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ABSTRACT

This study was conducted to address: (1) the identification of at risk students; (2) the provision of help appropriate to their needs; and (3) discovery of ways to increase those students' probability of succeeding in school and in life. The study analyzed data generated through the Phi Delta Kappa Study of Students at Risk that involved 22,018 students enrolled in 276 elementary, middle and high schools nationwide. Surveys were gathered from 276 principals and 9,652 teachers. A literature review examines general efforts including ability grouping, promotion/retention, reduction in class size, and pull-out programs, as well as specific elementary, secondary, and successful individual programs. Data were collected through survey and interview techniques, and variables (school description, and school personnel attitudes) were compared. Results show that the perceptions of educators dealing with at risk students varied, and the variation was not necessarily associated with the particular school situation in which they worked. Preferred strategies such as removing at risk students to another class are no longer supported as effective tools for increasing the achievement. Thirteen appendices consisting mainly of statistical results of the study. (22 references) (LL)

THE RELATIONSHIPS BETWEEN SCHOOL PERSONNEL ATTITUDES ABOUT AT RISK STUDENTS, THE AT RISKNESS OF THE STUDENT POPULATION, AND EFFORT EXPENDED FOR AT RISK STUDENTS

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INTRODUCTION

The term "students at risk" came into common use in the education arena in the early eighties. It provided a way to talk about those students who were not successful, who did not seem to fit in school. They had always been present, the term "at risk" was simply a label. But the label garnered attention and focused concern. In earlier decades the "drop out" phenomenon had received much emphasis. That notion was expanded by the concept of students at risk such that educators acknowledged that the potential drop out could often be identified as early as the third grade. Earlier intervention was recognized to be a key to solving the problem.

The issues of identifying those at risk and how best to provide help appropriate to their needs have come to the forefront. This study seeks to address those issues and add to the growing knowledge base about students at risk and ways to increase those students' probability of succeeding in school and in life.

A review of literature on strategies for addressing the problems of at risk youth is provided herein. Also within are the methodology and findings of an analysis which examines the relationship between school personnel attitudes about at risk students, the at riskness of the student population, and effort expended for at risk students. Conclusions and implications will also be offered.

LITERATURE REVIEW

A variety of organizational efforts and programs to assist at risk students have been reported in the educational literature. For the purpose of this discussion, the topics are divided into two parts: general efforts and specific programs. Literature specific to the issue of the relationship between school personnel attitudes and efforts for at risk students could not be located.

General Efforts

General efforts include a consideration of the following areas: ability grouping, promotion/retention, reduction in class size, and pull-out programs.

When considering these topics one must acknowledge the work of Robert Slavin and his associates for analyzing and synthesizing the results of research using "best evidence synthesis." Since best evidence synthesis is used in the compilation of much of the research in these areas, it is important to understand the methodology. This method is described in Educational Research (Slavin, 1986) and the elements of the best evidence synthesis are summarized in a later article by Slavin (1987) in the following way:

- "Clearly specified, defensible a priori criteria for inclusion of studies are established.
- All published and unpublished studies that meet these

criteria are located and included.

- Where possible, effect sizes for included studies are computed...
- When effect sizes cannot be computed, effects of studies that meet inclusion criteria are characterized as positive, negative, or zero rather than excluded.
- Apart from computation of effect size and use of well-specified inclusion criteria, best evidence syntheses are identical to traditional narrative reviews. Individual studies and methodological and substantive issues are discussed in the detail typical of the best narrative reviews" (p. 294).

Ability Grouping. Slavin (1987) reviewed the literature on ability grouping in elementary schools and its effect on achievement. He commented that previous reviewers of literature dealing with ability grouping have characterized the evidence as a "muddle or maze." He attributes this notion to the following conditions: secondary and elementary research was combined, good quality research was combined with biased studies, a variety of levels of students was combined, and research on between-class grouping was compared to within-class grouping. In this review, studies selected were limited to those with adequate methodology, that were comprehensive, were on the elementary level with different types of ability grouping reviewed separately. Four principal grouping plans were examined: ability grouped class

assignment, regrouping for reading and/or mathematics, the Joplin Plan, and within-class ability grouping.

Slavin concluded:

> "The best evidence from randomized and matched equivalent studies supports the positive achievement effects of the use of within-class ability grouping in mathematics in the upper grades and of the Joplin Plan in reading. In contrast, there is no support for the practice of assigning students to self contained classes according to general ability or performance level, and there are enough good quality studies of the practice that if there were any effect, it would surely have been detected" (p. 321).

In a similar fashion, Slavin (1990) analyzed the results of ability grouping in the secondary schools on achievement using a best evidence synthesis. Studies included six randomized experiments, nine matched experiments, and fourteen correlational studies. Achievement effects were basically zero for all studies, except for social studies which favored heterogeneous grouping.

This summary includes the following conclusion:

1. Comprehensive between-class ability grouping plans have little or no effect on achievement as measured by standardized tests. (Most strongly supported in grades

7-9, but evidence exists for grades 10-12 as well.)

2. Different forms of ability grouping are equally ineffective.
3. Ability grouping is ineffective in all subjects and there may be a negative effect of ability grouping in social studies.
4. Assigning subjects to different levels of the same course has no consistent positive or negative effects on students of high, average, or low ability (Slavin, 1990).

Promotion/Retention. Studies of the effects of retaining students in grade to improve achievement have been conducted during the whole of the twentieth century reaching the same conclusion.

Jackson's review of existing studies (1975) found no evidence that grade retention for students with academic problems was more beneficial than grade promotion. A meta-analysis of 44 studies selected from a bibliography of 650 entries by Holmes and Matthews (1984) produced similar results. A total of 11,132 pupils were included in these 44 investigations. Results showed that "...promoted groups on the average had achieved .44 standard deviation units higher than the retained group... Each of the sub-areas produced negative mean effect s ze values, indicating that nonpromotion had a negative effect on pupils..."(p. 231).

In addition, results showed negative effects on personal adjustment, self concept and attitude toward school.

Similar conclusions were reached by other researchers and reviewers of research (Johnson, 1984; Finlayson, 1985; Shepard and Smith, 1990), and many educators question the reasons for continuation of the practice of retention (Taylor, 1985; Olson, 1990; Doyle, 1989; Frymier, 1990).

Class Size. The evidence regarding achievement effects of the reduction of class size is mixed and tenuous. Slavin (1988) critiqued the two major reviews that were meta-analyses of the research on class size -- The Glass and Smith meta-analysis of 1982 and the Educational Review Service review of research of 1978. Little evidence was found to support improved achievement due to reduction of class size. A 1986 update of the Educational Review Service, also reported by Slavin, found the effects of class size reduction somewhat promising in grades K-3; that is, 50 percent of the studies cited found differences that favored small classes. Differences were slight in grades 4-8 and nonexistent in grades 9-12. Slavin further considered the characteristics and findings of eight individual studies from the elementary grades. These studies reveal positive effects, but the effects tend to be small and tend to disappear after a few years. He speculates on the reason by suggesting that teachers do not change their behavior in small classes. He suggests that,

"Class size could have a substantial effect on achievement indirectly, in that there may be highly effective instructional programs that could not be successfully implemented in large classes" (p. 254). In the discussion of specific programs in the following section, initial results of the Reading Recovery and Success for All programs add some credence to this hypothesis.

Pull-Out Programs. Chapter One, formerly Title One, programs in school are a result of federal money allocated through the Elementary and Secondary Education Act designed to help disadvantaged students. Most Chapter One programs are pull-out programs because such programs assure meeting the mandate that such funds are used exclusively for disadvantaged students. Madden and Slavin (1987) reported on "effective" pull-out programs in three categories: diagnostic-prescriptive, tutoring, and computer-assisted. Studies were chosen on the basis of criteria of best-evidence syntheses. They found that while most Chapter One programs used diagnostic-prescriptive models, very few showed convincing evidence of success; only five such programs are cited. Six tutoring programs and three computer-assisted programs are also included as successful programs. Thus, positive evidence was gleaned in fourteen instances from a nation's worth of study of nearly two decades. Perhaps that explains why, in a companion study, Slavin and Madden (1987) summarized the effects of pull-out programs in this way:

"... the more time students spent in pull-out programs the

less they learned... the pull-out program is rarely integrated with that provided by the regular classroom teacher... time is lost in transition... and pull-outs rarely increase the total instruction provided to students" (p. 1).

In a 1989 report by Slavin and Madden, titled, "What Works for Students At Risk: A Research Synthesis," they concluded, "Pull-out programs, at best, do no more than keep at risk students in the early grades from falling further behind their peers" (p. 12).

Specific Programs

Descriptions of elementary programs, secondary programs, and successful individual programs follow.

Review of Elementary Programs. Slavin and Madden (1987) examined research on existing programs to assist students at risk. "Program" was defined as a set of procedures that was structured and replicable. Both substantive criteria and methodological criteria were used to determine inclusion of research which employed best-evidence synthesis. Substantive inclusion criteria determined that programs: 1) had to be used for reading and/or math improvement in grades 1 through 6, 2) must be implemented in regular classrooms, and 3) must be applicable to at risk students.

Methodological inclusion criteria were the following: 1) convincing evidence of effectiveness had to be presented, 2) must employ control group designs with random assignment to groups, 3) had to use standardized, broadly based measures and, 4) the programs had to last at least 16 weeks. A wide search of reports led to organize the programs into three categories: continuous progress, individualized instruction, and cooperative learning.

Continuous progress programs include those programs that have students proceed through a hierarchy of skills that involves careful record keeping. The following eleven programs of continuous progress met the criteria for inclusion.

* DISTAR - a direct instruction reading program developed at the University of Oregon
* U-SAIL - Utah System Approach to Individualized Learning
* PEGASUS - Reading is organized in 17 levels with a continuum of skills at each level
* ECRI - Exemplary Center for Reading Instruction
* Project INSTRUCT - a continuous progress program developed in Lincoln, Nebraska
* GEMS - Goal-based Educational Management System, a diagnostic - prescriptive reading program
* Early Childhood Preventative Curriculum - an individualized diagnostic - prescriptive program designed for first grade

- Weslasco Individualized Reading/Language Arts Instruction and Staff Development
- Conceptually Oriented Mathematics Curriculum (COMP)
- Coordinated Learning Integration - Middlesex Basic (CLIMB)
- Outcomes-Driven Developmental Model (ODDM)

The individualized instruction category includes these programs: Matteson Four-Dimensional Reading Program, Andover Individualized Reading System, and Systematic Teaching and Measuring Mathematics. These program results were found in reports submitted to the Joint Dissemination Review Panel (JDRP), U.S. Department of Education. Concerning the number, the authors state,

> "What is noteworthy... is not so much the programs listed there as the programs not listed. A large number of JDRP-approved programs used individualized models, and the broader educational literature has many studies of such methods. Yet very few of these present convincing evidence of effectiveness" (Slavin and Madden, 1987, p.18).

A study of cooperative learning programs yielded two programs: Team Accelerated Instruction and Cooperative Integrated Reading and Composition.

Reviewing the elements of the sixteen programs (11 continuous progress, 3 individualized instruction, and 2 cooperative

learning) Slavin and Madden (1987) considered qualities which seem to affect achievement, making these conclusions:

> "...to make a meaningful difference in student achievement, four elements of classroom organization must be simultaneously addressed: quality of instruction, appropriate level of instruction, incentive, and time...The importance of accommodating student needs while maintaining adequate direct instruction is perhaps greatest for at risk students" (p. 26).

Review of Secondary Programs. A review of secondary programs designed for at risk secondary students by Natriello, McDill, and Pallas (1990) included four categories: 1) programs designed for academic success, 2) programs to provide positive social relationships, 3) programs designed to enhance the relevance of school, and 4) programs to provide supportive conditions outside of school. Several efforts were included in the discussion even though the research evidence for each was characterized by the authors as weak. Programs included: Summer Training and Employment Program (STEP), Upward Bound, Job Corps, Boston Compact, I Have a Dream Program, Chicago Area Project, Kids Place in Seattle, and the New York City Dropout Prevention Initiative. They summarized this review by stating

> "...the practices assembled into specific programs offer a wealth of ideas about ways to respond to the needs of disadvantaged youth. We can take from our review... some

understanding of the information needed...and insights to guide the development of a comprehensive strategy..." (Natriello, McDill, Pallas, 1990, p. 137).

Clearly, the need for careful research evidence of secondary programs is apparent.

Successful Individual Programs. A variety of specific programs have been attempted to help at risk students. Transformation of an inner city elementary school in Los Angeles County occurred through the application of four assumptions. In brief, these assumptions are: 1) Children are proficient language users. 2) Learning languages should occur in rich settings; these can be the regular classrooms. 3) Language development can be monitored through observations in authentic settings. 4) Parents are interested and can be partners in their children's education. Instruction was organized using whole language methodology with intensive staff development featuring demonstrations, observations, coaching and study groups. This effort is described as a program that challenged teachers to question and restructure their beliefs, attitudes, and practices. A rise in achievement test scores has been shown over a three year period (Flores, Cousin, and Diaz, 1991).

The Comprehensive Education Reform Act in Nashville, Tennessee provided mathematics students as tutors for students in an inner-city high school who had failed the state competency test in

mathematics. A year later the experimental school had a greater gain than any other metropolitan Nashville high school in the number of students who passed the competency test (Bain and Achilles, 1986).

Reading Recovery, a program based on a New Zealand model for beginning instruction, has shown achievement results that have persisted over a three year period. Teachers involved in the program have special training and work with children individually for approximately 20 weeks. The session focuses on the child's strengths and immerses the child in reading and writing rather than focusing on skills. The purpose of the program is to "...help children simultaneously use or orchestrate a broad range of strategies..."(Pinnell, 1989, p. 166). The children learn to read by reading while the teacher works "... alongside the child... looking for the teachable moment, offering constant encouragement...and letting the child know when he or she is doing well" (Pinnell, 1989, p. 166). There is a structured daily lesson that is designed to support, not supplant, the regular classroom work in reading.

Success for All is another program designed for beginning reading instruction. It involves the use of reading teachers in two ways. Reading teachers provide one-to-one tutoring for 20 minute periods. During 90 minute reading/language arts periods, reading teachers help to reduce class size, thus allowing a teacher and a

group of students to use the entire period for instruction, reducing the amount of time spent in seatwork. The environment is rich in the supply of trade books available and each class period is spent first reading literature to the child, followed by language development, cooperative reading and writing which includes learning activities built around story structure, prediction, summarization, vocabulary, decoding practice, and story-related writing. Children are assigred 20 minutes of choice reading for homework. Success for All was evaluated in seven schools in Baltimore, Philadelphia, and Berlin, Maryland. Students outperformed matched control students (Slavin, Madden, Karweit, Dolan, and Wasik, 1991).

Considering efforts which show minimal or no achievement results (ability grouping, pull-out programs, retention, reducing class size), it is well to reflect on the qualities of the programs showing success. They provide early intervention with beginning readers; they focus on the abilities of the students, rather than on their deficits; and they provide much direct instruction involved with holistic approaches to reading, writing, and language development, rather than attempting to teach highly specific skills subsumed within the reading process.

Overall, the results of the literature review indicate a need to look at the kind of instruction that is provided more than the organization of schools and students. That is, altering the

instructional approach in the regular classroom appears to have greater benefits than trying to relocate the children or reorganize the school structure via such strategies as grouping, pull-out programs, or retention in grade.

METHODOLOGY

The research described herein is a further analysis of data generated through the Phi Delta Kappa Study of Students at Risk. The original study involved the collection of information from 276 schools at the elementary, middle, and high school levels in 87 communities nationwide. Two hundred seventy-six principals were interviewed and 9,652 teachers were surveyed. Data were also collected in regard to 22,018 students (the original design specified 100 randomly selected students from each of the participating schools). For further information regarding the methodology of the overall study, the reader is referred to the following text: Frymier, Jack R., A Study of Students at Risk: Collaborating to do Research, Bloomington, IN: Phi Delta Kappa, 1989.

The further analysis reported here involves variables from each of the three primary sources: the principal, teacher, and student data. Following is a description of the created variables and their data source.

The principal and teacher data were accessed to provide information as to school personnel behavior and attitudes on five operationally defined factors:

- efficacy: the extent to which school personnel use and believe in 30 strategies for use with at ri students. Examples of strategies include: smaller classes, peer

tutoring, special textbooks, flexible scheduling, referral to a social worker, after school programs (see Appendix A).

- influence over students' in-school behavior (IIN): the extent to which school personnel believe they are able to influence student's skill and attitude development in areas such as reading comprehension, mathematics, writing, higher order thinking, and attitude toward school (see Appendix B).
- characteristics of out of school problems (COUT): the extent to which school personnel believe that students in their school are confronted with situations such as substance abuse, family discord, and crime (see Appendix C).
- influence over students' out-of-school problems (IOUT): the extent to which school personnel believe it is possible for them to help with students' out of school problems (see Appendix D).
- responsibility for out-of-school problems (ROUT): the extent to which school personnel believe they are responsible for helping students cope with out-of-school problems (see Appendix E).

The student data base was accessed to create two variables. One is an indicator of the extent of school effort for at risk students, and the other is an indicator of the severity of the

student population as regards to being at risk. The effort variable is based on how frequently 13 strategies were actually employed with the randomly selected students from each of the 276 participating schools (see Appendix F). The at riskness of the student population is based on information about those students' lives -- specifically how they stand in regard to 45 factors assumed to contribute to being at high risk for failure (see Appendix G).

The first stage of the analysis of data in this study is the reporting of information on each of the survey and interview items which comprised the operationally defined variables used in the study. The second stage is the comparative analyses of these variables.

The research question for the comparative analysis is: How do school personnel that are in four categories of schools (1- high risk/high effort; 2- high risk/low effort; 3- low risk/high effort; and 4- low risk/low effort) compare in terms of their views on:

- efficacy: their belief in and use of special strategies for helping at risk youth
- IIN: their perceived influence over student skill and attitude development
- COUT: the extent to which they perceive their students face out-of-school problems

- IOUT: the extent to which they believe it is possible to help students with out-of-school problems
- ROUT: the extent to which they believe it is their responsibility to help with their students' out-of-school problems

Stated as such, the variables explored in this study were:

<u>School Description Variables:</u>

- effort: extent of effort expended on behalf of at risk students
- at riskness: extent to which the student population is at risk

<u>School Personnel Attitude Variables:</u>

- efficacy: belief in and use of special strategies for at risk students
- IIN: perceived influence over student skill and attitude development
- COUT: perceived extent to which students face out-of-school problems
- IOUT: perceived influence over students' out-of-school problems
- ROUT: perceived responsibility for helping students cope with out-of-school problems

The initial step in the statistical analysis was to categorize schools on the basis of the two school description variables into

one of four possible groups:

Group 1 = a high percentage of at risk students, high efforts expended on behalf of at risk students

Group 2 = a high percentage of at risk students, low efforts expended on behalf of at risk students

Group 3 = a low percentage of at risk students, high efforts expended on behalf of at risk students

Group 4 = a low percentage of at risk students, low efforts expended on behalf of at risk students

Next, a series of analysis of variance (ANOVA) tests were conducted. These tests compared the attitudes of the principals from the four categories of schools on the five previously specified variables (efficacy, IIN, COUT, IOUT, and ROUT). A second series of ANOVA tests were also conducted comparing the attitudes of the teachers from the four categories of schools on these same variables.

The principal data base was used in its entirety because of its smaller size (N=276). That is, when grouped into the four categories of schools, a cell size nearing 30 was desired. The teacher data base, however, being much larger, was subdivided such that only the extreme cases were used, rather than all cases. For the teacher data, therefore, only those schools in the lower and upper quartiles of at riskness of the student population and extent of effort expended on behalf of at risk

students were included in the analysis.

FINDINGS

The findings of this study are organized into the following three categories: 1) a description of the population of respondents, 2) the reporting of the descriptive statistics on individual items from which the created variables were developed, and 3) a reporting of the results of the inferential statistical analyses comparing the four school description categories on each of the five personnel attitude variables.

Population Description

As indicated previously, the total population of principals in this study was 276. The responses of 254 principals were included in this analysis. The distribution of principals by level was fairly even: elementary (85), junior high/middle level (79), and high school (90). The statistical analyses for the principals included the total group.

The teacher respondent group totalled 9,652 with 22 percent at the elementary level, 30 percent at the junior high/middle level, and 48 percent at the high school level. The statistical analyses for the teachers used extreme cases only, with the resulting total population of 2,272. The breakdown by level for the extreme cases of teachers included 21 percent elementary teachers, 25 percent junior high/middle level teachers, and 53 percent high school teachers.

The student data base was inclusive of all "types" of students - both at risk and non-at risk students. The original methodology specified a random selection of 100 students from certain grades of the participating schools' roster (fourth graders, seventh graders, and tenth graders). The total student population included in the study was 22,018. At the elementary level there were 6,173 fourth graders, at the junior high level there were 7,762 seventh graders, and at the senior high level there were 7,417 tenth graders.

The schools which participated in this study were from across the United States, and represented a mix of urban, suburban, and rural communities.

Results of the Individual Items

The descriptive statistics for each of the items which comprise the seven variables being examined in this study are presented in Tables 1 through 7.

[Insert Tables 1 - 7 about here]

Efficacy (Tables 1A-B). The efficacy variable is based upon the use of and belief in 30 special strategies for helping at risk youth. The strategies which teachers indicate they use most often are: notify/confer with parents (95/94%), thinking skills (86%), more time on basic skills (84%), and individualized

instruction (79%). The strategies which teachers believe are most useful are: individualize instruction (91%), smaller classes (86%), more time on basic skills (86%), special teachers (85%), and special education (85%).

The principals use the following strategies regularly: special education (84%), special teachers (84%), and confer with parents (76%). They believe the most effective strategies are: special teachers (91%), special education (87%), individualized instruction (85%), and smaller classes (82%).

The strategies used least often by teachers are: eliminate art and music and say "leave at 16." The strategies used least often by principals are: eliminate art and music, retain in grade, place in low groups, say "leave at 16."

IIN (Table 2). Principals tended to rate influence over students' skill and attitude development higher than did teachers. The principals rated general behavior and mathematics skill development as those over which they had the most influence. They believed they had the least influence over completion of homework. The teachers believed they had the most influence over attention in class, followed by that of listening skills. Teachers rated their influence lowest in the areas of mathematics skills and daily attendance.

COUT (Table 3). Teachers tended more than principals to indicate that the students are confronted by out-of-school problems. Both teachers and principals rated family discord and instability problems higher, and crime problems lower.

IOUT (Table 4). Principals appear to have higher expectations than teachers regarding the possibility of helping students cope with their out-of-school problems. However, principals and teachers both felt they were best able to help in the area of substance and alcohol abuse problems, and least able to help in the areas of family instability and crime.

ROUT (Table 5). Again, principals feel more responsible than teachers for helping students with out-of-school problems. And again, the areas in which school personnel feel most responsible for helping are substance and alcohol abuse.

Thirteen Strategies (Table 6). The "special" strategies used most frequently with all students are computerized instruction (60%) and opportunities for parental involvement (37%). The next most frequently used strategies are flexible scheduling (29%), extra basic skills instruction (28%), and individualized instruction (27%). Strategies employed least frequently are referral to a psychologist (11%) and referral to special education (12%).

Extent of At Riskness (Table 7). Highlights from the data on the randomly selected 22,018 students regarding the forty five factors contributing to at riskness are offered here (Frymier, 1989):

- only 55% of the children live with their real mother and father
- approximately one in seven students has been retained in grade
- 42% of the students do not participate in extracurricular activities
- about 12% of the students are estimated to have a negative or very negative self esteem, while 28% have a 'so-so/in between' self esteem, and 43% have a positive or very positive self-esteem (no estimate is given for the remaining 17%)
- 22% of the students have changed schools during the past year
- one-third to one-fourth of all the students can be considered at risk in that they evidence six or more of the 45 factors that contribute to at riskness
- in many cases school personnel do not have information on students in regard to these factors contributing to at riskness

TABLE 1-A

PERCENTAGE RESPONSES OF TEACHERS ON THE EFFICACY ITEMS

Some students are "at risk." Being "at risk" means being likely to fail at school or even at life. When you have students who are at risk, which of the following strategies do you regularly use. Also indicate how effective each strategy is. Rate the effectiveness of every strategy, even if you do not use it regularly.

	Do You Do This Regularly?		How Effective Is It?	
	Yes	No	Not Very	Very
smaller classes	48.5	51.5	13.5	86.5
computerized instruction	23.6	76.4	49.8	50.2
special teachers	66.5	33.5	15.2	84.8
peer tutoring	63.2	36.8	19.6	80.4
retain in grade	44.3	55.7	51.7	48.3
special education	72.8	27.2	15.6	84.8
vocational courses	49.5	50.5	20.5	79.5
alternative school	37.2	62.8	31.1	68.8
special study skills	68.5	31.5	16.8	83.1
special textbooks	48.3	51.7	29.2	70.8
place in low group	54.7	45.3	44.5	55.5
coping skills	67.4	32.6	17.6	82.4
flexible scheduling	48.5	51.5	31.0	69.0
individualize instruction	79.1	20.8	9.2	90.8
home tutoring	24.0	76.0	37.7	62.3
assign extra homework	22.7	77.3	73.9	26.1
thinking skills	85.9	14.1	16.7	83.2
restrict from sports	33.3	66.7	61.4	38.5
refer to psychologist	59.4	40.6	29.2	70.8
refer to social worker	53.6	46.4	30.3	69.6
confer with parents	94.2	5.8	19.1	80.7
more time on basic skills	84.2	15.8	13.6	86.4
eliminate art and music	6.0	94.0	90.4	9.6
notify parents	95.0	5.0	21.1	78.8
Chapter I program	49.4	50.6	32.7	67.2
teacher aides	47.5	52.5	22.5	77.5
say "leave at 16"	10.0	90.0	84.8	15.1
before school programs	23.7	76.3	53.0	47.0
after school programs	41.8	58.2	37.9	62.1
summer school program	56.5	43.5	29.2	70.7

TABLE 1-B

PERCENTAGE RESPONSES OF PRINCIPALS ON THE EFFICACY ITEMS

Some students are "at risk." Being "at risk" means being likely to fail at school or even at life. When you have students who are at risk, which of the following strategies do you regularly use. Also indicate how effective each strategy is. Rate the effectiveness of every strategy, even if you do not use it regularly.

	Do You Do This Regularly?		How Effective Is It?	
	Yes	No	Not Very	Very
smaller classes	60.1	39.9	17.9	82.1
computerized instruction	39.3	60.7	38.1	61.9
special teachers	83.6	16.4	8.7	91.3
peer tutoring	44.7	55.3	32.4	67.6
retain in grade	1.5	98.5	69.8	30.2
special education	84.0	16.0	12.9	87.0
vocational courses	42.6	57.4	26.6	73.3
alternative school	25.9	74.1	32.8	67.2
special study skills	48.5	51.5	27.5	72.5
special textbooks	47.1	52.9	34.3	65.8
place in low group	1.1	98.9	48.7	51.2
coping skills	53.0	47.0	22.9	77.2
flexible scheduling	43.3	56.7	29.5	70.5
individualize instruction	71.2	28.8	15.0	85.1
home tutoring	21.7	78.3	46.8	53.2
assign extra homework	11.6	88.4	80.1	19.9
thinking skills	49.4	50.6	27.7	72.3
restrict from sports	.4	99.6	53.8	46.1
refer to psychologist	61.5	38.5	30.9	69.2
refer to social worker	45.8	54.2	42.0	58.1
confer with parents	75.9	24.1	23.8	76.1
more time on basic skills	72.1	27.9	22.2	77.8
eliminate art and music	-	100.0	91.0	.9
notify parents	71.3	28.7	29.2	70.8
Chapter I program	61.7	38.3	21.2	78.7
teacher aides	60.1	39.9	20.3	79.7
say "leave at 16"	.4	99.6	92.4	7.7
before school programs	12.7	87.3	53.6	46.4
after school programs	36.9	63.1	37.4	62.6
summer school program	54.1	45.9	30.7	69.3

TABLE 2

MEAN RESPONSES OF TEACHERS AND PRINCIPALS ON THE IIN ITEMS

How much influence do you have over students?

(Rating scale: 1-4; 1 = not very much; 4 = great deal)

		Teachers	Principals
1.	reading comprehension	2.5	3.2
2.	mathematics skills	2.3	3.4
3.	writing skills	2.6	3.3
4.	listening skills	3.0	3.0
5.	daily attendance	2.2	3.0
6.	general behavior in school	2.9	3.4
7.	attitude toward school	2.8	3.0
8.	completion of homework	2.6	2.7
9.	attention in class	3.2	3.1
10.	higher order thinking skills	2.7	2.9

TABLE 3

MEAN RESPONSES OF TEACHERS AND PRINCIPALS ON THE COUT ITEMS

Are your students confronted more or less than students at most other schools with the problems listed below?

(Rating scale: 1-5; 1 = less; 5 = more)

	Teachers	Principals
1. substance abuse	3.0	2.7
2. family discord	3.5	3.3
3. family instability	3.6	3.3
4. crime	2.8	2.5
5. alcohol abuse	3.3	3.1

TABLE 4

MEAN RESPONSES OF TEACHERS AND PRINCIPALS ON THE IOUT ITEMS

Is it possible for you to help your students cope with these problems?

(Rating scale: 1-4; 1 = definitely no; 4 = definitely yes)

	Teachers	Principals
1. substance abuse	2.6	3.2
2. family discord	2.3	2.8
3. family instability	2.2	2.6
4. crime	2.2	2.7
5. alcohol abuse	2.5	3.1

TABLE 5

MEAN RESPONSES OF TEACHERS AND PRINCIPALS ON THE ROUT ITEMS

How responsible do you feel for helping students cope with these problems?

(Rating scale: 1-4; 1 = not at all; 4 = very)

	Teachers	Principals
1. substance abuse	2.7	3.4
2. family discord	2.4	3.0
3. family instability	2.4	2.9
4. crime	2.4	3.0
5. alcohol abuse	2.6	3.4

TABLE 6

USE OF 13 STRATEGIES

The percentage of students for each response option for 13 strategies which may be used with at risk students.

1. Was this student placed in a class that was smaller than typical for instructional purposes?

no	72.8
yes	16.5
don't know	10.7

2. Has this student been provided computerized instruction opportunities?

no	28.8
yes	59.7
don't know	11.5

3. Has this student been referred to special education for diagnosis or instruction?

no	77.6
yes	12.1
don't know	10.2

4. Has this student been placed in a low group or lower track courses?

no	71.9
yes	18.3
don't know	9.8

5. Has the school provided individualized instruction to this student?

no	62.0
yes	27.0
don't know	11.0

6. Has the school provided flexible scheduling for this student?

no	61.3
yes	28.8
don't know	10.0

7. Has the school provided tutoring or other special assistance to this student?

no	67.1
yes	21.7
don't know	11.2

8. Has the school provided extra homework for this student?

no	69.8
yes	15.9
don't know	14.3

9. Has the school provided extra opportunities for parental involvement for this student?

no	48.7
yes	37.5
don't know	13.9

10. Has the school provided extra instruction in the basic skills for this student?

no	60.2
yes	27.8
don't know	12.0

11. Has the school referred this child to the psychologist or for other special services?

no	76.6
yes	10.6
don't know	12.8

12. Has the school provided special instructional materials to this student?

no	65.9
yes	22.2
don't know	10.9

13. Has the school provided special teachers for this student?

no	69.3
yes	19.7
don't know	11.1

TABLE 7

EXTENT OF AT RISKNESS

The percentage of students for each response option of the 45 variables hypothesized to contribute towards at riskness are presented below.

1. Father's occupation

professional	15.4
manager, technician	15.2
skilled labor	26.8
unskilled labor	12.6
househusband	.3
unemployed	4.4
don't know	25.3

2. Father's level of education

did not graduate from high school	7.7
graduated from high school only	19.6
finished 1-3 years postsecondary	7.8
graduated from college	9.8
did post-graduate work	5.4
don't know	49.7

3. Mother's occupation

professional	11.1
manager, technician	8.9
skilled laborer	17.8
unskilled laborer	14.1
housewife	24.1
unemployed	5.4
don't know	18.6

4. Mother's level of education

did not graduate from high school	8.3
graduated from high school only	23.8
finished 1-3 years postsecondary	9.8
graduated from college	9.3
did post-graduate work	3.5
don't know	45.4

5. Number of siblings

none	9.9
one	28.7
two	22.9
three	12.2
four or more	10.5
don't know	15.7

6. Position in family

only child	11.9
eldest	25.8
middle	18.1
youngest	26.1
don't know	18.1

7. Siblings who dropped out of school

none	64.2
one	2.8
two	.7
three	.3
four or more	.2
don't know	31.7

8. Family grouping

real mother, real father	55.4
real mother, step father	4.9
step mother, real father	2.3
real mother only	16.3
real father only	2.1
extended family	3.0
foster parents	.8
institution	.1
don't know	10.1

9. Language used most in the home

English	91.3
Spanish	3.3
Asian	.9
European	.2
Other	.5
Don't know	3.8

10. Estimate of parents' attitudes toward education

very negative	1.4
negative	3.5
so-so/in-between	17.9
positive	31.9
very positive	24.6
don't know	20.7

11. Area or community in which the student resides

rural	18.0
small town	19.7
small city	26.7
suburban	15.4
metropolitan	10.4
inner city urban	7.7
don't know	2.1

12. Number of schools attended by the student during past five years (including this year)

one	28.1
two	35.6
three	21.8
four	5.5
five or more	3.1
don't know	5.9

13. Student's scores on norm-referenced standardized achievement tests in reading

below 20th percentile	9.4
between 21st and 40th percentile	16.0
between 41st and 60th percentile	22.1
between 61st and 80th percentile	19.8
over 80th percentile	19.0
don't know	13.6

14. Student's scores on norm-referenced intelligence or aptitude test

below 80	2.7
81 to 90	6.6
91 to 110	21.6
111 to 120	10.8
above 120	6.7
don't know	51.6

15. Number of courses failed last school year (1987)

none	76.3
one	7.2
two	3.7
three	2.1
four	3.2
don't know	7.5

16. Age relative to other students in same grade level

two years younger than others	1.2
one year younger than others	3.0
same age as others	75.2
one year older than others	13.5
two years older than others	2.8
don't know	4.3

17. Number of times this student has been retained in grade (i.e., held back)

never	78.0
one	12.3
two	1.9
three or more	.2
don't know	7.5

18. Number of days student was absent during the 1987-88 school year

10 or less	66.4
11 to 20	15.3
21 to 30	3.9
31 to 40	1.4
41 or more	1.6
don't know	11.4

19. Number of times student was suspended during the 1987-88 school year (in-school or out-of-school suspension)

none	79.7
one	3.3
two	1.2
three	.6
four or more	.8
don't know	14.4

20. Number of times student was expelled during the 1987-88 school year

none	86.8
one	.4
two	.1
don't know	12.8

21. Number of extra-curricular activities (i.e., school sponsored) in which student currently participates

none	42.1
one	21.0
two	9.4
three	3.8
four or more	2.5
don't know	21.2

22. Teacher's estimate of the student's sense of self esteem

very negative	2.8
negative	9.5
so-so/in-between	27.5
positive	31.9
very positive	11.5
don't know	16.8

23. Average grades student received last year

F	2.8
D	10.3
C	30.2
B	33.5
A	15.8
don't know	7.4

24. Has the student been diagnosed as being in a special education category?

no	82.8
learning disabled	6.4
mentally retarded	.5
physically handicapped	.2
deaf	.1
blind	.0
other	2.7
don't know	7.3

25. Has the student changed his or her place of residence during the past year?

no	73.6
yes	15.7
don't know	10.6

26. Has the student changed the school that he or she attends during the past year?

no	71.8
yes	22.7
don't know	5.5

27. Has either of the student's parents had a major change in health status during the past year?

no	61.3
yes	4.0
don't know	34.7

28. Has the student had either a father or mother die during the past year?

no	72.3
yes	.9
don't know	26.8

29. Did a parent attempt suicide during the past year?

no	61.2
yes	.4
don't know	38.4

30. Did a parent lose his or her job during the past year?

no	59.3
yes	3.9
don't know	36.8

31. Did the student's parents go through a divorce or separation during the past year?

no	65.1
yes	6.8
don't know	28.1

32. Did the student have a close friend who died during the past year?

no	60.0
yes	4.5
don't know	35.5

33. Did the student experience a serious illness or accident during the past year?

no	67.6
yes	3.2
don't know	29.2

34. Did a brother or sister die during the past year?

no	71.1
yes	.5
don't know	28.4

35. Was the student dropped from an athletic team during the past year?

no	70.6
yes	1.3
don't know	28.1

36. Did the student attempt suicide during the past year?

no	70.3
yes	.8
don't know	28.9

37. Did a pregnancy occur during the past year?

no	77.6
yes	.6
don't know	21.9

38. Is there evidence that the student has been using drugs or engaged in substance abuse of any kind during the past year?

no	73.9
yes	2.9
don't know	23.2

39. Is there evidence that the student has been selling or "pushing" drugs of any kind during the past year?

no	76.1
yes	.6
don't know	23.3

40. Is there evidence that anybody in the family has been using drugs or engaged in substance abuse of any kind during the past year?

no	64.8
yes	3.4
don't know	31.8

41. Is there evidence that the student has been drinking alcohol during the past year?

no	71.8
yes	4.5
don't know	23.7

42. Is there evidence that either parent drank excessively or was an alcoholic during the past year?

no	62.9
yes	3.6
don't know	33.5

43. Is there evidence that the student was arrested for driving while intoxicated during the past year?

no	76.0
yes	.2
don't know	23.8

44. Is there evidence that the student was arrested or convicted for any illegal activity during the past year?

no	76.1
yes	1.3
don't know	22.6

45. Is there evidence that the student was abused, sexually or physically, during the past year?

no	71.9
yes	1.8
don't know	26.3

Results of the Comparative Analyses

Table 8 is a summary of the results of the 30 ANOVAs conducted which compare the attitudes of school personnel from the four categories of schools (1- high risk/high effort; 2- high risk/low effort; 3- low risk/high effort; 4- low risk/low effort) on the five school personnel attitude variables. Each of the full ANOVA tables is included in the appendix.

[Insert Table 8 about here]

The outcomes of the analyses follow:

1) Personnel from the four categories of schools do not differ in their mean <u>efficacy</u> scores for either the teacher or principal groups.

2) Personnel from the four categories of schools do not differ in their mean <u>IIN</u> score with the exception that the high school teachers' subgroup varied as follows:

   - the high risk, high effort schools were significantly different from both the high risk, low effort schools and the low risk, low effort schools. The high risk, low effort schools were statistically significantly different from the low risk, high effort schools and the low risk, low effort schools.

TABLE 8 - Results Of Anovas Comparing Four Groups of Schools By Five Attitude Variables -- p Value Provided

DATA BASE	N	EFFICACY	IIN	COUT	IOUT	ROUT
P-1	85	0.4177	0.8818	0.0000 **	0.2497	0.5906
P-2	79	0.2279	0.7400	0.0118 **	0.2397	0.5919
P-3	90	0.2980	0.2630	0.0770	0.8591	0.7597
T-1	486	0.5032	0.0642 *	0.0000 **	0.2484	0.0019 **
T-2	580	0.3980	0.3690	0.0000 **	0.0045 **	0.0089 **
T-3	1206	0.0045 *	0.0002 **	0.0000 **	0.3532	0.5009

EXPLANATORY NOTES (FULL ANOVA TABLES IN APPENDIX)

GROUPS OF SCHOOLS

Group 1 = High risk students, high efforts expended
Group 2 = High risk students, low efforts expended
Group 3 = Low risk students, high efforts expended
Group 4 = Low risk students, low efforts expended

DATA BASE

P = Principals
T = Teachers

1 = Elementary
2 = Jr. High/Middle
3 = Sr. High

DIFFERENCES BETWEEN GROUPS

*No Two Groups Significantly Different At .05 Level
**Differences Between Groups Indicated Below at the .05 level

P-1, COUT GROUPS 1&3, 1&4, 2&4
P-2, COUT GROUPS 1&4
T-1, COUT GROUPS 1&2, 1&3, 1&4, 2&3, 2&4
T-1, ROUT GROUPS 1&4
T-2, COUT GROUPS 1&2, 1&3, 1&4, 2&3, 2&4
T-2, IOUT GROUPS 3&4
T-2, ROUT GROUPS 1&3
T-3, IIN GROUPS 1&2, 1&4, 2&3, 2&4
T-3, COUT GROUPS 1&2, 1&4, 2&3, 2&4

FIVE ATTITUDE VARIABLES

Efficacy = Belief in and use of special strategies for helping at risk youth
IIN = Influence over student skill and attitude development
COUT = Extent to which students face out-of-school problems
IOUT = Extent to which it is possible to help students with out-of-school problems
ROUT = Extent of responsibility for helping with students' out-of-school problems

3) There were significant differences between the four school categories on COUT means for most of the teacher and principal groups at the different grade levels. In fact, all of the groups were significantly different except for the high school principals. The other subgroups differed as follows:

- the elementary and middle level teachers subgroups both differed within their own level in that the high risk, high effort schools were different from all the other categories of schools, and the high risk, low effort schools were different from all the other categories of schools.

- the high school teachers subgroup differed in that the high risk, high effort schools differed from the high risk, low effort schools and the low risk, low effort schools. They also differed in that the high risk, low effort schools were significantly different from the low risk, high effort schools and the low risk, low effort schools.

- the elementary principals subgroup differed in that the high risk, high effort schools were different from the low risk, low effort and the low risk, high effort schools. In addition, the

high risk, low effort schools differed from the low risk, low effort schools.

- the middle level principals subgroup differed as a group in that the high risk, high effort schools differed from the low risk, low effort schools.

4) The schools generally did not differ in their mean IOUT scores except that the middle level teachers subgroup differed as follows:

   - the low risk, high effort schools varied from the low risk, low effort schools.

5) The schools generally did not differ in their relationship to ROUT except that:

   - the elementary teachers subgroup differed in that the high risk, high effort schools were different from the low risk, low effort schools, and

   - the middle level teachers subgroup differed in that the high risk, high effort schools were different from the low risk, high effort schools.

CONCLUSIONS AND DISCUSSION

The conclusions from this study follow.

Based Upon the Literature Review

1) There are a variety of strategies commonly used to address problems of at risk students which do not appear to be helpful -- retention, pull-out programs, ability grouping.
2) Altering the instructional approach within the regular classroom may be more effective than relocating the student or reorganizing the school structure.

Based Upon the Educator Survey and Interview Results

3) Educators believe the more effective strategies for helping at risk students include:
   - working with parents
   - emphasizing thinking skills
   - emphasizing basic skills
   - individualizing instruction
4) Educators would like to be able to use smaller classes, special teachers, and special education more frequently.
5) Principals recognize that retention in grade, encour ing dropping out, and eliminating art and music are not useful strategies.
6) Teachers recognize that eliminating art and music and encouraging dropping out are not useful activities.

7) Principals tend to believe they have greater influence over students in-school behavior and out-of-school problems than do teachers. Principals also feel more responsibility to help with out-of-school problems than do teachers.

8) Teachers are more likely to believe their students face out-of-school problems to a greater extent than do principals.

9) Educators believe they are more able to help students in the area of alcohol/substance abuse, and are less able to help in the areas of family instability and crime.

Based Upon Student Data

10) Strategies that appear to be used most frequently are:
   - computerized instruction
   - parental involvement
   - extra basic skills
   - flexible scheduling

11) One-third to one-fourth of all students can be considered at risk.

Based Upon the Comparative Analyses of the Four Categories of Schools

12) There does not appear to be a relationship between at riskness of the student population, efforts expended for at risk students, and belief in and use of special strategies (efficacy).

13) There is little evidence of a relationship between at riskness of the student population and efforts expended for at risk students with:
   - influence over in-school behavior (IIN)
   - influence over out-of-school problems (IOUT)
   - responsibility for helping students with out-of-school problems (ROUT).

14) There does appear to be a relationship between at riskness of the student population, efforts expended for at risk students, and characteristics of out-of-school problems (COUT). Most of the differences are between high risk and low risk schools, which would be expected. However, there are also differences between low effort and high effort schools.

15) Overall, most of the differences noted are associated with the COUT variable (characteristics of out-of-school problems). Most of the differences are between high risk schools and low risk schools, but there are also differences within the high risk schools on the basis of efforts expended for the at risk population.

One of the most interesting findings in the study was conclusion #4 [illegible] the surveyed educators wished to use special tea[illegible]ial education more frequently as a strategy with at risk [illegible]s. Since such strategies tend to relocate or reorganize the school structure, they may be in conflict with

findings from the literature review which suggest that such strategies are relatively ineffective.

Another interesting finding in the study was the difference found between the perceptions of teachers and principals related to their influence over their students' out-of-school problems. The results showed that the educator closest to the student (i.e. the teacher) felt less control over the students' out-of-school problems. In addition, teachers felt less responsibility than principals for dealing with those problems. Such a contrast is worthy of further study, and might include exploring differences in education and experience.

It is apparent that the at riskness of students is a relevant concern to educators, since it was found that one-third to one-fourth of the student subjects met six or more of the criteria related to at riskness. Although the number of students considered at risk in the study was relatively high, it is interesting to note that the attitudes of personnel in the four school categories did not differ in regard to belief in and use of the special strategies. This would suggest that educators' beliefs in and use of strategies are not related to the at riskness of their students and the efforts they are expending on their behalf. Such a finding is a concern when considering that some of the strategies most referenced by educators are those not necessarily supported by research, such as relocating the

student. Little evidence was also found for differences in perceived influence of in-school behavior, and perceived influence of out-of-school problems.

The attitude variable which was most associated with differences among the four categories of schools, was the perceived extent to which students face out-of-school problems. This was expected, as most of the differences appeared between high risk and low risk schools. However, there were also differences between high risk schools, based on the efforts they expended for the at risk population. This would imply that a school's efforts toward helping students with out-of-school problems has a relationship to perceptions of whether students can indeed by helped with such problems. More investigation in this area is needed to better clarify this relationship. Perhaps one way of encouraging educators to better understand the problems students face out-of-school is to involve them in efforts to help students confront those problems.

In conclusion, it is apparent that the perceptions of educators dealing with at risk students are varied, and not necessarily associated with the particular school situation in which they work. Many of the preferred strategies chosen by these educators, regardless of their school situation (such as removing the student to another class) are no longer supported in the research as effective tools for increasing the achievement of the

at risk student.

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APPENDIX A

EFFICACY VARIABLE

The efficacy variable was created based . compiling the responses to the following items.

Some students are "at risk." Being at risk means being likely to fail at school or even at life. When you have students who are at risk, which of the following strategies do you regularly use? Also indicate how effective each strategy is. Rate the effectiveness of every strategy, even if you do not use it regularly.

	Do you do this regularly?		Is it effective?	
	Yes	No	Yes	No

NOTE: Points were added only when the response was "Yes, I do it regularly," and "Yes, it's effective."

1. smaller class size
2. computerized instruction
3. special teachers
4. peer tutoring
5. retain in grade (reverse scoring)
6. special education
7. vocational courses
8. alternative school
9. special study skills

10. special textbooks
11. place in low group (reverse scoring)
12. emphasize coping skills
13. flexible scheduling
14. individualize instruction
15. home tutoring
16. extra homework
17. emphasize thinking skills
18. restrict from sports (reverse scoring)
19. refer to psychologist
20. refer to social worker
21. confer with parents
22. more time on basic skills
23. eliminate art and music (reverse scoring)
24. notify parents
25. Chapter I program
26. teacher aides
27. say "leave at age 16" (reverse scoring)
28. before school programs
29. after school programs
30. summer school programs

APPENDIX B

IIN VARIABLE

The IIN variable was created by totaling the responses to the following items:

How much influence do you have over students?:

Not very much			Great deal
1	2	3	4

1. reading comprehension
2. mathematics skills
3. writing skills
4. listening skills
5. daily attendance
6. general behavior in school
7. attitude toward school
8. completion of homework
9. attention in class
10. higher order thinking skills

APPENDIX C

COUT VARIABLE

The COUT variable was created by totaling the responses to the following items:

Below is a list of problems that students may be confronted with outside of school. In terms of the problems listed below, are your students confronted less or more than students at most other schools? Use the following scale:

Less				More
1	2	3	4	5

1. substance abuse
2. family discord
3. family instability
4. crime
5. alcohol abuse

APPENDIX D

IOUT VARIABLE

The IOUT variable was created by totaling the responses to the following items:

Is it possible for you to help your students cope with these problems?

Definitely No		Definitely Yes	
1	2	3	4

1. substance abuse
2. family discord
3. family instability
4. crime
5. alcohol abuse

APPENDIX E

ROUT VARIABLE

The ROUT variable was created by totaling the responses to the following items:

How responsible do you feel for helping students cope with these problems?

Not at all			Very
1	2	3	4

1. substance abuse
2. family discord
3. family instability
4. crime
5. alcohol abuse

APPENDIX F

THIRTEEN POTENTIAL STRATEGIES FOR USE WITH AT RISK STUDENTS

1. Was this student placed in a class that was smaller than typical for instructional purposes?
2. Has this student been provided computerized instruction opportunities?
3. Has this student been referred to special education for diagnosis or instruction?
4. Has this student been placed in a low group or lower track class?
5. Has the school provided individualized instruction to this student?
6. Has the school provided flexible scheduling for this student?
7. Has the school provided tutoring or other special assistance to this student?
8. Has the school provided extra homework for this student?
9. Has the school provided extra opportunities for parental involvement for this student?
10. Has the school provided extra instruction in the basic skills for this student?
11. Has the school referred this child to the psychologist or for other special services?
12. Has the school provided special instructional materials to this student?

13. Has the school provided special teachers for this student?

APPENDIX G

45 FACTORS RELATING TO AT RISKNESS

1. Father's Occupation
2. Father's Education
3. Mother's Occupation
4. Mother's Education
5. Number of Siblings
6. Position in Family
7. Sibling Drop Outs
8. Family Grouping
9. Language Used
10. Parent's Attitudes
11. Type of Community
12. Number of Schools
13. Achievement
14. Intelligence
15. Courses Failed
16. Age/Grade
17. Retained
18. Absences
19. Suspended
20. Expelled
21. Extra-Curricular Activities
22. Self-Esteem
23. Grades
24. Special Ed
25. Change Residence
26. Change Schools
27. Parent's Health
28. Death of Parent
29. Parent Attempt Suicide
30. Parent Lost Job
31. Divorce/Separate
32. Death of Friend
33. Illness/Accident
34. Death Sibling
35. Dropped from Team
36. Attempt Suicide
37. Pregnancy
38. Uses Drugs
39. Sells Drugs
40. Family/Drugs
41. Student Alcohol
42. Parent Alcoholic
43. Drunk Driving
44. Arrested
45. Abused

APPENDIX H

ELEMENTARY PRINCIPALS' ANOVAS

ELEMENTARY PRINCIPALS - EFFICACY

---------- ONEWAY ----------

Variable EFFICACY
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	49.2920	16.4307	.9578	.4177
WITHIN GROUPS	69	1183.6943	17.1550		
TOTAL	72	1232.9863			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	26	12.6923	4.2760	.8390	10.9644 TO 14.4202
Grp 2	11	12.4545	4.5687	1.3775	9.3853 TO 15.5238
Grp 3	14	10.4286	4.1642	1.1129	8.0242 TO 12.8329
Grp 4	22	12.0000	3.7285	.7950	10.3467 TO 13.6533
TOTAL	73	12.0137	4.1382	.4843	11.0482 TO 12.9792
	FIXED EFFECTS MODEL		4.1419	.4848	11.0466 TO 12.9808
	RANDOM EFFECTS MODEL			.4848	10.4710 TO 13.5564

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.0412

GROUP	MINIMUM	MAXIMUM
Grp 1	3.0000	23.0000
Grp 2	2.0000	19.0000
Grp 3	2.0000	16.0000
Grp 4	2.0000	19.0000

ELEMENTARY PRINCIPALS - IIN

----------ONEWAY----------

Variable IIN
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	18.0719	6.0240	.3090	.8188
WITHIN GROUPS	79	1540.3137	19.4976		
TOTAL	82	1558.3855			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	32	31.8750	5.2266	.9243	29.9899 TO 33.7601
Grp 2	14	32.7857	3.1422	.8398	30.9714 TO 34.6000
Grp 3	14	32.5000	3.5027	.9361	30.4776 TO 34.5224
Grp 4	23	32.9565	4.2904	.8946	31.1012 TO 34.8118
TOTAL	83	32.4337	4.3594	.4785	31.4818 TO 33.3856
FIXED EFFECTS MODEL			4.4156	.4847	31.4690 TO 33.3985
RANDOM EFFECTS MODEL				.4847	30.8913 TO 33.9762

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.6786

GROUP	MINIMUM	MAXIMUM
Grp 1	22.0000	40.0000
Grp 2	27.0000	37.0000
Grp 3	27.0000	37.0000
Grp 4	26.0000	40.0000

ELEMENTARY PRINCIPALS - COUT

---------- ONEWAY ----------

Variable COUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	545.6558	181.9519	9.8299	.0000
WITHIN GROUPS	81	1499.3207	18.5101		
TOTAL	84	2045.1765			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	32	17.1875	5.0575	.8940	15.3641 TO 19.0109
Grp 2	14	15.7143	4.8287	1.2900	12.9275 TO 18.5011
Grp 3	14	12.4286	3.9157	1.0468	10.1671 TO 14.6900
Grp 4	25	11.4400	2.9166	.5833	10.2361 TO 12.6439
TOTAL	85	14.4706	4.9343	.5352	13.4063 TO 15.5349
FIXED EFFECTS MODEL			4.3023	.4667	13.5421 TO 15.3991
RANDOM EFFECTS MODEL			1.5776	9.4500	TO 19.4912

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 8.0397

GROUP	MINIMUM	MAXIMUM
Grp 1	6.0000	25.0000
Grp 2	8.0000	23.0000
Grp 3	5.0000	16.0000
Grp 4	7.0000	17.0000
TOTAL	5.0000	25.0000

ELEMENTARY PRINCIPALS - IOUT

---------- ONEWAY ----------

Variable IOUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	33.3894	11.1298	1.3969	.2497
WITHIN GROUPS	81	645.3636	7.9675		
TOTAL	84	678.7529			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	32	14.0625	2.6143	.4622	13.1199	TO	15.0051
Grp 2	14	15.5000	3.3912	.9063	13.5420	TO	17.4580
Grp 3	14	15.4286	3.3676	.9000	13.4842	TO	17.3730
Grp 4	25	14.2400	2.3854	.4771	13.2554	TO	15.2246
TOTAL	85	14.5765	2.8426	.3083	13.9633	TO	15.1896
FIXED EFFECTS MODEL			2.8227	.3062	13.9673	TO	15.1856
RANDOM EFFECTS MODEL			.3710		13.3956	TO	15.7573

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.1556

GROUP	MINIMUM	MAXIMUM
Grp 1	10.0000	20.0000
Grp 2	7.0000	20.0000
Grp 3	11.0000	20.0000
Grp 4	10.0000	20.0000
TOTAL	7.0000	20.0000

ELEMENTARY PRINCIPALS - ROUT

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Variable ROUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	20.6368	6.8789	.6414	.5906
WITHIN GROUPS	81	868.6573	10.7242		
TOTAL	84	889.2941			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	32	15.4688	3.1519	.5572	14.3324 TO 16.6051
Grp 2	14	16.4286	3.0813	.8235	14.6495 TO 18.2077
Grp 3	14	16.5000	3.1805	.8500	14.6637 TO 18.3363
Grp 4	25	15.3600	3.5693	.7139	13.8867 TO 16.8333
TOTAL	85	15.7647	3.2537	.3529	15.0629 TO 16.4665
FIXED EFFECTS MODEL			3.2748	.3552	15.058[illegible] TO 16.4714
RANDOM EFFECTS MODEL				.3552	14.6343 TO 16.8951

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.1891

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	20.0000
Grp 2	11.0000	20.0000
Grp 3	10.0000	20.0000
Grp 4	9.0000	20.0000

APPENDIX I

MIDDLE LEVEL PRINCIPALS' ANOVAS

MIDDLE LEVEL PRINCIPALS - EFFICACY

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Variable EFFICACY
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	95.4238	31.8079	1.4789	.2279
WITHIN GROUPS	69	1484.0557	21.5081		
TOTAL	72	1579.4795			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	17	13.3529	4.8726	1.1818	10.8477	TO	15.8582
Grp 2	16	13.7500	4.3282	1.0821	11.4437	TO	16.0563
Grp 3	15	10.6667	4.8206	1.2447	7.9971	TO	13.3362
Grp 4	25	11.9200	4.5545	.9109	10.0400	TO	13.8000
TOTAL	73	12.3973	4.6837	.5482	11.3045	TO	13.4901
FIXED EFFECTS MODEL			4.6377	.5428	11.3144	TO	13.4801
RANDOM EFFECTS MODEL				.6669	10.2750	TO	14.5195

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.5734

GROUP	MINIMUM	MAXIMUM
Grp 1	1.0000	21.0000
Grp 2	4.0000	20.0000
Grp 3	3.0000	20.0000
Grp 4	2.0000	20.0000
TOTAL	1.0000	21.0000

MIDDLE LEVEL PRINCIPALS - IIN

------------------ O N E W A Y ------------------

Variable IIN
By Variable POK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	23.6141	7.8714	.4189	.7400
WITHIN GROUPS	74	1390.6038	18.7919		
TOTAL	77	1414.2179			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	20	30.5500	4.1987	.9389	28.5850	TO	32.5150
Grp 2	16	32.1250	4.2720	1.0680	29.8486	TO	34.4014
Grp 3	16	31.6250	5.4635	1.3659	28.7137	TO	34.5363
Grp 4	26	31.3846	3.6560	.7170	29.9079	TO	32.8613
TOTAL	78	31.3718	4.2856	.4852	30.4055	TO	32.3381
FIXED EFFECTS MODEL			4.3350	.4908	30.3938	TO	32.3498
RANDOM EFFECTS MODEL				.4908	29.8098	TO	32.9338

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.5684

GROUP	MINIMUM	MAXIMUM
Grp 1	22.0000	40.0000
Grp 2	24.0000	40.0000
Grp 3	21.0000	40.0000
Grp 4	21.0000	37.0000

MIDDLE LEVEL PRINCIPALS - COUT

ONEWAY

Variable COUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	133.6705	44.5568	3.9170	.0118
WITHIN GROUPS	74	841.7782	11.3754		
TOTAL	77	975.4487			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	20	16.8000	3.9683	.8873	14.9428 TO 18.6572
Grp 2	16	15.3125	3.7898	.9474	13.2931 TO 17.3319
Grp 3	15	14.2000	3.0519	.7880	12.5099 TO 15.8901
Grp 4	27	13.5185	2.7508	.5294	12.4303 TO 14.6067
TOTAL	78	14.8590	3.5592	.4030	14.0565 TO 15.6615
FIXED EFFECTS MODEL			3.3727	.3819	14.0980 TO 15.6199
RANDOM EFFECTS MODEL				.7779	12.3835 TO 17.3345

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 1.7355

GROUP	MINIMUM	MAXIMUM
Grp 1	10.0000	25.0000
Grp 2	8.0000	22.0000
Grp 3	9.0000	20.0000
Grp 4	9.0000	19.0000
TOTAL	8.0000	25.0000

MIDDLE LEVEL PRINCIPALS - IOUT

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Variable IOUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	44.7412	14.9137	1.4337	.2397
WITHIN GROUPS	75	780.1449	10.4019		
TOTAL	78	824.8861			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	20	14.6500	3.7595	.8407	12.8905	TO	16.4095
Grp 2	16	15.8750	3.8101	.9525	13.8448	TO	17.9052
Grp 3	16	15.8125	2.7379	.6845	14.3536	TO	17.2714
Grp 4	27	14.1481	2.6414	.5083	13.1032	TO	15.1931
TOTAL	79	14.9620	3.2520	.3659	14.2336	TO	15.6904
FIXED EFFECTS MODEL			3.2252	.3629	14.2392	TO	15.6849
RANDOM EFFECTS MODEL				.4391	13.5647	TO	16.3594

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.2325

GROUP	MINIMUM	MAXIMUM
Grp 1	8.0000	20.0000
Grp 2	7.0000	20.0000
Grp 3	12.0000	20.0000
Grp 4	9.0000	19.0000
TOTAL	7.0000	20.0000

MIDDLE LEVEL PRINCIPALS - ROUT

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Variable ROUT
By Variable PIN

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	18.6024	6.2008	.6396	.5919
WITHIN GROUPS	75	727.0685	9.6942		
TOTAL	78	745.6709			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	20	17.1500	2.9961	.6699	15.7478	TO	18.5522
Grp 2	16	15.7500	3.9243	.9811	13.6589	TO	17.8411
Grp 3	16	16.7500	2.6957	.6739	15.3136	TO	18.1864
Grp 4	27	16.4074	2.8858	.5554	15.2658	TO	17.5490
TOTAL	79	16.5316	3.0919	.3479	15.8391	TO	17.2242
	FIXED EFFECTS MODEL		3.1136	.3503	15.8338	TO	17.2295
	RANDOM EFFECTS MODEL			.3503	15.4168	TO	17.6464

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.1800

GROUP	MINIMUM	MAXIMUM
Grp 1	10.0000	20.0000
Grp 2	6.0000	20.0000
Grp 3	13.0000	20.0000
Grp 4	8.0000	20.0000

APPENDIX J

SENIOR HIGH PRINCIPALS' ANOVAS

SENIOR HIGH PRINCIPALS - EFFICACY

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Variable EFFICACY
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	88.6493	29.5498	1.2506	.2980
WITHIN GROUPS	70	1653.7291	23.6247		
TOTAL	73	1742.3784			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	20	12.7500	5.2302	1.1695	10.3022 TO 15.1978
Grp 2	14	10.0714	5.0454	1.3484	7.1583 TO 12.9846
Grp 3	18	12.3889	4.1606	.9807	10.3199 TO 14.4579
Grp 4	22	10.6818	4.9221	1.0494	8.4995 TO 12.8642
TOTAL	74	11.5405	4.8855	.5679	10.4087 TO 12.6724
FIXED EFFECTS MODEL			4.8605	.5650	10.4136 TO 12.6674
RANDOM EFFECTS MODEL			.6341	9.5226	TO 13.5585

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.3230

GROUP	MINIMUM	MAXIMUM
Grp 1	2.0000	23.0000
Grp 2	3.0000	19.0000
Grp 3	6.0000	20.0000
Grp 4	2.0000	17.0000
TOTAL	2.0000	23.0000

SENIOR HIGH PRINCIPALS - IIN

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Variable IIN
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	65.1383	21.7128	1.3523	.2630
WITHIN GROUPS	85	1364.8167	16.0567		
TOTAL	88	1429.9551			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	23	27.8261	4.2282	.8816	25.9977	TO	29.6545
Grp 2	21	28.6190	4.1410	.9036	26.7341	TO	30.5040
Grp 3	20	29.8000	3.9014	.8724	27.9741	TO	31.6259
Grp 4	25	29.8400	3.7603	.7521	26.2878	TO	31.3922
TOTAL	89	29.0225	4.0311	.4273	28.1733	TO	29.8716
FIXED EFFECTS MODEL			4.0071	.4247	28.1780	TO	29.8670
RANDOM EFFECTS MODEL				.4946	27.4486	TO	30.5964

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.2548

GROUP	MINIMUM	MAXIMUM
Grp 1	20.0000	34.0000
Grp 2	19.0000	36.0000
Grp 3	24.0000	40.0000
Grp 4	25.0000	40.0000
TOTAL	19.0000	40.0000

SENIOR HIGH PRINCIPALS - COUT

---------- ONEWAY ----------

Variable COUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	59.6598	19.8866	2.3613	.0770
WITHIN GROUPS	86	724.2957	8.4220		
TOTAL	89	783.9556			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	24	16.7500	3.2202	.6573	15.3902 TO 18.1098
Grp 2	21	14.7143	2.7594	.6022	13.4582 TO 15.9703
Grp 3	20	15.1500	2.5397	.5679	13.9614 TO 16.3386
Grp 4	25	14.9600	2.9648	.5930	13.7362 TO 16.1838
TOTAL	90	15.4222	2.9679	.3128	14.8006 TO 16.0438
FIXED EFFECTS MODEL			2.9021	.3059	14.8141 TO 16.0303
RANDOM EFFECTS MODEL			.4716	13.9215	TO 16.9230

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.5110

GROUP	MINIMUM	MAXIMUM
Grp 1	12.0000	25.0000
Grp 2	10.0000	21.0000
Grp 3	10.0000	19.0000
Grp 4	10.0000	22.0000
TOTAL	10.0000	25.0000

SENIOR HIGH PRINCIPALS - IOUT

ONEWAY

Variable IOUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	6.3238	2.1079	.2528	.8591
WITHIN GROUPS	85	708.6650	8.3372		
TOTAL	88	714.9888			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	24	13.8750	3.1390	.6407	12.5495 TO 15.2005
Grp 2	20	13.8000	2.6077	.5831	12.5796 TO 15.0204
Grp 3	20	14.5000	3.3007	.7381	12.9552 TO 16.0448
Grp 4	25	13.9200	2.4651	.4930	12.9025 TO 14.9375
TOTAL	89	14.0112	2.8504	.3021	13.4108 TO 14.6117
FIXED EFFECTS MODEL			2.8874	.3061	13.4027 TO 14.6198
RANDOM EFFECTS MODEL			.3061		13.0372 TO 14.9853

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.2810

GROUP	MINIMUM	MAXIMUM
Grp 1	8.0000	20.0000
Grp 2	9.0000	20.0000
Grp 3	10.0000	20.0000
Grp 4	7.0000	20.0000

SENIOR HIGH PRINCIPALS - ROUT

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Variable ROUT
By Variable PI#.

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	11.6876	3.8959	.3910	.7597
WITHIN GROUPS	86	856.8124	9.9629		
TOTAL	89	868.5000			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	24	15.7500	2.2312	.4554	14.8078 TO 16.6922
Grp 2	21	15.0476	4.1046	.8957	13.1792 TO 16.9160
Grp 3	20	15.0000	2.6157	.5849	13.7758 TO 16.2242
Grp 4	25	14.8400	3.3872	.6774	13.4418 TO 16.2382
TOTAL	90	15.1667	3.1238	.3293	14.5124 TO 15.8209
FIXED EFFECTS MODEL			3.1564	.3327	14.5053 TO 15.8281
RANDOM EFFECTS MODEL				.3327	14.1078 TO 16.2255

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.2704

GROUP	MINIMUM	MAXIMUM
Grp 1	12.0000	20.0000
Grp 2	5.0000	20.0000
Grp 3	10.0000	20.0000
Grp 4	9.0000	20.0000

APPENDIX K

ELEMENTARY TEACHERS' ANOVAS

ELEMENTARY TEACHERS - EFFICACY

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Variable EFFICACY
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	38.4785	12.8262	.7846	.5032
WITHIN GROUPS	330	5394.4587	16.3468		
TOTAL	333	5432.9371			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	148	16.8311	3.9286	.3229	16.1929	TO	17.4693
Grp 2	31	17.9032	4.2611	.7653	16.3402	TO	19.4662
Grp 3	48	17.5000	4.5803	.6611	16.1700	TO	18.8300
Grp 4	107	17.1682	3.8790	.3750	16.4247	TO	17.9117
TOTAL	334	17.1347	4.0392	.2210	16.[illegible]	TO	17.5695
	FIXED EFFECTS MODEL		4.0431	.2212	16.6995	TO	17.5699
	RANDOM EFFECTS MODEL			.2212	16.4307	TO	17.8388

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.0471

GROUP	MINIMUM	MAXIMUM
Grp 1	2.0000	25.0000
Grp 2	7.0000	25.0000
Grp 3	7.0000	27.0000
Grp 4	9.0000	28.0000

ELEMENTARY TEACHERS - IIN

----------ONEWAY----------

Variable IIN
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	244.1706	81.3902	2.4343	.0642
WITHIN GROUPS	460	15380.1397	33.4351		
TOTAL	463	15624.3103			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	187	29.5989	6.1360	.4487	28.7137 TO 30.4841
Grp 2	45	27.2667	5.5530	.8278	25.5933 TO 28.9350
Grp 3	79	29.9747	5.0813	.5717	28.8365 TO 31.1128
Grp 4	153	29.6078	5.7391	.4640	28.6912 TO 30.5245
TOTAL	464	29.4397	5.8091	.2697	28.9097 TO 29.9696
FIXED EFFECTS MODEL			5.7823	.2684	28.9121 TO 29.9672
RANDOM EFFECTS MODEL				.4594	27.9776 TO 30.9017

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.4491

GROUP	MINIMUM	MAXIMUM
Grp 1	10.0000	40.0000
Grp 2	14.0000	39.0000
Grp 3	18.0000	40.0000
Grp 4	10.0000	40.0000
TOTAL	10.0000	40.0000

ELEMENTARY TEACHERS - COUT

---------- ONEWAY ----------

Variable COUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	2957.9704	985.9901	46.1434	.0000
WITHIN GROUPS	482	10299.3629	21.3680		
TOTAL	485	13257.3333			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	196	17.2245	5.1262	.3662	16.5024 TO 17.9466
Grp 2	48	19.7292	4.4661	.6446	18.4323 TO 21.0260
Grp 3	83	13.3735	4.6136	.5064	12.3661 TO 14.3809
Grp 4	159	12.8113	3.9717	.3150	12.1892 TO 13.4334
TOTAL	486	15.3704	5.2283	.2372	14.9044 TO 15.8364
FIXED EFFECTS MODEL			4.6226	.2097	14.9584 TO 15.7824
RANDOM EFFECTS MODEL			1.6437	10.1395	TO 20.6012

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 8.6122

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	25.0000
Grp 2	8.0000	25.0000
Grp 3	5.0000	25.0000
Grp 4	5.0000	25.0000
TOTAL	5.0000	25.0000

ELEMENTARY TEACHERS - IOUT

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Variable IOUT
By Variable PUK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	57.9612	19.3204	1.3792	.2484
WITHIN GROUPS	480	6723.8239	14.0080		
TOTAL	483	6781.7851			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	196	12.6020	3.8021	.2716	12.0664	TO	13.1377
Grp 2	48	12.1458	3.3069	.4773	11.1856	TO	13.1061
Grp 3	83	11.6145	3.6117	.3964	10.8258	TO	12.4031
Grp 4	157	12.2739	3.8574	.3079	11.6658	TO	12.8820
TOTAL	484	12.2810	3.7471	.1703	11.9463	TO	12.6157
FIXED EFFECTS MODEL			3.7427	.1701	11.9467	TO	12.6153
RANDOM EFFECTS MODEL				.2089	11.6163	TO	12.9457

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.0476

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	20.0000
Grp 2	7.0000	20.0000
Grp 3	5.0000	20.0000
Grp 4	5.0000	20.0000
TOTAL	5.0000	20.0000

ELEMENTARY TEACHERS - ROUT

----------ONEWAY----------

Variable ROUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	213.0677	71.0226	5.0403	.0019
WITHIN GROUPS	480	6763.6823	14.0910		
TOTAL	483	6976.7500			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	196	13.8673	3.9733	.2838	13.3076	TO	14.4271
Grp 2	46	13.8696	3.4935	.5151	12.8321	TO	14.9070
Grp 3	83	12.5783	3.5583	.3906	11.8013	TO	13.3553
Grp 4	159	12.5220	3.6437	.2890	11.9513	TO	13.0927
TOTAL	484	13.2045	3.8006	.1728	12.8651	TO	13.5440
FIXED EFFECTS MODEL			3.7538	.1706	12.8693	TO	13.5398
RANDOM EFFECTS MODEL				.4335	11.8250	TO	14.5841

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.5117

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	20.0000
Grp 2	7.0000	20.0000
Grp 3	5.0000	20.0000
Grp 4	5.0000	20.0000
TOTAL	5.0000	20.0000

APPENDIX L

MIDDLE LEVEL TEACHERS' ANOVAS

MIDDLE LEVEL TEACHERS - EFFICACY

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Variable EFFICACY
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	74.6637	24.8879	.9893	.3980
WITHIN GROUPS	326	8201.4242	25.1577		
TOTAL	329	8276.0879			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	72	15.2500	5.7181	.6739	13.9063 TO 16.5937
Grp 2	64	16.0156	4.8354	.6044	14.8078 TO 17.2235
Grp 3	46	16.3261	4.9309	.7270	14.8618 TO 17.7904
Grp 4	148	16.4662	4.7472	.3902	15.6950 TO 17.2374
TOTAL	330	16.0939	5.0155	.2761	15.5508 TO 16.6371
	FIXED EFFECTS MODEL		5.0157	.2761	15.5508 TO 16.6371
	RANDOM EFFECTS MODEL			.2761	15.2153 TO 16.9726

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.0035

GROUP	MINIMUM	MAXIMUM
Grp 1	3.0000	27.0000
Grp 2	6.0000	27.0000
Grp 3	7.0000	26.0000
Grp 4	6.0000	26.0000

MIDDLE LEVEL TEACHERS - IIN

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Variable IIN
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	83.4281	27.8094	1.0523	.3690
WITHIN GROUPS	540	14271.2906	26.4283		
TOTAL	543	14354.7188			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	110	26.4273	5.4478	.5194	25.3978 TO 27.4568
Grp 2	110	26.1273	5.2219	.4979	25.1405 TO 27.1141
Grp 3	100	25.6600	4.9344	.4934	24.6809 TO 26.6391
Grp 4	224	26.7143	5.0352	.3364	26.0513 TO 27.3773
TOTAL	544	26.3438	5.1416	.2204	25.9107 TO 26.7768
FIXED EFFECTS MODEL			5.1408	.2204	25.9108 TO 26.7767
RANDOM EFFECTS MODEL				.2272	25.6207 TO 27.0668

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.0107

GROUP	MINIMUM	MAXIMUM
Grp 1	14.0000	38.0000
Grp 2	13.0000	40.0000
Grp 3	13.0000	36.0000
Grp 4	10.0000	40.0000
TOTAL	10.0000	40.0000

MIDDLE LEVEL TEACHERS - COUT

ONEWAY

Variable COUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	3460.9162	1153.6387	73.0391	.0000
WITHIN GROUPS	573	9050.4217	15.7948		
TOTAL	576	12511.3380			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	117	19.8803	4.4628	.4126	19.0632	TO	20.6975
Grp 2	122	17.4262	4.9408	.4473	16.5406	TO	18.3118
Grp 3	105	13.3905	3.0556	.2982	12.7992	TO	13.9818
Grp 4	233	14.2146	3.4835	.2282	13.7650	TO	14.6642
TOTAL	577	15.8925	4.6606	.1940	15.5115	TO	16.2736
FIXED EFFECTS MODEL		3.9743	.1655	15.5676	TO	16.2175	
RANDOM EFFECTS MODEL			1.5333	11.0130	TO	20.7721	

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 8.2396

GROUP	MINIMUM	MAXIMUM
Grp 1	6.0000	25.0000
Grp 2	5.0000	25.0000
Grp 3	6.0000	22.0000
Grp 4	5.0000	25.0000
TOTAL	5.0000	25.0000

MIDDLE LEVEL TEACHERS - IOUT

----------------ONEWAY----------------

Variable IOUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	172.8063	57.6021	4.4065	.0045
WITHIN GROUPS	572	7477.1503	13.0719		
TOTAL	575	7649.9566			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	116	11.4138	3.7232	.3457	10.7291	TO	12.0985
Grp 2	123	11.3821	3.8058	.3432	10.7028	TO	12.0614
Grp 3	105	10.5048	2.6930	.2628	9.9836	TO	11.0259
Grp 4	232	12.0345	3.8146	.2505	11.5410	TO	12.5280
TOTAL	576	11.4913	3.6475	.1520	11.1928	TO	11.7898
FIXED EFFECTS MODEL			3.6155	.1506	11.1954	TO	11.7872
RANDOM EFFECTS MODEL				.3371	10.4186	TO	12.5640

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.3228

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	20.0000
Grp 2	5.0000	20.0000
Grp 3	5.0000	17.0000
Grp 4	5.0000	20.0000
TOTAL	5.0000	20.0000

MIDDLE LEVEL TEACHERS - ROUT

----------ONEWAY----------

Variable ROUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	171.7992	57.2664	3.9021	.0089
WITHIN GROUPS	576	8453.2353	14.6756		
TOTAL	579	8625.0345			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	116	13.0000	3.9497	.3667	12.2736 TO 13.7264
Grp 2	124	12.3790	4.3216	.3881	11.6108 TO 13.1472
Grp 3	105	11.2857	2.9046	.2835	10.7236 TO 11.8478
Grp 4	235	12.4766	3.8590	.2517	11.9806 TO 12.9725
TOTAL	580	12.3448	3.8596	.1603	12.0301 TO 12.6596
FIXED EFFECTS MODEL			3.8309	.1591	12.0324 TO 12.6573
RANDOM EFFECTS MODEL				.3348	11.2793 TO 13.4103

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.3071

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	20.0000
Grp 2	5.0000	20.0000
Grp 3	5.0000	20.0000
Grp 4	5.0000	20.0000
TOTAL	5.0000	20.0000

APPENDIX M

SENIOR HIGH TEACHERS' ANOVAS

SENIOR HIGH TEACHERS - EFFICACY

ONEWAY

Variable EFFICACY
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	347.9421	115.9807	4.3916	.0045
WITHIN GROUPS	706	18645.2973	26.4098		
TOTAL	709	18993.2394			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN	
Grp 1	355	15.9408	5.2037	.2762	15.3977 TO	16.4840
Grp 2	100	14.4700	5.6737	.5674	13.3442 TO	15.5958
Grp 3	64	16.3125	5.8252	.7281	14.8574 TO	17.7676
Grp 4	191	14.6597	4.4337	.3208	14.0269 TO	15.2925
TOTAL	710	15.4225	5.1758	.1942	15.0412 TO	15.8039
FIXED EFFECTS MODEL		5.1390	.1929	15.0439 TO	15.8012	
RANDOM EFFECTS MODEL			.4912	13.8593 TO	16.9858	

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.5826

GROUP	MINIMUM	MAXIMUM
Grp 1	2.0000	30.0000
Grp 2	2.0000	26.0000
Grp 3	3.0000	28.0000
Grp 4	4.0000	28.0000
TOTAL	2.0000	30.0000

SENIOR HIGH TEACHERS - IIN

ONEWAY

Variable IIN
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	574.4109	191.4703	6.4921	.0002
WITHIN GROUPS	1170	34506.6965	29.4929		
TOTAL	1173	35081.1073			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	591	25.9695	5.5564	.2286	25.5207 TO 26.4184
Grp 2	167	23.9102	6.1329	.4746	22.9732 TO 24.8472
Grp 3	108	25.9722	4.8596	.4676	25.0452 TO 26.8992
Grp 4	308	25.4675	4.9495	.2820	24.9126 TO 26.0225
TOTAL	1174	25.5451	5.4687	.1596	25.2320 TO 25.8583
FIXED EFFECTS MODEL			5.4307	.1585	25.2342 TO 25.8561
RANDOM EFFECTS MODEL				.4989	23.9574 TO 27.1329

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.6377

GROUP	MINIMUM	MAXIMUM
Grp 1	10.0000	40.0000
Grp 2	10.0000	38.0000
Grp 3	12.0000	36.0000
Grp 4	10.0000	37.0000
TOTAL	10.0000	40.0000

SENIOR HIGH TEACHERS - COUT

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Variable COUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	2011.6634	670.5545	46.2349	.0000
WITHIN GROUPS	1188	17229.8232	14.5032		
TOTAL	1191	19241.4866			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN		
Grp 1	595	17.5983	4.0099	.1644	17.2755	TO	17.9212
Grp 2	171	19.6374	3.9449	.3017	19.0419	TO	20.2329
Grp 3	112	16.5714	3.9105	.3695	15.8392	TO	17.3036
Grp 4	314	15.5446	3.2646	.1842	15.1821	TO	15.9071
TOTAL	1192	17.2534	4.0194	.1164	17.0249	TO	17.4818
	FIXED EFFECTS MODEL		3.8083	.1103	17.0369	TO	17.4698
	RANDOM EFFECTS MODEL			.9451	14.2455	TO	20.2612

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 2.5323

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	25.0000
Grp 2	9.0000	29.0000
Grp 3	8.0000	25.0000
Grp 4	5.0000	25.0000
TOTAL	5.0000	29.0000

SENIOR HIGH TEACHERS - IOUT

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Variable IOUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	38.4875	12.8292	1.0878	.3532
WITHIN GROUPS	1196	14105.3491	11.7938		
TOTAL	1199	14143.8367			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	597	11.4322	3.4574	.1415	11.1543 TO 11.7101
Grp 2	171	10.9649	3.3482	.2560	10.4595 TO 11.4703
Grp 3	112	11.1607	3.5171	.3323	10.5022 TO 11.8193
Grp 4	320	11.1375	3.4060	.1904	10.7628 TO 11.5122
TOTAL	1200	11.2617	3.4346	.0991	11.0671 TO 11.4562
FIXED EFFECTS MODEL		3.4342	.0991	11.0672	TO 11.4562
RANDOM EFFECTS MODEL			.1059	10.9248	TO 11.5986

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE 0.0040

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	20.0000
Grp 2	5.0000	20.0000
Grp 3	5.0000	20.0000
Grp 4	5.0000	20.0000
TOTAL	5.0000	20.0000

SENIOR HIGH TEACHERS - ROUT

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Variable ROUT
By Variable PDK

ANALYSIS OF VARIANCE

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	3	33.4789	11.1596	.7875	.5009
WITHIN GROUPS	1202	17032.5651	14.1702		
TOTAL	1205	17066.0439			

GROUP	COUNT	MEAN	STANDARD DEVIATION	STANDARD ERROR	95 PCT CONF INT FOR MEAN
Grp 1	598	12.0585	3.7992	.1554	11.7534 TO 12.3636
Grp 2	174	11.7874	3.7084	.2811	11.2325 TO 12.3422
Grp 3	112	11.8214	3.9048	.3690	11.0903 TO 12.5526
Grp 4	322	11.6801	3.6787	.2050	11.2768 TO 12.0834
TOTAL	1206	11.8964	3.7633	.1084	11.6837 TO 12.1090
FIXED EFFECTS MODEL		3.7643	.1084	11.6837 TO	12.1090
RANDOM EFFECTS MODEL			.1084	11.5514 TO	12.2413

WARNING - BETWEEN COMPONENT VARIANCE IS NEGATIVE
IT WAS REPLACED BY 0.0 IN COMPUTING ABOVE RANDOM EFFECTS MEASURES

RANDOM EFFECTS MODEL - ESTIMATE OF BETWEEN COMPONENT VARIANCE -0.0115

GROUP	MINIMUM	MAXIMUM
Grp 1	5.0000	20.0000
Grp 2	5.0000	20.0000
Grp 3	5.0000	20.0000
Grp 4	5.0000	20.0000