 5-3-4, 4-4-4 or 5-4-3 plans the prevailing present 6-3-3 arrangement divides children precisely at grades six and seven. (This split between two grades in two school settings established "school setting" as the independent variable of this study.)

Mead's challenge to separation of peer groups into K-6 and 7-8-9 settings is also supported by White's study which concentrated on the seventh grade progress of students selected by grade combinations, in various school types and studied over a one year period. An important

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[20]Margaret Mead, "Early Adolescence in the United States," Bulletin of the National Association of Secondary School Principals, XLIX (April, 1965), 6-7.

[21]Wilfed P. Dacus, "A Study of the Grade Organizational Structure of the Junior High School as Measured by Social Maturity, and Opposite-Sex Choices" (unpublished Ph.D. dissertation, University of Houston, 1963).

generalization was that seventh grade pupils performances on measures of achievement and adjustment tended to be lower in schools, with grade combinations where the majority of students enrolled were above the seventh grade. The seventh grade boys sampled in the middle schools of this study were midway between their school population, that is to say, approximately half their schoolmates were in grades below them and half above them.[22] In short, White suggests seventh grade does less well when it is the lowest grade in a school unit.

Berman, a psychiatrist, also appears to challenge the timing of this break between elementary and junior high school when he states that children, "in the midst of deciding who they are, shouldn't have to waste any energy finding out where they are." He appears to concur with Mead and Dacus in arguing for a "familiar, secure background in which to operate."[23]

A decade ago, Loomis looked at the problem from the viewpoint of the older adolescent or grade nine and concluded that children in the awkward and vulnerable stage of puberal onset should not be placed in the arena of

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[22]William White, "Pupil Progress and Grade Combinations," Bulletin of the National Association of Secondary School Principals, LI (February, 1967), 88.

[23]Sidney Berman, "As a Psychiatrist Sees Pressures on Middle Class Teenagers," NEA Journal, LIV (February, 1965), 17-24.

these older adolescents. She predicts that two major concerns of preadolescence, namely independence and sex identification, will never be realized in such a setting.[24]

One can only conclude that a contradiction appears to exist between learner placement in grades and learner developmental factors. For it is apparent that if grades six and seven show the least maturational differences, they should not be viscerated and alienated into two different plant settings as is done to them by the 6-3-3 plan. A further consequence of any change in grades is in reality the altering of peer grouping and socialization patterns.

Strickland found grade nine functioning as well in a four year high school, as in a three year junior high school on measures of academic achievement and school attitude.[25] Removal of grade nine from the middle school unit is considered, then, to be indirectly advantageous to the transescent in the middle school setting. (The sequential programming of grade nine into a four year high school unit lends further support to locating that grade outside a middle school unit.) Yet the Committee on

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[24]Mary Jane Loomis, Preadolescence (New York: Appleton-Century-Crofts, Inc., 1959).

[25]Strickland, op. cit.

Junior High School Education of the National Association of Secondary School Principals failed to see merit in a middle unit without grade nine.

The concept of the middle school movement is more firmly supported in child development literature. Dorothy Eichorn at the Institute of Human Development at the University of California and Vernal Seefeldt at the Michigan State University Human Energy Laboratory concur in the opinion that maturity of social interests and behavior tend to be highly correlated with physical and mental development. They suggest that the common organizing concept should be developmental and biological age rather than chronological age, which is the poorest predictor of a child's size, shape and behavior. A three year spread of chronological age in one school unit may mean at least a six year range in maturational age. Such studies clearly indicate that a school setting should provide optimum possibilities for the learner to be with his maturational peers.[26]

The middle school movement may also be considered an attempt to readjust school setting to this developmental age, placing grades where pubescence is most likely to occur in the greatest number of eleven through fourteen year olds. The earlier onset of puberty, reputed to be

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[26]Dorothy Eichorn, "Variations in Growth Rate," Childhood Education, (January, 1968), 289-290.

advancing into grades six and seven at the increasing rate of four-tenths of a year in a decade, and earlier maturation especially in the transescent American males height and weight, supports such an adjustment in grade combinations.

> The data on heights and weights of children of school age . . . show that the whole process of growth has been progressively speeded up and that children born in the 1930's and 1950's for example were considerably larger than those born in the 1900's . . . children of 10 thirty years ago having the size of children of 9 at present.[27]

Just as curricular and organizational changes, due to transescent developmental variations, are suggested by these studies, so too are changes in their intellectual or cognitive operations. Bayley points out that the cultural setting, that has advanced maturation due to better nutrition and better socio-economic conditions, has accelerated social maturation. She stresses the importance of environment as a factor in changing the rate of intellectual growth and her thesis suggests earlier mental maturity.[28] Howard states a similar notion:

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[27]Dorothy Eichorn, "Variations in Growth Rate," op. cit., p. 296; J. M. Tanner, Growth at Adolescence (Oxford: Blackwell Scientific Publications, 1963), pp. 43, 143-144.

[28]Nancy Bayley, "On the Growth of Intelligence," American Psychologist, (October, 1955), 813-814.

> . . . the development of the ability to perform formal thinking, deal with abstractions, and conceptualize, which children in past years acquired somewhere between age 12 and 14 can be and has been appearing at an earlier age than previously due largely to the experiences found within the social environment. Since the cultural and educational conditions are variables which may be slowed down or stepped up, it follows that earlier development of mental maturity ability is possible and even probable.[29]

If transescent mental as well as physical maturation is occurring earlier, then more support is given to that readiness theory that espouses the union of grade six with grades seven and eight in the same school setting.

Piaget and Inhelder cite the radical transition of childhood cognitive style at grades six and seven to a new level of "concrete operations" of thinking characterized by a greater frequency to do logical groupings, exhibit reversibility, and reveal relationships. This change in cognitive levels may be as distinctive a trait of transescence as the onset of puberty, and equally supportive of grade reorganization.[30]

Transescent Psychology and Physiology

Psychology too appears to be lending support to the middle school concept. This support appears to be

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[29]Alvin W. Howard, Teaching in Middle Schools (Scranton, Pa.: International Book Co., 1968), p. 4.

[30]Barbel Inhelder and Jean Piaget, The Growth of Logical Thinking from Childhood to Adolescence, trans. by Anne Parsons (Paris, France: Basic Books, 1958), p. 335.

proliferating after an over emphasis on early childhood and adolescent psychology. Since 1920, only four treatments of preadolescent and pubescent psychology appear worthy of note.[31]

Havinghurst states the opinion that these pre- and early adolescent youth are more complex, precocious, mobile, and have greater exposure to media, their multisensory messages and influences.[32] But does the existing "bridge" school in the 6-3-3 plan serve the intellectual needs of these youth? Lounsbury and Marani concluded negatively to this question in 102 simultaneously conducted shadow studies of grade eight across the country. They stated that the "learning environment viewed by scores of trained observers was often unstimulating; there was a lack of diversity in the program of required subjects, and there was little provision for individual differences among pupils."[33]

Prescott illustrates the significance of transescent interpersonal relationship and peer grouping by describing

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[31]William W. Wattenberg, "The Junior High School--A Psychologist's View," Bulletin of the National Association of Secondary School Principals, XLIX (April, 1965), 34-44.

[32]Robert J. Havinghurst, "Lost Innocence--Modern Junior High Youth," Bulletin of the National Association of Secondary School Principals, XLIX (April, 1965), 1-4.

[33]John Lounsbury and Jean Marani, "The Junior High School We Saw: One Day in the Eighth Grade," ASCD (Commission on Secondary Curriculum, 1964), pp. 64-66.

a child society which he says is a need and motivation of every child. He notes that the activities required to establish such a society are the basic processes by which a child learns the ways to get along with other persons as peers.[34] The instruments of this study will attempt to compare the relationships of peer groupings in three educational patterns. Peers and peer-group activities at various sequential maturity levels are probably important sources of learning for transescent males. These peer groups often function quite unrelated to the activities of the adult determined curriculum.

Olson implicates another factor of this study in his discussion of transescent home and family relations. The social expectancies of the home and family environment are powerful determiners of learning behavior. Homes differ in the extent they stimulate, deprive, free, control, affect and reject a child's growth.[35]

Gordon's investigation and observations of transescent males appear supported by the studies of Prescott and Olson. He notes that boys report favorably about themselves, show concern about their bodies, and divide

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[34]Daniel A. Prescott, The Child in the Educative Process (New York: McGraw Hill Book Co., Inc., 1957), pp. 277-278.

[35]W. C. Olson, Child Development (Boston: D. C. Heath, 1959), p. 223.

their perceptual environment into two areas, the family and the peer group.[36]

Gesell and Coleman writing five years apart both conclude that the child's transfer of the security base from the family to the peer group appears to start in transescence and conclude in adolescence.[37]

The intent of middle schools programmers to attend to the curricular criterion of personal development is supported by Signori, who concludes that teachers who deal directly with anxiety, foster experiential participation, and use a form of insight therapy, can contribute to social and emotional adjustment.[38] Jersild cautions however, that although an adolescent who is highly accepted may be considered a social success, we should not assume that a good social adjustment means a good personal adjustment.[39] Young elaborates on this point

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[36]Ira J. Gordon, Human Development from Birth Through Adolescence (New York: Harper and Brothers, 1962), pp. 326-331.

[37]Arnold Gesell, Frances Ilg, and Louis Ames, Youth, The Years from Ten to Sixteen (New York: Harper and Row, 1956), p. 54; James S. Coleman, The Adolescent Society (New York: Cromwell-Collier Publishing Co., 1961), p. 3.

[38]Erde Signori, "Personality, Psychotherapy, and Critical Thinking in Education" (Ph.D. dissertation, University of British Columbia), Psychological Abstracts (1955:30:6:249), pp. 76, 123-128.

[39]Arthur Jersild, The Psychology of Adolescents (2nd rev. ed.; New York: The Macmillan Co., 1963), p. 262.

by noting that peer acceptance is interchangeable with social acceptance.[40]

Kagan reasons that the skills and values a middle class child, especially a boy, exhibits is due to peer groups setting standards and motives requiring intellectual mastery and parent-child relationships for psychological growth.

He argues for sex-segregated classes, especially in primary and indirectly states that changing the content, setting, and modeling peer groups interactions benefit the child in his need for identity.

> Most children, especially boys, have a strong motive for power, a desire to play the dominant role in an interpersonal dyad. The uncorrupted sign of power for all children is strength. Strength is the only legitimate currency of power which cannot be corrupted, and children recognize this principle. The culture, in its wisdom, preaches substitute signs for power. Prowess at athletics, skill at adult activities, signs of intelligence can function as badges of potency if the (peer) group accepts that currency.[41]

Church observes that late childhood and early pre-adolescent preoccupation with, who I am and where I belong, idealism, futility, rebellion, and the "sturm und drang" or storm and stress are characteristics of adolescence.

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[40]Mary Jane Young, "The Relationship of Clothing to Peer Acceptance and to Personal Appearance of Adolescents" (unpublished Master's thesis, Michigan State University, 1967), p. 5.

[41]Jerome Kagan, "The Child, His Struggle for Identity," Saturday Review, December 7, 1968, p. 87.

But he refutes the notion that the physiological upheaval of puberty is attributable to this inner turmoil, thus, accounting for the discrepency between transescent biological maturity and mental maturity.[42] In short, Church claims physical changes and adolescent behavior do not correlate significantly, and the latter is subsequent in time to the former. He concludes that all adolescence is a cultural phenomenon, whereas puberty is a biological one.

On the other hand, Watson and Lowrey contend physiological change brings with it psychological change in the form of a series of perplexing and sometimes disturbing social and emotional problems.[43] Krogman intercedes and mediates the two positions. His rationale for the relationship of transescent physiology to psyche and behavior determination is positive and agreeable. He states that "there is a degree of synchrony between the learning process, en toto, and the tempo of physical growth."[44] This would mean that a transescent who is retarded in his maturation will probably act and think

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[42]Stone and Church, op. cit., pp. 268-269.

[43]E. H. Watson and G. H. Lowrey, Growth and Development of Children, pp. 118-119.

[44]Wilton M. Krogman, "Biological Growth as It May Affect Pupil Success," Philadelphia Center for Research in Child Growth (unpublished, undated), p. 1. (Mimeographed.)

like a younger child. Citing studies by Porter in St. Louis and Boas in New York, wherein taller and heavier children were found more often in the upper quartile of test distribution scores, Krogman states that size, level of maturation, and learning progress are related.[45] Krogman, as Director of the Philadelphia Center for Research in Child Growth, concludes his discourse about the relationship of curriculum and physical and psychological growth with the following observation:

> There is no reason to believe that the sheer organic energy demands of the heightened tempo of pubertal growth-changes may deplete the reservoir of available bodily energy to the point where the extra-organic demands of school and society can be met by only a minimum response. As a result, the "learning curve," as a whole may decelerate as the growth curve, as a whole, accelerates.[46]

Jones points out another aspect of this growth curve when he concludes that peer popularity in junior high school does not correlate with intelligence, school achievement, or state of the home situation but it does correlate with physical ability and strength.[47] Hanley's data supports this conclusion as he shows an association of physique with school reputation in boys.[48]

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[45] Ibid., pp. 4-5. [46] Ibid., p. 8.

[47] Mary C. Jones and Nancy Bayley, "Physical Maturing Among Boys as Related to Behavior," Journal of Educational Psychology, LI (1960), 175-186.

[48] Charles Hanley, "Physique and Reputation of Junior High School Boys," Child Development, XXII (April, 1951), 247-260.

Krogman is one of the few researchers who goes beyond his data and field (physical anthropology) to apply his beliefs to a learning program for transescents. His focus is on a physical education program.[49] With the muscular fitness of 56 per cent Northeastern American school children between ages six and nineteen in urban and suburban communities reported below minimum health standards,[50] Krogman appeals for consistent school attention to the physiological needs of growing boys. He cautions, however, that football as a sport for transescents is a morphological morass of fractures, concussions, sprains, lost teeth, and so on.[51] Dr. Floyd Eastwood, Director of the Committee on Injuries and Fatalities for the American Football Coaches Association, estimates one in four boys will be hurt in one way or another.[52] A confirming statistic for youth twelve to fifteen years comes from a survey of 220 physicians conducted by the joint Committee on Athletic Competition

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[49]Wilton M. Krogman, "Some Thoughts on Football in Pre- and Early Adolescence," Graduate School of Medicine, University of Pennsylvania, unpublished, undated, pp. 1-10. (Mimeographed.)

[50]Hans Kraus and R. F. Hirschland, "Health and Muscular Fitness," Paper of the Bellevue Medical Centers Institute for Physical Medicine and Rehabilitation, 1954, pp. 1-10. (Mimeographed.)

[51]Krogman, op. cit., pp. 1-2.

[52]Ibid., p. 2.

for Children of Elementary and Junior High School Age. The report records the responses as follows:

1. Prohibited--Not advisable for this age group under any condition or plan. 104 of 220 said yes (47%)
2. Intramural--Sports program limited to contests between teams within individual school. 64 of 220 said yes (29%)
3. Intramural and Invitational--Intramural sports ending in a few informal invitational games 43 of 220 said yes (19%)
4. Interschool--Sports program of varsity pattern including championship schedules 22 of 220 said yes (10%)[53]

Medical opinion is nearly two to one opposed to a middle school structured and competitive sports programs which could affect the especially vulnerable preadolescent ossification unions of fore and upper arm, thigh and lower leg with resultant dysfunction of joints and limb asymmetry. Literally, a boy is physically as old as his bones which indicate his skeletal or biological age, a period of dynamic growth during the pubertal years. Levels of expectation in middle school physical education thus must be based upon skeletal age rather than chronological age.

Krogman speaking as faculty member before a class of the School of Medicine of the University of Pennsylvania recommends the program of The National Conference on Program Planning in Games and Sports for Boys and Girls of Elementary (and Junior High School) age:

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[53] Ibid., p. 4.

1. Programs of games and sports should be based on the developmental level of children. Boxing, tackle football, ice hocky and other body contact sports should not be included in any competitive program for children twelve and under.
2. These programs should provide a variety of activities for all children throughout the year.
3. Competition is inherent in the growth and development of the child and depending upon a variety of factors will be harmful or beneficial to the individual.
4. Adequate competitive programs organized on neighborhood and community levels will meet the needs of these children. State, regional and national tournaments, bowl, charity and exhibition games are not recommended for these age groups.
5. Education and recreation authorities and other community youth-serving agencies have a definite responsibility for the development of adequate neighborhood and community programs of games and sports and to provide competent leadership for them.
6. The competent, professionally prepared physical educators and recreation leaders are the persons to whom communities should look for basic leadership. This personnel should provide the in-service training for the voluntary worker and potential leaders. Professional physical education and recreation personnel should be actively concerned with competitive athletics in their communities and should give leadership and direction to them.[54]

Krogman cites the successive research of Klausmeier and associates. The first study yielded correlations of .38 to .50 for boys' levels of physical development and

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[54] Ibid., p. 10.

[55] Wilton M. Krogman, "Physical Growth as a Factor in the Behavioral Development of the Child," New Dimensions in Learning (ASCD, 6th Curriculum Research Institute, Washington, D. C., 1962), pp. 18-19.

achievement in arithmetic and reading when compared to measurements of weight, height, grip strength and dentition. In a subsequent study, factors of height, weight, self-concept, emotional expression and age, and the child's estimate of his own learning abilities, were tested against WISC-IQ. A summary of the physical, behavioral and achievement measures and as follows:

Measure (Mean age 113 mos.)	Results N=80 (40 boys)
Height	The high IQ group is taller than the average and the low.
Weight	There is no significant difference among means by sex or IQ level.
Grip	The low IQ group is weaker than the average and the high; the average group is weaker than the high; girls are weaker than boys.
Dentition	Girls have more permanent teeth than boys.
Carpal	Girls' carpal age is higher than boys'.
Reading	The low IQ group mean is lower than the average and the high group; the average group is lower than the high.
Arithmetic	The low IQ group mean is lower than the average and the high group; the average group is lower than the high.
Language	The low IQ group mean is lower than the average and the high group; the average group is lower than the high.
Emotional Adjustment	There is no significant difference among means by sex or IQ level.
Achievement and Capacity	Girls achieve higher in relation to capacity than boys.
Self-concept	No difference by sex or IQ level is significant at the .01 level; girls' mean score is higher at the .02 level.
Emotional Expression	There is no significant difference by sex or IQ level.

A definite indication is made of the need to capitalize on body structure and instruction for those entering preadolescence.[56]

Self-Concept and Transescence

Assuming that a correlation between biological and psychological development is generally agreed upon in the research literature the next question is (to be treated later in this chapter). What is an individual transescent's psychic response to his own concept of self, of his growth pattern? Is it acceptable or unacceptable? The behavioral pattern exhibited by this in-between-ager's self may be influenced by an organic condition, for example, e.g. skin blemishes or crooked teeth, acne and dentition, or his evaluation of its importance.

Interference or inhibition may well be the transescent response in the environment of a classroom learning situation. Stolz and Stolz found that among ninety-three boys who were considered behavior problem cases, twenty-nine gave physical differences as basic causes of their problems.[57]

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[56] Ibid., p. 19.

[57] H. R. Stolz and L. M. Stolz, "Adolescent Problems Related to Somatic Variations," Forty-Third Yearbook, National Society for Study of Education (Chicago: University of Chicago Press, 1944), pp. 81-99.

Jones and Bayley reinforced the physio-psychic findings, by observing the ratings of early and late maturing boys. They rated early maturing boys as more grown up, relaxed, and more likely to have older friends. Early maturers also had higher mean scores than late maturers in the categories of attractiveness of physique and unaffectedness.[58]

There is a host of research literature in which investigators have studied not only pupil differences and achievement in grade environments but also investigated the variables involving self and personal adjustment, which are the substance of the research hypothesis and related questions in this study.

> Students not only learn about things and ideas in school, they also learn about themselves. Indeed, one of the striking things we are currently discovering is that the most important ideas which affect students' behavior are those ideas or conceptions they have about themselves.[59]

Tocheport concluded after sampling 100 pubertal and 88 prepubertal French boys of two ethnic stocks in two widely separated school environments that the onset of pubescence in boys is considered to be a factor in

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[58]Jones and Bayley, op. cit., pp. 185-186.

[59]Don E. Hamachek, ed., The Self in Growth, Teaching and Learning (New York: Prentice-Hall, Inc., 1965), p. 77.

school achievement, and self-adjustment to an new environment.[60] The data of this study are drawn from two environments and on a similar sample. Bodwin and Coopersmith found correlations (.62) and (.36) between positive self-concept, reading, and school achievement among sixth graders. Hamachek generalizes that increasingly, research efforts are discovering that a child's success in school depends to a large extent upon the kind of concept he has of himself.[61] Coote found puberal onset to constrict personal development and produce a stereotype of self.[62] Cookingham measured self-concept in two primary school settings organized on two different instructional patterns.[63]

Eichhorn concludes in her study of pre-pubertals and post-pubertals in grades six through nine that boys' responses to projective tests and self-report inventories indicated they had more negative self-concepts, more

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[60]Georges Tocheport, "Pubertal Transformation Viewed in Terms of the Roschach Test," Bulletin Group Franc Rorschach, X (June, 1958), 41-53.

[61]Hamachek, op. cit., p. 77.

[62]S. Coote, "Etudi Statistique sur les Responses Zoomorphiques (An et And) dan le test de Rorschach des enfants de 12 a 16 ans," Bulletin Group France Rorschack, X (June, 1958), 27-32.

[63]Frank Cookingham, "Changes in Pupil Feelings About School Performance Expectations in Themselves and Significant Others," Paper #54, Michigan State University, Learning Systems Institute, August 18, 1967, pp. 1-10.

difficulties with their parents, and a greater number of conflicts expressed through aggression than did girls. Boys also showed greater need for heterosexual affiliation, concern over attractiveness of physique, and less ability to relax. Early maturing boys tended to be better adjusted.[64]

This study suggests difficulty for boys, especially those with delayed maturation in the sixth through ninth grade settings. The study attaches importance to the influence of peer groupings, when the variable of self-concept is examined in such a setting. Staines, in a similar study of the importance of classroom peer groupings, contends self is a learned structure taken from whatever others say[65] and inferred (by transescents in this instance) from experiences in social groups, such as the home and the school.

Speaking from research findings, Morse concludes:

> While neither the self-picture nor the school self-esteem is pleasant, the school self appears to be even more negative. Whatever else we may have done, we have communicated a sense of personal failure to many of our pupils. In general, the longer we have them, the less favorable things seem to be.[66]

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[64]Dorothy Eichhorn, "Variations in Growth Rate," Journal of the Association for Childhood Education International, (January, 1968), 286-291.

[65]J. W. Staines, "The Self-Picture as a Factor in the Classroom," British Journal of Educational Psychology, IIVIII (June, 1958), 97-111.

[66]William C. Morse, "Self-Concept Data in the

Extending over the parameters of this study is, Brookover's thesis of the social psychological term 'significant others.' That thesis is stated thusly:

> Each person learns to anticipate particular behaviors from certain others. In addition, each person learns that certain behaviors are appropriate and proper for him in various situations. Through interaction with others, each person acquires a conception of himself in the several rolls in which he performs. These self-concepts involve both definitions of what is desirable behavior for him and assessments of what he is able to do.[67]

It is possible to conclude that self-concepts of boys, not to be considered a unitary notion, changes in view of the expectations that peers have of them. As a result, these conceptions of self, derived from role and ability in an academic setting, govern the transescent's performance as a student in a middle grade unit.

Hogan examines the self-concepts of upper elementary students in an educational and economically disadvantaged environment and discusses this variable of self, not as a single unit within an individual with applicability to a variety of social situations, but as "an" individual with many conceptions of himself, and these self-conceptions define his role in various

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University School Project," The University of Michigan School of Education Bulletin, IIIIV (January, 1963), 52.

[67]Wilbur Brookover and Edsel Erickson, Sociological Foundations of Educability (New York: Allyn and Bacon, 1968), Chapter V, pp. 19-20.

situations.[68] Davidson notes changes in self-concepts and sociometric status in sixth graders in two differently structured camp settings.[69]

Several studies then suggest that a model middle school unit may be a better strategy for enhancing the self-concepts of ability for a greater number of students during the crucial transescent years. Although none of this aforementioned research deals directly with the recent advent of the middle school organization, it does examine pre and post pubertal males, their self-concept, and grade levels, all variables similar to those contained in this study, and discussed in a subsequent chapter.

Conclusions and Summary

The research in this chapter has been divided into three sections. These sections are topically the theoretical framework of this study:

1. Grade reorganization and transescent development.
2. Self-concept and interpersonal relationship of transescents.

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[68]Earmon Hogan, "The Influence of an In-Service Workshop Experience on Teachers' Ability to Positively Modify the Self-Concepts of Educationally and Economically Disadvantaged Students" (unpublished Ph.D. dissertation, Michigan State University, 1968), pp. 70-71.

[69]Morris Davidson, "Changes in Self-Concepts and Sociometric Status of Fifth and Sixth Grade Children as a Result of Two Different School Camp Curricula" (unpublished Ed.D., University of California, 1965).

3. Psycho-physical growth of the transescent learners.

The survey research of Cuff, Alexander, Broad, and Curtis indicate the extensiveness of the diffusion of the middle school innovation and the need for standardizing the grade pattern involved in the surveys.

The observations of Groom, Alexander, Williams, Howard, and Donald Eichhorn indicate some of the curricular and organizational advantages and disadvantages of the middle school concept.

The research and opinions of Dacus, Berman, Mead, Wattenberg, Church, Havinghurst, and others challenge conventional 6-3-3 grade arrangements as groupings which are at variance with the psychological traits of transescent learners in our culture.

The studies of Krogman, Dorothy Eichhorn, Inhelder, Piaget, Jones, Bagley, Prescott, Tockeport, Gesell, and Gordon indicate that physiologically transescent puberal onset is occurring earlier with resulting changes in thinking, social interests, and peer group relationships. These studies indicate that learning is an integral segment of growth.

Brookover, Hamachek, Hogan, Staines, Signori, and Cookingham in their analysis of self-concept of students, particularly during the transescent period in an educational environment, concur that the self is a learned

structure spoken or inferred by children from experiences in social groups. The school as a social setting, should have an organizational and curricular design which fosters interaction, and where every experience undertaken by a child is intended to help him to become aware of his own potential as a human being.

The research of Lounsberry and Marani, Strickland and White suggests that grades six through nine are doing less well in conventional school organizational patterns. The research further suggests that the middle school organization may be a better setting for the changing self-concepts of pubertal boys whose quality of interpersonal relationship with peers as 'significant others,' especially during transescence, will be the governing factor in their success academically and socially.

CHAPTER III

METHODOLOGY

The primary purpose of this investigation was to determine whether transescent male sixth and seventh grade pupils housed and programmed in public middle schools had a higher self-concept attainment than did transescent sixth and seventh grade boys housed and programmed in conventional public school patterns. Two hundred and seventy-seven boys were the subject of this study. They were drawn from the classrooms of twenty-six sixth and seventh grade teachers. It was hypothesized that differences found between mean scores of self-concept attainment would be shown by the middle school groups of boys who were housed and programmed together in grades six and seven within the same plant. In a related question, it was also hypothesized that sixth and seventh grade boys in these middle school grade organizational patterns would not only show differences in general self-concept, but also in subsets of personal and social behavior, when contrasted with their grade level counterparts who were separated in conventional K-6 elementary and 7-9 junior high schools.

In order to clarify the procedural and substantive requirements of administering the two instruments that were used to identify differences among the boys in the conventional and middle school settings, the instruments were pretested in experimental sequences during the late Spring of 1968. Seventy-one midwestern boys from the towns of Owosso and East Lansing, Michigan, who were in several of the various grade arrangements, group sizes, and pubertal stages, served as the sample of this investigation. This instrumentation trial gave greater confidence especially in the readability of the instruments, time allocations, directional sequence, material, order of administration and established the routine for the data collection procedures of this study.

The Sample

During the winter of 1968, a sample of nine suburban school districts was made from the fifty-four districts lying within the boundaries of the two adjacent counties of Nassau and Suffolk within the Long Island area of New York State. From this sample of nine school districts lying within the towns of Lindenhurst, North Babylon, Huntington, Oyster Bay, Patchogue, Northport, Plainview, Hempstead, and Brookhaven, and representing approximately 17 per cent of the pupil populations in the school systems in the two counties, districts were sought which meet the following criteria:

1. To be classified as a conventional school setting
   a. the district must have among its school plants at least one graded elementary school unit with a minimum population of 600 pupils, operating since September, 1968, and heterogeneously grouped in a K-6 organizational pattern, and
   b. this district must have a junior high school containing only grades 7-8 and 9 with a minimum population of 800 pupils and also, operational since September, 1968, and
   c. less than 3 per cent of the students in the above are classified educationally and economically deprived.
2. To be classified as a middle school setting
   a. the district must have among its schools at least one graded unit with a minimum population of 800 pupils either with grades 5-6-7-8 or grades 6-7-8-9 housed and programmed in either a 4-4-4 or 5-4-3 organizational pattern and
   b. less than 3 per cent of the students in these schools are classified educationally and economically deprived.

Contacts with chief school administrators, building principals, administrative assistants, consultants, special staff and teachers from these nine school systems revealed that three districts, Elwood, Northport, and Plainview-Old Bethpage, met the aforementioned grade organizational criteria for either conventional or middle schools containing grades six and/or seven.

All school systems sampled were also matched on the basis of demographic and socio-economic data. Of the nine school systems eligible for selection in accordance with the criteria drawn from the research hypotheses of this investigation, six were rejected for purposes of comparison. Rejection reasons were varied and among them were reluctance on the part of administrators to participate, low socio-economic make-up of school community, schools which were too recently organized, or schools presenting a different organizational pattern. Reasons for rejection and type of school are cited in Table 3.1.

A stratified sample based upon school type and grade level of prospective transescent male respondents in grades six and/or grade seven was drawn randomly from graded enrollment rosters of the three participating school districts. The sample is representative of each grade level and each school type. Table 3.2 presents data on the distribution of the sample population observed. The 277 respondents reporting were distributed by school type and grade (Table 3.2).

TABLE 3.1.--Rejection factors by school type and grade organization in school systems sampled.

School Type	Grade Organization	Rejection Reason
Conventional	K-6 (6-3-3)	Did not wish to participate
Conventional	7-8-9 (6-3-3)	Did not wish to participate
Middle School	5-6-7-8 (4-4-4)	Only school with 4-4-4 pattern
Middle School	6-7-8 (5-3-4)	Reorganized November, 1968
Conventional	K-6 (6-3-3)	Low socio-economic
Middle School	6-7-8 (5-3-4)	Did not wish to participate

TABLE 3.2.--Distribution of population observed.

School District	Type School	N-Sixth Grade	N-Seventh Grade
1	Elementary K-6	50	
	Junior H. S. 7-8-9		39
2	Elementary K-6	41	
	Junior H.S. 7-8-9		28
3	Middle School 6-7-8-9	34	29
	Middle School 6-7-8-9	31	25

The total sample of this investigation was derived from six schools paired by type and the total male transescent population as follows:

TABLE 3.3.--Population observed paired by grades and school types.

2 sixth grade conventional schools		N = 91
2 sixth grade middle schools	+	N = 65
Total sixth grade		N = 156
2 seventh grade conventional schools		N = 67
2 seventh grade middle schools	+	N = 54
Total seventh grade		N = 121
	Total	N = 277

Two requirements were set for the transescent male respondents selected:

(1) that each boy be in attendance at his school continuously from September, 1968, and

(2) that each boy have a reading level of 5.0 on a standardized reading test.

Description of the Research Instruments

Two self-report instruments were used to assess middle school and conventional school sixth and seventh grade perceptions of the male respondent in this study. These instruments were the Piers-Harris General

Self-Concept Scale and the Mooney Problem Checklist. A description of these instruments and applicable normative data follows:

The Piers-Harris Measure of Self-Concept is a scale of eighty items, entitled "The Way I Feel About Myself," developed by its authors from a pool of items from Jersild's collection of children's statements about what they liked and disliked about themselves. The instrument was studied over tenth, sixth and fourth grade classes.

This forced choice scale is used for measuring adequate general self-concept attainment over eight factors:

1. Behavior
2. General Academic Status
3. Physical Appearance and Attributes
4. Anxiety
5. Popularity
6. Happiness and Satisfaction
7. Sex
8. Birth Order

A sample of the instrument is to be found in Appendix A.

The authors report that to judge the homogeneity of the test the Kuder-Richardson Formula 21, which assumes equal difficulty of the items, was employed. As a check the Spearman Brown odd-even formula was applied for halves of a grade six and a grade ten samples resulting in coefficients of .90 and .87 respectively. The scale was

standardized over 330 sixth graders differentiated by age and sex.

Table 3.4 gives four-month test-retest means, reliability coefficients and standard deviations on the Piers-Harris Self-Concept Scale.[1]

TABLE 3.4.--Four-month test-retest means, standard deviations, and reliability coefficients on the Self-Concept Scale.

Grade	N	November		March[a]		r^{b}_{11}
		Mean	SD	Mean	SD	
3	56	68.73	16.97	77.5	12.02	.72
6	66	65.88	13.03	71.9	10.85	.71
10	60	69.10	11.51	73.6	11.23	.72

[a]All March means were significantly higher than November ($p < .01$).

[b]All coefficients were significantly different from zero ($p < .01$).

Additional statistics of validity and reliability are not reported by the authors. A keyed yes-no response sheet is included within the item response sheets. Estimated time of response for this group-administered scale is twenty minutes. Mean scores of general self-concept compared two sixth and two seventh grade male

[1]Ellen V. Piers and Dale B. Harris, "Piers-Harris Self-Concept Scale," Journal of Educational Psychology, LV, No. 2 (1964), 94-95.

populations in three pairs of school organizational patterns, conventional and middle schools.

The Mooney Problem Checklist (Form 3) is a popular 210 item, six-page folder self-reporting and self-administering communication device intended to isolate and contrast responses of transescent males on factors of personal and social adjustment. The checklist will show a frequency distribution of problems in two school settings. There is an extensive and favorable research tradition established for this type of non-statistical procedure.[2]

Since this instrument is not a measuring device, it is not used in the hypothesis testing of this study. It is simply a counting of the problems which students have identified as matters of concern to them. Through a summarizing process, a count of check marks is made in the following problem areas containing thirty items each:

I. Health and Physical Development (HPD)

II. School (S)

III. Home and Family (HF)

IV. Money, Work, the Future (MWF)

V. Boy and Girl Relations (BG)

VI. Relations to People in General (PG)

VII. Self Centered Concerns (SC)

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[2]Ross L. Mooney and Leonard V. Gordon, Manual: The Mooney Problem Checklists, 1950 Revised (New York: The Psychological Corporation, 1950), p. 1.

No norms are available. Reliability and validity are not given nor testable. Respondents are expected to check an average of twenty to thirty problems every fifteen minutes. All responses are voluntary and randomly, rather than consecutively selected by respondents.[3]

While spontaneity of response was desired in the Piers-Harris instrument, deliberation was desired in the Problem Checklist. A sample of the instrument is to be found in Appendix B.

Both instruments may be group or individually administered without significant differences in results at the upper elementary level.

In both instruments the respondent is anonymous, except for class, age, sex, and other social and educational variables. It was felt more desirable to secure responses without requiring the student to reveal his identity.

The authors of the Problem Checklist state in this regard:

> It is probably highly desirable to provide for anonymity, wherever possible in group situations. Fischer indicated that the use of signatures on personal questionnaires (particularly in the case of highly personal items or serious problems) appears to have relative inhibitory effect on the honesty and frankness of the people responding to them.[4]

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[3]Oscar K. Buros, The Sixth Mental Measurement Yearbook (New Brunswick, N. J.: Rutgers University Press, 1964), pp. 145-147.

[4]R. P. Fischer, "Signed versus Unsigned Personal Questionnaires," Journal of Applied Psychology, XXX (1946), 220-225.

Data Collection Procedures

Approval for collection of data was obtained from administrative officials within the districts which had schools included in the sample. The two instruments were group administered in immediate sequence simultaneously by the writer in an area other than the respondent's regular classroom and without the presence of the respondent's regular teacher. The procedures for administration of the instruments had been pre-established as a result of experimental sequences tried on similar populations in the late spring of 1968 during the pilot study.

The investigator was careful not to mention to students or teachers of these students any advance information, such as, the identity of other schools, grades, and students involved as respondents. Such information was felt to confound the results of this study.

Analysis Procedures

A primary goal of the study was to compare general concepts of self as held by middle school sixth and seventh grade boys with that held by similar boys in conventional sixth and seventh grades. The major research hypothesis, which was tested by this study, was that:

Transescent boys non-separated in sixth and seventh middle school grade patterns will show no differences in general self-concept when compared to sixth and seventh grade boys separated in K-6 and 7-9 grade patterns.

This major hypothesis led to the formulation of the following null hypotheses:

Ho_1--There is no difference between mean scores of general self-concept of sixth grade boys in middle school units and the mean scores of general self-concept of sixth grade boys in K-6 conventional school units.

Symbolically: $Ho_1 : M_1 > M_2$

Legend: M_1 = sixth grade boys in middle school units

M_2 = sixth grade boys in conventional school units

Ho_2--There is no difference between mean scores of general self-concept of seventh grade boys in middle school units and the mean scores of general self-concept of seventh grade boys in 7-8-9 conventional school units.

Symbolically: $Ho_2 : M_3 > M_4$

Legend: M_3 = seventh grade boys in middle school units

M_4 = seventh grade boys in conventional school units

The data were analyzed to determine the significance of the difference between sample groups with analysis of variance and "t" test procedures employed where appropriate.

The findings were reported in terms of differences between means of the sample groups. Mean scores of the two groups were tabled and interpreted. The level of significance for the two hypotheses to be accepted was the .05 level of statistical significance. Hypotheses were non-directional.

In addition to the major hypotheses, the following related question was investigated. The study attempted to isolate common developmental problems voluntarily self-reported by the boys sampled in the two school settings. The related question being--was there a contrast between transescent male personal and social development in the two school settings?

Controls over such factors as teacher competency, differences in the quality of programs in the two settings, and socioeconomic factors were assumed to be randomized out by the size of the sample and the expectation of a multivariate normal population under observation. I.Q. scores[5] of the middle and conventional schools observed were recorded to see if they approximated a composite normal probability curve of I.Q. scores. The groups of pupils sampled from each of the school types under investigation reported their chronological age and skeletal age determined by self-reported measures of height, weight and foot length. Differences in birth and maturational ages were known on the groups sampled.

Summary

In this chapter the purpose of this investigation was delineated and the procedures used in conducting this investigation were discussed.

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[5]The Otis Quick Scoring Test was used by all schools involved to determine their I.Q. scores.

The population of 277 boys sampled came from four school districts containing six schools with a combined reported enrollment of 1,100 boys in grades six and seven. These schools were located in affluent adjacent suburban counties in the northeastern part of the United States, namely two counties within the Long Island area of New York State.

The two instruments used in data collection were described and available reliability and validity data on these instruments were reported herein.

Finally, the major hypotheses were stated as well as the related hypotheses. Symbolic representations of these hypotheses were illustrated. Major statistical devices which were employed were described. Analysis involved "t" tests.

Chapter IV presents the analysis of data.

CHAPTER IV

ANALYSIS OF THE DATA

The research hypothesis which was presented in Chapter I was concerned with student's self-concept in two organizational patterns.

In addition, comparisons of related factors of social and personal development between selected variables such as those tallied in the Mooney Problem checklist were attempted.[1] The dependent variable found in the hypotheses of this study was self-concept. The independent variables were school type, that is conventional and middle school, grade levels of the respondents, chronological age, and skeletal age as denoted by self-reported height, weight, and foot size.

General Self-Concept in Two Organizational Patterns

The data presented in this chapter was collected in the Long Island, New York area. The sampling consisted of 277 transescent boys housed and programmed in

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[1]These variables were not used in the testable hypotheses of this study but were tallied and used to answer a related question in this study, namely, is there a contrast between social-personal developmental factors of the respondents in the two school patterns?

six suburban public schools paired into two organizational patterns, middle schools and conventional schools. One hundred and fifty-six students were observed in the conventional schools, ninety-one in grade six, and sixty-seven in grade seven. One hundred and nineteen students were observed in the middle schools, sixty-five in grade six and fifty-four in grade seven.

The hypotheses and analysis of data are presented in the same order as in their theoretical development in Chapter I.

> Ho_1--There is no difference between mean scores of general self-concept of sixth grade boys in middle school units and the mean scores of general self-concept of sixth grade boys in K-6 conventional school units.

In order to assess the relation of grade organizational patterns a general self-concept measure was obtained for seventh grade boys by using the Piers-Harris self-concept scale. The sixty-five boys comprising the middle school sixth grade group yielded a mean score of 57.43 with a standard deviation of 11.43 on a measure of self-concept as determined by the Piers-Harris General Self-Concept Scale. The ninety-one boys comprising the conventional school sixth grade group yielded a mean score of 61.01 with a standard deviation of 11.19 on a measure of self-concept as determined by the Piers-Harris instrument. (Appendix C lists the mean scores of the individual schools comprising the sixth grade sample

groups.) A "t" test was conducted on the data to determine differences, if any, between the two groups of sixth grade boys. The obtained "t" value of 1.9524 was not significant at the .05 level between the two groups of sixth grade boys. Therefore, the two groups were not considered statistically different. The means, standard deviations, and "t" values of middle and conventional sixth grade groups on a measure of self-concept are shown in Table 4.1.

TABLE 4.1.--Means, standard deviations, and "t" value of middle and conventional sixth grade groups of boys on a measure of self-concept (Piers-Harris Self-Concept Scale).

Middle School Group N=65		Conventional School Group N=91		d.f.	"t"
Mean	SD	Mean	SD		
57.43	11.43	61.01	11.19	154	1.9524
				Sig. at .05 level 1.96	

Ho_2--There is no difference between mean scores of general self-concept of seventh grade boys in middle school units and the mean scores of general self-concept of seventh grade boys in 7-8-9 conventional school units.

In order to assess the relation of grade organizational patterns a general self-concept measure was obtained for seventh grade boys. The fifty-four boys comprising the middle school seventh grade group yielded a mean score of 56.35 with a standard deviation of 13.65

on a measure of self-concept as determined by the Piers-Harris General Self-Concept Scale. The sixty-seven boys comprising the conventional school seventh grade group yielded a mean score of 58.92 as determined by the Piers-Harris Instrument. (Appendix C lists the mean scores of the individual schools comprising the seventh grade sample groups.) A "t" test was conducted on the data to determine differences, if any, between the two groups of seventh grade boys. The obtained "t" value of 1.0667 was not significant at the .05 level between the two groups of seventh grade boys. Therefore, the two groups were not considered statistically different.

The means, standard deviations, and "t" values of middle and conventional seventh grade groups of boys on a measure of self-concept are shown in Table 4.2.

TABLE 4.2.--Means, standard deviations and "t" value of middle and conventional school seventh grade boys on a measure of self-concept (Piers-Harris Self-Concept Scale).

Middle School Group N=54		Conventional School Group N=67		d.f.	"t"
Mean	SD	Mean	SD		
56.35	13.65	58.92	12.82	119	1.0667
				Sig. at .05 level 1.96	

Transescent Development in Two Organizational Patterns

Comparing developmental factors of the respondents, in accordance with the related question of this study, the magnitude of the differences, in the averages of seven subsets on scores of social and personal problems in the conventional and middle school patterns, is not considered significant (Tables 4.3 and 4.4).

TABLE 4.3.--Response averages on seven subset measures of social and personal problems among conventional and middle schools sixth grade boys as reported on the Mooney Problem Check List.

Social and Personal Problem Area	Conventional Schools Sixth Grades	Middle Schools Sixth Grades
I Health and Physical Development	4.29	3.76
II School	6.39	7.70
III Home and Family	4.23	4.06
IV Money, Work and the Future	5.00	4.93
V Boy-Girl	4.91	5.18
VI Peer Groups	6.08	5.23
VII Self-Centered Concerns	6.37	6.01
	(N=91)	(N=65)

TABLE 4.4.--Response averages on seven subset measures of social and personal problems among conventional and middle school seventh grade boys as reported on the Mooney Problem Check List.

Social and Personal Problem Area	Conventional Schools Seventh Grade	Middle Schools Seventh Grade
I Health and Physical Development	4.00	4.29
II School	8.68	8.64
III Home and Family	4.35	5.98
IV Money, Work and the Future	4.65	5.59
V Boy-Girl	5.34	5.77
VI Peer Groups	6.35	6.83
VII Self-Centered Concerns	7.01	7.35
	(N=67)	(N=54)

Examining each of these seven subsets, the respondents regardless of school type rated their real problems highest in the order of "school" first, "self-centered concern," second, and "peer groups," third. The average number of responses was computed by dividing the total number of respondents of a grade level and school type into the number of times a problem area

subset was checked by them. Response averages were cited with twice the frequency among middle school sixth graders on their "school" problem world category (7.70) when compared with their "health and physical development" problem world (3.76). This suggests that as a group, these sixth graders housed in middle schools with grades seven, eight, and nine may be in a disadvantaged learning environment.

The problem categories cited by seventh grade boys also supports this suggestion since "school," "self," and "peers" rank highest with physical growth problems lowest.

Apparently grade alignment patterns with the 277 sixth and seventh grade boys in conventional and in middle schools did not greatly alter their perceptions of their problem worlds.

Summary

The two major hypotheses were not rejected, because the magnitude of the difference between mean scores on measures of self-concept between groups in the two grade organizational patterns, did not differ significantly (Table 4.5).

The "t" value of the first hypothesis was 1.9524 with 154 degrees of freedom.

The "t" value of the second hypothesis was 1.0667 with 119 degrees of freedom. Neither of these non-directional hypotheses was significant at the .05 level

TABLE 4.5.--Summary of research findings.

Hypotheses	Statistic	Result
Major		
I. There is no difference between mean scores of general self-concept of sixth grade boys in middle school units and the mean scores of general self-concept of sixth grade boys in K-6 conventional school units.	"t" test	Not rejected .05 level
II. There is no difference between mean scores of general self-concept of seventh grade boys in middle school units and the mean scores of general self-concept of seventh grade boys in 7-8-9 conventional school units.	"t" test	Not rejected .05 level

which is 1.96. Therefore, the two groups, regardless of their grade organizational pattern, were not considered statistically different.

Thus the results of comparisons between middle school and conventional schools on a self-concept measure would appear to show that revealed differences between the groups are not great.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Discussion of the Findings

Decision makers in school systems perceive the relative advantage of middle schools for transescents without a known research tradition supporting it. Middle school planning and adoption is occurring without sufficient research knowledge of the degree of advantage it has over the grade organizational patterns it is replacing.

There is strong suggestion that the middle school organization may be a better setting for the changing self-concepts of pre and post pubertal males, and their quality of interpersonal relationships with peers as 'significant others,' especially in grades six and seven. This is especially so where this relationship will be the governing factor in their success academically and socially.

This study was posited on the notion that the school as a social setting should have an organizational and curriculum design which fosters interaction, with every experience undertaken by a child intended to help him to become aware of his own potential as a human being.

In comparing the factors of general self-concept and self-reported personal and social problems of transescent sixth and seventh grade boys in two organizational settings, few dissimilarities and no statistical differences were found among 277 observations of boys in conventional and middle school grade patterns in a suburban northeastern region. Some slight dissimilarities were found. Health and physical development, peer groups, and self-centered concerns were slightly less a social-personal problem among the middle school sixth grade boys than among the conventional school sixth grade boys.

Home and family, money, work and the future were slightly less a social-personal problem among the conventional school seventh grade boys than among the middle school seventh grade boys.

This study failed to reject the hypotheses.

Ho_1--There is no difference between mean scores of general self-concept of sixth grade boys in middle school units and the mean scores of general self-concept of sixth grade boys in K-6 conventional school units.

Ho_2--There is no difference between mean scores of general self-concept of seventh grade boys in middle school units and the mean scores of general self-concept of seventh grade boys in 7-8-9 conventional school units.

A re-examination was undertaken to determine if this lack of significance between middle school and conventional school boys on a measure of self-concept could in part be attributed to any of the variables involved in the study including differences in the schools and population

sampled, the nature of the instruments used and the appropriateness of the measures with relation to the extreme variability of transescent male physiological and psychological development. While it is believed these variables may have had an effect on the findings, there was no corroborating evidence indicating that these variables could be held responsible for the absence of significance in this research.

Although the study of curricular programs and learning situations was not within the scope of this study, the writer noted that those schools in the sample which evidence optimum learner involvement, a lack of subject matter orientation, and sensitivity to individual learner needs rather than grouping structures, were apparently affecting positively the self-concepts of their male transescents (see Appendix C). The mean scores on a measure of self-concept was significantly higher in these teaching-learning environments.

Conclusions and Implications

Difference in self-concept attainment, among transescent boys in grades six and seven of conventional and middle school settings, probably rests more upon the curricular design and staff execution of that design than it does upon the placement of these boys in a particular school setting. For setting appears to have no function of its own. Rather the organizational environment should

probably exist to accommodate what the curricular design is intended to accomplish. To reorganize middle grade learners to save money, space, or satisfy a transient population pressure is not a function accommodating the individual nor the axioms of normal child development. Such a middle school is hardly a panacea, nor is it a warrantee for a setting enabling a new educative endeavor with transescent learners on a three pronged program of continuous learning skills, personal development, and content areas.

However, although it appears that a variety of grade groupings can serve a number of reorganizational purposes, the selection of an age-grade arrangement does not necessarily disqualify a school district from having a good middle school program. Rather this variety of grade arrangement may be a desirable deterent to the rigidity of the sixty-year-old junior high school grades.

The implications of this are that previously acceptable grade patterns may not be meeting societal needs and educators must develop, diffuse, and dissect programs commensurate with the characteristics of transescents. For in the end studies of middle grade reorganizations are really studies of the degrees to which learners adjust to a changed learning setting.

Recommendations

The following recommendations for further research are posited as a continuation of this research effort.

This study might be replicated *in toto* over populations of transescent girls and the results compared.

A comparison of transescent development in non-graded middle schools as opposed to graded middle school settings might be made.

The study raises the question of change in transescent cognitive styles occurring at a terminal point in grade assignment namely, grade six. Does one type of grade pattern and school unit differ from another in development of cognitive styles of boys and girls?

The study suggests a measurable relationship between concept of self and stages of physiological development in terms of skeletal and maturational ages. The study also suggests measurement of self-concept attainment in heterogeneous and homogeneous groupings.

Although the study never attempted analysis of the differences in curricular designs for transescents in middle and conventional school patterns, such an attempt appears as desirable a future research endeavor as would an examination of the need for teachers especially trained for middle school education.

Ultimately, spin-off from studies of this type might lead hopefully to:

1. Greater emphasis on the sorely obscure field of pubescent psychology and its place in relation to adolescent and early childhood psychology.
2. Greater focus on the pre-primary and primary school learner divested of his upper elementary neighbor, the child in transescence.

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APPENDICES

APPENDIX A

PIERS-HARRIS GENERAL SELF-CONCEPT SCALE

SCHOOL_____ GRADE_____ TEACHER_____ SEX____

THE WAY I FEEL ABOUT MYSELF

Here are a set of statements. Some of them are true of you and so you will circle the YES. Some are not true of you and so you will circle the NO. Answer every question even if some are hard to decide. There are no right or wrong answers. Only you can tell us how you feel about yourself, so we hope you will mark the way you really feel inside.

1.	MY CLASSMATES MAKE FUN OF ME	YES	NO
2.	I AM A HAPPY PERSON	YES	NO
3.	IT IS HARD FOR ME TO MAKE FRIENDS	YES	NO
4.	I AM OFTEN SAD	YES	NO
5.	I AM SMART	YES	NO
6.	I AM SHY	YES	NO
7.	I GET NERVOUS WHEN THE TEACHER CALLS ON ME	YES	NO
8.	MY LOOKS BOTHER ME	YES	NO
9.	WHEN I GROW UP I WILL BE AN IMPORTANT PERSON	YES	NO
10.	I GET WORRIED WHEN WE HAVE TESTS IN SCHOOL	YES	NO
11.	I AM UNPOPULAR	YES	NO
12.	I AM WELL BEHAVED IN SCHOOL	YES	NO
13.	IT IS USUALLY MY FAULT WHEN SOMETHING GOES WRONG	YES	NO
14.	I CAUSE TROUBLE TO MY FAMILY	YES	NO
15.	I AM STRONG	YES	NO
16.	I HAVE GOOD IDEAS	YES	NO
17.	I AM AN IMPORTANT MEMBER OF MY FAMILY	YES	NO
18.	I LIKE BEING THE WAY I AM	YES	NO
19.	I AM GOOD AT MAKING THINGS WITH MY HANDS	YES	NO
20.	I GIVE UP EASILY	YES	NO
21.	I AM GOOD IN MY SCHOOLWORK	YES	NO
22.	I DO MANY BAD THINGS	YES	NO
23.	I CAN DRAW WELL	YES	NO

24.	I AM GOOD IN MUSIC	YES	NO
25.	I BEHAVE BADLY AT HOME	YES	NO
26.	I AM SLOW IN FINISHING MY SCHOOLWORK	YES	NO
27.	I AM AN IMPORTANT MEMBER OF MY FAMILY	YES	NO
28.	I AM NERVOUS	YES	NO
29.	I HAVE PRETTY EYES	YES	NO
30.	I CAN GIVE A GOOD REPORT IN FRONT OF THE CLASS	YES	NO
31.	IN SCHOOL I AM A DREAMER	YES	NO
32.	I PICK ON MY BROTHERS AND SISTERS	YES	NO
33.	MY FRIENDS LIKE MY IDEAS	YES	NO
34.	I OFTEN GET INTO TROUBLE	YES	NO
35.	I AM DISOBEDIENT AT HOME	YES	NO
36.	I AM UNLUCKY	YES	NO
37.	I WORRY A LOT	YES	NO
38.	MY PARENTS EXPECT TOO MUCH OF ME	YES	NO
39.	I USUALLY WANT MY OWN WAY	YES	NO
40.	I FEEL LEFT OUT OF THINGS	YES	NO
41.	I HAVE NICE HAIR	YES	NO
42.	I OFTEN VOLUNTEER IN SCHOOL	YES	NO
43.	I HAVE A PLEASANT FACE	YES	NO
44.	I SLEEP WELL AT NIGHT	YES	NO
45.	I HATE SCHOOL	YES	NO
46.	I AM AMONG THE LAST TO BE CHOSEN FOR GAMES	YES	NO
47.	I AM SICK A LOT	YES	NO
48.	I AM OFTEN MEAN TO OTHER PEOPLE	YES	NO
49.	MY CLASSMATES THINK I HAVE GOOD IDEAS	YES	NO
50.	I AM UNHAPPY	YES	NO
51.	I HAVE MANY FRIENDS	YES	NO
52.	I AM CHEERFUL	YES	NO

53.	I AM DUMB ABOUT MOST THINGS	YES	NO
54.	I AM GOODLOOKING	YES	NO
55.	I HAVE LOTS OF PEP	YES	NO
56.	I GET INTO A LOT OF FIGHTS	YES	NO
57.	I AM POPULAR WITH BOYS	YES	NO
58.	PEOPLE PICK ON ME	YES	NO
59.	MY FAMILY IS DISAPPOINTED IN ME	YES	NO
60.	I WISH I WERE DIFFERENT	YES	NO
61.	WHEN I TRY TO MAKE SOMETHING, EVERYTHING SEEMS TO GO WRONG	YES	NO
62.	I AM PICKED ON AT HOME	YES	NO
63.	I AM A LEADER IN GAMES AND SPORTS	YES	NO
64.	I AM CLUMSY	YES	NO
65.	IN GAMES AND SPORTS I WATCH INSTEAD OF PLAY	YES	NO
66.	I FORGET WHAT I LEARN	YES	NO
67.	I AM EASY TO GET ALONG WITH	YES	NO
68.	I LOSE MY TEMPER EASILY	YES	NO
69.	I AM POPULAR WITH GIRLS	YES	NO
70.	I AM A GOOD READER	YES	NO
71.	I WOULD RATHER WORK ALONE THAN WITH A GROUP	YES	NO
72.	I DISLIKE MY BROTHER (SISTER)	YES	NO
73.	I HAVE A BAD FIGURE	YES	NO
74.	I AM OFTEN AFRAID	YES	NO
75.	I AM ALWAYS DROPPING OR BREAKING THINGS	YES	NO
76.	I CRY EASILY	YES	NO
77.	I AM DIFFERENT FROM OTHER PEOPLE	YES	NO
78.	I THINK BAD THOUGHTS	YES	NO
79.	I CAN BE TRUSTED	YES	NO
80.	I AM A GOOD PERSON	YES	NO

APPENDIX B

MOONEY PROBLEM CHECK LIST

1950
REVISION

MOONEY PROBLEM CHECK LIST

Ross L. Mooney

Bureau of Educational Research

Ohio State University

J JUNIOR HIGH SCHOOL FORM

HPD
S
HF
MWF
BG
PG
SC
TOTAL

Age..... Date of birth..... Boy..... Girl.....

Grade in school..... Name of school.....

Name of the person to whom you are to turn in this paper.....

Your name .....Date.....

DIRECTIONS

This is a list of some of the problems of boys and girls. You are to pick out the problems which are troubling you.

Read the list slowly, and as you come to a problem which is troubling you, draw a line under it. For example, if you are often bothered by headaches, you would draw a line under the first item, like this, "1. Often have headaches."

When you have finished reading through the whole list and marking the problems which are troubling you, please answer the questions on Page 5.

The Psychological Corporation, 304 East 45th Street, New York, N. Y. 10017

ıted in U.S.A.

65-132T

DIRECTIONS: Read the list slowly, and as you come to a problem which troubles you, draw a line under it.

1. Often have headaches
2. Don't get enough sleep
3. Have trouble with my teeth
4. Not as healthy as I should be
5. Not getting outdoors enough

6. Getting low grades in school
7. Afraid of tests
8. Being a grade behind in school
9. Don't like to study
10. Not interested in books

11. Being an only child
12. Not living with my parents
13. Worried about someone in the family
14. Parents working too hard
15. Never having any fun with mother or dad

16. Spending money foolishly
17. Having to ask parents for money
18. Having no regular allowance
19. Family worried about money
20. Having no car in the family

21. Not allowed to use the family car
22. Not allowed to run around with the kids I like
23. Too little chance to go to parties
24. Not enough time for play and fun
25. Too little chance to do what I want to do

26. Slow in making friends
27. Bashful
28. Being left out of things
29. Never chosen as a leader
30. Wishing people liked me better

31. Being nervous
32. Taking things too seriously
33. Getting too excited
34. Being afraid of making mistakes
35. Failing in so many things I try to do

36. Too short for my age
37. Too tall for my age
38. Having poor posture
39. Poor complexion or skin trouble
40. Not good-looking

41. Afraid of failing in school work
42. Trouble with arithmetic
43. Trouble with spelling or grammar
44. Slow in reading
45. Trouble with writing

46. Sickness at home
47. Death in the family
48. Mother or father not living
49. Parents separated or divorced
50. Parents not understanding me

51. Too few nice clothes
52. Wanting to earn some of my own money
53. Wanting to buy more of my own things
54. Not knowing how to buy things wisely
55. Too little spending money

56. Girls don't seem to like me
57. Boys don't seem to like me
58. Going out with the opposite sex
59. Dating
60. Not knowing how to make a date

61. Being teased
62. Being talked about
63. Feelings too easily hurt
64. Too easily led by other people
65. Picking the wrong kind of friends

66. Getting into trouble
67. Trying to stop a bad habit
68. Sometimes not being as honest as I should be
69. Giving in to temptations
70. Lacking self-control

71. Not eating the rig	6. Nose or sinus trouble	HPD
72. Often not hungry	7. Trouble with my feet	
73. Overweight	8. Not being as strong as some other kids	
74. Underweight	9. Too clumsy and awkward	
75. Missing too much	0. Bothered by a physical handicap	
		S
76. Not spending eno	1. Dull classes	
77. Too much school	2. Too little freedom in classes	
78. Can't keep my mi	3. Not enough discussion in classes	
79. Worried about gr	4. Not interested in certain subjects	
80. Not smart enough	5. Made to take subjects I don't like	
		HF
81. Being treated like	6. Clash of opinions between me and my parents	
82. Parents favoring a	7. Talking back to my parents	
83. Parents making to	8. Mother	
84. Parents expecting	9. Father	
85. Wanting things m	0. Wanting to run away from home	
		MWF
86. Restless to get out	1. Afraid of the future	
87. Not knowing how	2. Not knowing what I really want	
88. Needing to find a	3. Concerned about military service	
89. Having less money	4. Wondering if I'll ever get married	
90. Having to work to	5. Wondering what becomes of people when they die	
		BG
91. Nothing interestin	6. Learning how to dance	
92. So often not allow	7. Keeping myself neat and looking nice	
93. Not allowed to ha	8. Thinking too much about the opposite sex	
94. Wanting to know	9. Wanting more information about sex matters	
95. Wanting to know	0. Embarrassed by talk about sex	
		PG
96. Wanting a more	1. Being jealous	
97. Being made fun o	2. Disliking someone	
98. Being picked on	3. Being disliked by someone	
99. Being treated like	4. Keeping away from kids I don't like	
100. People finding fau	5. No one to tell my troubles to	
		SC
101. Not having as mu	6. Sometimes lying without meaning to	
102. Worrying	7. Can't forget some mistakes I've made	
103. Having bad drea	8. Can't make up my mind about things	
104. Lacking self-confi	9. Afraid to try new things by myself	
105. Sometimes wishin	0. Finding it hard to talk about my troubles	
		TOTAL

king the problems which are
age 5.

APPENDIX C

MEAN SCORES OF MIDDLE AND CONVENTIONAL SCHOOL SIXTH AND SEVENTH BOYS ON A MEASURE OF SELF-CONCEPT

TABLE C-1.--Mean scores of middle and conventional school sixth and seventh grade boys on a measure of self-concept.

Middle School Groups				Conventional School Groups			
Grade	Type School	N	Mean	Grade	Type School	N	Mean
6	6-7-8-9	31	57.32	6	K-6	50	60.66
6	6-7-8-9	34	56.05	6	K-6	41	61.12
7	6-7-8-9	25	60.40	7	7-8-9	28	53.75
7	6-7-8-9	29	52.86	7	7-8-9	39	62.71

APPENDIX D

COMPOSITE SELF-REPORTED PHYSICAL PROFILE OF TRANSESCENT MALES IN SIXTH AND SEVENTH GRADES IN CONVENTIONAL AND MIDDLE SCHOOLS

TABLE D-1.--Composite self-reported physical profile of transescent males in sixth and seventh grades in conventional and middle schools.

Conventional Schools							Middle Schools						
Grade	Mean Age (mos.)	NR	Mean Hgt. (ins.)	NR	Mean Wgt. (lbs.)	NR	Grade	Mean Age (mos.)	NR	Mean Hgt. (ins.)	NR	Mean Wgt. (lbs.)	NR
6	143	131	60	69	93	84	6	144	65	61	46	90	55
Normal*			56		90					56		90	
7	156	67	63	66	102	66	7	155	54	65	39	99	54
Normal*			60		103					60		103	

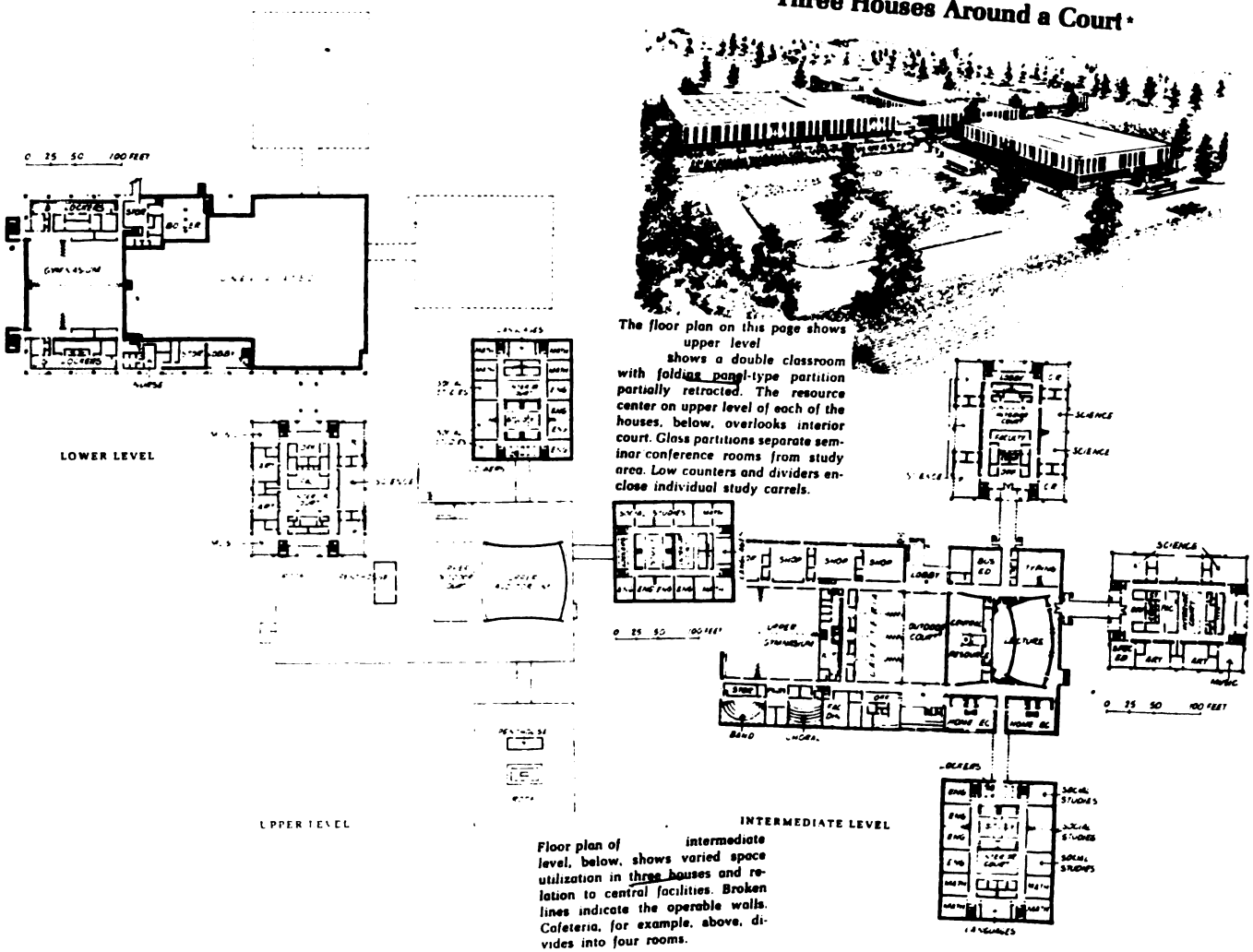
NR = Number Reporting
Hgt., Age, Wgt.

*Norms as reported by E. K. Shelton and Robert F. Skeels, "Growth and Development," Ciba Clinical Symposia (Summit, N. J.: Ciba Pharmaceutical Products, Inc., Sept. 1951), III, No. 6, pp. 190-193.

APPENDIX E

MIDDLE SCHOOL PLANT

Three Houses Around a Court*



The floor plan on this page shows upper level shows a double classroom with folding panel-type partition partially retracted. The resource center on upper level of each of the houses, below, overlooks interior court. Glass partitions separate seminar conference rooms from study area. Low counters and dividers enclose individual study carrels.

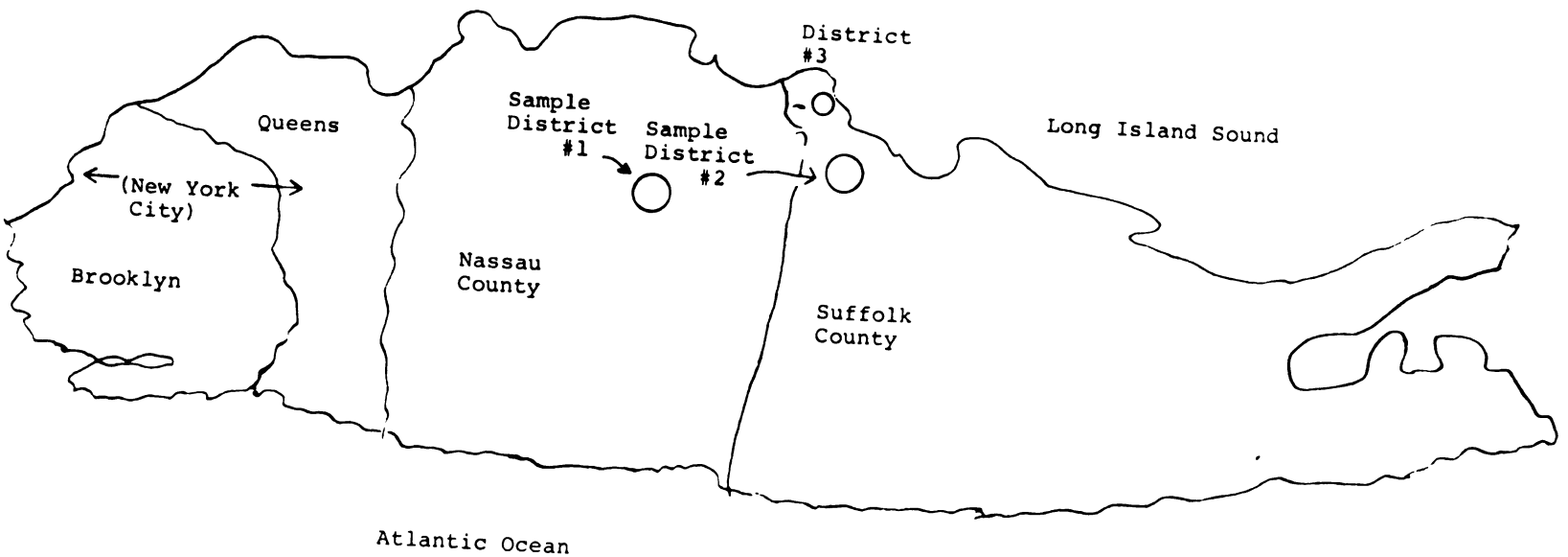
Floor plan of intermediate level, below, shows varied space utilization in three houses and relation to central facilities. Broken lines indicate the operable walls. Cafeteria, for example, above, divides into four rooms.

*Judith Murphy, Middle Schools (New York: Educational Facilities Laboratories, undated), pp. 34-37.

APPENDIX F

GEOGRAPHICAL AREA FROM WHICH SAMPLE WAS DRAWN

LONG ISLAND


Connecticut
District #3
Sample District #1
Sample District #2
Queens
(New York City)
Brooklyn
Nassau County
Suffolk County
Long Island Sound
Atlantic Ocean

APPENDIX G

SOCIO-ECONOMIC DATA FORM

SOCIO-ECONOMIC DATA FORM

SCHOOL SAMPLE:

School_____ District_____

Address_____

Telephone_____

Grade Organization_____ Grade(s) sampled_____

Date_____ Size of School_____ Gr. 6_____ Gr. 7_____
Gr. 8_____ Gr. 9_____

PUPIL DATA:

Average I.Q._____ Test_____ Date Administered_____

Reading level of population_____ Test_____
Date Administered_____

Achievement/skills level_____ Test_____
Date Administered

Grouping patterns_____

% going to college_____ (4 yr.)_____ (2 yr.)_____

STAFF DATA:

Average level of teacher preparation B.A.+____ M.A.+_____

Average years of teaching experience_____ years

Salary level (median)_____ $7-8 m 11-12
$8-9 m 12-13
$9-10m 14-15

COMMUNITY:

Description:

Population:

Average Income $_____ Average Level of Parent Education_____

Person reporting:_____

Title_____ Date_____