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ABSTRACT

This report summarizes the design, sample, measures, and results of a study of the attitudes and activities of middle-school students in Montgomery County Public Schools (Maryland). The study, longitudinally designed, examined three groups of schools--four middle schools, two grades 7-8 junior high schools, and four grades 7-9 junior high schools. The number of students sampled four times over a 4-year time span varied from 1,600 to 2,350 per sampling. Pupils answered 190 questions grouped and analyzed under 5 topics: attitudes toward school and staff, opinions on peer environment, participation in school activities, student self-concept and motivation, and academic achievement. An attachment consolidates the means, standard deviations, and sample numbers for each school group. (JW)

MONTGOMERY COUNTY PUBLIC SCHOOLS

ROCKVILLE, MARYLAND

Middle School Evaluation

FINAL REPORT TECHNICAL APPENDIX

January 1983

EDWARD ANDREWS
Superintendent of Schools

Prepared by the Department of Educational Accountability

Montgomery County Public Schools
Rockville, Maryland

MIDDLE SCHOOL EVALUATION FINAL REPORT
TECHNICAL APPENDIX

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TECHNICAL APPENDIX
for
MIDDLE SCHOOL EVALUATION FINAL REPORT

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MIDDLE SCHOOL EVALUATION FINAL REPORT

TECHNICAL APPENDIX

The evaluation design, sample, and procedures for this study were briefly summarized in the main report; however, technical details were reserved for a separate appendix such as this. In this supplement, the school and pupil sample, the construction of the measures used, the analytic method, and the technical results are described more fully.

DESIGN

A longitudinal design was chosen for this study rather than a cross-sectional or a series of annual cross-sectional surveys. Where the primary issues concern how the schools influence pupils across grades, repeated measures obtained from the same subjects cannot be surpassed for analytic precision and statistical power. The traditional drawback to such a design is pupil attrition which may or may not limit the generalizability of the findings. To assess the degree to which attrition may have influenced the results, a separate analysis of the entering scores of those who moved compared to those who remained for the entire study was conducted and is reported below.

The schedule of data points for the study called for measurements at entry to sixth grade and each spring thereafter through the eighth grade. Fall sixth grade measures were collected in November, 1979, and spring follow-up testing was conducted annually during the month of May.

Three groups were specified in the design: the four middle schools existing at the time in MCPS, the two 7-8 junior high schools then existing, and a set of four 7-9 junior high schools selected from the 24 in MCPS. Details of the school sample are discussed below.

SAMPLE

Several background characteristics for the school sample are summarized in Table 1. The 7-9 junior high schools were specially selected to closely match the middle schools on the basis of reading achievement, minority composition and an approximate socioeconomic indicator of the percentage of pupils who are provided free lunch. It is most likely that the analytic comparisons of middle schools to the 7-9 junior high schools are not biased by differences in these conditions.

At the time of study implementation, only two 7-8 junior highs were in existence. Unfortunately the two 7-8 junior high schools did not match the other school groups well, nor, for that matter, were they similar to each other. They had a lower minority group composition and somewhat higher socioeconomic indicator than the other school group means; and while one of these schools had similar achievement levels to the middle school group, the other school averaged about 20 NCE points higher in achievement. These discrepancies make the comparisons of the middle to the 7-8 junior high

schools tenuous. Significant findings arising from these comparisons should be subjected to replication studies. Limited generalizations may be justified only where there is no overlap between any of the middle schools and either of the 7-8 schools, and possibly for more than two time points. Without such consistency within school groups and across time, one cannot attribute significant findings to specific aspects of the school groups.

TABLE 1
Background Characteristics of the School Groups
in the 1978-79 School Year

School	Grade 7 Reading Scores: Median (NCE)	Grade 7 Reading Scores: Range (25%-75%)	Percent Minority Enrollment	Percent Free Lunch
Middle Schools:				
A	62	47	21	12
B	40	41	17	18
C	58	41	14	5
D	50	38	21	16
Mean	52.5	41.75	18.25	12.75
7-9 Junior High Schools:				
E	60	51	29	15
F	52	47	15	17
G	44	44	23	14
H	58	42	13	6
Mean	53.5	46.0	20.0	13.0
7-8 Junior High Schools:				
I	72	35	10	1
J	56	50	7	14
Mean	64.0	42.5	8.5	7.5
Totals Mean	55.2	43.6	17.0	11.8

The sample of pupils tested within each of the school groups at each time point is summarized in Table 2. All of the pupils of this study cohort in the middle schools were tested at each time point. It should be noted that after the seventh grade point, one of the middle schools was closed. Some of its pupils transferred to another middle school in the study and were tested there, while others transferred to another 7-9 junior high school not previously in the sample. This latter group was excluded from the analytic comparisons, but a separate subanalysis of their seventh-to-eighth grade changes was conducted.

TABLE 2

Summary of Groups, Data Points and Cases Included in the Middle School Evaluation Design

GROUPS		Time:	Fall 1979	Spring 1980	Spring 1981	Spring 1982
		Grade:	6	6	7	8
Middle School	n schools		4	4	4	3*
	n pupils		829	786	829	673
7-9 Junior High School	n schools		10	10	4	5*
	n pupils		581	529	780	1082
7-8 Junior High School	n schools		6	6	2	2
	n pupils		308	294	381	596
Total	n schools		20	20	10	102
	n pupils		1,718	1,608	1,919	2,351

*Since one middle school was closed in June, 1981, the pupils in the study were tested as eighth graders in another 7-9 junior high school.

The core longitudinal group on which the analytic comparisons were based numbered between 677 and 800 pupils, depending upon particular sets of scores analyzed. (For a given analysis, all subjects were required to have no missing data.) An attrition analysis comparing the sixth grade scores of this group with those of the entering group who eventually left the sample is discussed below.

The sixth grade data on pupils presented in Table 2 and on all tables in this appendix describe the elementary feeder groups for the two respective junior high school groups. For example, in Table 2 the 10 schools for the 7-9 junior high group and the six schools for the 7-8 group represent elementary schools. Numbers of schools indicated for later time points refer, of course, to the secondary schools. This grouping of the sample allows a consistent longitudinal group structure for the analysis.

MEASURES OF PUPIL PERFORMANCE AND ATTITUDES

A number of attitudinal measures used in other research as well as several scales previously used in MCPS were examined for their relevance to the goals for pupils cited in the school board's Policy Statement for Middle and Junior High Schools. Several of these, together with a set of attitudinal items developed for this middle school evaluation, were field tested in a pilot study. After an analysis to edit, refine, and abbreviate the various scales and items, the following four scales were selected for the evaluation. These scales were combined into a single booklet with a self-administered, multiple-choice format.

- STUDENT QUESTIONNAIRE--58 items inquiring about the student's school experience and opinions about school staff, program organization, and classmates. This questionnaire was developed by MCPS staff.

- QUALITY OF SCHOOL LIFE--a 29-item questionnaire by Joyce Epstein widely used in other recent research to assess the student's attitudes toward school, relationships with teachers, and commitment to learning.

- LOCUS OF CONTROL--a 40-item scale developed by Stephen Nowicki which assesses the extent to which the students feel they themselves can influence what they do and what happens to them (internal control), rather than their being helpless or at the mercy of other people or chance (external control).

- SELF CONCEPT: "The Way I Feel About Myself"--a 63-item scale, adapted from the 80-item Piers-Harris Self-concept Scale, on which students describe themselves in terms of physical appearance, popularity, academic performance, and behavior.

The 190 items in the student questionnaire booklet encompass most of the MCPS goals for pupils. An analysis was undertaken to combine items into sets of meaningful scores which would represent in a more general way the major goals for pupils. The scores derived from that analysis are summarized below together with a brief interpretation of their meanings. The pupil scores are grouped into five domains:

- Attitudes toward school and staff
- Opinions on the peer environment
- Participation in school activities
- Self-concept and motivation
- Academic achievement

Attitudes Toward School and Staff

Quality of School Life. A single score from this scale was developed to represent the pupil's liking for school and classes, relationships with teachers, and commitment to learning. This score assesses the goals of making learning a more satisfying experience and of developing good relationships between teachers and students.

Teacher Confers Independence. This score from the Student Questionnaire contains items such as "My teachers let me make some of the decisions about projects or assignments" or "My teachers encourage me to say what I think." One would expect secondary schools, particularly those more responsive to individuals, to produce higher scores on this scale.

Teacher Gives Support. The teacher provides personal support for the pupils. The items include "My teachers care about me", "...give me individual attention", and "...seem to understand kids my age." Middle school advocates would expect that the middle school organization allows for more individual attention and support than would the other secondary schools.

Principal. Pupils report their impressions of the principal including such aspects as "The principal gets out of his office and talks with students", "...is fair", and "...does a good job."

Counselors. Pupils indicate on this scale the extent of their contact with a counselor or another adult in a counseling role. The Teacher Advisor Program in middle schools may potentially contribute to higher scores on this scale for middle school pupils.

Can Change the School. Pupils indicate whether or not they have the opportunity to work with someone or a group to change things they don't like at school.

Opinions on the Peer Social Environment

Cooperation. Pupils indicate the extent to which classmates work together to help each other, tutor each other, or are tutored by another pupil. This score assesses in part the goal of "making the peer group a more constructive force in the educational process."

Grade Groupings. Two items ask the pupils' preferences for grade groupings with the following questions: "Ninth graders tend to cause more trouble when they go to school with younger kids" and "Sixth graders really fit best in elementary school."

Substance Use. Pupils indicate how many students they know at school who use cigarettes or drugs or alcohol at school. This scale and the next do not ask the pupil to report on their own usage or activities. Also, a relatively small but well-known group of students who engage in such activities could provide the basis for higher scores in a school. On the whole, however, this scale and the next probably represent the characteristics of each pupil's more immediate acquaintances or peer group.

Disruptive Conduct. As in the previous scale, pupils indicate how many students they know at school who steal, cheat, don't respect other people's property, or pick on other kids.

School Activities

Sports
Music
Social
Field Trips

Pupils indicate the number of such activities in which they participate in and out of school. Middle school advocates would expect their more flexible scheduling and grade groupings to make extracurricular or cocurricular activities more available to more pupils in the middle schools.

All of the foregoing scores, except Quality of School Life, were derived from the Student Questionnaire.

Self-concept and Motivational Orientations

The following five scores were obtained from combinations of items from the self-concept and locus of control scales. Details of the factors and scoring are discussed below.

I'm OK. This scale assesses global self-esteem. People with high scores see themselves as popular, nice looking, low on anxiety, and as having physical prowess. This score addresses the pupil goal of "increasing the child's self-awareness and self-concept."

Horatio Alger. People with high scores on this scale believe they can change things by working hard, that they can get good grades if they try, and also that they are somewhat anxious. This score assesses in part the pupil's achievement motivation and feelings of personal efficacy. Note that although anxiety cannot be seen as a goal itself, it may be a realistic concomitant of effort and desire to achieve.

Lucky. People with high scores tend to believe in luck, charms, and four leaf clovers, and they are somewhat anxious. This score assesses one aspect of the person's perceived control over things in general. To the extent that students come to feel more efficacious and in control of what happens to them, one would expect this score to decrease over time.

Adult-Oriented. High scorers see themselves as responsible, intelligent, well-behaved, and influential at home, but at the same time not every influential with friends and somewhat lacking in physical prowess. Such students may be seen as well-adjusted to school and teachers.

Peer-Oriented. High scorers on this scale see themselves as quite influential with friends and somewhat influential at home. They claim some responsibility, but admit to some undesirable behavior at home or school. Such students may seem well-adjusted to their peer group. Relative to the policy goals for pupils, a successful or well-balanced student would likely have high scores on both the Adult and Peer-Oriented scales.

Academic Achievement

Reading. The reading comprehension subtest from standardized achievement tests was used to assess reading. Where possible, scores from the systemwide standardized testing program were used to minimize test burden on pupils. Thus, the "fall sixth grade" data point for this and the math measure were taken from the spring fifth grade Iowa Tests of Basic Skills. The spring sixth and seventh grade measures were taken from a separate administration of the California Achievement Tests.

Math. The math computations subtest from the same standardized batteries discussed above was used to assess math achievement.

Factor Analysis Procedures

The attitudinal scores discussed above were derived from sets of items on the Student Questionnaire, the Self-concept Scale, and the Locus of Control Scale. The following procedures were used to determine the factor structure of the self-attitude scales. First, part-scores were assembled judgmentally by this author from the Self-concept and Locus of Control scales. These part scores were each composed of sets of three to seven conceptually related items. For example, a part-score of "LOOKS" was assembled from such items as

"I have a pleasant face," or "I have nice hair." A part-score of "ANXIETY" was composed of items such as "I am nervous," "I am often afraid," and "I get worried when we have tests in school." These part-scores, six from the Self-concept scale and six from the Locus of Control scale, are identified in Table 3 together with the items which comprise them. The items were scored in the direction suggested by the part-score title. The numbers of the items are their sequence numbers in the questionnaire booklet.

The second step was to conduct a principle components analysis of these 12 part-scores together with the three factors contained in the Quality of School Life scale, namely, "satisfaction with school," "commitment to learning," and "relationship with teachers." This analysis was conducted three times for the same sets of part-scores from the fall sixth, spring sixth, and spring seventh grades. Six factors were identified from these analyses, accounting for between 57 and 59 percent of the variance in the scores, depending upon which one of the three time points was analyzed. The factor loadings of the part-scores on these six factors were generally similar across the three time points. The part-score factor loadings used to obtain the resulting six factors are summarized in Table 4.

TABLE 3.1

Items Comprising Self Concept Part-scores

BEHAVIOR	PROWESS	ANXIETY
I am well behaved in school. A. Yes B. No	I am strong. A. Yes B. No	I am shy. A. Yes B. No
I do many bad things. A. Yes B. No	I am among the last to be chosen for games. A. Yes B. No	I get nervous when the teacher calls me. A. Yes B. No
I often get into trouble. A. Yes B. No	I am a leader in games and sports. A. Yes B. No	I get worried when we have tests in school. A. Yes B. No
I am often mean to other people. A. Yes B. No	In games and sports, I watch instead of play. A. Yes B. No	I am nervous. A. Yes B. No
I cause trouble to my family. A. Yes B. No		I worry a lot. A. Yes B. No
I behave badly at home. A. Yes B. No		I am often afraid. A. Yes B. No
My family is disappointed in me. A. Yes B. No		

POPULAR	SMART	LOOKS
My classmates make fun of me. A. Yes B. No	I am smart. A. Yes B. No	My looks bother me. A. Yes B. No
It is hard for me to make friends. A. Yes B. No	I am good in my school work. A. Yes B. No	I have nice eyes. A. Yes B. No
I am unpopular. A. Yes B. No	I am slow in finishing my school work. A. Yes B. No	I have nice hair. A. Yes B. No
I feel left out of things. A. Yes B. No	I can give a good report in front of the class. A. Yes B. No	I am good looking. A. Yes B. No
I have many friends. A. Yes B. No	I am dumb about most things. A. Yes B. No	I have a pleasant face. A. Yes B. No
People pick on me. A. Yes B. No	I forget what I learn. A. Yes B. No	
	I am a good reader. A. Yes B. No	

TABLE 3.2

Items Comprising Locus of Control/Motivational Part-scores

LUCK	DENY BLAME	FRIENDS
Are some kids just born lucky? A. Yes B. No	Are you often blamed for things that just aren't your fault? A. Yes B. No	Most of the time do you find it hard to to change a friend's mind or opinion? A. Yes B. No
Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway? A. Yes B. No	When you get punished, does does it usually seem it's for no good reason at all? A. Yes B. No	Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters? A. Yes B. No
Do you believe that wishing can make things happen? A. Yes B. No	Have you felt that when people were mean to you it was usually for no reason at all? A. Yes B. No	Do you feel that it's easy to get friends to do what you want them to? A. Yes B. No
If you find a four leaf clover might bring you good luck? A. Yes B. No	A. Yes B. No	Do you feel when someone doesn't like you there's little you can do about it? A. Yes B. No
WORKER	**GRADES**	**HOME**
Do you feel that when when things happen they happen because of hard work? A. Yes B. No	Most of the time do you feel that getting good grades means a great deal to you? A. Yes B. No	Do you feel that most of the time parents listen to what their children have to say? A. Yes B. No
Are you the kind of person who believes that planning ahead makes things turn out better? A. Yes B. No	Do you believe that if somebody studies hard enough he or she can pass any subject? A. Yes B. No	Will your parents usually help you if help you if you ask them? A. Yes B. No
Do you think it's better to be smart than to be lucky? A. Yes B. No	Do you often feel that whether or not you do your homework has much to do with what kind of grades you get? A. Yes B. No	Most of the time do you find it useless to try to get your own way at home? A. Yes B. No
Most of the time, do you feel that you can change what might happen tomorrow by what you do today? A. Yes B. No	Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you? A. Yes B. No	Do you usually feel that you have little to say about what your family decides to do? A. Yes B. No Do you feel that it's nearly impossible to change your parent's mind about anything? A. Yes B. No

TABLE 4

Factor Loadings of Part-Scores Used
To Develop Attitude Factor Scores

	PART-SCORES	FACTOR SCORES				
		QUALITY OF SCHOOL LIFE	I'M OK	HORATIO ALGER	BELIEF IN LUCK	ADULT ORIENTED	PEER ORIENTED
Q S L	Commitment to Learning	.33					
	Satisfaction with School	.33					
	Relationship With Teachers	.33					
SELF CONCEPT	Behavior					.50	-.35
	Prowess		.40			-.30	
	Anxiety		-.30	.20	.30		
	Popular		.30				
	Smart					.30	
	Looks		.35				
LOCUS OF CONTROL	Belief in Luck				.90		
	Deny Blame					-.60	-.35
	Influence Friends					-.30	.70
	Worker			.60			
	Grades			.50			
	Influence Home					.40	.35

With factor scores such as those developed here, it is desirable to translate them into a more meaningful metric than the obscure numbers derived from the scoring algorithm. This was accomplished by standardizing the six factors on the fall sixth grade distribution with a mean of zero and a standard deviation of 1.00 at fall sixth grade. This metric conveys two interpretations. As scores change over time, one can directly infer increases above the sixth grade level from those scores greater than zero and decreases from sixth grade as scores less than zero. This metric also reflects the magnitude of the change in standard deviation units. In addition, the magnitude of various group differences can be directly interpreted in this metric. Descriptive means and standard deviations on these scores at each time point for sex groups within school groups are included in this appendix as Attachment A.

Part Scores from Student Questionnaire

In addition to the self-attitudes discussed above, a series of part-scores was derived from the 57-item Student Questionnaire. These part-scores and the items comprising them are summarized in Table 5. These scores have not been standardized, since the original metric of the items from which the scores are derived allows a clear interpretation. For example, "Teacher Confers Independence" is scored on a scale of (1) = Very Seldom and (4) = Very Often. Descriptive statistics for sex groups groups within school groups are also included in Attachment A.

TABLE 5

Items Comprising Part-Scores Regarding School Attitudes and Activities

CHER CONFERS INDEPENDENCE

teachers let me make some of the decisions about ojects or assignments.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

teachers treat me fairly.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

teachers listen to what I have to say in class.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

teachers encourage me to say what I think.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

teachers give me help when I need it.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

TEACHERS CARE ABOUT ME

9. My teachers care about me.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

10. My teachers give me individual attention.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

11. My teachers seem to understand kids my age and their pro
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

12. I feel free to talk with my teachers about things that a on my mind.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

13. My teachers seem willing to spend some time with me when have a problem.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

TABLE 5 (Continued)

Items Comprising Part-Scores Regarding School Attitudes and Activities

TTITUDE TO PRINCIPAL

he principal does a good job.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

he principal gets out of his office and talks with the tudents.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

ıe principal is fair.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

ıe principal is friendly.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

ıu can talk to the principal if you have a problem in hool.
A. Very Often
B. Usually
C. Sometimes
D. Very Seldom

I CAN CHANGE THE SCHOOL

31. I have the opportunity to work with someone or a group to change things I don't like in the school
A. Yes
B. No
C. Undecided

33. There is a way for me to make suggestions, such as rap sessions, suggestion box, school committees, or student council, about how my school should be changed.
A. Yes
B. No
C. Undecided

34. I have used one of those ways to make suggestions.
A. Yes
B. No
C. Undecided

COUNSELING

44. I can attend meetings, led by a staff member, in which I can discuss problems I am having in school.
A. Yes
B. No
C. Undecided

45. My counselor has invited me in for a talk this year.
A. Yes
B. No
C. Undecided

46. There is an adult in my school with whom I can talk.
A. Yes
B. No
C. Undecided

TABLE 5 (Continued)

Items Comprising Part-Scores Regarding School Attitudes and Activities

SPORTS ACTIVITIES

Sports Activities - During this school year, in how many sports activities at school have you participated, such as soccer, baseball, softball, basketball, track, volleyball, gymnastics, etc.?

A. None
B. One
C. Two
D. Three
E. Four or more

Sports Activities - During this school year, in how many sports activities have you participated outside of school, such as soccer, baseball, softball, basketball, track, volleyball, gymnastics, etc.?

A. None
B. One
C. Two
D. Three
E. Four or more

PEER COOPERATION

30 My classmates work together and try to help each other.

A. Yes
B. No
C. Undecided

38. I have occasionally instructed classmates this year in class.

A. Yes
B. No
C. Undecided

39. I have received instruction from classmates in class this year.

A. Yes
B. No
C. Undecided

TABLE 5 (Continued)

Items Comprising Part-Scores Regarding School Attitudes and Activities

SUBSTANCE USE

ow many students do you know at your school who. . .

1. Smoke cigarettes at school?
   A. Nobody
   B. Less than 5 kids
   C. Around 10 or so kids
   D. A lot more than 15 kids

2. Use drugs at school?
   A. Nobody
   B. Less than 5 kids
   C. Around 10 or so kids
   D. A lot more than 15 kids

3. Use alcohol at school?
   A. Nobody
   B. Less than 5 kids
   C. Around 10 or so kids
   D. A lot more than 15 kids

DISRUPTIVE CONDUCT

ow many students do you know at your school who. . .

4. Cheat at school?
   A. Nobody
   B. Less than 5 kids
   C. Around 10 or so kids
   D. A lot more than 15 kids

5. Have no respect for other people's property?
   A. Nobody
   B. Less than 5 kids
   C. Around 10 or so kids
   D. A lot more than 15 kids

6. Steal?
   A. Nobody
   B. Less than 5 kids
   C. Around 10 or so kids
   D. A lot more than 15 kids

8. Pick on other kids?
   A. Nobody
   B. Less than 5 kids
   C. Around 10 or so kids
   D. A lot more than 15 kids

MUSIC ACTIVITIES

21. Musical Activities - During this school year, in how many of these kinds of musical activities at school have you participated: chorus or glee club, band, orchestra, string ensemble, music lessons at school, or other such things?
   A. None
   B. One
   C. Two
   D. Three
   E. Four or more

25. Musical Activities - During this school year, in how many of these kinds of musical activities have you participated outside of school: chorus or glee club, band, orchestra, string ensemble, music lessons at school, or other such things?
   A. None
   B. One
   C. Two
   D. Three
   E. Four or more

SOCIAL ACTIVITIES

23. Social Activities - During this school year, how many social activities have you attended at school, such as holiday parties, club or class parties, dances, pep club meeting, cheerleaders' meetings, or similar activities?
   A. None
   B. One
   C. Two
   D. Three
   E. Four or more

27. Social Activities - During this school year, how many social activities have you attended outside of school, such as dances, parties, dates, and so forth?
   A. None
   B. One
   C. Two
   D. Three
   E. Four or more

RESULTS

Analytic Method.

A multivariate analysis of variance of repeated measures (MANOVA)* was used to determine school and sex group differences on the dependent variables. The objective of the analysis was to produce contrasts between the middle and 7-9 junior high school group and between the middle and 7-8 junior high school group. In addition, contrasts between boys and girls were also included in the analysis in order to detect potential differences in the effects of school types on boys and girls. Thus, the sample was structured into a two-factor (school type and sex type) analysis of variance model.

The central issues of the middle school study concern change over time in several school settings, and the repeated measures aspect of the MANOVA analysis provides a method for identifying school and sex group differences in the way in which the various scores change over time. Thus, the measures have a natural "design feature" which we can simply call "time" or even "grade level." In addition, however, the measures are also loosely related in other ways. Some measures concern attitudes toward the self, some assess attitudes toward the school, some characterize school activities, and others measure academic achievement. In analysing these measures, it is appropriate to group them into such conceptually related categories because if there is a school effect on one of the measures, there may well be a similar school effect on a measure related to it. Where such effects are observed on similar measures, however, it is not entirely fair to claim two distinct school effects. This amounts to a form of statistical "double counting." The MANOVA procedure helps, in part, to guard against such double counting. It does so by analyzing as a set the collection of related measures simultaneously and reporting back which measures, if any, contributed most to any general school or sex differences observed throughout the complete set of measures.

The results summarized below thus represent three issues: school type differences; sex differences; and change over time, as well as all combinations of these three general effects. Separate analyses were conducted for four sets of related measures. In addition, an attrition analysis was conducted to determine potential differences at entry to sixth grade between the core longitudinal group and those pupils who for any reason were not tested after sixth or seventh grade.

Attrition Findings

The results of the attrition analysis are summarized in Table 6. The analysis design was a two-factor MANOVA. The first factor, defined in rows (2) and (3), was the school type; and the second factor was the attrition group defined as follows: row (4) - longitudinal group versus those who left the sample after sixth grade; and row (5) - longitudinal group versus those who left after seventh grade. Rows (6) through (9) identify the interaction terms for the two main effects.

*The author gratefully acknowledges the training in MANOVA given by Dr. Jeremy Finn at the Workship in Analysis of Repeated Measures Data.

TABLE 6

Summary Table of MANOVA on Entering Sixth Grade Academic and Attitudinal Measures for School Groups and Longitudinal Attrition Groups

DESIGN ON SAMPLE	MULTI-VARIATE A.	UNIVARIATE t-TESTS							
		Math B.	Reading C.	Quality of School Life D.	I'm OK E.	Horatio Alger F.	Belief in Luck G.	Adult-Oriented H.	Peer-Oriented I.
1. Sample Mean (n=1319)									
2. MS vs. 7-9	5.59	8.90	9.81			2.59			
3. MS vs. 7-8									
4. All Data vs 6th Only	(1.66)		(1.77)			(2.93)		(2.39)	
5. All Data vs 6th + 7th									
6. MS7-9 by All vs 6									
7. MS7-9 by All vs 6+7									
8. MS7-8 by All vs 6									
9. MS7-8 by All vs 6+7									

A set of eight measures representing academic performance, attitude toward school, and self-attitudes was analysed. The multivariate F in rows (2-3), column (a) indicates that the middle school pupils were somewhat different from the 7-9 elementary feeder group at entry to sixth grade; and the univariate t-tests indicate that the middle school group scored higher than the 7-9 elementary group on math, reading, and the score of achievement motivation.

The absence of a significant multivariate F for the longitudinal factor in column (a), rows (4-5), suggests that there were no significant differences between those who stayed for the entire study and those who left the sample. The t-tests are in parentheses, indicating that they were not significant; however, there was a tendency on several measures for the core longitudinal group to score higher than the group which dropped out after sixth grade. The low level of these differences suggests that the findings from the core longitudinal group could safely be generalized to all pupils in these schools regardless of mobility patterns.

Academic Performance Findings

A two-factor MANOVA of repeated measures was conducted for the math and reading scores and is summarized in Table 7. Main effects for sex are displayed in rows (5) through (8), for school type in rows (9) through (16), and the interaction terms in rows (17) through (24). Note that Tables 7 through 10 have defined a "design on measures" within each of the sample design factors. The four rows of this design on measures represent the following contrasts:

- Average - The average score across all four time points for the sample effect
- S6 - F6 - The change from fall sixth to spring sixth grade
- S7 - S6 - The change from spring sixth to spring seventh grade
- S8 - S7 - The change from spring seventh to spring eighth grade

For example, row 2, column A (2A) indicates a significant multivariate F of 304.6. This means that for the sample as a whole there was a significant change in the means of some or all achievement measures during sixth grade. The t-test of 11.5 in (2B) indicates that the academic change was in math. No such change was observed in the sample mean for reading.

TABLE 7

Summary Table for MANOVA on Repeated Measures of Academic Achievement Between Sixth and Eighth Grade

DESIGN ON SAMPLE	DESIGN ON MEASURES	MULTI-VARIATE F* A.	UNIVARIATE t-TESTS MATH B.	READING C.
Sample Mean n=800	1. Average			
	2. S6-F6	304.60	11.5	
	3. S7-S6			
	4. S8-S7	8.09	-3.54	- 2.14
Sex	5. Average	2.24	1.93	
	6. S6-F6			
	7. S7-S6			
	8. S8-S7			
MS vs 7-9	9. Average	5.78	2.96	3.28
	10. S6-F6	6.43	-2.91	- 2.89
	11. S7-S6			
	12. S8-S7	4.32	2.56	
MS vs 7-8	13. Average	18.35	-5.23	
	14. S6-F6	16.52	-5.71	
	15. S7-S6			
	16. S8-S7	4.45	2.85	
Sex by MS vs 7-9	17. Average			
	18. S6-F6			
	19. S7-S6			
	20. S8-S7			
Sex by MS vs 7-8	21. Average			
	22. S6-F6			
	23. S7-S6			
	24. S8-S7			

*F and t-tests present are significant beyond the .05 level. Nonsignificant tests are deleted from the table.

Effects on academic performance appeared mainly in math for sixth grade and eighth grade change in both school type contrasts. Note the significant F's in 10A, 12A, 14A, and 16A. The t-tests associated with these multivariate F's suggest that sixth grade middle school pupils gained less in math than their elementary peers, but they gained more in math as eighth graders than their junior high school peers. There were no significant sex interactions with these school contrasts.

School Activity Findings

Results from the same sample and measures design applied to a set of school activity measures are summarized in Table 8. The multivariate F's in column (A), rows 10 through 16, indicate that there were significant middle-nonmiddle school differences in each of the three years of the study. For example, cells (9B) and (13B) suggest that on the average over the three grades, middle schoolers tended to report fewer sports activities than nonmiddle school pupils. Cells (10B) and (11B) suggest either that the middle school pupils gained more in their sports participation than the 7-9 junior high group, or the 7-9 group lost more than the middle schoolers in grades six and seven. The actual scores for these groups over the three years can be observed in the data tables in Attachment A.

TABLE 8

Summary Table for MANOVA on Repeated Measures of School Activities Between Sixth and Eighth Grade

DESIGN ON SAMPLE	DESIGN ON MEASURES	MULTI-VARIATE F* A.	UNIVARIATE t-TESTS Sports B.	Music C.	Social D.	Field Trips E.	Substance Use F.	Disruptive Conduct G.
Sample Mean n=737	1. Average							
	2. S6-F6	37.32	8.84		8.50	6.06	5.87	5.02
	3. S7-S6	132.56	-8.25	-7.84	6.42	-12.05	22.03	9.55
	4. S8-S7	17.13	-3.47		2.01	3.27	7.74	1.35
Sex	5. Average	19.53	-4.37	3.26	5.77			-4.17
	6. S6-F6	2.49	2.43	3.07	2.00			
	7. S7-S6	3.04		3.15	2.06			-2.12
	8. S8-S7							
MS vs 7-9	9. Average	26.99	-3.57	-4.25	4.06	8.85		
	10. S6-F6	6.32	3.82	2.12		-4.22	2.61	
	11. S7-S6	22.93	2.88	6.10		4.10	-8.75	
	12. S8-S7	4.71			-2.22		-3.15	
MS vs 7-8	13. Average	22.75	-3.43	-5.13		4.86	6.37	
	14. S6-F6	4.26	2.86	2.62			2.45	2.19
	15. S7-S6	10.21	3.26	3.39	-1.97	5.61		
	16. S8-S7	3.41				3.03	-2.06	-2.45
Sex by MS vs 7-9	17. Average	2.50						
	18. S6-F6							
	19. S7-S6							
	20. S8-S7							
Sex by MS vs 7-8	21. Average							
	22. S6-F6	2.17	-2.13	-2.16			2.16	-2.00
	23. S7-S6	2.61		2.19				
	24. S8-S7							

*F and t-tests present are significant beyond the .05 level. Nonsignificant tests are deleted from the table.

The t-tests in rows 2 through 4 of Columns F and G suggest that for all the groups there was an increase each year in their perceptions of substance use and disruptive conduct. Cells (10F) and (14F) suggest that such an increase was greater for sixth graders in middle school, while (12F) and 16F) suggest that the increase was greater for junior high school pupils in eighth grade. The t-test in (3E) suggests, not surprisingly, that there was a general decline in field trips during seventh grade. Cells (9E) and (13E) indicate that across the three years middle school pupils generally reported more field trips than their junior high school peers.

The examples cited here do not exhaust the findings relating to school activities, but they are intended to assist the reader in interpreting other findings indicated in Table 8.

School and Staff Attitudes Findings

The MANOVA results concerning attitudes toward school and staff are summarized in Table 9. It is interesting to note that since rows (6), (10), and (14) contain no significant multivariate F's, the effects of sex and school types on school attitudes were confined to seventh and eighth grades only. Cell (9B) suggests that across the three grades the middle school pupils liked school more than the 7-9 junior high group. While (11B) indicates that seventh grade middle schoolers gained more satisfaction with school than the 7-9 group, cell (12B), together with the scores shown in Attachment Table A, suggests that the 7-9 junior high school group may have partially caught up with the middle school group in their satisfaction with school in eighth grade.

Rows (2) through (4) reveal a striking but perhaps not too surprising pattern. For the sample as a whole, the perceived quality of school life and rapport with teachers declined during each grade as the pupils progressed into adolescence. To some extent the middle schools may have offset this decline, at least in comparison to the 7-9 junior high schools; however, the magnitude of the univariate t-tests in rows (2) through (4) compared to those in rows (10) through (16) suggests that the overall decline with age was somewhat larger than the countervailing tendency in the middle schools.

Self-attitude Findings

The MANOVA results on the measures of self-concept and motivational orientation are summarized in Table 10. Most obvious in Table 10 is the lack of significant effects for school types (column A, rows (10) through (16)) compared to the other areas of measurement described above. There were significant changes from year to year in self-attitudes, and there were overall sex differences; but these changes appeared, with a few exceptions, to occur at about the same rate in all of the school types.

TABLE 9

Summary Table for MANOVA on Repeated Measures of
Attitudes Toward School and Staff Between Sixth and Eighth Grade

DESIGN ON SAMPLE	DESIGN ON MEASURES	MULTI-VARIATE F*	UNIVARIATE t-TESTS				
			Quality of School Life	Teacher Confers Independence	Teacher Gives Support	I Can Change School	Classmate Cooperate
		A.	B.	C.	D.	E.	F.
Sample Mean n=657	1. Average	-	-4.39	172.63	127.41	118.76	135.50
	2. S6-F6	4.65	-3.86	-2.64	-3.57		
	3. S7-S6	20.63	-7.55	-4.90	-8.84	-2.44	-4.09
	4. S8-S7	2.67	-3.47	-2.32	-2.59		
Sex	5. Average	8.46	4.54	2.33		2.31	1.93
	6. S6-F6						
	7. S7-S6	2.54					
	8. S8-S7	2.94	-2.47	-2.22	-3.31		
MS vs 7-9	9. Average	8.22	2.87	5.03	2.79	3.82	4.63
	10. S6-F6						
	11. S7-S6	5.49	3.91	2.07	3.31		2.72
	12. S8-S7	6.04	-2.94		-3.30	-3.67	-3.08
MS vs 7-8	13. Average	2.48					2.86
	14. S6-F6						
	15. S7-S6	3.17				3.22	
	16. S8-S7	2.19					
Sex by MS vs 7-9	17. Average				2.14		
	18. S6-F6						
	19. S7-S6	2.17				-2.40	
	20. S8-S7						
Sex by MS vs 7-8	21. Average						
	22. S6-F6						
	23. S7-S6						
	24. S8-S7						

In sixth grade the 7-8 elementary group apparently to gained more in self-concept than the middle school group (cell 14B), but the middle school group gained more in seventh grade (cell 15B).

The most consistent finding is in column (F) where it appears that for the sample as a whole the peer orientation increased with each passing year. In addition, there was a tendency for self-concept scores for the sample as a whole to increase in sixth grade (2B) and decrease in eighth grade (4B). Also in sixth grade, pupils generally became slightly less achievement-oriented (2C) and acquired somewhat greater feelings of personal efficacy as opposed to belief in luck (2D).

When Tables 7 through 10 are compared for the effects of middle school in rows (10) through (16), it is apparent that the areas most affected were school activities and attitudes toward school and that the areas least influenced by differences in school programs were the self-attitudes. Academic performance in math appeared to be influenced to a certain extent by school program differences in sixth and eighth grades, but reading revealed few significant differences.

Table 10

Summary Table of MANOVA on Repeated
Measures of Self-concept and Motivational Scores
Between Sixth and Eighth Grade

DESIGN ON SAMPLE	DESIGN ON MEASURES	MULTI-VARIATE F A.	UNIVARIATE t-TESTS				
			I'm OK B.	Horatio Alger C.	Belief in Luck D.	Adult Oriented E.	Peer Oriented F.
Sample Mean n=657	1. Average	28.63	5.53		-5.08		10.95
	2. S6-F6	10.94	3.69	-2.17	-3.57		5.66
	3. S7-S6	5.20				-3.00	4.04
	4. S8-S7	5.26	-2.01				3.79
Sex	5. Average	18.67	-3.70	3.29	6.03	3.72	
	6. S6-F6						
	7. S7-S6						
	8. S8-S7						
MS vs 7-9	9. Average	2.16		2.53			
	10. S6-F6						
	11. S7-S6						
	12. S8-S7						
MS vs 7-8	13. Average						
	14. S6-F6	3.47	-2.18			-3.17	
	15. S7-S6	3.89	3.73	-2.18			
	16. S8-S7						
Sex by MS vs 7-9	17. Average						
	18. S6-F6						
	19. S7-S6						
	20. S8-S7						
Sex by MS vs 7-8	21. Average						
	22. S6-F6						
	23. S7-S6						
	24. S8-S7						

ATTACHMENT A

Means, Standard Deviations, and Numbers of Cases

On Dependent Measures for Sex Groups Within School

Groups at Four Points in Time

TABLE A.1
READING COMPREHENSION
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	FALL GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	57.46	67.94	67.96	67.63
	S.D.	19.79	18.17	19.31	18.01
	N =	205	203	209	222
	MALE				
	AVERAGE	57.06	65.91	64.92	64.39
	S.D.	19.50	19.72	21.09	18.11
	N =	162	161	169	184
AVERAGE		57.28	67.04	66.60	66.16
S.D.		19.64	18.87	20.15	18.10
N =		367	364	378	406
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	52.64	63.75	64.25	62.91
	S.D.	20.11	19.32	17.67	17.82
	N =	165	158	170	180
	MALE				
	AVERAGE	51.09	62.76	62.52	60.66
	S.D.	20.74	18.85	18.33	17.67
	N =	141	139	142	149
AVERAGE		51.93	63.28	63.46	61.89
S.D.		20.38	19.07	17.97	17.76
N =		306	297	312	329
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	58.95	68.71	67.67	67.23
	S.D.	16.53	15.18	15.03	15.37
	N =	105	110	102	118
	MALE				
	AVERAGE	60.25	69.93	67.92	66.47
	S.D.	15.86	17.18	16.43	18.10
	N =	85	92	88	94
AVERAGE		59.53	69.27	67.78	66.89
S.D.		16.21	16.09	15.65	16.60
N =		190	202	190	212

NOTE: SCORES ARE SCALED IN NORMAL CURVE EQUIVALENT POINTS.

FALL 6 GRD SCORES ARE FROM THE ITBS WHILE LATER SCORES ARE FROM THE CAT.

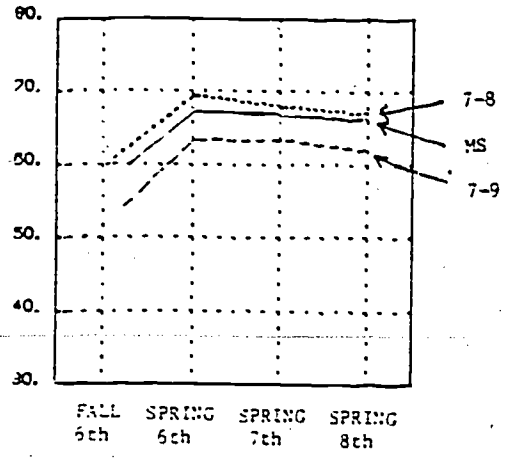
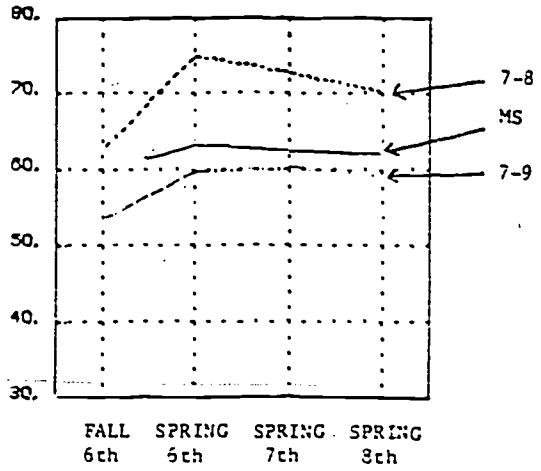


TABLE A.2
MATH PROBLEMS
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	FALL GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	59.64	64.55	64.03	65.48
	S.D.	18.08	18.37	18.21	17.57
	N =	205	201	212	222
	MALE				
	AVERAGE	61.04	61.33	60.33	59.14
	S.D.	20.44	20.33	19.87	18.87
	N =	161	162	172	184
AVERAGE		60.26	63.12	62.37	62.61
S.D.		19.14	19.31	19.04	18.42
N =		366	363	384	406
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	55.33	61.07	61.63	60.63
	S.D.	20.23	19.98	19.36	18.70
	N =	164	155	171	180
	MALE				
	AVERAGE	51.73	58.64	58.66	57.05
	S.D.	22.38	19.67	19.65	18.72
	N =	141	135	144	149
AVERAGE		53.67	59.94	60.27	59.01
S.D.		21.29	19.84	19.52	18.77
N =		305	290	315	329
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	61.95	74.93	74.41	71.74
	S.D.	16.23	16.04	15.11	16.99
	N =	105	110	115	117
	MALE				
	AVERAGE	63.55	74.65	70.53	67.96
	S.D.	20.60	18.77	19.46	19.50
	N =	85	92	92	94
AVERAGE		62.67	74.80	72.69	70.05
S.D.		18.28	17.29	17.24	18.21
N =		190	202	207	211

NOTE: SCORES ARE SCALED IN NORMAL CURVE EQUIVALENT POINTS.



FALL 6 GRD SCORES ARE FROM THE ITBS WHILE LATER SCORES ARE FROM THE CAT.

TABLE A.3
QUALITY OF SCHOOL LIFE
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	.3177	.2515	-.0609	-.2437
	S.D.	.9019	.9617	.9827	.9437
	N =	200	193	213	209
	MALE				
	AVERAGE	.0270	-.2029	-.4447	-.4960
	S.D.	.9934	1.0465	1.0718	.9508
	N =	161	153	171	171
AVERAGE		.1881	.0506	-.2318	-.3572
S.D.		.9535	1.0239	1.0397	.9540
N =		361	346	384	380
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	.1431	.0161	-.4853	-.3737
	S.D.	.9176	1.0271	1.0600	1.0059
	N =	162	153	175	166
	MALE				
	AVERAGE	.0908	-.1279	-.6698	-.5313
	S.D.	.9766	1.0648	.9678	.9124
	N =	133	127	143	142
AVERAGE		.1195	-.0492	-.5682	-.4463
S.D.		.9434	1.0449	1.0222	.9656
N =		295	280	318	308
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	.1749	.1669	-.0750	-.2714
	S.D.	.9699	1.0509	.9611	.8744
	N =	108	108	116	111
	MALE				
	AVERAGE	-.2752	-.3610	-.5316	-.5217
	S.D.	.9786	1.0826	1.0262	.9583
	N =	86	84	95	78
AVERAGE		-.0246	-.0641	-.2806	-.3747
S.D.		.9968	1.0940	1.0145	.9158
N =		194	192	211	189

NOTE: SCORES RANGE FROM -2 TO +2 S.D.UNITS BASED ON THE FALL SIXTH GRADE DISTRIBUTION. A ZERO SCORE REPRESENTS THE FALL GRADE 6 MEAN.

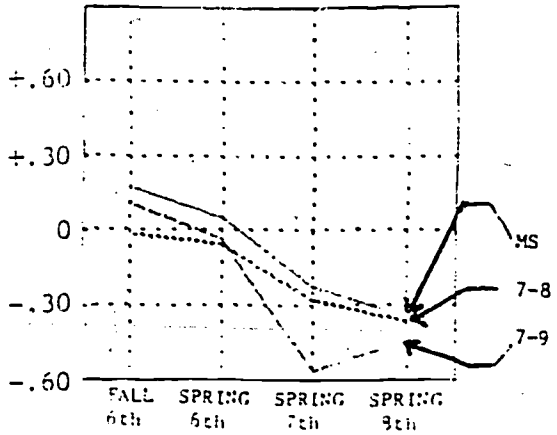


TABLE A.4
TEACHER CONFERS INDEPENDENCE
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	3.1187	3.1164	3.0151	2.8434
	S.D.	.4953	.4683	.5420	.5991
	N =	203	198	219	220
	MALE				
	AVERAGE	3.0170	2.9701	2.7664	2.7639
	S.D.	.5618	.6130	.5838	.6235
	N =	162	158	180	183
AVERAGE		3.0736	3.0515	2.9029	2.8073
S.D.		.5275	.5414	.5741	.6108
N =		365	356	399	403
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.9463	2.8446	2.7244	2.7101
	S.D.	.6069	.6963	.6170	.5573
	N =	161	158	176	178
	MALE				
	AVERAGE	2.9970	2.9248	2.6403	2.6728
	S.D.	.6509	.6548	.6264	.6337
	N =	133	129	144	149
AVERAGE		2.9692	2.8807	2.6866	2.6931
S.D.		.6266	.6779	.6217	.5927
N =		294	287	320	327
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	3.0477	3.0611	2.9720	2.8213
	S.D.	.5122	.4931	.4931	.5267
	N =	107	108	116	115
	MALE				
	AVERAGE	2.9384	2.8345	2.7747	2.6322
	S.D.	.5678	.5855	.6750	.5673
	N =	86	84	95	91
AVERAGE		2.9990	2.9620	2.8832	2.7378
S.D.		.5390	.5458	.5888	.5517
N =		193	192	211	206

SCALE: (1) NOT AT ALL
(2) SOMETIMES
(3) USUALLY
(4) VERY MUCH

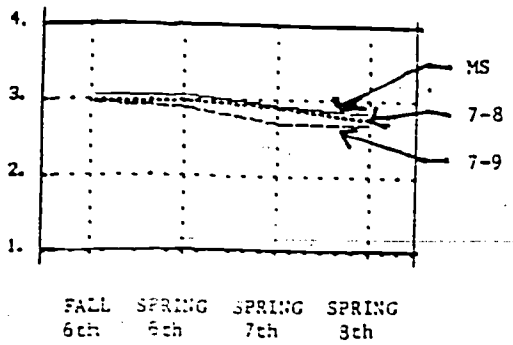


TABLE A.5
TEACHER GIVES SUPPORT
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	2.7424	2.7377	2.5169	2.3083
	S.D.	.6556	.6079	.6057	.6510
	N =	203	197	219	220
	MALE				
	AVERAGE	2.8457	2.6142	2.3881	2.2832
	S.D.	.6553	.7302	.6493	.6862
	N =	162	158	180	181
AVERAGE		2.7882	2.6827	2.4588	2.2970
S.D.		.6566	.6670	.6282	.6664
N =		365	355	399	401
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.6509	2.5195	2.2036	2.1649
	S.D.	.6939	.8303	.6452	.6456
	N =	160	158	174	178
	MALE				
	AVERAGE	2.7605	2.6822	2.2637	2.2498
	S.D.	.6784	.6927	.6622	.6679
	N =	133	129	144	148
AVERAGE		2.7007	2.5926	2.2308	2.2034
S.D.		.6879	.7744	.6526	.6562
N =		293	287	318	326
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.7598	2.6699	2.5196	2.2996
	S.D.	.6947	.6739	.7129	.6227
	N =	107	107	114	115
	MALE				
	AVERAGE	2.6890	2.6343	2.3340	2.2978
	S.D.	.6749	.6871	.7443	.7397
	N =	86	84	94	91
AVERAGE		2.7282	2.6542	2.4358	2.2988
S.D.		.6851	.6782	.7314	.6752
N =		193	191	208	206

SCALE: (1) NOT AT ALL
(2) SOMETIMES
(3) USUALLY
(4) VERY MUCH

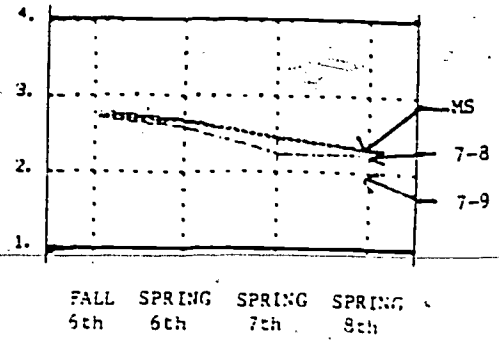


TABLE A.6
"I CAN CHANGE THE SCHOOL"
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	2.0163	2.0823	1.9435	1.7898
	S.D.	.5054	.5249	.5924	.5940
	N =	203	197	218	222
	MALE				
	AVERAGE	1.9550	1.8503	1.9200	1.7878
	S.D.	.5842	.5671	.6705	.5905
	N =	162	158	179	183
AVERAGE		1.9891	1.9790	1.9329	1.7889
S.D.		.5419	.5554	.6281	.5917
N =		365	355	397	405
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	1.7287	1.7470	1.8581	1.8267
	S.D.	.5951	.6576	.5312	.5840
	N =	161	158	176	177
	MALE				
	AVERAGE	1.7969	1.7659	1.6842	1.8131
	S.D.	.5985	.6304	.5181	.5717
	N =	133	129	144	148
AVERAGE		1.7596	1.7555	1.7798	1.8205
S.D.		.5966	.6445	.5317	.5776
N =		294	287	320	325
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.0758	2.0220	1.7713	1.8860
	S.D.	.6019	.5970	.5091	.5589
	N =	106	107	115	114
	MALE				
	AVERAGE	1.9884	1.9278	1.7449	1.7210
	S.D.	.6245	.6500	.6052	.5683
	N =	86	83	94	92
AVERAGE		2.0366	1.9808	1.7594	1.8123
S.D.		.6121	.6208	.5532	.5677
N =		192	190	209	206

SCALE: (3) YES
(2) UNDECIDED
(1) NO

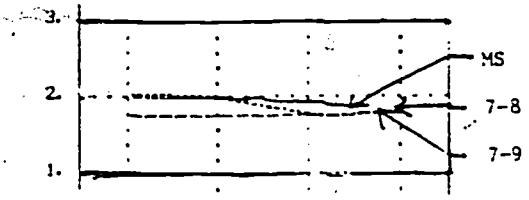


TABLE A.7
FAVORABLE TO PRINCIPAL
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	3.1643	3.0662	3.0387	2.8613
	S.D.	.5714	.6798	.6701	.7346
	N =	203	197	217	220
	MALE				
	AVERAGE	3.0191	2.9299	2.7222	2.7883
	S.D.	.6241	.6448	.8106	.8220
	N =	162	155	178	180
AVERAGE		3.0999	3.0062	2.8961	2.8285
S.D.		.5989	.6671	.7525	.7750
N =		365	352	395	400
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	3.1632	3.1856	3.0294	2.8927
	S.D.	.6518	.7073	.6687	.7671
	N =	161	156	176	178
	MALE				
	AVERAGE	3.1744	3.1000	2.9215	2.7562
	S.D.	.6389	.7600	.7616	.8046
	N =	133	128	143	148
AVERAGE		3.1683	3.1470	2.9810	2.8307
S.D.		.6449	.7315	.7127	.7861
N =		294	284	319	326
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	3.2346	3.1944	3.1513	2.6898
	S.D.	.5106	.5732	.6432	.7520
	N =	107	108	116	114
	MALE				
	AVERAGE	3.0791	2.9976	2.8015	2.4922
	S.D.	.6443	.7097	.8657	.7907
	N =	86	84	95	90
AVERAGE		3.1653	3.1083	2.9938	2.6026
S.D.		.5777	.6423	.7697	.7737
N =		193	192	211	204

SCALE: (1) NOT AT ALL
(2) SOMETIMES
(3) USUALLY
(4) VERY MUCH

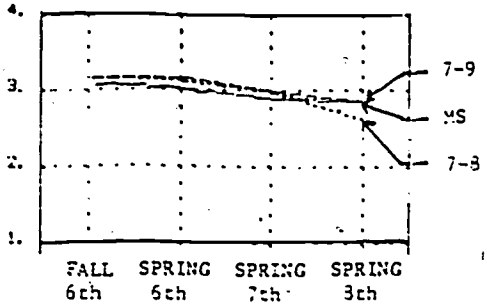
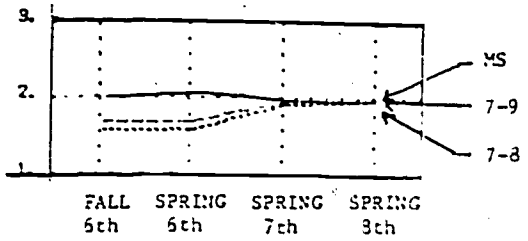


TABLE A.8
COUNSELING
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	2.0626	2.1345	1.9984	1.9610
	S.D.	.5786	.5206	.5397	.5694
	N =	202	197	219	222
	MALE				
	AVERAGE	1.9690	2.0003	1.9260	1.9405
	S.D.	.5195	.5820	.5341	.5146
	N =	161	159	180	182
AVERAGE		2.0211	2.0746	1.9657	1.9517
S.D.		.5544	.5521	.5377	.5449
N =		363	356	399	404
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	1.6607	1.7085	1.9961	1.9303
	S.D.	.5436	.5693	.6401	.5290
	N =	159	158	176	177
	MALE				
	AVERAGE	1.7099	1.7337	1.9468	2.0224
	S.D.	.5097	.8479	.5877	.5795
	N =	133	128	144	149
AVERAGE		1.6831	1.7198	1.9739	1.9724
S.D.		.5281	.7065	.6166	.5537
N =		292	286	320	326
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	1.5679	1.6102	1.8999	1.9507
	S.D.	.4802	.4890	.5309	.5727
	N =	106	108	116	115
	MALE				
	AVERAGE	1.6283	1.5023	1.9537	2.0128
	S.D.	.5171	.4552	.5666	.6237
	N =	86	84	94	91
AVERAGE		1.5949	1.5630	1.9240	1.9782
S.D.		.4967	.4763	.5465	.5951
N =		192	192	210	206

SCALE: (3) YES
(2) UNDECIDED
(1) NO



COOPERATION AMONG PEERS
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	2.3102	2.4040	2.4372	2.3491
	S.D.	.5216	.5566	.5748	.6229
	N =	203	198	219	222
	MALE				
	AVERAGE	2.2917	2.3565	2.2816	2.2523
	S.D.	.6310	.6320	.6300	.6402
	N =	161	159	180	183
AVERAGE		2.3020	2.3829	2.3670	2.3053
S.D.		.5718	.5910	.6046	.6319
N =		364	357	399	405
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.3261	2.2808	2.0950	2.2509
	S.D.	.5707	.6027	.6096	.6529
	N =	161	158	176	178
	MALE				
	AVERAGE	2.2828	2.2370	2.1080	2.1577
	S.D.	.5945	.6093	.6543	.6414
	N =	132	128	144	149
AVERAGE		2.3066	2.2612	2.1008	2.2085
S.D.		.5809	.6050	.6292	.6484
N =		293	286	320	327
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.3145	2.2463	2.2203	2.2797
	S.D.	.5411	.5573	.5863	.6064
	N =	107	107	116	115
	MALE				
	AVERAGE	2.3214	2.3332	2.1109	2.0788
	S.D.	.5492	.5855	.6848	.6842
	N =	86	84	95	91
AVERAGE		2.3176	2.2845	2.1710	2.1909
S.D.		.5433	.5700	.6334	.6481
N =		193	191	211	206

SCALE: (3) YES
(2) UNDECIDED
(1) NO

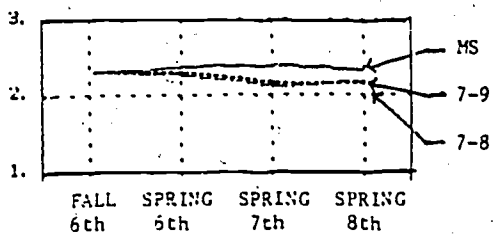


TABLE A.10
6TH GRADERS FIT BEST IN ELEMENTARY SCHOOL
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	1.38	1.38	1.84	1.81
	S.D.	.67	.69	.87	.88
	N =	203	197	219	221
	MALE				
	AVERAGE	1.53	1.64	1.82	1.89
	S.D.	.79	.82	.89	.87
	N =	162	159	180	183
AVERAGE		1.45	1.49	1.83	1.85
S.D.		.73	.76	.87	.88
N =		365	356	399	404
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.28	2.28	2.67	2.67
	S.D.	.83	.87	.65	.72
	N =	160	158	175	179
	MALE				
	AVERAGE	2.57	2.50	2.62	2.63
	S.D.	.73	.76	.68	.75
	N =	132	128	143	149
AVERAGE		2.41	2.38	2.65	2.65
S.D.		.80	.83	.66	.73
N =		292	286	318	328
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.43	2.38	2.85	2.92
	S.D.	.78	.81	.46	.38
	N =	107	108	116	115
	MALE				
	AVERAGE	2.34	2.37	2.72	2.66
	S.D.	.89	.85	.61	.70
	N =	86	83	94	92
AVERAGE		2.39	2.38	2.80	2.81
S.D.		.83	.82	.54	.56
N =		193	191	210	207

SCALE: (3) YES
(2) UNDECIDED
(1) NO

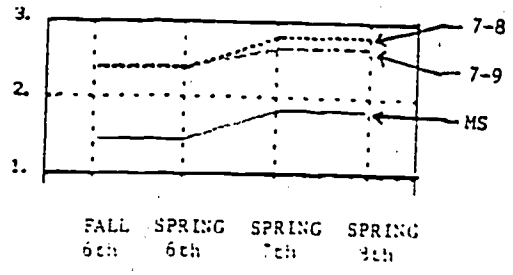


TABLE A.11
"9TH GRADERS CAUSE PROBLEMS"
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	1.35	1.34	1.53	1.72
	S.D.	.60	.59	.74	.83
	N =	201	198	219	221
	MALE				
	AVERAGE	1.36	1.40	1.48	1.70
	S.D.	.69	.68	.73	.82
	N =	159	159	180	183
AVERAGE		1.36	1.37	1.51	1.71
S.D.		.64	.63	.74	.82
N =		360	357	399	404
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	1.52	1.68	2.07	2.28
	S.D.	.67	.81	.87	.87
	N =	159	155	176	179
	MALE				
	AVERAGE	1.53	1.51	1.97	2.09
	S.D.	.74	.76	.89	.86
	N =	131	125	144	149
AVERAGE		1.52	1.60	2.02	2.20
S.D.		.70	.79	.88	.87
N =		290	280	320	328
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	1.44	1.46	1.63	1.63
	S.D.	.69	.66	.81	.76
	N =	107	106	115	115
	MALE				
	AVERAGE	1.58	1.43	1.41	1.65
	S.D.	.77	.67	.69	.87
	N =	86	82	95	92
AVERAGE		1.50	1.45	1.53	1.64
S.D.		.73	.66	.77	.81
N =		193	188	210	207

SCALE: (3) NO
(2) UNDECIDED
(1) YES

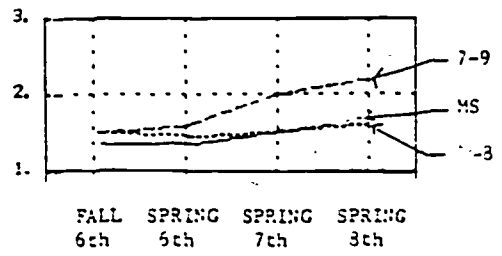


TABLE A.12
SUBSTANCE USE--CIGARETTES, DRUGS, ALCOHOL
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	1.4043	1.6609	2.0875	2.2791
	S.D.	.5700	.7462	.8483	.8680
	N =	203	198	219	218
	MALE				
	AVERAGE	1.5048	1.7002	2.1573	2.2315
	S.D.	.7375	.8198	.8934	.8559
	N =	161	158	176	180
AVERAGE		1.4487	1.6783	2.1186	2.2575
S.D.		.6504	.7788	.8682	.8618
N =		364	356	395	398
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	1.1445	1.2438	2.3467	2.6855
	S.D.	.3067	.4003	.8352	.8085
	N =	161	157	175	177
	MALE				
	AVERAGE	1.1941	1.2470	2.3912	2.7808
	S.D.	.4412	.4641	1.0080	.9513
	N =	132	128	144	149
AVERAGE		1.1669	1.2452	2.3668	2.7290
S.D.		.3735	.4293	.9160	.8766
N =		293	285	319	326
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	1.1536	1.1787	1.6969	1.9241
	S.D.	.2917	.3932	.6220	.7811
	N =	107	108	115	112
	MALE				
	AVERAGE	1.1624	1.3048	1.9491	2.1948
	S.D.	.4733	.6275	.8652	.9084
	N =	86	83	95	89
AVERAGE		1.1576	1.2335	1.8110	2.0439
S.D.		.3823	.5108	.7507	.8484
N =		193	191	210	201

SCALE: "HOW MANY STUDENTS DO YOU KNOW WHO USE..."
(1) NOBODY
(2) LESS THAN 5 STUDENTS
(3) AROUND 10 STUDENTS
(4) MORE THAN 15 STUDENTS

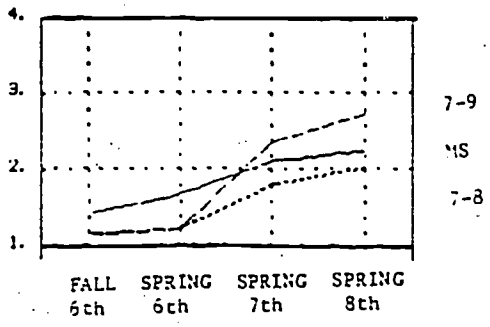


TABLE A.13
DISRUPTIVE CONDUCT--CHEAT, STEAL, ETC.
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	2.2089	2.4154	2.6633	2.9056
	S.D.	.8099	.7914	.7888	.8012
	N =	203	198	218	219
	MALE				
	AVERAGE	2.5494	2.7803	3.0431	3.0778
	S.D.	.8437	.8293	.7678	.7463
	N =	162	157	178	180
AVERAGE		2.3600	2.5768	2.8340	2.9833
S.D.		.8412	.8274	.8011	.7806
N =		365	355	396	399
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.3437	2.4720	2.8310	2.8781
	S.D.	.7047	.7098	.8448	.7946
	N =	160	158	176	177
	MALE				
	AVERAGE	2.3609	2.5176	3.0092	3.0352
	S.D.	.7285	.7499	.8783	.8433
	N =	133	128	144	149
AVERAGE		2.3515	2.4924	2.9112	2.9499
S.D.		.7144	.7271	.8633	.8197
N =		293	286	320	326
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.3590	2.4560	2.5453	2.9010
	S.D.	.8148	.7313	.7369	.7206
	N =	107	108	116	112
	MALE				
	AVERAGE	2.5116	2.5030	2.9763	3.2064
	S.D.	.8251	.7566	.7783	.7365
	N =	86	83	95	88
AVERAGE		2.4270	2.4764	2.7393	3.0354
S.D.		.8208	.7408	.7841	.7415
N =		193	191	211	200

SCALE: "HOW MANY STUDENTS DO YOU KNOW WHO..."
(1) NOBODY
(2) LESS THAN 5 STUDENTS
(3) ABOUT 10 STUDENTS
(4) MORE THAN 15 STUDENTS

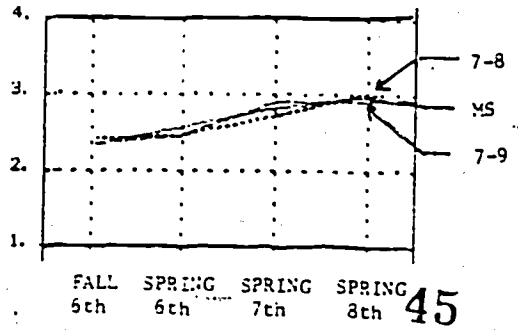


TABLE A.14
HOW MANY SPORTS ACTIVITIES
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	2.3005	2.9318	2.7831	2.5586
	S.D.	1.1206	1.2140	1.2579	1.1646
	N =	203	198	219	222
	MALE				
	AVERAGE	2.6667	3.3428	3.0500	2.8668
	S.D.	1.2461	1.3338	1.2226	1.2718
	N =	162	159	180	184
AVERAGE		2.4630	3.1148	2.9035	2.6983
S.D.		1.1903	1.2833	1.2476	1.2225
N =		365	357	399	406
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.8727	3.2405	2.8011	2.5253
	S.D.	1.2302	1.2988	1.1564	1.1816
	N =	161	158	176	178
	MALE				
	AVERAGE	3.4323	3.6047	3.0486	2.9128
	S.D.	1.2951	1.2604	1.3173	1.2175
	N =	133	129	144	149
AVERAGE		3.1259	3.4042	2.9125	2.7018
S.D.		1.2884	1.2923	1.2356	1.2118
N =		294	287	320	327
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.8551	3.3565	2.7069	2.7739
	S.D.	1.3511	1.2306	1.0896	1.1533
	N =	107	108	116	115
	MALE				
	AVERAGE	3.4535	3.5655	3.0316	2.8152
	S.D.	1.2733	1.1867	1.2565	1.1830
	N =	86	84	95	92
AVERAGE		3.1218	3.4479	2.8531	2.7923
S.D.		1.3470	1.2129	1.1760	1.1639
N =		193	192	211	207

SCALE:
(1) NONE
(2) ONE
(3) TWO
(4) THREE
(5) FOUR OR MORE

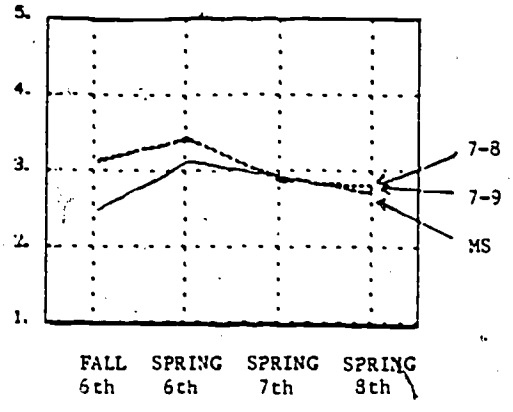


TABLE A.15
HOW MANY MUSIC ACTIVITIES
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	1.4458	1.6515	1.6256	1.6199
	S.D.	.5284	.7087	.7413	.7570
	N =	203	198	219	221
	MALE				
	AVERAGE	1.5370	1.5975	1.5694	1.6495
	S.D.	.7488	.7215	.7451	.8813
	N =	162	159	180	184
AVERAGE		1.4863	1.6275	1.6003	1.6333
S.D.		.6364	.7139	.7426	.8149
N =		365	357	399	405
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.0807	2.1899	1.5597	1.7809
	S.D.	.9235	.9719	.6788	.8955
	N =	161	158	176	178
	MALE				
	AVERAGE	1.8346	1.8140	1.4653	1.5168
	S.D.	.8741	.9015	.6387	.8208
	N =	133	129	144	149
AVERAGE		1.9694	2.0209	1.5172	1.6606
S.D.		.9083	.9578	.6617	.8710
N =		294	287	320	327
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.0888	2.2222	1.7586	1.6957
	S.D.	.8092	.8465	.5691	.7366
	N =	107	108	116	115
	MALE				
	AVERAGE	2.0465	1.8214	1.6632	1.6319
	S.D.	.9599	.7511	.7937	.9001
	N =	86	84	95	91
AVERAGE		2.0699	2.0469	1.7156	1.6675
S.D.		.8774	.8284	.6794	.8114
N =		193	192	211	206

SCALE:
(1) NONE
(2) ONE
(3) TWO
(4) THREE
(5) FOUR OR MORE

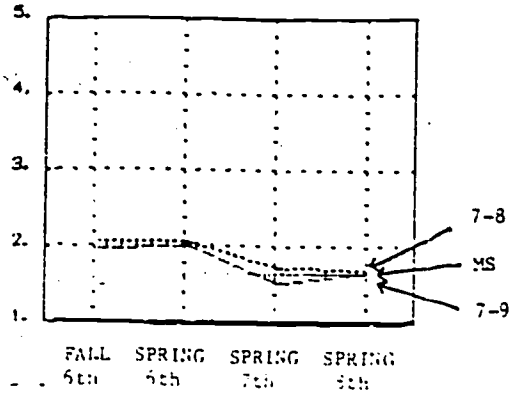


TABLE A.16
HOW MANY SOCIAL ACTIVITIES
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	2.9803	3.5303	3.8379	3.9231
	S.D.	1.2296	1.3364	1.2424	1.1807
	N =	203	198	219	221
	MALE				
	AVERAGE	2.6790	3.0346	3.3000	3.3152
	S.D.	1.2318	1.3408	1.4029	1.3922
	N =	162	159	180	184
AVERAGE		2.8466	3.3095	3.5952	3.6469
S.D.		1.2380	1.3591	1.3426	1.3149
N =		365	357	399	405
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.6087	2.9430	3.4176	3.6461
	S.D.	1.1356	1.2606	1.2503	1.2827
	N =	161	158	176	178
	MALE				
	AVERAGE	2.5113	2.9457	2.7535	3.1115
	S.D.	1.1188	1.1254	1.3458	1.3836
	N =	133	129	144	148
AVERAGE		2.5646	2.9443	3.1187	3.4034
S.D.		1.1272	1.1997	1.3338	1.3539
N =		294	287	320	326
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.7477	3.3472	3.8103	4.0478
	S.D.	1.0582	1.1407	1.2044	1.0471
	N =	107	108	116	115
	MALE				
	AVERAGE	2.7965	2.8452	3.5737	3.2826
	S.D.	1.1124	1.1590	1.2757	1.2931
	N =	86	84	95	92
AVERAGE		2.7694	3.1276	3.7038	3.7077
S.D.		1.0801	1.1726	1.2397	1.2209
N =		193	192	211	207

SCALE:
(1) NONE
(2) ONE
(3) TWO
(4) THREE
(5) FOUR OR MORE

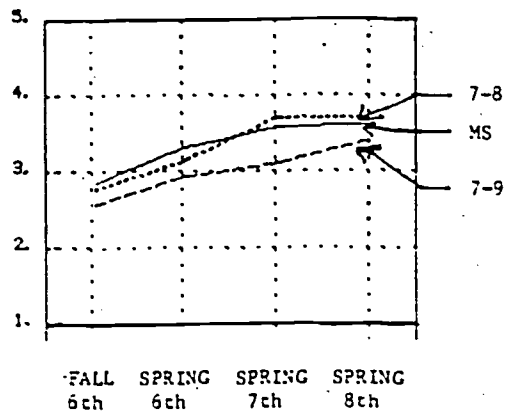


TABLE A.17
"I HAVE GONE ON A FIELD TRIP"
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	2.71	2.80	2.68	2.91
	S.D.	.70	.60	.74	.41
	N =	203	198	219	221
	MALE				
	AVERAGE	2.60	2.77	2.52	2.77
	S.D.	.79	.63	.84	.66
	N =	162	159	180	183
AVERAGE		2.66	2.79	2.60	2.85
S.D.		.74	.61	.79	.54
N =		365	357	399	404
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.16	2.71	2.30	2.43
	S.D.	.98	.69	.95	.91
	N =	161	157	176	179
	MALE				
	AVERAGE	2.17	2.61	2.15	2.35
	S.D.	.96	.79	.97	.92
	N =	133	127	144	149
AVERAGE		2.16	2.67	2.23	2.39
S.D.		.97	.74	.96	.92
N =		294	284	320	328
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	2.93	2.89	2.07	2.06
	S.D.	.38	.46	.99	1.00
	N =	107	108	116	115
	MALE				
	AVERAGE	2.84	2.84	2.19	2.01
	S.D.	.55	.53	.99	.99
	N =	86	83	94	92
AVERAGE		2.89	2.87	2.12	2.04
S.D.		.46	.49	.99	.99
N =		193	191	210	207

SCALE: (3) YES
(2) UNDECIDED
(1) NO

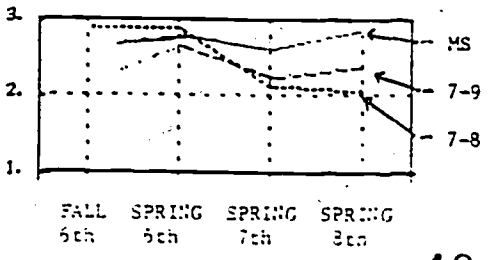


TABLE A.18
I M OKAY
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	-.1227	-.0151	.0721	.0460
	S.D.	.9810	1.0029	.9300	1.0262
	N =	202	190	160	219
	MALE				
	AVERAGE	.1716	.1072	.3786	.2033
	S.D.	.9833	1.0053	.8771	1.0015
	N =	161	157	136	172
AVERAGE		.0078	.0403	.2129	.1152
S.D.		.9915	1.0044	.9174	1.0171
N =		363	347	296	391
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	-.1279	.0651	.1183	.0510
	S.D.	.8937	.8856	.9741	.9498
	N =	159	148	170	176
	MALE				
	AVERAGE	.2068	.2793	.2977	.2857
	S.D.	.9433	.9831	1.0285	1.0916
	N =	129	123	141	148
AVERAGE		.0220	.1623	.1996	.1582
S.D.		.9297	.9355	1.0015	1.0221
N =		288	271	311	324
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	-.0833	.1284	-.1015	-.0539
	S.D.	.9205	.9443	.9655	.9533
	N =	104	103	109	110
	MALE				
	AVERAGE	.2633	.3302	.2910	.1766
	S.D.	.9345	1.0019	.9951	1.0192
	N =	83	81	92	89
AVERAGE		.0705	.2173	.0782	.0492
S.D.		.9402	.9725	.9962	.9875
N =		187	184	201	199

NOTE: SCORES RANGE FROM -2 TO +2 S.D.UNITS BASED ON THE FALL SIXTH GRADE DISTRIBUTION. A ZERO SCORE REPRESENTS THE FALL GRADE 6 MEAN.

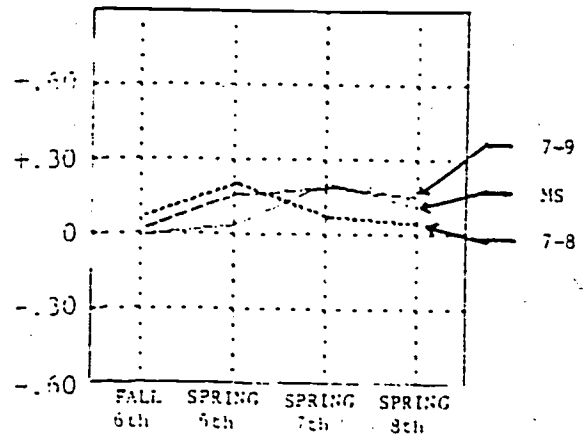


TABLE A.19
HORATIO ALGER
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	.2980	.2774	.1814	.0040
	S.D.	.7723	.8638	.8618	1.0355
	N =	201	189	160	219
	MALE				
	AVERAGE	.0759	.0210	-.1127	-.0428
	S.D.	.9299	.9575	1.0958	.9741
	N =	161	154	135	172
AVERAGE		.1992	.1622	.0468	-.0166
S.D.		.8520	.9146	.9851	1.0080
N =		362	343	295	391
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	.1321	.0418	.1586	.0196
	S.D.	.8540	.9570	.8125	.9444
	N =	159	146	168	176
	MALE				
	AVERAGE	.0029	-.2892	-.2306	-.2833
	S.D.	.8650	1.0341	1.0029	1.1061
	N =	129	122	138	148
AVERAGE		.0743	-.1089	-.0169	-.1188
S.D.		.8598	1.0046	.9224	1.0310
N =		288	268	306	324
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	.0277	.0891	.2692	.0421
	S.D.	.9243	.9139	.8675	1.0139
	N =	104	103	109	110
	MALE				
	AVERAGE	.0905	.0256	.0678	-.2154
	S.D.	.8716	.9723	.9450	1.0913
	N =	83	81	92	89
AVERAGE		.0556	.0611	.1770	-.0731
S.D.		.8994	.9379	.9071	1.0544
N =		187	184	201	199

NOTE: SCORES RANGE FROM -2 TO +2 S.D.UNITS BASED ON THE FALL SIXTH GRADE DISTRIBUTION. A ZERO SCORE REPRESENTS THE FALL GRADE 6 MEAN.

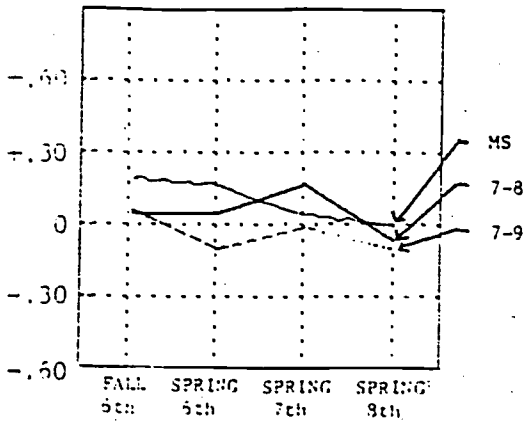


TABLE A.20
BELIEF IN LUCK
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	.1653	.0619	-.0259	-.0937
	S.D.	.9833	.9414	.9278	.9521
	N =	201	189	160	219
	MALE				
	AVERAGE	-.3289	-.3227	-.3444	-.3180
	S.D.	.9197	.9512	1.1074	.9802
	N =	161	154	135	172
AVERAGE		-.0545	-.1108	-.1716	-.1924
S.D.		.9843	.9636	1.0245	.9697
N =		362	343	295	391
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	.2333	.1018	.0893	.1512
	S.D.	.9221	1.0532	1.0587	1.0575
	N =	159	146	168	176
	MALE				
	AVERAGE	-.1302	-.2853	-.2951	-.2083
	S.D.	.9135	.9147	.9689	.9788
	N =	129	122	138	148
AVERAGE		.0705	-.0744	-.0840	-.0130
S.D.		.9343	1.0094	1.0354	1.0363
N =		288	268	306	324
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	.0072	-.2097	-.1109	-.3735
	S.D.	.9118	1.0575	.9788	1.0111
	N =	104	103	109	110
	MALE				
	AVERAGE	-.3288	-.4951	-.2962	-.4770
	S.D.	.9868	1.0299	1.0251	1.0480
	N =	83	81	92	89
AVERAGE		-.1419	-.3353	-.1957	-.4198
S.D.		.9580	1.0522	1.0020	1.0264
N =		187	184	201	199

NOTE: SCORES RANGE FROM -2 TO +2 S.D.UNITS BASED ON THE FALL SIXTH GRADE DISTRIBUTION. A ZERO SCORE REPRESENTS THE FALL GRADE 6 MEAN.

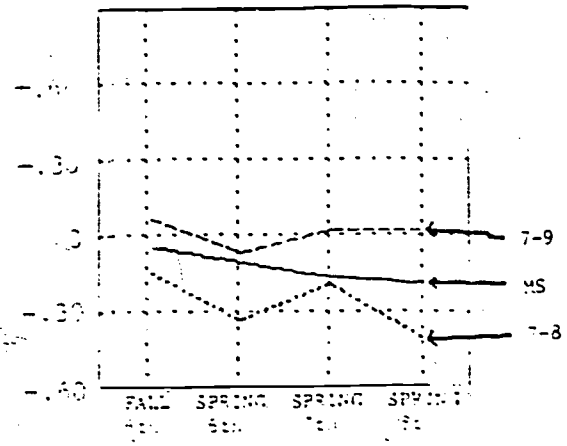


TABLE A.21
ADULT ORIENTED
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	.2617	.2525	.0995	.0313
	S.D.	1.1874	1.1628	1.3170	1.2581
	N =	201	189	160	219
	MALE				
	AVERAGE	.0419	-.0225	-.2341	-.2692
	S.D.	1.1460	1.1637	1.2741	1.3697
	N =	161	154	135	172
AVERAGE		.1639	.1290	-.0532	-.1009
S.D.		1.1727	1.1696	1.3060	1.3152
N =		362	343	295	391
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	.1327	.2951	.0442	-.0080
	S.D.	1.0867	1.1452	1.2239	1.2831
	N =	159	146	168	176
	MALE				
	AVERAGE	-.0550	-.1498	-.2325	-.2753
	S.D.	1.1463	1.2104	1.2531	1.1812
	N =	129	122	138	148
AVERAGE		.0486	.0926	-.0806	-.1301
S.D.		1.1157	1.1939	1.2428	1.2429
N =		288	268	306	324
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	.2404	.4020	.2966	.1137
	S.D.	1.0554	.9420	1.0951	1.3276
	N =	104	103	109	110
	MALE				
	AVERAGE	-.2554	.0056	-.1360	-.3149
	S.D.	1.3145	1.1778	1.2982	1.3122
	N =	83	81	92	89
AVERAGE		.0203	.2275	.0986	-.0780
S.D.		1.1998	1.0677	1.2087	1.3346
N =		187	184	201	199

NOTE: SCORES RANGE FROM -2 TO +2 S.D. UNITS BASED ON THE FALL SIXTH GRADE DISTRIBUTION. A ZERO SCORE REPRESENTS THE FALL GRADE 6 MEAN.

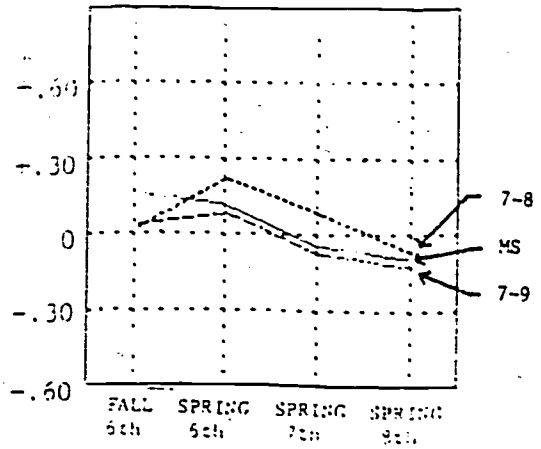


TABLE A.22
PEER ORIENTED
AVERAGE SCORES FOR MIDDLE, 7-9, AND 7-8
JR HIGH SCHOOL GROUPS IN GRADES 6,7,8

TYPE OF SCHOOL	SEX	FALL GD. 6	SPRING GD. 6	SPRING GD. 7	SPRING GD. 8
MIDDLE SCHOOL:	FEMALE				
	AVERAGE	.0891	.3104	.6288	.6513
	S.D.	.9251	1.0761	1.0248	1.1643
	N =	201	189	160	219
	MALE				
	AVERAGE	.1458	.1586	.4059	.6069
	S.D.	.9723	1.0166	.9873	1.0705
	N =	161	154	135	172
AVERAGE		.1143	.2422	.5268	.6318
S.D.		.9455	1.0510	1.0123	1.1228
N =		362	343	295	391
7-9 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	-.0748	.2339	.3921	.5501
	S.D.	.9902	.9842	1.0847	1.1027
	N =	159	146	168	176
	MALE				
	AVERAGE	-.1165	.1487	.3414	.5104
	S.D.	.9248	1.0292	1.0415	1.0321
	N =	129	122	138	148
AVERAGE		-.0935	.1951	.3692	.5319
S.D.		.9600	1.0039	1.0640	1.0696
N =		288	268	306	324
7-8 JR HIGH SCHOOL:	FEMALE				
	AVERAGE	-.0339	.2781	.2189	.6608
	S.D.	.9735	.9743	1.1775	1.0530
	N =	104	103	109	110
	MALE				
	AVERAGE	.2151	.3951	.6362	.9509
	S.D.	.9634	1.1060	.9904	1.1372
	N =	83	81	92	89
AVERAGE		.0766	.3296	.4099	.7906
S.D.		.9744	1.0331	1.1129	1.0982
N =		187	184	201	199

NOTE: SCORES RANGE FROM -2 TO +2 S.D. UNITS BASED ON THE FALL SIXTH GRADE DISTRIBUTION. A ZERO SCORE REPRESENTS THE FALL GRADE 6 MEAN.