THE IMPACT OF TEACHER ADVISEMENT ON STUDENT ACHIEVEMENT

by

KENNETH L. PRICHARD

(Under the Direction of C. Kenneth Tanner)

ABSTRACT

This study used data from the 2004 High Schools That Work Assessment to determine if a connection existed between high school advisement programs and increased student achievement as measured on the reading, mathematics, and science sections of the National Assessment of Educational Progress (NAEP). Select responses from student surveys were used to analyze the link between achievement scores and actions associated with teacher advisement programs. A review of literature related to high school advisement programs and parent involvement in planning and updating high school students' courses of study was presented. Statistical analyses included comparative and descriptive statistics. High school students who had teacher advisors for all four years of high school, who helped them with their yearly review of course selections, had higher average NAEP scores than students who had no one to help them with a yearly review. In addition, students who indicated a teacher advisor was the person who helped them the most in high school had higher average NAEP scores than did students who indicated they had no one to help them in high school.

INDEX WORDS:Advisement Programs, Teacher Advisement, Parent Involvement, High
Schools That Work, National Assessment of Educational Progress

THE IMPACT OF TEACHER ADVISEMENT ON STUDENT ACHIEVEMENT

by

KENNETH L. PRICHARD

Bachelor of Arts, University of North Carolina-Greensboro, 1978

Master of Education, Georgia State University, 1985

Specialist of Education, University of Georgia, 1989

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION

ATHENS, GEORGIA

© 2006

Kenneth L. Prichard

All Rights Reserved

THE IMPACT OF TEACHER ADVISEMENT ON STUDENT ACHIEVEMENT

by

KENNETH L. PRICHARD

Major Professor: C

C. Kenneth Tanner

Committee:

C. Thomas Holmes Jo Roberts Blase

Electronic Version Approved:

Maureen Grasso Dean of the Graduate School The University of Georgia May 2006

DEDICATION

This study is dedicated to all of the teachers who have worked so hard to implement teacher-advisor programs in the various high schools where I have served as Principal. As colleagues, we came to believe in the power of advisement programs to create relationships that not only impact student achievement, but that endure well beyond the classroom. These relationships, though their impact is difficult to measure in empirical terms, are the essence of life and the gauge by which we measure our life's worth. To my own advisees at Woodland High School - my only regret in leaving that school was not getting to be with you for your final year after we shared three together. You guys helped me really understand how powerful relationships are and how ready educators have to be to reach out to young people in ways beyond what our training prepared us for.

ACKNOWLEDGEMENTS

Acknowledgment is hereby given to the Southern Regional Education Board's *High Schools That Work* Program and its Executive Vice-President, Dr. Gene Bottoms, for allowing the use of NAEP and Student Survey data from the 2004 *HSTW* Assessment. Without the use of this extensive database, this study would not have been possible. Special acknowledgment and appreciation is also given to Ms. Cathe Fowler for her critical assistance in formatting and preparation of the final document.

TABLE OF CONTENTS

Page
ACKNOWLEDGEMENTSv
LIST OF TABLES ix
LIST OF FIGURES x
CHAPTER
1 BACKGROUND AND STATEMENT OF PROBLEM1
Background1
Statement of Problem4
Definition of Terms5
Purpose7
Research Questions
Research Hypotheses
Justification for the Study9
Constraints and Limitations12
Organization of the Study13
2 REVIEW OF LITERATURE
Summary of Citations and Concepts
3 RESEARCH DESIGN AND RESTATEMENT OF PURPOSE
Null Hypotheses
Sample/Population

	Instrumentation	37
	Data Collection Procedure	38
	Statistical Analysis	39
	Significance Level	39
4	PRESENTATION AND ANALYSIS OF DATA	40
	Description of Population	40
	Data Cleaning	41
	Analysis of Average Test Scores by Gender and Ethnicity	41
	The Frequency of Scores	42
	The Impact of Parent Conferences	46
	The Impact of Program Planning Assistance	47
	The Importance of Assistance in Program Planning	50
	Focus on Yearly Advisement for All Four Years	51
	The Impact of Advisor	53
	Acceptance or Rejection of Null Hypotheses	56
	1. The first Null Hypothesis	56
	2. The second Null Hypothesis	56
	3. The third Null Hypothesis	57
	4. The fourth Null Hypothesis	57
5	INTERPRETATION OF RESULTS	58
	Parental Involvement in Conferences to Plan Program of Study	58
	Teacher Advisor as Person Who Helped the Most in High School	59

	Teacher Advisor for All Four Years of High School	60
	Implications for Further Study	61
REFERE	NCES	66
APPEND	VICES	72
А	SREB Letter of Permission for Data Usage	72
В	Focus On Parental Involvement in Planning	74
C	Descriptive Statistics	75
D	Focus on Conferencing	86
E	Focus on Responsibility in Planning Course Study	87
F	Focus on Advisement	

LIST OF TABLES

Page

Table 1:	Summary of Concepts and Citations
Table 2:	The Impact of Parent Conferences
Table 3:	The Impact of Parent Conferences
Table 4:	The Impact of Program Planning Assistance
Table 5:	The Impact of Program Planning Assistance
Table 6:	The Effect of Yearly Advisement for Four Years
Table7:	The Impact of Advisement
Table 8:	The Impact of Advisement
Table 9:	Average Standard NAEP Scores by Gender, and Ethnicity
Table 10:	Test Scores by Subject Area, Gender, and Ethnicity74
Table 11:	Descriptive Statistics for the Entire Population75
Table 12:	Descriptive Statistics for Sq123: Assistance in Planning Course Study
Table 13:	Descriptive Statistics for Sq127
Table 14:	Responses to Sq121 (Parent Conference Attendance)
Table 15:	Correlation of Planning Course Study and Advisement with Scores
Table 16:	Scores: The Impact of an Advisor

LIST OF FIGURES

Page

Figure 1: Ethnicity of Population by Number	40
Figure 2: Average Test Scores by Gender and Ethnicity	41
Figure 3: Frequency of Scores	42
Figure 4: The Impact of Parent Conferences	46
Figure 5: The Impact of Program Planning Assistance	52
Figure 6: The Impact of Advisement	55
Figure 7: Test Scores by Subject Area, Gender, and Ethnicity	73

CHAPTER 1

BACKGROUND AND STATEMENT OF PROBLEM

Background

Education reform is a given. Whether initiated at the national, state, district, or individual school level, some or all of the various constituencies of education desire reform or improvement. Obviously, the societal and cultural backdrops of the moment have varying impacts on the direction these reform efforts take, but a constant of these calls for change has been the need for students to increase their level of achievement, school completion, and career readiness. These "crises" are even more disturbing when the performance of United States students is compared to that of students from other industrialized nations. In the landmark reports, "A Nation At Risk" (Gardner, 1983), the SCANS Report (1991), "Breaking Ranks" (1996), the call for school leaders to make changes so that student achievement can be raised has been reiterated time and again. Far too many high school students fail to graduate, and many that do are not prepared for college, work, or anything else because they have taken an unfocused mix of courses that too often represents the minimum requirements for earning their diploma.

With no one to advise them or to otherwise insist that they plan a focused program of study with high-level academic courses and a "major" to focus their elective choices, high school students often opt for the path of least resistance. One school reform initiative that has been sustained over time, that offers clear direction to address this situation is "High Schools That Work" (*HSTW*). *HSTW* is an outgrowth of the Southern Regional Education Board, the United States' first interstate education compact created to assist education and government leaders.

This program was launched in 1987 with 28 sites in 13 states, and it has continually grown to include over 1,000 sites in 25 states. In targeting high school students who do not

complete the prescribed "college preparatory" course of study, the major goal of *HSTW* is to increase the mathematics, science, communications, and problem-solving skills of these "non-college-bound" students to the national average for all students. This is to be accomplished by having participating schools carry out "Key Practices". Schools that opt for participation in *HSTW* must develop action plans to address these key practices. In return for their commitment, schools receive technical and financial assistance in carrying out their action plans and implementing staff development activities to make the changes systemic and lasting (SREB, 1991).

One of the ten key practices calls for involving each student and the student's parent/guardian in an advisement system that enables the student to successfully complete an accelerated program of study including high-level academic content and a major (SREB, 1994). According to the guidelines and suggestions from the High Schools That Work program, guidance of high school students must be a shared function by teachers, school support staff, community members, and parents. Many participating high schools have created teacher advisor programs to make this type of comprehensive guidance available. It is the purpose of this study to determine if a link exists between high school teacher advisement programs and increased student achievement. With more and more public schools implementing teacher advisement programs, the need to verify the impact of these programs quantitatively is acute.

The idea of teachers as advisors is certainly not a new one. The concept of advisement can be traced to the Dalton Laboratory Plan developed by Helen Parkhurst for a high school in Dalton, Mass., in 1921. Here, students met each morning with their homeroom teacher who provided many of the same services mentioned since in advisement systems (Edwards, 1991).

The first, formal teacher advisor program was established at New Trier High School in Winnetka, Illinois, in 1924. In this early form, the teacher-advisor was integral in helping each student reach his/her potential (Clerk, 1928). The Florida state legislature passed a teachers-as-advisors law in the 1984 session, which established grants for high schools that wished to establish advisement systems (Jenkins, 1992). Finally, several schools in the Coalition of Essential Schools have attempted to implement advisement programs as a means of increasing student academic achievement (Cushman, 1990).

The basic premise of using teachers as advisors is that the work of providing individualized advisement for high school students is not possible in most high schools if left to guidance personnel only. The typical student – counselor ratio in most high schools is around 400 to 1. Visher, Emanuel and Teitelbaum (1999) explain the need for high school students to receive continual counseling about academic programs and career preparation while acknowledging the difficulty of having this counseling provided by school guidance counselors. This is because of the student-counselor ratio as well as the demands of the typical school that place many non-counseling duties on the counselors. Trump (1977) argued for a new way of viewing the roles of all of the educators in a high school. In his view, ALL staff members would perform the task of helping each student to discover and develop his own interests and talents. Teacher advisor programs are intended to distribute the task among other school staff – specifically teachers – so that the individual attention high school students need in order to stay focused and working hard can be provided.

The need for high school students to have a support system that is personalized to their own specific abilities and aspirations is a common theme in the literature. In its 1996 report, <u>Breaking Ranks: Changing an American Institution</u>, The National Association of Secondary

School Principals recommends that each student will have a personalized plan for progress that speaks to the student's individual needs and abilities. That same report stresses the need for each student to have a "Personal Adult Advocate" to help personalize the educational experience. The literature on teacher advisement programs is consistent in reporting students' need for some type of personal relationship with caring adults that endures over time and that supports students in their learning and aspirations for the future. Teacher advisor systems are described as "win-win" propositions (Jenkins, 1992). When combined with parental involvement in the advising process, teacher advisor programs can become powerful mechanisms to advance student achievement.

Statement of Problem

Teacher advisor systems in middle and high schools are certainly not new. As briefly noted above, these systems can serve to provide needed personalization and support for students. Despite the fact that teacher advisement systems have been in place in some schools since 1924, they are still not widespread, and there is very little research presently available that seeks to determine their effectiveness in improving high schools and the performance of high school students. The problem then is to find a compelling response to the question, "How can the time, resources, and human capital that are required to initiate and maintain quality advisement systems be justified in terms of the outcomes that such systems are able to produce?" If this study can determine that teacher advisement systems significantly increase student achievement by increasing student access to an accelerated program of study and improving school climate, more secondary level educators might examine the concept as one way to improve their high schools.

Definitions of Terms

Advisement System - A system of grouping select students with a school staff member that may be a teacher, administrator, media specialist, or other school level staff for the purpose of providing a personalized educational experience. The advisor remains grouped with the student advisees for a period of time from one school year to the entire time that the advisees remain enrolled at the school. The advisement system is created to provide all or some of the following services: academic advisement, career advisement, developmental guidance, academic tutoring, progress monitoring, access to other services for young people, encouragement and support, and maintaining contact with parents of advisees.

Advisee - a high school student who is a member of an advisement group.

Academic Advisement – advice and guidance in helping students select the most appropriate courses in high school.

College Preparatory Courses – high level academic courses, such as Advanced English, Algebra 2, Trigonometry, World History, Chemistry, Physics, and Foreign Language; collegepreparatory courses are those required for the completion of the College Preparatory diploma programs as determined by state board of education policy.

Career Advisement – advice and guidance in helping students assess their individual values, interests, experiences, and abilities as these impact their career selection. Career advisement helps students utilize present information on the educational requirements, desired aptitudes and abilities, and salary projections for selected career areas so they can make decisions about potential career areas to pursue after high school, as well as the selection of specific courses and activities to pursue while in high school.

Developmental Guidance – the development of personal coping skills such as conflict resolution, interpersonal communication, goal setting and prioritizing.

HSTW - High Schools That Work program coordinated through the Southern Regional Education Board. *HSTW* was founded in 1987 as a reform program for high schools designed to increase the academic achievement of the "non-college bound" high school student to the national average for all high school students. The program endorses ten "Key Practices" that member schools agree to implement.

NAEP – National Assessment of Educational Progress is an assessment administered every two years in each *HSTW* site to seniors who will graduate under a Technical-Career Preparatory Program or a General diploma program. The NAEP is used by *HSTW* to measure each individual school's progress toward meeting the *HSTW* performance goals in Reading, Mathematics, and Science. A school's average scores are compared to the scores from previous year's seniors, as well as to all other schools in the network and to schools that are demographically similar.

SREB - Southern Regional Education Board is a compact of 16 states created by their Governors to improve academic performance and bridge to the gap between performance in various socio-economic and racial groups.

Technical-Career Preparatory Diploma Program – The TC diploma program (formerly referred to in Georgia as a Vocational Diploma Program) is characterized by a separate set of academic course requirements from the College Preparatory Diploma Program. Typically, these academic standards are much lower than for the College Prep diploma program. As an example, the State of Georgia's mathematics requirements for a College Preparatory Diploma include four credits with one credit beyond the difficulty level of Algebra 2. By contrast, the TC diploma program requires only the completion of Algebra 1 and three total units in math. In Georgia, the

TC diploma program also requires students to earn four total credits in TC courses, with three of those concentrated in a single TC area.

General Diploma – A diploma program that has few, if any, specific course requirements and only specifies the minimum number of credits required for graduation. Georgia discontinued the General diploma because of its lack of focus and the dismal academic performance of the students who met its minimal requirements.

HSTW **Student Survey** – A 228 item survey administered to TC seniors as part of the assessment requirement for *HSTW* sites. This survey is given every two years in conjunction with the NAEP. The survey items address the student's course-taking pattern in high school, the expectations and assignments given by various high school teachers, and the amount of time the student engages in various activities such as: reading for pleasure, watching television, and working outside the home and school. The survey also contains items related to the advising and counseling services the students received.

Purpose

The purpose of this study is to determine if a connection exists between high school teacher advisement programs and increased student achievement. This study will also seek to determine if parental involvement through the advisement process is correlated with increased student achievement.

Research Questions

This study seeks to answer the following questions related to the impact of advisement systems:

- Do students who participate in a parent-teacher-student conference yearly (or more often) have higher average NAEP scores than students who do not participate in such conferences?
- 2. Do students who have a teacher or advisor as the person who helps them the most in planning a 4-year education plan have higher average NAEP scores than students who have no one help them construct a 4-year plan?
- 3. Do students who have an adult mentor or advisor who works with them all four years of high school have higher average NAEP scores than students who have no one who works with them all four years of high school?
- 4. Do students who have an adult mentor or advisor to help them select their courses each year and to review those choices have higher average NAEP scores than those students who have no one to help them select or review their high school courses?

Research Hypotheses

1. There is a significant difference in the average NAEP scores between students who reported on the *HSTW* Student Survey that they had "taken part in a parent-teacher-student conference or a parent-counselor-student conference once a year (or more)" and those students who reported on the *HSTW* Student Survey that they had never had such a conference to plan their program of study. There is a significant difference in the average NAEP scores between students who reported on the *HSTW* Student Survey that "the person who had helped them the **most** in developing a **4-year education plan** outlining the courses that should be taken was a teacher/advisor" and those students who indicated on the *HSTW* Student Survey that no one helped them develop a

4-year education plan.

- 3. There is a significant difference in the average NAEP scores between students who reported on the *HSTW* Student Survey that they "had an adult mentor or advisor who worked with them for all four years of high school" and those students who reported on the *HSTW* Student Survey that they did not have such an adult mentor.
- 4. There is a significant difference in the average NAEP scores between students who reported on the *HSTW* Student Survey that "this mentor/advisor worked with you to develop your course choices for high school and to review your selections each year" and those students who reported on the *HSTW* Student Survey that they did not have a mentor/advisor who performed these functions.

Justification For The Study

Most of the existing literature on teacher advisement systems centers on the potential for these systems to "humanize" or "personalize" the school environment. From this perspective, numerous descriptions of model and exemplary advisement programs are available at both the middle and high school levels. If one accepts at face value the importance of schools' being caring and nurturing institutions where each student is known as an individual and is formally connected to at least one adult staff member, the value of teacher advisement systems can be asserted on this basis alone. Institutionalizing this concept, particularly at the high school level,

can be a daunting task. Most high school teachers receive little to no training in how to address the affective needs of their students. Instead, their preparation consists almost exclusively of content-specific courses with a smattering of instructional strategies. Hence, the typical high school teacher is prepared for the departmental rigidity and assembly-line mindset that is characteristic of many high schools. Counseling, many high school teachers assert, is better left to those trained in guidance and counseling. Teachers would usually rather be left alone to teach.

The notion of being left to teach is directly challenged by the type of advisement advocated by the High Schools That Work program. A main premise of *HSTW* is that too many American high schools sort and separate students into diploma tracks, the result often being that many students find themselves subjected to the low expectations of an academic program other than College Prep. Once placed in this "track", students tend to live down to the low expectations that these courses usually present. If schools placed an emphasis on advising all students to take more challenging academic coursework, more students would be challenged by the high expectations, and overall achievement would increase. Simply put, if this is to happen, there is more advising needed by high school students than can be provided by the limited number of counselors available. In an extensive study of the effectiveness of school counselors using external reviewers, Schmidt (1995) found that the perception that emerged of the school counselor was of someone who was overwhelmed with caseloads, administrative duties, clerical tasks, and crises. He also identified the most important services needed by counselors. Among these were academic counseling, career counseling, and developmental guidance. Even though Schmidt did not overtly recommend that schools initiate teacher advisement programs, the fact that the services needed by all high school students simply can't be provided by existing allotments of guidance counselors was obvious. When this reality is combined with the decrease

in parent involvement that typically occurs as students begin their high school years, the need for some type of school-wide advisement system seems even more pressing. Many schools in the High Schools That Work network have initiated teacher advisement systems to address these needs.

Advising high school students about academic and career choices requires teachers to accumulate knowledge of the total school program and all of the various offerings instead of just those in their own departments. Teacher advisors are also frequently called on to facilitate developmental guidance activities with their advisees or to lead skill-building lessons – all without the incentive of grades to hold over students' heads to impose compliance. Finally, the teacher advisor is asked to develop a bond with his/her advisees as mentor and advocate. No wonder teachers are prone to resist being asked to serve in this affective realm! But, they are being asked, and their professional lives are being changed by this expansion of their role as educators. It must also be noted that, just as individual teachers vary in their effectiveness in the delivery of their subject matter, so too do advisors vary in their effectiveness. Boorstein (1997) found that student outcomes, such as lower drop out rates or the percentage of advisees who had to repeat a grade were impacted by the differences in the individual advisor's personality, views, and attitudes. She found that providing sufficient advisor training was one way to minimize some of the differences in advisor effectiveness that were connected to intrinsic factors such as personality. Given this caveat, this study sought to provide insight and evidence that would justify the energy and human resources that are required to create and maintain an effective teacher advisement system. This study attempted to prove that student achievement is positively impacted by four common characteristics of teacher advisement programs – parental involvement in regular conferences with a teacher advisor to monitor a student's progress,

parental involvement with a student and teacher-advisor in planning a four year education plan, teacher advisors or mentors who remained connected to students for the entire four years of high school, and teacher advisors who guided students' course selections and review of these each year.

Constraints/Limitations

The study used data from the 2004 *HSTW* assessment, which consisted of the NAEP in reading, mathematics ands science, as well as a Student Survey. Data from over 63,000 individual students were analyzed in order to test the research hypotheses. Select student responses from the Student Survey were compared with average NAEP scores to determine the link between certain advisement characteristics and student achievement. A limitation of the study is that there were few items on the Student Survey that could be directly linked to teacher advisement systems or practices. Another limitation of the study was that it did not provide a longitudinal analysis of the effect of teacher advisement programs on student achievement, nor did it account for the quantity or quality of the advisement experiences. Some students have been involved with teacher advisement programs during their entire four years of high school while others have been involved for fewer numbers of years. In addition, some schools' advisement programs were not fully developed at the time of the Student Survey while others' had been in place long enough for the mindset of the teacher as advisor to become pervasive, and for experience and training to result in a high degree of teacher efficacy within the advisor role.

In addition, there are always students in high school who have a clear focus of what they want to do as related to constructing their own course taking and program planning. These students may have deemed advisement as unnecessary and a waste of their time. The academic achievement of these self-directed young people might have been substantially higher than that

of their less focused peers. Finally, *HSTW* schools were actively engaged in the implementation of all of the Key Practices. The degree to which a school was progressing in its improvement efforts with *HSTW* may have had an impact on how much an advisement system could be supposed to account for higher achievement. The nature of the data did not allow a clean isolation of the dependent variables.

Organization of The Study

Chapter 1 contained an introduction and background, statement of the problem, definitions of terms, research hypotheses, justification of the study, and constraints/limitations of the research.

Chapter 2 presented the conceptual background and a review of related literature for this study.

Chapter 3 included the research design and a restatement of the purpose of the study, a description of the population, the instrumentation to be used, the data collection procedure, the statistical analysis, hypothesis testing, variables, and significance levels used.

Chapter 4 presented the statistical analysis of the data collected and the findings of the study in relation to the hypotheses.

Chapter 5 presented the summary of the study including the conclusions drawn as well as implications for further study.

CHAPTER 2

REVIEW OF LITERATURE

Much of the existing literature on teacher advisement programs focused on the outcomes of the programs in terms of effects on students along with considerations for the components to include in an advisement program. Even though there was a renewed push for high schools to establish teacher advisor programs in the name of personalizing the high school experience, there were practically no studies that have investigated the connection between advisement programs and student achievement. With regard to the impact of parental involvement, much has been written in support of its positive effects on a wide range of school conditions, including student achievement.

Goldberg (1998) identified the following behaviors or actions that were to be expected of teacher advisors: meet with the advisees in a group setting regularly, meet individually with each advisee, play an important role in each advisee's course selection, be available when advisees need help with critical or pressing issues, gather information on advisees formally and informally, meet with the advisees' parents or guardians during the school year, meet with other staff members as needed, keep records as needed, and serve as an advocate for each advisee. Goldberg further stressed the need for schools that are considering establishing teacher advisement programs to go slowly. A study committee should be convened, and many opportunities to discuss pros and cons and review research on the topic should be provided. In

addition, teachers should have numerous opportunities to visit schools with successful advisement programs.

Ziegler (1993) described the teacher-advisor as a teacher who promotes and monitors individual student's educational and developmental experiences during their progression through school. These teachers served as liaisons with other school staff and with parents, and were advocates for the students in their advisory groups. She cited the following benefits of advisory programs: better school climate, increased staff-student contact, better student behavior, increased academic performance, better attendance and better parent-teacher contacts

Manning and Saddlemire (1996) also emphasized the need for a deliberate planning process to be employed with sufficient time allowed for site-based management to occur. They stressed the need for parents and students to be involved in the planning process along with a sampling of educators from the different departments within the school. To ensure clarity of purpose, a detailed scope and sequence of advisement activities should be prepared and shared with all teacher advisors. Such a "curriculum" must be flexible enough so that it can be modified as the needs of the students change. These authors also cited the need for sufficient training for advisors so that they will feel competent to intervene in affective areas. Finally, they explained the need for the program to be based on research and scholarly writings that offered clear definitions, allowed for the development of relevant objectives, and met the needs of students in a particular school.

Even though the focus of teacher advisement programs was on personalization and helping students make sound decisions related to their educational programs, numerous secondary benefits were noted. In one study of why teachers left the profession, 75 % of those secondary teachers who considered leaving, but did not, reported that the reason why they did

not leave was because of the *relationships* they had with students (Harris, 1985). Apparently, all parties who are involved experience the satisfaction derived from caring relationships. Numerous researchers point to the effect of teacher advisement systems in promoting a high level of personalization for the students involved. Students who failed to complete high school and dropped out often cited a lack of personal attachment to school. Jenkins (1992) reported findings from Florida that indicated that schools with teacher advisement systems had significantly reduced drop out rates. Jenkins further noted that the reduction in drop out rates seemed to be at least partly attributable to the close personal attention paid to students in advisement schools.

In her review of data from the National Educational Longitudinal Study, Georges (1997) found a correlation between the amount of academic counseling provided to students who were classified as "at-risk" for dropping out and the actual dropout rates. Her findings indicated that Hispanic and White students benefited the most from the academic counseling, but the results were not conclusive for African-American students. This finding was significant in that academic counseling is one function that teacher advisors often provided to their advisees.

Witmer (1992) also noted the role that teacher advisors could play in efforts to make the school more student-centered and personal. She noted examples of schools with teacher advisement systems that had low dropout rates, fewer absences, fewer discipline problems, and overall better attitudes toward school.

Sizer (1984) advanced the need for personalization in the high school setting shortly after the release of <u>A Nation at Risk</u> in 1983. Sizer described the modern American high school as an essentially dehumanizing institution. Cresswell and Rasmussen (1996) also addressed the need for personalization in the high school setting. This was accomplished at Salem High School in Rockdale County, Georgia, by the use of team teaching and grade level 'houses' where students

shared a core group of teachers for several years. The effect they described is similar to that achieved by advisement systems that allowed relationships to develop between teachers and students over extended periods of time. Students were encouraged to accept their responsibility for working out their own education, and they came to view their teachers as mentors who helped them experience learning.

The affective dimension of the high school student must not be overlooked. Dale (1993) described advisor/advisee programs that became extended families where peer support was nurtured and encouraged and where a caring adult modeled responsibility, caring and leadership. She listed the following benefits of effective advisement programs (p.20-22):

1. Students have greater opportunities to develop more and closer relationships with school adults.

2. Students have greater opportunities to develop more and closer friendships with peers.

3. The school has a calmer, friendlier environment.

4. Students have the opportunity to discuss issues of importance to them with peers and an adult in school.

5. Students receive academic assistance, such as help with homework, tutoring by the advisor or peers, monitoring of grades, or just pep talks and suggestions on how to improve.

6. Advisors have the chance to become student advocates.

7. The program creates a "sense of family or belonging".

8. Advisees receive help to improve their organizational skills.

Myrick and Myrick (1990) presented a vigorous defense of teacher advisor programs based on the first premise that a positive school climate was linked with educational excellence. They maintained that effective teachers had the same perceived characteristics as effective guidance and counseling specialists in their ability to see others' points of view, personalize the education experience, and develop helping relationships. If teachers were perceived by students as caring and interested in them, the students were more likely to enjoy coming to school and were more likely to be inspired to work at high levels. These authors examined a number of exemplary teacher advisement programs at both the middle and high school levels, including the Teacher Advisor Program (TAP) in Pasco County, Florida. In this program, the teacher advisors served as advocates for their advisees and assisted in the delivery of a developmental guidance curriculum that included units in decision-making, problem-solving, facilitative communication, enhancing motivation, and career and academic advisement. In the Pasco County TAP, teacher advisors also had to make contacts with the parents of every advisee at least once each semester. The necessity of initial training and periodic in-service activities for the teacher advisors was stressed to help teachers overcome their feelings of inadequacy in this new role. Of prime importance was the leadership of the principal in supporting the mission of advisement - to provide a more caring and nurturing school environment where each student was known as an individual by at least one adult staff member.

In a study of student perceptions of the effectiveness of an advisory program at one high school in Chatham, New York, Hagborg (1993) concluded that the mixed reviews students offered for their advisory program were indicative of the manner in which the program was started. He further concluded that leading a successful advisory group would require substantial changes in most teachers' teaching styles. He based this on the comments of many faculty

members who reported they had difficulty finding an effective leadership role and wound up conducting advisory sessions much like they would conduct their classes. These class-like approaches often resulted in student boredom and dissatisfaction. Teachers ultimately lost interest and enthusiasm in the program because of their perceived inadequacy and lack of preparation to function effectively in the new role. Hagborg stressed the importance of: collaborative decision-making that involved all of the staff to be affected, substantial training, and allowing a small group of the most interested staff members to pilot the program and work out problems, as three components critical to any new program's implementation.

The same certainly holds true for advisement systems where teachers must see their roles in a much different light. A research brief published by the Toronto, Canada Public School System (Zeigler, 1993) poignantly described the teacher hesitancy over the implementation of advisory programs. "This is most true at the secondary level where, although advisory groups may be particularly important, in order to overcome the more complex and impersonal structure of the school, they are often most resisted by staff, who not infrequently view the advisory role as foreign to their traditional role as subject experts" (p.4).

James (1986) argued for the affective needs of middle and high school level learners to be met along with cognitive needs. He pointed out that, even though most schools spoke to the importance of the affective domain, few actually had programs, such as teacher advisement, that were designed specifically for attending to this level of needs among students. Again, the basic idea of getting to know each student on a personal basis was at the heart of the advisement experience. When each student felt acknowledged and cared for, he was able to focus more clearly on the academic tasks placed before him.

According to Jenkins (1977), the heart of the teacher-adviser role was the individual monitoring and supporting of the student. This was done through frequent individual conferences where progress was checked, and obstacles to progress were identified. During these individual conferences, the advisee was supported in his academic program, and course of study selection were considered in terms of the advisee's strengths, experiences, values, and skills. As Jenkins stated, "this type of individual attention has many ramifications for student achievement, school discipline, and parent response to the school program" (pp.32-33). In taking the need for individualized learning experiences to another level, Graham and Hawkins (1984) asserted that school should not be the same for all despite a myriad of practices that seemed to homogenize the experience. They argued that each person perceived school differently, and that schools must nurture the uniqueness of each student. To them, advisement was the link between what the school offered and what a particular student required.

The need to "humanize" the educational experience is at the core of the teacher adviser system described by Pilkington and Jarmin (1977). They described a number of advantages to such a system that have been mentioned previously in the literature. These advantages included the students' becoming familiar with at least one adult faculty member. Another advantage was the students' gaining of a feeling of belonging – especially critical for those students who may not have been part of the "popular" or "in" groups. In addition, the students received assistance with program planning, and the entire school became more humanized. Pilkington and Jarmin also made the distinction between what they termed teacher-advisor systems and teacher-counselor systems. This distinction was a critical one because of the differences in experience and training required to successfully implement each type of approach. Failure to recognize the

distinction led to confusion over the program's purpose and ultimately caused failure (Carlson and Mable, 1976).

Wasielewski, Scruggs, and Scott (1997) described a program called Teachers as Counselors (TAC) that provided many of the same services typically associated with teacher advisement programs despite the difference in title. Their findings were that the TAC program was successful, especially in terms of benefits to students with high levels of stress that impeded their school performance and social development. The key factor was the amount of individual attention provided to students through this program.

Green (1997) expressed the idea that schools *should* be nurturing institutions. As he noted, many reform efforts focused on raising standards, revamping curriculum, and administering tests. Too often, the human component or the school climate was overlooked. Green found that most of the students and teachers in his study considered the nurturing characteristics important to the academic success of students. He concluded that programs and services were needed that promoted nurturing in schools – specifically to provide for the underpinning of relationships that made a difference in students' academic achievement. Schools should be places where the individual was known and appreciated for his unique talents and abilities. These were characteristics of teacher advisement systems which had been reported as making a difference in school climate, and subsequently, in student achievement.

Killian and Williams (1995) argued that advisory programs directly affected the school climate in that they offered students the opportunity to develop a sense of belonging within the total school structure. In their study they found that schools with advisory programs reported less fighting and inappropriate behavior, which translated into a school climate that was orderly, safe, and free from violence. In their view, the curriculum of the advisory experience worked best

when it was flexible enough to be adjusted based on school-wide needs. One of the most impressive findings reported by these authors was the increase in engagement in school for the students who typically were not very engaged. These students had not managed to gain acceptance to the "in groups" and were not considered to be popular by themselves or their peers. Consequently, school was not a place they looked forward to attending, and they were almost never involved in any of the school's extracurricular activities. The advisory system gave them an opportunity to find their own sense of place within the total school – to identify with the school as a caring place where they were valued and they would be supported. Killian and Williams ended their discussion with a strong endorsement of the need to deal with students' emotional and social needs. They cited increased caring and respect that were engendered in the small group settings and then spread throughout the entire school.

Clearly, the school climate played an important role in the degree of academic success experienced by its students. Teacher advisement programs had enormous potential to affect the school climate in a positive way. Another feature of the advisement system advocated by the High Schools That Work program was the involvement of parents in planning, monitoring, and supporting students' academic programs (SREB, 1994). Parental involvement by itself was a significant factor in students' academic success. Numerous studies have established this as a given. The notion that a child's parents are his/her first, and most important, teacher has permeated educational thought for many years. Despite the seemingly universal agreement on the positive impact of parental involvement on student scholastic achievement, few policies at the national, state, or local level existed that did more than "encourage" schools to seek ways to engage families and involve parents in the process of their children's education. Perhaps with the new wave of interest in "accountability" in education, stronger policies can

evolve that take into "account" the *students' and parents'* responsibilities for achieving high academic performance. If teacher advisors took the lead to involve parents one-at-a-time in the schooling experiences of their children, yet another positive force could be brought to bear for increasing student achievement.

The need for parents to become actively involved in their children's schooling was succinctly stated in "A Word To Parents and Students" at the end of The National Commission on Excellence In Education's A Nation At Risk (1983). In this section, the authors forcefully asserted that the responsibility for rescuing the American education system fell as much to parents and students as it did to any of the individuals whose title included the word "educator". Parents were extolled to hold schools accountable to high quality but also were to insist that their children make full use of the opportunities provided. Parents were to nurture curiosity, creativity, and confidence while at the same time making it plain that "just getting by" and mediocre efforts would not be acceptable. In their role in the advisement process of high school students, parent participation in "holding the line" against mediocre effort had its most profound impact. Even though students were reminded that no matter the efforts of teachers or even their parents, ultimately it was the students' work that determined how much and how well they learned, the parents provided the discipline needed to keep students focused on a high quality educational outcome. Students were directed to give their best effort to use all of their natural talents and gifts, or they were at risk of having others impose upon them a life not of their choosing or making.

In the wave of reform and policy making that followed the release of <u>A Nation At Risk</u>, great attention was given to the recommendations regarding content, time, expectations, and teaching. Precious little attention was directed toward finding ways to get parents to partner with

the schools to get students more focused on the work they needed to do except in specific programs at the federal level designed to bolster the achievement of handicapped or "at-risk" children.

The 1994 Improving America's Schools Act featured new Title I guidelines for parental involvement that translated into policy requirements for those schools and systems that were to continue to be eligible to receive funding through this program. Specifically, each district must have had a written parental involvement policy, and this policy was to be created with parent input and distributed to every parent of a participating student. Typically, Chapter 1 regulations were so restrictive that they hampered school principals' need for flexible options in making best use of available funds (Davies, Burch, and Palanki, 1991). Other policy requirements of Title I included the establishment of school-parent "compacts", a written contract of sorts that spelled out what the school agreed to do and what the parents (and student) agreed to do to promote high academic achievement. Again, parents were mandated by federal guidelines to be involved in the creation of the compact. Finally, schools were required to provide training for parents and to see that information about all aspects of the Title I program was distributed to parents on a regular basis.

The Title I mandates were best utilized by school leaders who took a broad view of family involvement and who built a full program of partnership. Of most relevance to high school programs under Title I was the theory of overlapping spheres of influence. This was basically the notion that, as long as parents and schools shared the same beliefs, the likelihood of students' internalizing these values and beliefs was increased dramatically. An example of this principle in action was the school and the parents sending the same message that high-level academic work was important, and that students must exert the effort required to be successful

(Epstein and Hollifield, 1996). This is precisely the type of parent-school partnership that was advocated by the High Schools That Work approach to student advisement.

Another source of federal influence on local policy was in the regulations associated with the Individuals with Disabilities Education Act (IDEA), which was reauthorized in 1996. This legislation has resulted in many layers of policy requirements for local systems that stipulate exactly when and how parents are to be involved in every aspect of educational planning. No changes could be made to a handicapped students' Individual Education Plan (IEP) without parental approval, and IEP meetings could not be held without proof that parents were notified of the meeting and actually attended. The policy clearly spoke to the parts of the instructional plan that a parent could veto, which was just about anything in it. IDEA was an example of legislation translated into policy that has gone overboard. In its attempt to protect the rights of handicapped children, it gave legal recourse to parents to exempt the child from any aspect of typical educational programming to which the parent might object – to include disciplinary actions for disruptive behaviors. The parent participation role advocated by the High Schools That Work advisement function comes close to establishing what amounts to an IEP for each high school student – a concept that has often been mentioned wistfully as desirable but too enormous and time consuming for practical purposes.

Aside from these federal programs for special populations of students, federal policy initiatives mainly "encouraged" the formation of school-family partnerships. This can be seen in the eighth National Education Goal:" by the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children" (National Education Goals Panel, 1998). Although this was a laudable goal, its inclusion as a national priority has resulted in no mandates or policies that
might make its attainment a reality. The National Education Goals Panel was formed to monitor progress on all of the national goals, but aside from reporting that progress and identifying promising practices, the panel had no other functions.

The California State Board of Education made use of parents and parent input in all stages of the development of its policy (Solomon, 1991). The policy was comprehensive in its scope and was heavily influenced by the work of Joyce Epstein (1995). Epstein advocated five different levels of parental involvement, and California's policy addressed all five. These included: 1) helping parents develop parenting skills and fostering conditions in the home that support learning; 2) providing parents with knowledge about techniques they can use at home that support learning; 3) promoting clear two-way communication between home and school about school programs and the child's progress; 4) involving parents in instructional support roles at school; 5) involving parents in decision making structures. To Epstein's five levels the California Board of Education added a sixth: 6) providing access to and coordinating community and support services for children and families.

Once the policy was in place, a comprehensive campaign to "get the word out" was undertaken by the state department of education. This included media announcements as well as distribution of many documents intended for parents that supported all six aspects of their policy. The state department also assisted local systems in acquiring research findings, identifying promising practices, and in developing their own local policies. In California, it is interesting to note that the push for parental involvement and the development of a comprehensive statewide policy was preceded by curriculum reform efforts that became the main focus of their reform efforts in 1988. California was the exception rather than the norm when it came to state policy and priority on parent involvement in schools.

South Carolina's Education Accountability Act contained provisions for policy on parental involvement. The state policy stipulated that parents of students in grades K-8 meet with teachers and other school staff when their children were not performing satisfactorily. In these meetings, parents were to be involved in developing a plan to address the problem, which included actions that parents were to take to support the school's efforts. Prior to this policy, South Carolina's parental involvement policies required schools to include parents on school advisory councils to have a voice in decisions made at the school level (Willis, 1988).

The Kentucky Education Reform Act of 1990 also mandated parent involvement in the form of school-based councils. The policies developed as a result of the reform legislation pushed many of the decisions to the local level. As a result, the opportunities for parents to be involved in *meaningful* decisions were many. State policy in Kentucky was more 'enabling'' than mandating in that it left the actual form of the parent involvement to be determined at the local level through district and school policies and procedures. State policy statements spoke to the importance of involving parents but did not mandate that involvement except in the case of the school improvement councils (Sexton, 1993).

According to Wonacott (2002), the importance of teacher advisement systems in promoting more focused programs of study and more rigorous course taking has prompted Kentucky to create a new graduation requirement – the Individual Graduation Plan (IGP). This requirement was a result of Kentucky's involvement with High Schools That Work (*HSTW*), Tech-Prep, and School To Work. The purpose of the IGP was to involve students, parents, and educators in creation of a four-year plan of focused, rigorous courses that prepared students for careers and further education. In its two-year pilot test, personnel from all twenty-seven developmental sites endorsed the IGP, but they quickly realized the only way to deliver these

services was through teacher advisement. Wonacott identified teacher advisement systems in Georgia, South Carolina, Texas, and Arkansas that provided the same push for rigorous courses as related to career interests, along with parental involvement and a personalized high school experience for all students.

Illinois's approach to promoting parent involvement involved the awarding of state grants to urban schools that developed comprehensive parent involvement initiatives. Illinois, like California, relied heavily on the work of Joyce Epstein in that schools that applied for grants had to include all five of Epstein's levels in their application. The evaluation of this project showed that 87% of the schools that received grants achieved 90% of their proposed objectives, and all of the schools involved reported significant increases in student achievement, attendance, and improved discipline (Chapman, 1991).

The notion that schools could and should effectively engage parents in the education of their children was alluded to in various state and federal policy initiatives. Hollifield (1995) noted that few parents were informed about or involved in their teens' education. He further remarked, "even the most basic communications are not systematized to reach all families, and many are limited to negative messages" (p.24). He also found that families are rarely guided to conduct discussions with their teens about important school decisions or plans for their future. His data suggested that parents AND high school students both wanted more involvement in dialogues with school staff. While over 80 percent of parents indicated a desire to be more involved at the high school level, only 32 percent of teachers felt it was their responsibility to make this involvement happen. Hollifield discussed the major reasons why parent involvement dropped off at the high school level. These included: the high school student's desire and need for increased autonomy, the more complex organization of the high school where more teachers

were involved with each student and where more students were assigned to each teacher. A teacher advisement system, which clearly delineated the advisor's responsibility for initiating parent involvement for the students in his/her advisee group, could have institutionalized a practice that the research supported as needed and desired. More than half of the students in Hollifield's study reported that they made decisions *alone* about their high school courses and programs of study. This probably reflected their autonomy, but it also implied the need for more parent input in making such crucial decisions.

As accountability became the main issue for legislatures and policymakers, the roles of parents in supporting the efforts of schools to increase student achievement continued to be stressed and resulted in more specific policies that either enabled or mandated their involvement. In Georgia, the initial meeting of the Governor's Commission on Improving Education in1999 featured a presentation by Superintendent Jim Causby of the Johnston County, North Carolina school system. Superintendent Causby detailed how his district implemented parent participation policies that contributed to the major strides that his district had made in improving student achievement. It must be stressed that the success achieved in Johnston County was the result of many different efforts to raise student achievement; however, once again the case for parent participation in and accountability for the performance of the student was made loud and clear.

More recently, the Georgia Department of Education has taken up the *HSTW* call for the "New 3 Rs – Rigor, Relevance, and Relationships". Specialists with the School Improvement Division of the Georgia DOE have promoted guidance and advisement systems almost exactly as described by *HSTW*. In training materials currently in use, these specialists advocated guidance and advisement systems for high schools to: help students set career goals, create a plan aligned

to educational and career goals, involve parents in the setting of those goals, and feeling a sense of personal belonging that comes from teacher-advisor relationships (GA DOE, 2005).

By its insistence on parent participation, the *HSTW* Key Practice led participating schools to include it as a matter of *procedure* if not actual *policy*. The need for parent participation in a teacher advisement system, from the inception of such a program to the regular support such a system needed to be successful, would make a strong connecting argument for policies at the state and local level that mandated parental involvement to be developed. If requiring parents of at-risk or handicapped students to be involved with their children's schools were beneficial, the same benefits ought to apply to all students. Such policies could then provide the needed impetus for schools and school systems to develop advisement-type programs to maintain the school to home connection.

As more states stressed the importance of having students develop meaningful relationships with school staff members, there still remained a lack of research that directly connected teacher advisement systems to increased student academic achievement. The premise seemed to be that, when students had a teacher or mentor who advocates, guides, counsels, and communicates on the students' behalf, they felt valued and secure and were more likely to work harder than students who felt detached. This was especially true for those students who had weak support systems outside of school. Forums on ways to help at-risk students frequently alluded to a teacher advisement program as an effective means to this end. Hardy (1999) mentioned the advisement system at Colorado's Littleton High School, located five miles from the site of the Columbine tragedy, as a program that fostered a sense of community. Hardy pointed out other schools with advisement programs that featured numerous benefits for students such as increased responsibility, more choices, and a greater role in shaping their education.

As it relates to increased achievement, most of the existing literature addressed how teacher advisement systems promoted improved course-taking choices by high school students. This was based on the premise that many high school students, when left to their own devices, would select courses that had low expectations and were considered to be "easy" in terms of effort needed to pass. Advisement systems that featured teacher advisors who guided students into more demanding courses, and that enlisted parent support for holding the line on such choices, were associated with higher student achievement. Indeed, there was ample evidence that students who were enrolled in the most demanding courses offered in high schools, such as Advanced Placement and International Baccalaureate, had higher average scores on nearly every measure of academic achievement. Likewise, extensive analysis of data from the High Schools That Work Assessment (NAEP and Student Survey) revealed that students who pursued a rigorous college-preparatory curriculum had much higher NAEP scores than students who did not take college-prep classes. This is the reason why one of the Key Practices of the HSTW initiative is to have all students complete a common core of academic courses that teach the essential content of the college preparatory curriculum (Bottoms & Presson, 2000).

A description of the teacher advisement program at Mid-Prairie High School in Wellmam, Oklahoma, maintained that the success of the program, since its implementation in 1996, until 2002 was evidenced by the following indicators:

- Revitalized school climate
- Improved daily attendance
- Increased graduation requirements from 21 to 28 units
- Increase in students in Advanced Placement from 12 to 84
- Improved ACT scores (though no actual averages are mentioned)
- More Honor Graduates (52 out of 80 total graduates in 2001 no comparison numbers are provided)

Clearly these indicators were largely subjective since it was impossible to isolate the effect of the teacher advisement program from other school improvement efforts at the school. But, this was one of a very few school programs that attempted to quantify the effect that advisement has had on increased student performance (FINE 2002).

McCluer North High School in Missouri has won accolades at the state and national level by being designated a National Blue Ribbon School in 2006. In the comment from the Blue Ribbon Review panel, the school's Advisory Program was described as an excellent model for how such programs were supposed to work. In addition, the review cited the school's efforts to create a caring and nurturing environment and the faculty's efforts to help the students meet the high expectations of a demanding curriculum. The implication was that the advisement program was central to the success of the students, but direct causation was not stated as with Mid-Prairie High School.

The New Mexico Public Education Department issued its <u>New Mexico High School</u> <u>Initiative</u> in November 2004 (Garcia). This document addressed nearly every aspect of high schools with "shall" statements that indicated that the high schools in New Mexico were mandated to take very specific measures to improve student success. These included assuring that every family has participated in the development of a four-year plan, and creating advisement systems that provided each student with an adult mentor on campus. Considering the scope of such mandates, the lack of evidence of positive impact of these programs was glaring.

One study that focused on the influence of school practices on students' academic choices examined the link between the amount of encouragement and guidance that middle schoolers received and their academic grades (Frome & Dunham, 2002). The authors noted the lack of research on the effects of teacher involvement in both middle school and high school

students' course taking patterns, program planning, and encouragement to try their best. The connection that Frome and Dunham investigated was between encouragement from teachers to take more challenging courses and academic achievement that increased as more difficult and advanced courses were taken. In the middle school, teachers were found to have a statistically significant impact on students' behaviors linked to higher academic achievement. In contrast, guidance courselors had no impact.

In the high school study, the specific focus was on how teachers and guidance counselors impacted students' decisions to take higher-level science and math courses and the extent to which teachers and counselors provided assistance in planning programs of study. Research has demonstrated that students who take more math and science courses have higher achievement in those subjects (Gamoran, 1987; Lee and Bryk, 1988; Ma, 2000; Walberg, Fraser & Welch, 1986). The empirical research that directly related guidance and encouragement to course taking was limited to a few studies. Lee and Ekstrom (1987) indicated an indirect relationship between guidance and course taking. Nelson et al. (1998) found that students who reported higher levels of guidance were somewhat more likely to enroll in more advanced science and math courses.

Frome and Dunham concluded that high school students who received encouragement and guidance from actual guidance counselors were more likely to take more math and science courses than those who received encouragement and support mainly from teachers. The reverse was true for middle schoolers where teachers had a greater impact on student effort in schoolrelated tasks. Their study utilized data from the Southern Regional Education Board's Making Middle Grades Work initiatives, which included sixty-one middle schools in fourteen states and the Southern Regional Education Board's Making Schools Work for high schools. This data pool consisted of survey data from 991 students in seven states.

Table 1 (below) indicates the four research areas for this study and parallel references

from a review of literature.

Table 1

Summary of Concepts and Citations

Concepts	Reference Citations
1. Parent Participation	Hollifield (1995) Goldberg (1998) Zeigler (1993) Myrick & Myrick (1990) SREB (1994) Nation at Risk (1983) Title 1 (1994) Epstein & Hollifield (1996) IDEA (1996) National Educational Goals Panel (1998) Solomon (1991) Epstein (1995) Willis (1998) Sexton (1993) Chapman (1991)
2. Teacher Advisor Helped Develop A 4-year Plan	Myrick & Myrick (1990) Graham & Hawkins (1984) Pilkington & Jarman (1977) GA DOE (2005) Hardy (1999) FINE (2002) Garcia (2004)
3. Adult Mentor With Student All Four Years	Harris (1985) Jenkins (1992) Georges (1997) Witmer (1992) Cresswell & Rasmussen (1996) Dale (1993) Jones (1988) Wasielewski, Scroggs, & Scott (1997)
 Mentor/Advisor Helped Develop Course Choices 	Goldberg (1998) Jenkins (1977) Wonacott (2002) Bottoms & Preston (2000) Frome & Dunham (2002) Lee & Eckstram (1987) Nelson et al. (1998)

Existing studies and literature on the impact of teacher advisors who help high school students plan programs of study, select appropriately challenging coursework, work with the same students for four years, and involve parents in the planning and review process on a regular basis only implied a connection between these variables and student achievement. This study attempted to establish an empirical connection utilizing achievement data paired with student survey responses. Chapter III addressed the methodology of this study.

CHAPTER 3

RESEARCH DESIGN AND RESTATEMENT OF PURPOSE

The purpose of this study was to determine if teacher advisement programs in high schools that are members of the Southern Regional Education Board's "High Schools That Work" program had a significant impact on student achievement. As part of each school's participation in the HSTW program, the school administered the National Assessment of Educational Progress (NAEP) every two years to each senior who earned a Technical-Career Preparatory Diploma. This assessment tested students' knowledge in Reading, Mathematics, and Science. In addition, each student completed a 228 question survey designed to provide information on these students' course-taking patterns, the amount of time spent working on assignments and projects in each class, the amount of time spent in work outside of school, amount of parental involvement, the amount of extra help and encouragement provided by teachers and other school staff, and the amount of parental involvement reported by each student. By linking student responses to select survey questions with average NAEP scores in Reading, Mathematics, and Science, this study investigated the connection between those responses that indicated high levels of parental involvement, specific teacher advisement behaviors, and student achievement. A detailed description of the research design and procedures followed are presented in this chapter.

Null Hypotheses

The following were the null hypotheses for this study:

- There is not a significant difference in the average NAEP scores of those students who reported on the *HSTW* Student Survey that they had "taken part in a parent-teacherstudent conference or a parent-counselor-student conference once a year (or more often)" to plan their high school program of study and those students who reported that they had never had such a conference to plan their program of study.
- 2. There is not a significant difference in the average NAEP scores between students who reported on the *HSTW* Student Survey that "the person who helped them, the most in developing a 4-year education plan outlining the courses that should be taken was a teacher/advisor" and those students who indicated that no one helped them develop a four year plan.
- 3. There is not a statistically significant difference in the average NAEP scores between students who reported on the *HSTW* Student Survey that they "had an adult mentor or advisor who worked with them for all years of high school" and those students who reported that they did not have such a mentor/advisor.
- 4. There is not a statistically significant difference in the average NAEP scores between students who reported on the *HSTW* Student Survey "this mentor/advisor worked with you to develop your course choices for high school and to review your selections each year" and those students who reported that they did not have a mentor/advisor who performed these functions.

Sample/Population

For the purpose of this study, permission was obtained from Dr. Gene Bottoms, Executive Vice-President of the Southern Regional Education Board and Director of the *High Schools That Work* Program, to use data from the 2004 Student Assessment and Student Survey. (See Approval Letter in Appendix). This data pool contained individual student achievement scores on the NAEP and the Student Survey from 63,180 high school seniors. The number of student responses was reduced to 55,479 by eliminating those students whose data in any of the particular categories (gender, ethnicity, Reading score, Mathematics score, Science score, question 121, question 122, question 127, question 128) were incomplete. The group was reduced to 39,012 by eliminating the students who incorrectly answered the match between 127 and 128. This entire population was used to test the research hypotheses, and it was then disaggregated by gender and ethnicity so that differences in average scores on the four research questions could be further analyzed.

Instrumentation

For the purpose of this study, a data file containing the average NAEP scores for all students who participated in the 2004 *HSTW* Assessment was obtained. This assessment was administered to seniors in each participating high school in February 2004. This assessment also included a Student Survey. A reliability coefficient of +1 was calculated using the 'half split' or Spearman-Brown formula (two times the correlation of half of the population divided by one plus the correlation of the other), with the survey population divided into two groups of 19,506.

Both halves had a calculated correlation of one, which indicates a high reliability. The following Student Survey questions were among those included in this data file:

121 – "Throughout your time at this high school, about how often did you take part in a parent-teacher-student conference (or a parent-counselor-student conference) to plan your program of study?" Responses compared were – "Not at all", "Once or twice overall", "About once a year", "About once a semester", "Several times a semester".

123 – "Who helped you the **most** in developing a **four year education plan** outlining the high school courses you should take? (Select only <u>one</u> answer.) Responses compared were: "A guidance counselor", "A teacher/advisor", "Parent or other relative", "Friends", "No one helped me".

127 – "You had an adult mentor or advisor who worked with you for all four years of high school." Responses compared were – "Yes", "No".

If the answer to 127 was "Yes",

128 – "This mentor/advisor worked with you to develop your course choices for high school and to review your selections each year." Responses compared were – "Yes", "No".

Data Collection Procedure

Completed student assessments were returned to the Southern Regional Education Board in February 2004. *HSTW* staff tabulated results and calculated averages for various groups of students and for each specific school in the *HSTW* network for comparison purposes and to measure each school's progress in improving student achievement.

Statistical Analysis

Average NAEP scores were calculated for students in reading, mathematics, and science for the entire population and disaggregated by gender and ethnicity. Total averages which were actual averages of the three scores were computed for all students after data cleaning. These averages were then compared with the averages for students with specific responses from the Student Survey items listed above. The four Null Hypotheses were tested using one-sample t tests and two-tailed probability. The levels of significance and degrees of freedom were also reported. The independent variables were the average of the three scores on the three sections of the NAEP for students with select responses to survey questions. The dependent variables were the actual overall average of the three scores for the rest of the population and averages for each subject area– reading, mathematics, and science.

Significance Level

The minimum *p* value at which the Null Hypotheses was retained or rejected was set at .05. This choice of significance level was dependent upon the risk the researcher was willing to take in wrongly deciding to accept or reject the Null Hypotheses. The use of the .05 p value level in this study was an attempt to seek a balance between the risk of making Type I or Type II errors.

Descriptive statistics for the population were presented in Chapter 4 as well as average scores for the various subgroups identified in the research questions. The descriptive data was presented to demonstrate the average NAEP scores for groups by ethnicity and gender to present a total picture of the population for this study.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

Description of Population:

In analyzing the student data, each student was assigned an individual case number. Students with missing data in the gender and ethnicity categories were removed. Students were assigned values one for male and two for female. There were 24,052 males, and 27,239 females. Figure 1 below indicates the make up of the 51,291 students with information given about gender. Students were additionally given number assignments for ethnicity as follows: 1=White, 2=Black, 3=Hispanic, 4=Asian, 5=Native American, and 6=Multi-racial. Figure 1 below illustrates the population of each ethnicity.



Figure 1: Ethnicity of Population By Number

Data Cleaning:

Beginning with a total number of survey responses for 63,180 students, data were cleaned by removing cases with information missing in gender, ethnicity, and any of the test scores for Mathematics, Science, or Reading. Further, students were removed for improperly correlating question Sq127 with Sq128. These questions dealt with advisement planning and advisement for all four years respectively.

Analysis of Average Test Scores by Gender & Ethnicity:

With a population of 51,291 respondents, a sample of at least 8,089 at the 5% confidence level and 12, 565 at the 1% confidence level is required. Mathematics, Science, and Reading scores were averaged and the 'AVERAGE' scores for the entire population, males, females, and ethnicity groups are reported below in Figure 2.



Figure 2: Average Test Scores by Gender and Ethnicity

(For scores broken down into Reading, Mathematics, and Science by gender and ethnicity see Figure 7 and Table 9 in the Appendix.)

The Frequency of Scores:

Using Excel to calculate frequency, the graph below (Figure 3) indicates the frequency of scores for the entire population of 51,291 students (before the removal of incorrectly related answers from Sq127 and Sq128).



Figure 3: Frequency of Scores

Although this study did not compare groups' mean achievement scores to the average of the total population, these data are presented in order to illustrate the performance level of the entire population. (See Table 10 in the Appendix).

Statistical analyses were presented for the comparisons between the NAEP scores of subgroups of students as determined by responses on selected questions from the *HSTW* assessment. Specifically, the purpose of this study was to investigate the correlation between behaviors or activities associated with teacher advisement programs (to include parent contact and conferencing about a student's program of study) and students' academic achievement as measured by scores on the NAEP in Reading, Mathematics, and Science.

Findings in this study were presented in three parts. The first part addressed the correlation between parent conferences to plan and review programs of study and student achievement. The second part addressed the individuals most involved in helping students develop and review their four year plan. The third part addressed the impact of having a teacher advisor for all four years of high school, and the extent to which that teacher advisor helped in yearly review and selection of courses.

Data were analyzed using a one–sample t-test, and the confidence interval was set at 95%. Statistical significance was determined at p < .05. Descriptive statistics were obtained using Excel, and placed in Tables 11-13 in the Appendix. Table 2 (below) displays each of the subgroups' NAEP averages by response on student survey question Sq 121. Tables 14 and 15 in the Appendix specifically chart the responses to Sq121 and Sq123 related to Sq127 and Sq128. Table 16 in the appendix indicates average NAEP scores by gender and ethnicity for the impact of advisement.

Descriptive and Data Analyses for HSTW Assessment Students Table 2: The Impact of Parent Conferences *HSTW* Assessment Students Mean and Standard Deviations for Average NAEP Scores and Sub-scores of Reading, Mathematics, and Science

	<u>M</u>	<u>SD</u>	<u>n</u>	M	<u>SD</u>	<u>n</u>		
	Students with No Parent Conferences			Students Parent C	Students with One Or Two Parent Conferences Overall			
Average NAEP Score	291.73	28.65	24,706	293.71	27.01	11,021		
Reading	280.30	29.47	24,706	282.42	27.65	11,021		
Mathematics	300.95	29.83	24,706	302.94	28.23	11,021		
Science	293.93	37.38	24,706	295.76	32.43	11,021		
	Student C	ts with No Conference	o Parent es	Stud Confe	lents with erence Per	One Year		
Average NAEP Score	291.73	28.65	24,706	293.55	27.49	8,247		
Reading	280.3	29.47	24,706	282.36	28.17	8,247		
Mathematics	300.95	29.83	24,706	302.49	28.80	8,247		
Science	293.93	37.38	24,706	295.81	35.77	8,247		
	Students with No Parent Conferences			Stud Confere	Students with One Conference per Semester			
Average NAEP Score	291 73	28.65	24 706	294 56	26 71	5 281		
Reading	291.75	20.05	24,700	294.50	20.71	5 281		
Mathematics	300.95	29.47	24,700 24,706	303.43	27.04	5 281		
Science	293.93	37.38	24,706	297.08	34.26	5,281		
	Students with No Parent Conferences			Stude Conf	nts with S erences a	everal Year		
Average NAEP Score	291.73	28.65	24,706	292.27	26.93	2,032		
Reading	280.30	29.47	24,706	281.35	27.79	2,032		
Mathematics	300.95	29.83	24,706	300.72	28.26	2,032		
Science	293.93	37.38	24,706	294.75	35.12	2,032		

Table 3: The Impact of Parent Conferences

Statistical Analysis: One Sample t Test Results for Sq 121

121-1 w/ 121-2	121-1 w/121-3	121-1 w/ 121-4	121-1 w/ 121-5	
One Conference	One Per Year	One Per Semester	Several Conferences A Year	
<u>P value and statistical</u> <u>significance:</u>	<u>P value and statistical</u> <u>significance:</u>	<u>P value and statistical</u> <u>significance:</u>	<u>P value and statistical</u> <u>significance:</u>	
The two-tailed P value < 0.0001	The two-tailed P value < 0.0001	The two-tailed P value <0.0001	The two-tailed P value = 0.3611	
Significant	Significant	Significant	Not Significant	
Confidence interval:	<u>Confidence interval:</u>	Confidence interval:	<u>Confidence interval:</u>	
The hypothetical mean is 291.7263787000	The hypothetical mean is 291.7263787000	The hypothetical mean is 291.7263787000	The hypothetical mean is 291.7263787000	
The actual mean is 293.7060231000	The actual mean is 293.5546590000	The actual mean is 294.5644545000	The actual mean is 292.2724166000	
The difference between these two values is 1.9796444000	The difference between these two values is 1.8282803000	The difference between these two values is 2.8380758000	The difference between these two values is 0.5460379000	
The 95% confidence interval of this difference:	The 95% confidence interval of this difference:	The 95% confidence interval of this difference:	The 95% confidence interval of this difference:	
From 1.4753148904 to 2.4839739096	From 1.2348849007 to 2.4216756993	From 2.1176594524 to 3.5584921476	From -0.6262303904 to 1.7183061904	
<u>Intermediate values</u> used in calculations:	<u>Intermediate values</u> used in calculations:	<u>Intermediate values</u> used in calculations:	<u>Intermediate values</u> used in calculations:	
t = 7.6943 df = 11020 standard error of difference = 0.257	t = 6.0396 df = 8246 standard error of difference = 0.303	t = 7.7230 df = 5280 standard error of difference = 0.367	t = 0.9135 df = 2030 standard error of difference = 0.598	

The Impact of Parent Conferences:

Students were asked on question Sq121 about how often they took part in a parent-teacher-student conference (or parent-counselor-student conference) to plan their high school course of study. The possible responses were 1=not at all, 2=about once or twice overall, 3=about once a year, 4=about once a semester, or 5=several times a year. Figure 4 below illustrates the differences in average NAEP scores for students who reported having no conferences with those who indicated they participated in conferences several times a year.



The Impact of Parent Conferences

Figure 4: The Impact of Parent Conferences

Each group, that indicated at least one parent conference per year was held to develop and review their high school program of study, was compared with the group that indicated that they took part in no parent conferences for the purpose of developing or reviewing their program of study. Results indicated that the mean average NAEP score for students with any number of parent conferences was higher than for those students who indicated that no parent conferences took place. In every case except those in which students reported several conferences a year, the difference was statistically significant at the p<. 05 level. The greatest difference between means was for those students who reported participating in parent-teacher-student conferences once per semester. See Figure 4 on the previous page for a graphic presentation of these same data.

The Impact of Program Planning Assistance:

Table 4 on the following page illustrates the difference in average NAEP scores between those students who indicated that no one helped them develop a four year plan of study, and students who indicated that different others assisted them in preparation of their 4-year plan. Specifically, the research question asked if there were a statistically significant difference between the achievement of students with no one to help them develop a program and those students who had teacher-advisors help develop their four year plan. The only group of students whose average NAEP scores were *lower* than the students who had no one help them develop a plan was the group that reported having help provided by a *friend*. Table 15 in the appendix further displays the scores by gender and ethnicity.

Table 4:The Impact of Program Planning Assistance Descriptive and Data Analyses for HSTW Assessment Students HSTW Assessment Students Mean and Standard Deviations for Average NAEP Scores and Sub-scores of Reading, Mathematics, and Science

	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u> <u>SD</u> <u>n</u>
	Students with No Help in Four Year Plan			Students with Teacher/Advisor Help in Four Year Plan
Average NAEP Score	293.56	27.48	8,225	294.42 26.83 6,353
Reading	282.36	28.17	8,225	282.89 27.94 6,353
Math	302.45	28.79	8,225	303.27 28.20 6,353
Science	295.83	35.74	8,225	297.09 34.40 6,353
	Studen in Fo	ts with I our Year	No Help Plan	Students with Counselor Help in Four Year Plan
Average NAEP Score	293.56	27.48	8,225	293.91 26.89 17,717
Reading	282.36	28.17	8,225	282.45 27.81 17,717
Math	302.45	28.79	8,225	303.07 28.02 17,717
Science	295.83	35.74	8,225	296.22 35.32 17,717
	Students with No Help in Four Year Plan			Students with Parent Help In Four Year Plan
Average NAEP Score	293.56	27.48	8,225	293.92 26.66 14,890
Reading	282.36	28.17	8,225	282.46 27.63 14,890
Math	302.45	28.79	8,225	303.20 27.86 14,890
Science	295.83	35.74	8,225	296.09 34.93 14,890
	Students with No Help in Four Year Plan			Students with Friend Help In Four Year Plan
Average NAEP Score	293.56	27.48	8,225	292.41 26.68 4,106
Reading	282.36	28.17	8,225	281.12 27.86 4,106
Math	302.45	28.79	8,225	301.19 28.11 4,106
Science	295.83	35.74	8,225	294.91 34.23 4,106

The only statistically significant differences found between these subgroups were between students with no help and help provided by a teacher-advisor, *and* no help and help provided by a friend. The students' scores with help from teacher-advisors were significant at the p<. 05 level with this group having higher average NAEP scores. Students who said a friend helped them the most in developing their four year plan of study had scores significantly lower than the students who reported no help. See Table 5 (below) for the t-test results for each response group.

	-	-	
123-5 w/ 123-1	123-5 w/ 123-2	123-5-1 w/ 123-3	123-5 w/ 123-4
Counselor	Teacher/ Advisor	Parents	Friends
P value and statistical significance:	P value and statistical significance:	P value and statistical significance:	P value and statistical significance:
The two-tailed P value = 0.0793	The two-tailed P value = 0.0107	The two-tailed P value = 0.0989	The two-tailed P value = 0.0058
Not Significant	Significant	Not Significant	Significant
Confidence interval:	Confidence interval:	Confidence interval:	Confidence interval:
The hypothetical mean is 293.5570040000	The hypothetical mean is 293.5570040000	The hypothetical mean is 293.557004000	The hypothetical mean is 293.5570040000
The actual mean is 293.9115830000	The actual mean is 294.4159806000	The actual mean is 293.917556900	The actual mean is 292.4068499000
The difference between these two values is 0.3545790000	The difference between these two values is 0.8589766000	The difference between these two values is 0.360552900	The difference between these two values is - 1.1501541000
The 95% confidence interval of this difference:	The 95% confidence interval of this difference:	The 95% confidence interval of this difference:	The 95% confidence interval of this difference:
From -0.0414658629 to 0.7506238629	From 0.1990143028 to 1.5189388972	From -0.067650837 to 0.788756637	From -1.9666844338 to -0.3336237662
Intermediate values used in calculations:	Intermediate values used in calculations:	Intermediate values used in calculations:	Intermediate values used in calculations:
t = 1.7549	t = 2.5515	t = 1.6504	t = 2.7616
df = 17716	df = 6352	df = 14889	df = 4105
standard error of difference = 0.202	standard error of difference = 0.337	standard error of difference = 0.218	standard error of difference = 0.416

Table 5: The Impact of Program Planning AssistanceOne Sample t Test Results for Sq 123

The Importance of Assistance in Program Planning:

Question Sq123 allowed students to indicate who, if anyone, offered assistance in their course planning throughout high school. Responses were assigned as follows; 1=guidance counselor, 2=teacher/advisor, 3=parent(s), 4=friends, and 5=no one helped plan the course of study. Figure 5, below, compares the test scores of students accordingly. This is for the population of 51,291 before Sq127 and Sq128 responses were filtered.



Figure 5: The Impact of Program Planning Assistance

The last two questions on the student survey were connected. Question 127 asked if students had an advisor/mentor for all four years of high school. Question 128 asked if the response to 127 was "yes", did that advisor/mentor assist with developing and reviewing the student's course of study each year. In comparing students who reported having a four year advisor with those who said they did not have an advisor, there was no statistically significant difference between their average NAEP scores. Table 6 illustrates the average NAEP scores between students with four year advisors, those without, and those who had four year advisors who reviewed their programs of study and course selections each year.

Focus on Yearly Advisement for All Four Years:

Table 6 (below) provides the average NAEP scores of students with and without an advisor who helped plan a course of study all four years compared to the students with no advisement at all and the entire population.

	Standard for Entire Population	Advisor for 4 years with Yearly Advisement	Advisor Withou Yearly Advisement	t No Advisement
All	291.78	284.08	289.72	300.21
All female	292.32	283.98	289.90	297.40
All male	292.30	284.17	289.51	304.15
White	296.82	289.26	294.92	304.32
White female	296.68	289.73	295.05	302.04
White male	296.97	271.70	294.77	307.24
Black	278.57	272.86	276.37	287.03
Black female	279.17	273.86	277.97	284.95
Black male	277.61	273.87	273.88	291.32
Hispanic	284.42	278.00	282.37	292.48
Hispanic female	283.78	277.49	282.63	289.56
Hispanic male	285.15	278.44	282.06	303.12
Asian	292.01	282.73	288.16	299.39
Asian female	292.54	284.01	290.59	296.72
Asian male	291.51	285.84	285.84	294.29
Native American	284.30	273.46	287.05	303.12
Native American female	286.14	278.15	288.94	299.39
Native American male	282.53	270.04	285.24	307.64
Multi-racial	289.95	281.26	287.23	300.71
Multi-racial female	290.54	280.07	288.67	299.60
Multi-racial male	289.27	282.31	285.24	302.48

Table 6: The Effect of Yearly Advisement for Four Years

Descriptive and Data Analyses for HSTW Assessment Students Table 7: The Impact of Advisement HSTW Assessment Students Mean and Standard Deviations for Average NAEP Scores and Sub-scores of Reading, Mathematics, and Science

	Students Without A Four Year Advisor Mentor			Students Adv	Students With A Four Year Advisor/Mentor		
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	
Average NAEP Score	297.38	27.23	18,831	297.10	26.76	30,179	
Reading	285.02	27.40	18,831	284.72	27.70	20,179	
Math	306.59	27.23	18,831	306.35	27.38	20,179	
Science	300.52	34.99	18,831	300.21	35.22	20,179	
	Students	s Without	t A Four	Students Year A	s Without Advisor/ M	t A Four Mentor	
	Year A	Advisor N	I entor	Without	Without Help Each Year		
Average NAEP Score	297.38	27.23	18,831	295.49	26.76	3,931	
Reading	285.02	27.40	18,831	283.19	27.70	3,931	
Math	306.59	27.23	18,831	304.59	27.70	3,931	
Science	300.52	34.99	18,831	298.68	34.63	3,931	
				Students	With A F	Four Year	
	Students Without A Four Year Advisor Mentor			Advisor/ All	Mentor V Four Ye	Vith Help ars	
Average NAEP Score	297.38	27.23	18,831	297.73	26.17	16,247	
Reading	285.02	27.40	18,831	285.40	27.15	16,247	
Math	306.59	27.23	18,831	307.04	26.76	16,247	
Science	300.52	34.99	18,831	300.76	34.48	16,247	

Table 7 (above) illustrates the level of statistical significance between students who reported having an advisor who helped them each year for four years and those students who had advisors that did not provide the yearly review of program and course selections. There was no statistically significant difference between the average NAEP scores of those students who reported having no advisor and those who reported having an advisor. Likewise, there was no statistically significant difference between the NAEP scores of those students who reported having no advisor and those students who reported having an advisor who did not provide yearly assistance in reviewing and planning a course of study. The difference between students who reported having no advisor and having an advisor that did not assist them yearly was significant. Students who had advisors that did not assist them in planning and reviewing their course selections each year had average NAEP scores that were significantly lower than those students who reported having no advisor at all. Figure 7 (Appendix) illustrates differences in NAEP scores for ethnic groups by the involvement of an advisor. Interestingly, Asian and black students seemed to benefit most from having a four year advisor.

Impact of Advisor:

Table 8 on the following page lists the t test results for students with an advisor, those with an advisor all four years who assisted in planning, and those who had an advisor who did not help plan course study all four years compared to those without an advisor at all.

Table 8: The Impact of Advisement

127-2 w/ 127-1	127-2 w/ 127-1 and 128-1	127-2 w/ 127-1 and 128-2
Advisor	Advisor Assisted All Four Years	Advisor Did Not Assist All Four Years
P value and statistical significance:	P value and statistical significance:	P value and statistical significance:
The two-tailed P value equals 0.1369	The two-tailed P value equals 0.0848	The two-tailed P value equals 0.0058
Not Significant	Not Significant	Significant.
Confidence interval:	Confidence interval:	Confidence interval:
The hypothetical mean is 297.3765000	The hypothetical mean is 297.3765000	The hypothetical mean is 297.3765000
The actual mean is 297.0963000	The actual man is 297.7304000	The actual mean is 295.4863000
The difference between these two values is - 0.2802000	The difference between these two values is 0.3539000	The difference between these two values is - 1.18902000
The 95% confidence interval of this difference:	The 95% confidence interval of this difference:	The 95% confidence interval of this difference:
From -0.6494168 to 0.0890168	From -0.0485223 to 0.7563233	From -1.9666844338 to -0.3336237662
Intermediate values used in calculations:	Intermediate values used in calculations:	Intermediate values used in calculations:
t = 1.4875 df = 20178 standard error of difference = 0.188	t = 0.8292 df = 2190 standard error of difference = 0.177	t = 4.4287 df = 3930 standard error of difference = 0.427

Statistical Analysis: One Sample t Test for Sq127 and 128



Figure 6: The Impact of Advisement

These data were collected from question Sq127 (regarding yearly advisement) from the *HSTW* survey. Students were asked to respond 1 for 'yes' and 2 for 'no' as to whether or not they had an advisor who worked with them all four years of high school. The graph (Figure 6) above illustrates the performance differences by each group based on the amount of advisement received.

Acceptance or Rejection of Null Hypotheses:

- The first Null Hypothesis, that there is no statistically significant difference between the average NAEP score of students who were not involved in parentteacher-student (or parent-counselor-student) conferences and the average NAEP score of students who participated in such conferences once a year or more is rejected. The average NAEP score for students who reported having taken part in NO such conferences was 291.73. Students who reported having taken part in one to two conferences overall had a NAEP average of 293.71. Students, who reported having taken part in conferences at least once a year, had an average NAEP score of 284.56. Students, who reported having taken part in conferences several times a year, had an average NAEP score of 292.27.
- 2. The second Null Hypothesis, that there is no statistically significant difference between the average NAEP scores of students who reported the person who helped them most throughout high school was a teacher/advisor, and students who reported that they had no help throughout high school, is rejected. The average NAEP score for students who reported they had help from a teacher/advisor was 294.41, while the average score for those who reported they had no one to help them throughout high school was 293.56. Additionally, students who reported that the person who helped them most throughout high school was a counselor had an average score of 293.91. Students who reported that the person who helped them most was a parent had an average of 293.92. Students who reported having the most help from a friend had an average score of 292.41.

- 3. The third Null Hypothesis, that there no statistically significant difference between the average NAEP scores of students who had an adult mentor/advisor all four years of high school and those students who reported they had no mentor/advisor <u>is accepted</u>. Students who reported that they had a mentor/ advisor for all four years had an average NAEP score of 297.10, while students who reported having no mentor/advisor had an average NAEP score of 297.38.
- 4. The fourth Null Hypothesis, that there is no statistically significant difference between the average NAEP scores of students who reported they had an advisor for all four years, and that this advisor helped them select and review their course selections each year, and those students who had an advisor all four years, but this advisor did not provide yearly help in selecting and reviewing and selecting courses, is rejected. Students who reported having an advisor who did not help each year had an average NAEP score of 295.49, while students who reported having an advisor who helped review course selections and programs of study each year had an average NAEP score of 297.73.

CHAPTER 5

INTERPRETATION OF RESULTS

The intent of this study was to determine if a correlation existed between certain high school advisement program characteristics and student achievement. Many authors and educational reform movements have touted the benefits of high school advisement programs and encouraged schools to develop such programs in order to personalize the high school years for students and to provide for their affective needs. Given the effort and energy necessary to create a comprehensive teacher-advisor program, this study sought to establish a connection between such programs and student achievement using NAEP scores and survey responses from the 2004 *High Schools That Work* Assessment.

Parental Involvement in Conferences to Plan Program of Study:

Parental involvement can take many forms, but it has always been promoted as a foundation for student success, especially for students who are considered economically disadvantaged. Federal Title I legislation mandates parental involvement programs for schools and districts to continue to receive federal funds for disadvantaged students. In the case of high school advisement programs, parent involvement has often been used in the context of partnering with a teacher/advisor to assist in planning and reviewing a student's program of study. The premise has been that parents were typically uninvolved in this process and had no input into the courses selected by their student. Parents also did not

understand the reason why more academically challenging courses should be taken by their student as part of a focused program of study. By involving parents in this aspect of advisement, the expected outcome was that students would take more challenging academic courses and would have higher academic achievement based on standard measures such as the NAEP. Since the data for this study came from the *High Schools That Work* Assessment, it was reasonable to expect that member schools had instituted some type of teacher advisor system. Indeed, teacher advisor systems have been of major interest to participating schools as evidenced by the sheer number of professional training opportunities available to member schools through SREB.

In this context, the results of this study seemed to support the notion that increased parental involvement, as indicated through the number of parent-teacher-student (or parent-counselor-student) conferences to plan a program of study, positively affected student achievement on the NAEP. Students in this group may or may not have had an advisor; however, it was most likely that they did as the action of advisors' conferencing with parents about course selections and program of study was common in many *HSTW* schools that had teacher advisor programs. Students who reported having never participated in such a conference once per semester had the highest average. Again, this was consistent with the practice of conferencing each time students begin a new semester or term where new classes are selected. Students who reported "several conferences per year" had the lowest mean score, but this difference between the mean and the mean of those students who reported no conferences was not statistically significant. This finding was in keeping with the assertions of Epstein and Hollifield (1996) wherein they maintained that when parents sent

the same message as school personnel on the importance of academics, achievement was impacted in a greater fashion than when the message was emphasized by school personnel alone. In addition, Sexton (1993) pointed out the lack of state policy mandates regarding parental involvement, but in light of the findings of this study, such mandates should be considered. The results of this study indicated that parental involvement was associated with higher student achievement.

Teacher Advisor As Person Who Helped the Most in High School:

Teacher advisors were generally used to assist with some of the key guidance functions in high schools because of the large numbers of students assigned (300-450) per guidance counselor. By being responsible for a smaller number of students (15-25), and by maintaining the same students for four years, the teacher advisor was able to provide academic guidance and monitoring for this group more effectively and on a more personal basis than was possible for high school guidance counselors. The results of this study indicated that there was a statistically significant difference in the average NAEP score of students who reported receiving most help from a teacher advisor and the average NAEP score of those students who reported having no one to help them throughout high school. The students who indicated that a teacher advisor helped them most also had higher average scores than those who indicated a counselor, a friend, or a parent had helped them the most throughout high school. For those students who reported receiving help from *someone*, the highest average score was associated with a teacher advisor, and this score was significantly higher than the score for those who reported that no one had helped them. The average scores for help a teacher advisor, a guidance counselor, and a parent were all significantly higher

than the average NAEP score for those students who reported that no one helped them plan their program of study.

Again, Hollifield (1996) presented a case for involvement with students by referring to the fact that over half of the students in his study reported that they made decisions alone about their high school course of study. Hardy (1999) also alluded to the importance of advisor involvement in describing the success of Littleton High School, although he did not make a direct case for improved student achievement. Jenkins (1992) did not refer to achievement when advocating advisor involvement in helping students, but he did indicate a reduction in drop out rate. The same assertions were made by Georges (1997) and Witmer (1992). The data from this study suggested that students did benefit from assistance from adults in planning their program of study in terms of increased academic achievement, with the most benefit coming from a teacher advisor.

Teacher Advisor for All Four Years of High School:

Another key feature of the teacher advisement systems advocated by *High Schools That Work* was that the advisor-student relationship endured for all four years of high school. Such an arrangement allowed for relationships between advisors and advisees to become more meaningful and supportive for the student. Advisors were able to get to know the advisees better, and they could form bonds with the students and the students' parents. Parents then had a designated staff member to go to for assistance with academic questions or for general advice. The results of this study indicated that there was no statistically significant difference between students who reported that they did not have an advisor or mentor for all four years of high school and those who did have an advisor or mentor for all four years. There was a
statistically significant difference between the average NAEP scores of students who had no advisor and students who had an advisor who assisted them with review of course selection and program planning each year.

In their description of a successful advisory program, Wasielewski, Scruggs, and Scott (1997) stressed the amount of individual attention each student received as an anxiety reducer that would then allow achievement to flourish. Green (1997) also mentioned this factor as one that could influence student achievement. The notion that both authors promoted was that students who felt better about themselves and were not stressed would perform at higher levels. This study suggested the same conclusion. Students who received regular monitoring and assistance from teacher advisors had higher achievement than those who did not.

Implications for Further Study:

NAEP scores and student survey responses were used by SREB to connect certain practices and student behaviors to increased achievement for schools in the *High Schools That Work* network. The comparisons in this study yielded the expected results; however, there were aspects of the study and the subjects (students) that merited closer examination, as they could not be completely isolated for the purposes of this research.

First, these data did not allow for the isolation of advisement from other variable that can impact student achievement. Schools in the *HSTW* network were committed to implementing ten Key Practices, with only one of these being providing an individualized guidance and advisement experience for each student. The degree to which schools have implemented the other nine Key Practices could impact scores regardless of the quality of the advisement

program. In addition, schools in the *HSTW* network had a wide range of demographics and included urban, suburban, and rural communities. Finally, teacher advisor systems have been implemented in many forms in *HSTW* member schools (as well as schools not in the *HSTW* network). Some schools simply had traditional homerooms that they called "advisement". Few schools had staff willing to make the commitment necessary to conference regularly (at least once per year) with the parents of their advisees. Based on the items from the student survey, there was no way to isolate well-developed advisement systems from those that existed in name only except by adding the variable of program review conferences with parents.

Secondly, the actual *HSTW* Assessment, including the NAEP and Student Survey, was sometimes seen by students as unimportant as it had no bearing on the student's grade or graduation status. Indeed, the assessment administrator's materials addressed the need for school officials to find ways to "sell" the importance of this test to the students by telling them that the assessment would provide school-level data that could be useful to school leaders in their future school improvement efforts. Because the assessment may not have been perceived as important to some students, their effort may not have been an accurate reflection of their actual achievement level.

Third, students could easily have interpreted survey questions differently. Students may have interpreted a question that asked them to report the number of parent-teacher-student (or parent-counselor-student) conferences in which they participated to plan their program of study to mean any parent-teacher-student (or parent-counselor-student) conference. In this example, it was reasonable to expect that the poorest performing students were involved in the most conferences with school staff members, although these conferences may not have

had as their primary focus the development or review of a program of study. Typically, weaker performing students received more attention and more attempts to involve parents than did higher performing students.

Finally, the main goal of the HSTW program has been to raise the academic achievement of the non-college bound students to the national average for all students. The program has advocated high expectations for all students, but its focus has been on the students who were seeking a Technical-Career Preparatory Diploma and who traditionally have not been exposed to demanding academic content nor expected to master such content. These students are the ones who were intended to be tested on the HSTW Assessment. In addition, students who were completing a College-Preparatory AND Technical-Career Preparatory Diploma (or Dual Endorsement Diploma) may also have been included in the assessment by some schools. Students who were pursuing a Dual diploma program have taken college-prep or honors classes and have structured their elective choices in such a way as to earn the necessary credits to add a Technical-Career seal to their diploma. These students were generally higher performing because of their coursework and their focus, and they were students who may not have needed nor wanted the involvement of a teacher advisor even if one were assigned to them. In addition, it was not typically necessary to involve parents of these students to get them to perform at acceptable levels or to plan challenging programs of study.

A study in which a school or (group of schools with similar demographics) were compared with another school (or group of schools with similar demographics), and where the variables of teacher advisement program and parental participation in the advisement process in terms of program planning could be controlled, might come closer to revealing a

clearer picture of the impact of these two variables on student achievement. Such a study would benefit from the use of an assessment that high school students are inclined to take seriously, such as the SAT, ACT, or a state high school exit exam.

The results of this study, however, can be used to support the common practice of involving parents and teachers in an advisement program. Such programs are advocated by wide-spread reform initiatives such as *High Schools That Work*, as well as state level school improvement efforts, and they require school staff to see their roles in much different contexts than the ones they were trained for in their education preparation programs. Given the potential of teacher advisement (with parental participation in the advisement process) to impact student achievement, the energy and effort associated with maintaining such programs is warranted.

REFERENCES

American Educational Research Association, personal communication, March 24-28, 1997.

Boorstein, G. (1997). <u>A study of advisory</u>. Master's Thesis, Bank Street College of Education, New York.

Carlson, R. & Mable, T. (September 1976). Evaluating the teacher-adviser." <u>NASSP</u> <u>Bulletin</u>. 33-39.

Chapman, W. (January 1991). The Illinois experience: State grants to improve schools through parent involvement. <u>Phi Delta Kappan, 72</u>(5), 355-358.

Clerk, F.E. (1928). <u>A Description and Outline of the Operation of the Adviser-Personal</u> <u>Plan at New Trier High School, Winnetka, Illinois.</u>

Cresswell, R. & Rasmussen, P. (December 1996). Developing a structure for

personalization in the high school. NASSP Bulletin, 27-31.

Cushman, K. (September 1990). Are advisory groups 'essential'? What they do, how they work. Horace (The Coalition of Essential Schools), 1-8.

Dale, P. E. (1995). <u>Developing an effective advisor/advise program</u>. Phi Delta Kappa Fastback 393.

Davies, D., Burch, P. & Palanlie, A. (1991). "Is Chapter 1 a good policy tool for family – school partnership?' Equity and Choice. 59-61.

Edwards, J. (January 1991) To teach responsibility, bring back the Dalton Plan. <u>Phi Delta</u> <u>Kappan</u>, 398-401. Epstein, J. (1995). School/family/community partnerships-caring for the children we serve." <u>Phi Delta Kappan.</u> 701-712.

Epstein, J. L. & Hollifield, J. H. (1996). Title I and school-family-community partnerships: Using research to realize the potential. <u>Journal of Education for Students</u> <u>Placed at Risk.</u> 263-278.

Frome, P. & Dunham, C. (2002) <u>Influence of School Practices on Students'</u> Academic Choices. RTI and SREB, Raleigh, NC, & Atlanta, GA.

Gamoran, A. (1987). The stratification of high school learning opportunities.

Sociology of Education.60. 135-155

Garcia, V. (2004). "The New Mexico High School Initiative". New Mexico Public Education Department.

Gardner, D.A. (1983). <u>Nation at risk: The imperative for educational reform</u>. Washington, DC: U.S. Department of Education.

Geoges, A. (1997). Effects of access to counseling and family background on At Risk students.

Georgia Department of Education. (2005) "Why Guidance and Advisement?"

Training materials for school improvement consultation visits.

Golberg, M. F. (1998). <u>How to design an advisory system for a secondary school</u>, Alexandria, VA. ASCD.

Graham, D. & Hawkins, M. L. (March 1984). Advisement programs: Turning failure into success." <u>NASSP Bulletin</u>. 82-88.

Green, R. L. (1997). In search of nurturing schools: Creating effective learning conditions. <u>NASSP Bulletin</u> 17-26.

Hagborg, W. J. (January 1993). High school student perceptions and satisfaction with group advisory. <u>Psychology in the Schools</u>, 46-51.

Hardy, L. (September 1999). "A Cold Climate". <u>American School Board Journal</u>, 76-82.

Harris, L. (1985). <u>Metropolitan Life Poll of the American Teacher</u>. New York: Metropolitan Life Foundation.

Hollifield, J. H. (1995). High schools gear up to create effective school and family partnerships. <u>New Schools-New Communities, 11(2)</u>, 26-31.

James, M. (1989). <u>Adviser-advise programs: Why, what, and how</u>. Columbus: National Middle School Association.

Jenkins, J. M. (1992). <u>Advisement programs-a new look at an old practice</u>. Reston, Virginia: National Association of Secondary School Principals.

Jenkins, J. M. (January 1992). Personalized education through advisement.

International Journal of Educational Reform, 73-75.

Jenkins, J. M. (September 1977). The teacher adviser: An old solution looking for a problem." <u>National Association of Secondary Schools Principles Bulletin</u>, 29-34.

Killin, T. & Williams, R. (1995). The value of advisory programs-making a difference in school climate, counseling services, and student success. <u>NASSP Bulletin</u> 44-50.

Lee, V.E. & Bryk, A.S. (1988). Curriculum tracking as mediating the social distribution of high school achievement. <u>Sociology of Education</u>. 61(2). 78-94

Lee, V.L. & Ekstrom, R.B. (1987) Student access to guidance counseling in high school. <u>American Educational Research Journal</u>.24.287-310.

Ma, X. (2000). A longitudinal assessment of antecedent course work in mathematics and subsequent mathematical attainment. <u>The Journal of Educational</u> <u>Research</u>. 94. 16-28.

Manning, M. L. & Saddlemire, R. (March 1998). High school advisory programs: The Roosevelt Roads Experience. <u>The Clearing House</u>. 239-241.

Mid-Prairie High School. (2001) "Mid Prairie High School's Adviser-Advisee Program". http://www.finefoundation.org/Recognition/rec-2002-summary-Mid-Prairie.shtml

McCluer North High School. (2006) "U.S. Blue Ribbon School" http://www.fergflor.org/MN/MNblueribbon.html

Myrick, R. D. & Myrick, L. S. (1990). <u>The teacher advisor program-an innovative</u> <u>approach to school guidance</u>. Ann Arbor: ERIC Counseling and Personnel Services Clearinghouse.

National Association of Secondary School Principals. (1996). <u>Breaking ranks:</u> <u>Changing an American Institution</u>. Reston, VA. NASSP.

National Education Goals Panel. (1998). <u>The National Education Goals report:</u>

Building a Nation of Learners. Washington, D.C. U.S. Government Printing Office.

Nelson, D.E., Fox, D.G. & Gardner, J.L. (1998) <u>Study II: Contrasts between</u> <u>students in high implementation and low implementation high schools in the Utah</u> <u>Comprehensive Guidance Program</u>. Salt Lake City, UT: The Institute for behavioral Research in Creativity.

Pilkington, R. A. & Jarmin, H. R. (April 1977). Teacher-adviser or teachercounselor." <u>NASSP Bulletin</u>. 80-83.

Schmidt, J. (November 1995). Assessing school counseling through external reviews. <u>The School Counselor</u>. 114-123.

Sexton, R. F. (1993). Building family-friendly communities-Observations and lessons from two years of Kentucky School Reform. <u>Equity and Choice, 9(2)</u>, 10-14.

Solomon, Z. (1991). California's policy on parent involvement: State leadership for local initiatives." Phi Delta Kappan, 363-366.

Southern Regional Education Board. (1994). <u>Involving teachers, parents, and the</u> <u>community in guiding all students into a challenging program of study: High Schools</u> <u>That Work Site Development Guide #5: Guidance, Atlanta, Georgia.</u>

Trump, J. L. (September 1977). Are counselors meeting student and teacher needs?" <u>NASSP Bulletin</u>, 26-28.

Visher, M, Emanuel, D, & Teitelbaum, P. (1999). <u>Key high school reform</u> <u>strategies: On overview of research findings</u>. Berkeley, CA. MPR Associates for the United States Department of Education.

Walberg, H., Fraser, B, Welch, W. (1986) A test of a model of educational productivity among senior high school students. Journal of Educational Research. 79. 133-139.

Wasielewski, R., Scruggs, M., & Scott, C. (March 1997). Student groups conducted by teachers: The teachers as counselors (TAC) program. <u>Journal for</u> <u>Specialists in Group Work</u>, 43-51.

Willis, M. (1988). School improvement councils and parent involvement: A required opportunity in South Carolina. <u>Equity and Choice, 4(3), 39-43</u>.

Witmer, J. T. (May 1992). Teachers as advisers-personalizing the impersonal high school. <u>The Executive Educator</u>. 41-42.

Wonacott, M. (2002). "High Schools That Work: Best practices for CTE".

Practice Application Brief no. 19.http://www.cete.org/acve/docgen.asp?tbl=pab&ID=109

Zeigler, S. (June 1993). Teacher advisory groups: What, why, how, and how successful? <u>Scope-Research Services</u>, Toronto, Canada.

April 22, 2004

Dear Ken:

Dr Bottoms has agreed to let you use parts of the High Schools That Work survey and assessment data for your dissertation project. Attached, please find the HSTW student and teacher surveys and a usage agreement form for your completion.

The surveys are being granted with the following stipulations:

- They may not be produced beyond the school you are working with without the express written consent of the Southern Regional Education Board.
- The surveys may not be copyrighted by any organization other than the Southern Regional Education Board.
- When reports and/or publications are generated, appropriate reference must be made to the Southern Regional Education Board as a contributor.
- That you provide the Southern Regional Education Board a copy of the final report and/or publications associated with your project.

In addition to these stipulations, we ask that you share with us your thoughts on improving the instruments as you work with them. For example, if you decide to change or modify an item, will you let us know that you did so and why? Hopefully, we can learn something from your group as well throughout this process.

If you agree to these conditions, please sign the usage agreement and return it to me. Do not hesitate to call if you have questions.

Sincerely,

Catherine Dunham Director of Assessment, *HSTW*



Figure 7: Test Scores by Subject Area, Gender, and Ethnicity

Table 9:	
Average Standard NAEP Scores by	y Gender and Ethnicity

All	284.53	Black female	275.10
Female	285.97	Black male	269.96
Male	282.97	Hispanic female	279.02
White	289.20	Hispanic male	276.03
Black	273.01	Asian fem	285.98
Hispanic	277.60	Asian male	282.23
Asian	284.02	Native American female	279.75
Native American	275.53	Native American male	271.76
Multi-racial	282.49	Multi-racial fem	285.17
White female	290.97	Multi-racial male	279.43
White male	287.43		

	Mathematics	Science	Reading
All	300.12	292.96	278.53
Female	299.34	290.70	281.44
Male	300.97	295.43	275.36
White	304.79	299.80	282.65
Black	287.81	275.17	268.77
Hispanic	294.05	284.01	271.88
Asian	303.74	292.51	276.97
Native American	291.43	284.91	269.21
Multi-racial	297.27	291.24	276.60
White female	304.30	297.63	285.97
White male	305.27	301.97	279.33
Black female	287.84	275.26	271.88
Black male	287.77	275.04	264.24
Hispanic female	293.47	281.55	274.77
Hispanic male	294.69	286.72	268.69
Asian fem	304.45	290.91	280.13
Asian male	303.09	293.96	274.08
Native American female	292.51	285.64	275.09
Native American male	290.47	284.26	263.96
Multi-racial fem	297.74	290.02	280.82
Multi-racial male	296.74	292.64	271.80

Table 10:Test Scores by Subject Area, Gender, and Ethnicity

Focus on Parental Involvement in Planning:

Students were asked on question Sq121 about how often they took part in a parent-teacher-student conference (or parent-counselor-student conference) to plan their high school course of study. The possible responses were one=not at all, two=about once or twice overall, three=about once a year, 4=about once a semester, or five=several times a year.

Descriptive Statistics:

Using Excel to compare data from various groups, the following information was obtained regarding values for the entire population of 51,291 (before removing improper correlation between Sq127 and Sq128). The *mean* is the average of the average NAEP scores (Reading, Mathematics, and Science) within each grouping according to the survey responses indicated.

Table	11 (a)
Descriptive Statistics for	the Entire Population

Standard Populat	tion
Mean	291.7798876
Standard Error	0.129080817
Median	294.6965333
Mode	290.0779667
Standard Deviation	29.23359926
Sample Variance	854.6033255
Kurtosis	1.340263144
Skewness	-0.731536479
Range	257.4385333
Minimum	133.8992
Maximum	391.3377333
Sum	14965682.22
Count	51291
Confidence Level (95.0%)	0.252999835

Table 11 (b)Descriptive Statistics for Sq 121-1: No Parent Conferences

121-	-1	121-1 math		
Mean	291.7263787 Mean	300.9547142		
Standard Error	0.182284441 Standard Err	or 0.189793591		
Median	294.5130667 Median	303.91915		
Mode	300.0371333 Mode	160.2897		
Standard Deviation	28.65172794 Standard De	viation 29.83202682		
Sample Variance	820.9215141 Sample Varia	ance 889.949824		
Kurtosis	1.514635644 Kurtosis	3.118813286		
Skewness	-0.758742573 Skewness	-1.095378148		
Range	252.8031333 Range	256.4551		
Minimum	133.8992 Minimum	160.2897		
Maximum	386.7023333 Maximum	416.7448		
Sum	7207391.913 Sum	7435387.17		
Count	24706 Count	24706		
Confidence Level(95.0%)	0.357288646 Confidence L	_evel(95.0%) 0.372007039		

121-1 scienc	ce 121-1 readir	121-1 reading			
Mean	293.9269258 Mean	280.2974962			
Standard Error	0.237825791 Standard Error	0.18753843			
Median	298.1867 Median	283.2009			
Mode	108.1968 Mode	133.2111			
Standard Deviation	37.38179648 Standard Deviation	29.47755746			
Sample Variance	1397.398708 Sample Variance	868.9263938			
Kurtosis	3.771396013 Kurtosis	2.936185193			
Skewness	-1.193643594 Skewness	-0.956753055			
Range	293.9691 Range	264.4307			
Minimum	108.1968 Minimum	133.2111			
Maximum	402.1659 Maximum	397.6418			
Sum	7261758.628 Sum	6925029.941			
Count	24706 Count	24706			
Confidence Level(95.0%)	0.466153088 Confidence Level(95.0%)	0.367586787			

Table 11 (c): Descriptive Statistics for Sq121: One Conference

121-2		121-2 mat	th
Mean	293 7060231	Mean	302 941374
Standard Error	0 257287365	Standard Error	0 268977972
Median	295.7505667	Median	305.32
Mode	302.3162667	Mode	160.2897
Standard Deviation	27.01027214	Standard Deviation	28.2375632
Sample Variance	729.5548013	Sample Variance	797.3599752
Kurtosis	1.352727305	Kurtosis	2.988953264
Skewness	-0.630101289	Skewness	-0.943468521
Range	250.1584667	Range	256.4551
Minimum	136.5438667	Minimum	160.2897
Maximum	386.7023333	Maximum	416.7448
Sum	3236934.081	Sum	3338716.883
Count	11021	Count	11021
Confidence Level(95.0%)	0.504329382	Confidence Level(95.0%)	0.527245069
121-2 science		121-2 read	ina
			5
Mean	295.7609497	Mean	282.4157457
Standard Error	0.337466756	Standard Error	0.26338842
Median	299.2575	Median	284.607
Mode	108.1968	Mode	133.2111
Standard Deviation	35.42758091	Standard Deviation	27.65076669
Sample Variance	1255.113489	Sample Variance	764.5648984
Kurtosis	3.604053105	Kurtosis	2.831559746
Skewness	-1.07696263	Skewness	-0.801112341
Range	293.9691	Range	264.4307
Minimum	108.1968	Minimum	133.2111
Maximum	402.1659	Maximum	397.6418
Sum	3259581.426	Sum	3112503.933
Count	11021	Count	11021
Confidence Level(95.0%)	0.661495371	Confidence Level(95.0%)	0.516288544

Table 11 (d)Descriptive Statistics for Sq121-3: Two or Three Conferences Overall

121-3		121-3 math	ו
Mean	293.5546959	Mean	302.4920075
Standard Error	0.302714006	Standard Error	0.317108365
Median	295.6702667	Median	305.0099
Mode	302.3162667	Mode	160.2897
Standard Deviation	27.49036539	Standard Deviation	28.79756023
Sample Variance	755.7201893	Sample Variance	829.2994754
Kurtosis	1.45056622	Kurtosis	2.808656995
Skewness	-0.661796082	Skewness	-0.926253179
Range	250.1584667	Range	256.4551
Minimum	136.5438667	Minimum	160.2897
Maximum	386.7023333	Maximum	416.7448
Sum	2420945.577	Sum	2494651.586
Count	8247	Count	8247
Confidence Level(95.0%)	0.593395772	Confidence Level(95.0%)	0.621612344
121-3 science		121-3 readir	ng
Moon	205 8087364	Moan	282 3633430
Standard Error	0 303871554	Standard Error	0 3101/7925
Median	299 1444	Median	284 6064
Mode	108.1968	Mode	133.2111
Standard Deviation	35.76865531	Standard Deviation	28,16546183
Sample Variance	1279.396703	Sample Variance	793.2932402
Kurtosis	3.89986824	Kurtosis	2.853754752
Skewness	-1.140413935	Skewness	-0.813902945
Range	293.9691	Range	264.4307
Minimum	108.1968	Minimum	133.2111
Maximum	402.1659	Maximum	397.6418
Sum	2439534.649	Sum	2328650.497
Count	8247	Count	8247
Confidence Level(95.0%)	0.772087549	Confidence Level(95.0%)	0.607968127

Table 11 (e)	
Sq 121-4: Conferences Once A Semeste	r

121-4		121-4 math		
Mean	294.5644545	Mean	303.4341	
Standard Error	0.367481766	Standard Error	0.387118	
Median	296.8142	Median	306.0438	
Mode	306.2306667	Mode	160.2897	
Standard Deviation	26.70507967	Standard Deviation	28.13205	
Sample Variance	713.1612803	Sample Variance	791.4124	
Kurtosis	1.335210239	Kurtosis	2.90245	
Skewness	-0.631418572	Skewness	-0.93011	
Range	239.8893333	Range	256.4551	
Minimum	146.813	Minimum	160.2897	
Maximum	386.7023333	Maximum	416.7448	
Sum	1555594.884	Sum	1602436	
Count	5281	Count	5281	
Confidence Level(95.0%)	0.72041707	Confidence Level(95.0%)	0.758912	
121-4 science		121-4 reading	1	
Mean	297.0815352	Mean	283.1777	
Standard Error	0.471429846	Standard Error	0.380335	
Median	299.8712	Median	285.7254	
Mode	108.1968	Mode	133.2111	
Standard Deviation	34.25903751	Standard Deviation	27.63916	
Sample Variance	1173.681651	Sample Variance	763.923	
Kurtosis	3.477885054	Kurtosis	2.616645	
Skewness	-1.013933549	Skewness	-0.78891	
Range	293.9691	Range	264.4307	
Minimum	108.1968	Minimum	133.2111	
Maximum	402.1659	Maximum	397.6418	
Sum	1568887.587	Sum	1495461	
Count	5281	Count	5281	
Confidence Level(95.0%)	0.924198532	Confidence Level(95.0%)	0.745615	

Table 11 (f)	
Sq 121-5: Conferences Several Times A Year	

1	21-5		121-5 mat	h
Mean	:	292.2724166	Mean	300.7196
Standard Error	(0.597750582	Standard Error	0.627133
Median	:	294.1392333	Median	303.8086
Mode		295.4723	Mode	160.2897
Standard Deviation	:	26.93859675	Standard Deviation	28.26278
Sample Variance	-	725.6879947	Sample Variance	798.7848
Kurtosis		1.382885192	Kurtosis	2.688407
Skewness	-(0.680813429	Skewness	-0.95751
Range		223.211	Range	256.4551
Minimum		150.7724333	Minimum	160.2897
Maximum	:	373.9834333	Maximum	416.7448
Sum	Į	593605.2782	Sum	610761.5
Count		2031	Count	2031
Confidence Level(95.0	%)	1.172269187	Confidence Level(95.0%	6) 1.229893

121-5 scienc	ce	121-5 reading		
Moon	204 7468082	Moon	201 2500	
	294.7400903		201.3500	
Standard Error	0.779511939	Standard Error	0.616649	
Median	297.4118	Median	283.8954	
Mode	108.1968	Mode	133.2111	
Standard Deviation	35.12996629	Standard Deviation	27.79027	
Sample Variance	1234.114532	Sample Variance	772.299	
Kurtosis	4.046558552	Kurtosis	2.553303	
Skewness	-1.110741752	Skewness	-0.86381	
Range	293.9691	Range	261.6093	
Minimum	108.1968	Minimum	133.2111	
Maximum	402.1659	Maximum	394.8204	
Sum	598630.9504	Sum	571423.4	
Count	2031	Count	2031	
Confidence Level(95.0%)	1.528727625	Confidence Level(95.0%)	1.209331	

123-5: No He	elp	123-1: Counse	elor
Mean	293.557004	Mean	293.911583
Standard Error	0.303021459	Standard Error	0.202053564
Median	295.6758	Median	296.1530333
Mode	302.3162667	Mode	300.0371333
Standard Deviation	27.48155726	Standard Deviation	26.89438435
Sample Variance	755.2359897	Sample Variance	723.3079096
Kurtosis	1.455924135	Kurtosis	1.432283992
Skewness	-0.665144154	Skewness	-0.664830519
Range	250.1584667	Range	250.1584667
Minimum	136.5438667	Minimum	136.5438667
Maximum	386.7023333	Maximum	386.7023333
Sum	2414506.358	Sum	5207231.517
Count	8225	Count	17717
Confidence Level(95.0%)	0.593998458	Confidence Level(95.0%)	0.396044686
123-2: Teacher/A	dvisor	123-3: Parer	nt
Mean	294.4159806	Mean	293.9175569
Standard Error	0.33665765	Standard Error	0.218457535
Median	296.6268667	Median	295.8733667
Mode	306.2306667	Mode	300.0371333
Standard Deviation	26.83353658	Standard Deviation	26.6571906
Sample Variance	720.0386856	Sample Variance	710.6058105
Kurtosis	1.330631152	Kurtosis	1.2951114
Skewness	-0.625263216	Skewness	-0.61613475
Range	239.8893333	Range	250.1584667
Minimum	146.813	Minimum	136.5438667
Maximum	386.7023333	Maximum	386.7023333
Sum	1870424.725	Sum	4376432.423
Count	6353	Count	14890
Confidence Level(95.0%)	0.65996296	Confidence Level(95.0%)	0.42820403
123-4: Frien	d		
Mean	292.4068499	Skewness	-0.630074446
Standard Error	0.416482082	Range	227.1704333
Median	294.1130333	Minimum	146.813
Mode	295.4723	Maximum	373.9834333
Standard Deviation	26.68737105	Sum	1200622.526
Sample Variance	712.2157735	Count	4106
Kurtosis	1.403120473	Confidence Level(95.0%)	0.816531096

 Table 12

 Descriptive Statistics Sq 123: Assistance in Planning Course Study

127 yes	127-yes math	
Mean	297.0963 Mean	306.3515
Standard Error	0.188368 Standard Error	0.192752
Median	299.1427 Median	308.3998
Mode	311.6537 Mode	160.2897
Standard Deviation	26.75821 Standard Deviation	27.38097
Sample Variance	716.0016 Sample Variance	749.7176
Kurtosis	1.637344 Kurtosis	3.183114
Skewness	-0.71121 Skewness	-0.9468
Range	255.8337 Range	256.4551
Minimum	135.5041 Minimum	160.2897
Maximum	391.3377 Maximum	416.7448
Sum	5995107 Sum	6181867
Count	20179 Count	20179
Confidence Level(95.0%)	0.369216 Confidence Level(95.0%)	0.377809

Table 13 (a) Descriptive Statistics Sq 127 Yes

127-yes science	127-yes reading	127-yes reading	
Mean	300.2133 Mean	284.7242	
Standard Error	0.247964 Standard Error	0.195025	
Median	303.7035 Median	286.7214	
Mode	108.1968 Mode	133.2111	
Standard Deviation	35.22392 Standard Deviation	27.70388	
Sample Variance	1240.725 Sample Variance	767.5051	
Kurtosis	3.945987 Kurtosis	3.492105	
Skewness	-1.12897 Skewness	-0.92843	
Range	350.3658 Range	264.4307	
Minimum	108.1968 Minimum	133.2111	
Maximum	458.5626 Maximum	397.6418	
Sum	6058004 Sum	5745449	
Count	20179 Count	20179	
Confidence Level(95.0%)	0.486028 Confidence Level(95.0%)	0.382265	

127-no	127-no math	
Mean	297.3765444 Mean	306.5888
Standard Error	0.193456718 Standard Error	0.198445
Median	299.3658333 Median	308.566
Mode	311.6536667 Mode	160.2897
Standard Deviation	26.54730921 Standard Deviation	27.23182
Sample Variance	704.7596261 Sample Variance	741.572
Kurtosis	1.577068214 Kurtosis	3.213178
Skewness	-0.690803426 Skewness	-0.94006
Range	251.0993333 Range	256.4551
Minimum	140.2384 Minimum	160.2897
Maximum	391.3377333 Maximum	416.7448
Sum	5599897.708 Sum	5773373
Count	18831 Count	18831
Confidence Level(95.0%)	0.379192272 Confidence Level(95.0%)	0.38897

Table 13 (b) Descriptive Statistics for Sq127 No

127-no scien	ce	127-no reading			
Mean	300.5207104	Mean	285.0201		
Standard Error	0.254993948	Standard Error	0.1997		
Median	304.0088	Median	286.9369		
Mode	108.1968	Mode	133.2111		
Standard Deviation	34.99182267	Standard Deviation	27.404		
Sample Variance	1224.427654	Sample Variance	750.9792		
Kurtosis	3.865321758	Kurtosis	3.32365		
Skewness	-1.107939767	Skewness	-0.87828		
Range	350.3658	Range	264.4307		
Minimum	108.1968	Minimum	133.2111		
Maximum	458.5626	Maximum	397.6418		
Sum	5659105.497	Sum	5367214		
Count	18831	Count	18831		
Confidence Level(95.0%)	0.499810683	Confidence Level(95.0%)	0.391429		

127 yes 128 yes	127 128 yes math		
Mean	297.7304 Mean	307.0357	
Standard Error	0.205306 Standard Error	0.209914	
Median	299.5714 Median	308.7935	
Mode	311.6537 Mode	160.2897	
Standard Deviation	26.16905 Standard Deviation	26.75644	
Sample Variance	684.8191 Sample Variance	715.9073	
Kurtosis	1.357805 Kurtosis	2.870209	
Skewness	-0.6082 Skewness	-0.83202	
Range	251.0993 Range	256.4551	
Minimum	140.2384 Minimum	160.2897	
Maximum	391.3377 Maximum	416.7448	
Sum	4837226 Sum	4988410	
Count	16247 Count	16247	
Confidence Level(95.0%)	0.402422 Confidence Level(95.0%)	0.411455	

Table 13 ((c)		
Descriptive Statistics for S	q127 Yes	s/ 128	Yes

127 128 yes sciel	nce 127 128 yes rea	127 128 yes reading		
Mean	300.7593 Mean	285.3961		
Standard Error	0.270525 Standard Error	0.213037		
Median	303.9855 Median	287.1406		
Mode	108.1968 Mode	133.2111		
Standard Deviation	34.48212 Standard Deviation	27.15453		
Sample Variance	1189.017 Sample Variance	737.3687		
Kurtosis	3.599557 Kurtosis	3.264025		
Skewness	-1.03395 Skewness	-0.82828		
Range	350.3658 Range	264.4307		
Minimum	108.1968 Minimum	133.2111		
Maximum	458.5626 Maximum	397.6418		
Sum	4886437 Sum	4636830		
Count	16247 Count	16247		
Confidence Level(95.0%)	0.530259 Confidence Level(95.0%) 0.417577		

127 yes 128 no		127 yes 128 no math	
Mean	295.4862572	Mean	304.5888
Standard Error	0.426802997	Standard Error	0.441758
Median	297.1406	Median	307.0187
Mode	295.4723	Mode	160.2897
Standard Deviation	26.75956088	Standard Deviation	27.69721
Sample Variance	716.0740986	Sample Variance	767.1357
Kurtosis	1.304299522	Kurtosis	2.682177
Skewness	-0.624237953	Skewness	-0.89553
Range	237.4967667	Range	238.5045
Minimum	140.2384	Minimum	160.2897
Maximum	377.7351667	Maximum	398.7942
Sum	1161556.477	Sum	1197339
Count	3931	Count	3931
Confidence Level(95.0%)	0.836775401	Confidence Level(95.0%)	0.866096

Table 13 (d) Descriptive Statistics for Sq 127 Yes/ 128 No

127 yes 128 no se	cience	127 yes 128 no rea	ding
Mean	298.6827132	2 Mean	283.1873
Standard Error	0.552366494	Standard Error	0.441731
Median	301.3179) Median	284.9117
Mode	108.1968	8 Mode	133.2111
Standard Deviation	34.63210174	Standard Deviation	27.69548
Sample Variance	1199.382471	Sample Variance	767.0397
Kurtosis	3.254201179) Kurtosis	2.973107
Skewness	-0.966412624	Skewness	-0.85024
Range	292.8967	'Range	264.4307
Minimum	108.1968	8 Minimum	133.2111
Maximum	401.0935	5 Maximum	397.6418
Sum	1174121.746	Sum	1113209
Count	3931	Count	3931
Confidence Level(95.0%)	1.08295091	Confidence Level(95.0%)	0.866042

Focus on Conferencing:

Table 14 below compares the average test scores of students in terms of who

assisted in planning their course study for high school.

Table 14:
Responses to Sq121 (Parent Conference Attendance)

	Responses to Sq121	Responses to Sq123	Responses to Sq127	Responses to Sq128	Mathematics	Science	Reading	Average NAEP Score
-	1	Any answer	Yes	Yes	302.19	294.18	281.05	292.47
	2	Any answer	Yes	Yes	300.62	293.46	279.70	291.26
	3	Any answer	Yes	Yes	298.65	290.72	277.60	288.99
	4	Any answer	Yes	Yes	295.82	286.92	274.32	285.69
	5	Any answer	Yes	Yes	288.62	278.59	266.07	277.76
	1	Any answer	Yes	No	300.67	294.31	279.44	291.47
	2	Any answer	Yes	No	292.91	283.76	269.95	282.21
	3	Any answer	Yes	No	287.28	278.98	264.32	276.86
	4	Any answer	Yes	No	283.66	270.26	259.20	271.04
	5	Any answer	Yes	No	277.11	261.11	249.02	262.41
	1	Any answer	No	Blank	309.80	304.59	287.91	300.77
	2	Any answer	No	Blank	310.63	305.82	288.79	301.75
	3	Any answer	No	Blank	308.34	302.32	286.63	299.10
	4	Any answer	No	Blank	303.69	297.24	282.88	294.60
	5	Any answer	No	Blank	298.09	289.89	276.50	288.16

Focus on Responsibility in Planning Course Study:

Students were asked on question Sq123 to respond; 1=counselor,

2=teacher/advisor, 3=parent, 4=friend, and 5=no help with planning course of study.

Table 15 shows the connection between the person who assists with planning and scores.

Responses to F Sq123	Responses to F Sq127	Responses to Sq128	Mathematics	Science	Reading	Average NAEP Score
Any	No	Blank	309.17	303.78	287.38	300.11
Counselor	No	Blank	308.97	303.21	287.70	299.96
Friends	No	Blank	309.29	303.81	286.59	299.90
No help	No	Blank	310.49	307.35	288.44	302.09
Parents	No	Blank	309.59	303.07	287.38	300.01
Teacher	No	Blank	305.34	300.15	284.23	296.57
Any	Yes	No	292.59	283.73	269.80	282.04
Counselor	Yes	No	294.55	286.31	272.78	284.55
Friends	Yes	No	286.24	274.56	261.25	274.02
No help	Yes	No	301.16	295.80	278.87	291.94
Parents	Yes	No	292.40	282.10	269.17	281.22
Teacher	Yes	No	285.13	276.19	262.53	274.62
Any	Yes	Yes	299.30	291.35	278.09	289.58
Counselor	Yes	Yes	301.92	294.30	281.81	292.68
Friends	Yes	Yes	290.18	280.28	265.30	278.59
No help	Yes	Yes	299.54	293.11	276.17	289.61
Parents	Yes	Yes	299.70	291.39	278.24	289.78
Teacher	Yes	Yes	296.06	288.30	275.54	286.63

Table 15:Correlation of Planning Course of Study and Advisement with Scores

Focus on Advisement:

Table16 (below) displays the average NAEP Scores of students with and without and advisor compared to the average scores of each group in the whole population.

	Standard	With an Advisor	Without an Advisor
All	291.78	288.26	294.08
All female	292.32	289.22	292.68
All male	292.30	287.21	295.69
White	296.82	293.71	298.83
White female	296.68	294.59	298.02
White male	296.97	292.78	299.67
Black	278.57	274.47	281.18
Black female	279.17	277.25	280.41
Black male	277.61	271.32	282.44
Hispanic	284.42	280.68	286.72
Hispanic female	283.78	281.58	285.12
Hispanic male	285.15	279.66	288.57
Asian	292.01	286.67	295.51
Asian female	292.54	289.61	294.34
Asian male	291.51	284.12	296.68
Native American	284.30	283.68	284.83
Native American female	286.14	285.84	286.38
Native American male	282.53	281.68	283.27
Multi-racial	289.95	283.65	294.10
Multi-racial female	290.54	285.46	293.55
Multi-racial male	289.27	281.8	294.80

Table 16 Scores: The Impact of an Advisor