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ABSTRACT

The New Jersey High School Proficiency Test (HSPT) is a "high stakes" test administered as a graduation requirement to all 11th grade students in New Jersey high schools. High school principals have been held increasingly accountable for successful HSPT scores. This study used Leithwood's model of transformational leadership (K. Leithwood, 1994), which adapts Bass and Avolio's (B. Bass and B. Avolio, 1997) transformational and transactional leadership theory to schools, to conceptualize principal leadership. The researchers used a statistical regression model to analyze quantitative data from a questionnaire completed by 57 principals and conducted interviews with 4 principals and 8 teachers to investigate the relationship between principal transformational leadership style and other selected variables on HSPT passing rates in vocational and comprehensive high schools. The main result of the study is that transformational leadership of principals significantly affects HSPT passing rates in reading, mathematics, writing, and all sections combined. The results also show that to achieve the same HSPT passing rates, stronger transformational leadership is needed in vocational schools compared to comprehensive high schools. In addition, the findings show that student attendance rate and eligibility for free or reduced price lunch each have a significant effect on HSPT passing rates, whereas enrollment size and mobility rate have no effect on HSPT passing rates. (Contains 1 table and 18 references.) (Author/SLD)

The Influence of Principal Transformational Leadership Style on High School Proficiency Test Results in New Jersey Comprehensive and Vocational-Technical High Schools

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Abstract

The New Jersey High School Proficiency Test (HSPT) is a "high stakes" test administered as a graduation requirement to all eleventh grade students in New Jersey high schools. High school principals have been held increasingly accountable for successful HSPT scores. This study used Leithwood's model of transformational leadership, which adapts Bass and Avolio's transformational and transactional leadership theory to schools, to conceptualize principal leadership. The researchers utilized a statistical regression model to analyze a questionnaire's quantitative data and conducted interviews with four principals and eight teachers, to investigate the relationship between principal transformational leadership style and other selected variables on HSPT passing rates in vocational and comprehensive high schools. The main result of the study is that transformational leadership of principals significantly affects HSPT passing rates in reading, mathematics, writing, and all sections combined of the HSPT. The results also show that to achieve the same HSPT passing rates, stronger transformational leadership is needed in vocational schools compared to comprehensive high schools. In addition, the findings show that student attendance rate and eligibility for free/reduce lunch each have a significant effect on HSPT passing rates, whereas enrollment size and mobility rate have no effect on HSPT passing rates.

Introduction

Americans are scrutinizing and criticizing schools today more than ever before. Parents and educators nationwide are concerned that American students do not have the knowledge and skills to succeed in school, in college, at work, or in life.[2] Proponents of

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[2] According to the National Assessment of Educational Progress (NAEP), only about one-third and one-fifth of American students are proficient in reading and mathematics, respectively. Scores are much lower for African-American, Hispanic, and low-income students.

school reform say that there is a crisis in education, and that higher standards, better tests, more accountability, and other sweeping reforms are necessary.

The recent trend of rising accountability in our public schools has been the focus of much interest and debate in our country. Educational accountability was the focus of President William Clinton's State of the Union Address delivered on January 19, 1999. In his speech, President Clinton proposed the rewriting of the Federal Elementary and Secondary Act (ESEA) to be renamed the "Education Accountability Act" and to include specific state and school district requirements of accountability regarding student achievement (Clinton, 1999). In response to the current national effort towards accountability in schools, school leaders throughout the country are under a great deal of pressure to show results that will convince the public and its policy makers that their schools are effective. For the most part, school leaders and the public have agreed that the desired results are scores from high-stakes tests, ones that students must pass to graduate or advance to another grade.

New Jersey is one of the many states in which test scores continue to gain importance due to the national effort to raise educational achievement through heightened accountability. Raising educational achievement is a key element of New Jersey's systemic standards-based reform effort which, according to the New Jersey Department of Education, "has as a primary goal the improvement of performance in rigorous academic and workplace readiness areas for all students in publicly funded elementary, secondary, and adult school education programs" (New Jersey Department of Education, 2000).

In New Jersey, the state administers its High School Proficiency Test (HSPT) to

all eleventh-grade high school students. The HSPT is a "high stakes" test in that it serves as a high school graduation requirement for students. According to Murphy and Beck (1994), "Commentators on schooling ... have demanded that administrators demonstrate their competency by providing objective evidence that students and teachers are achieving desired outcomes" (p. 5). As such, high school principals are increasingly accountable for successful HSPT scores in their schools.

The current literature on leadership and leadership styles suggests that transformational leadership is an approach appropriate to the social and organizational context of today's schools. The concept of transformational leadership first appeared as "transforming leadership" by Burns (1978) who stated, "Such leadership occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality.... Transforming leadership ultimately becomes moral in that it raises the level of human conduct and ethical aspiration of both leader and led, and thus has a transforming effect on both" (p. 20). More recently, Yukl (1998) defined transformational leadership as " ... the process of building commitment to the organization's objectives and empowering followers to accomplish these objectives" (p. 324). In the educational arena, Hoy and Miskel (2001), in their leading textbook on educational administration, introduce graduate students to the concept of transformational leadership. The authors say that transformational leadership, simply stated, is similar to what people have in mind when they describe their ideal leader.

Murphy (1991) posited that school leadership in the 1990s is a reflection of the context in which the leadership occurs. Systemic educational reform in New Jersey is

based largely on school improvement initiatives reflective of what Leithwood (1994) referred to as "school restructuring" (p. 499). Although restructuring is defined differently for different schools, Leithwood, Jantzi, and Steinbach (1999) stated that schools in the process of restructuring may, for example, " ... change their governance structures, open themselves to greater community influence, become more accountable, clarify their standards for content and performance, and introduce related changes in their approaches to teaching and learning" (p. 23). Leithwood (1994) argued that "school restructuring will dominate the change agenda for school leaders for some time to come" (p. 499). Further, Leithwood, Jantzi, & Steinbach (1999) contended that transformational leadership is effective in schools within the context of restructuring.

The empirical evidence is scant, however, regarding the effects of transformational leadership of principals on students. Indeed, Leithwood, Jantzi, & Steinbach (1999) concluded, "In spite of the compelling theoretical and other reasons for advocating transformational leadership in schools at the present time and in the not too distant future, there is still considerable work to be done in clarifying empirically the effects of this form of leadership on students. Nevertheless, the demands on schools cannot await the outcome of such research" (pp. 31-32).

The problem that currently exists within the cries for holding principals accountable for raising the test scores of their students is that there are limited empirical data on how leadership styles of principals affect students. More specifically, there is a paucity of elements that researchers can examine as they study the extent to which transformational leadership style relates to student achievement as measured by test scores.

New Jersey public high schools fall into two main types: vocational and comprehensive. Both vocational and comprehensive high schools, under the leadership of the principal, prepare students to obtain a New Jersey high school diploma by meeting state mandated graduation requirements. Although the graduation and assessment requirements are the same for both school-types, vocational schools differ from comprehensive schools in that they are schools of choice. Vocational schools provide students with a high school experience that focuses on vocational-technical skills and preparation for the job market. Comprehensive high schools, in contrast, offer a more conventional, academic course of study, and generally prepare students for entrance into college. Contrary to what some people believe, students in vocational schools must pass the HSPT since it is a high school graduation requirement for all students, not only for the students in comprehensive high schools. Thus, administrators of vocational schools have the double task of educating students to achieve success in the academic as well as the vocational area.

The purpose of this study, therefore, is to collect and analyze data to examine the influence of principal transformational leadership style, in the context of other factors, on high stakes test results in both vocational and comprehensive high schools in New Jersey.

To achieve the above goal for data collection, the specific questions are:

1. Do principals who are identified as transformational by the Multifactor Leadership Questionnaire (MLQ) have a significant impact on student achievement on the New Jersey High School Proficiency Test (HSPT)?

2. Do other variables, such as enrollment size, mobility rate, student attendance rate, and free/reduced lunch eligibility have an impact on student

achievement on the HSPT?

3. Is the influence of leadership style of principals on HSPT scores different in vocational schools from what it is in comprehensive high schools?
4. How do teachers perceive principals regarding leadership styles and the impact of leadership styles on student test scores?

This study conceptualized principal leadership by using Leithwood's (1994) model of transformational leadership in schools. Leithwood's model, which is based on Burns's (1978) seminal work on "transforming" leadership, adapts Bass and Avolio's (1997) transformational and transactional leadership theory to schools. Leithwood's model centers on the following eight dimensions grouped into three main categories: 1. setting directions: building school vision; establishing school goals; demonstrating high performance expectation; 2. developing people: providing intellectual stimulation; offering individualized support; modeling best practices and important organizational values; 3. redesigning the organization: creating a productive school culture; developing structures to foster participation in school decisions.

Because principals in New Jersey continue to be judged on student achievement, as measured by test scores, in an environment of systemic reform, restructuring, high uncertainty and change, educators should examine how principal leadership style relates to student performance on the HSPT.

Methodology

This research compared and contrasted vocational and comprehensive schools both quantitatively, through statistical methods (descriptive statistics, ordinary least

squares regression, and graphical analysis), and qualitatively through interviews. The study's use of both methods aligned with Hallinger and Heck (1996) who stated, "In our view, quantitative methods are essential for assessing the extent to which administrative effects are present in our schools. The use of qualitative approaches is essential, however, if we are to understand the more complex processes that underlie this complex set of interactions" (p. 14).

The study investigated the relationship between principal transformational leadership style and HSPT passing rates in reading, mathematics, writing, and all sections combined. The investigation controlled for the variables of student enrollment size, attendance rate, mobility rate, free/reduced lunch eligibility, and the interaction of high school-type (vocational vs. comprehensive) with transformational leadership.

To measure principal leadership style, in spring 2000 the researchers sent the Multifactor Leadership Questionnaire (MLQ) to 66 principals: 22 in vocational high schools[3] and 44 in comprehensive high schools[4]. The principals completed and returned 57 (18 vocational, 39 comprehensive) of the 66 principal surveys sent out. The researchers used the completed surveys to tabulate the transformational leadership style of the principals. Additional variables came from the New Jersey Department of Education October 1998 Grade 11 HSPT State Summary, the New Jersey Department of Education October 1998 Fall Survey, and the 1998-1999 New Jersey School Report Card.

[3] These are the 22 "full-time" vocational high schools that administer the New Jersey HSPT.

[4] The number of comprehensive high schools doubles the number of vocational schools; schools were randomly chosen proportionate to number of vocational schools in each county.

Based on results of the October 1998 administration of the HSPT, the October 1998 State Summary provided HSPT passing rates in reading, mathematics, and writing, and all sections combined. The October 1998 Fall Survey provided data, as of October 15, 1998, on percentages of students eligible for free/reduced lunch. The Report Card provided October, 1998 enrollment, attendance, and mobility data.

The New Jersey Department of Education compiles data for the New Jersey Report Card from various sources such as the school register, Fall Survey certificated staff report, and statewide student testing results. The Report Card provides a complete picture of the makeup of every New Jersey school by categories entitled "Facts About Our School," such as test scores, enrollment size, student attendance rates, and student mobility rates. The Report Card provides district level data as well as school level data. For the purposes of this study, however, where the unit of analysis is the school, the study used only school level data from the Report Card.

Regression Model

The researchers modeled HSPT passing rates in reading, mathematics, writing, and all sections combined as a linear function of principal transformational leadership style and other variables, including vocational and comprehensive classification. They estimated the model using Ordinary Least Squares (OLS) regression methodology (Moore & McCabe, 1993, p. 121).

The model is:

$$HSPT_{ij} = \beta_{i0} + \beta_{i1}TrLS_j + \beta_{i2}E_j + \beta_{i3}ATT_j + \beta_{i4}MR_j + \beta_{i5}FRL_j + \beta_{i6}(TrLS)V_j + \varepsilon_{ij}$$

i = 1 if reading test
2 if mathematics test
3 if writing test
4 if all sections combined(reading, mathematics, writing)
j = 1, 2, ..., 57 school.

The unknown coefficients, β_{ik} (i = reading, mathematics, writing, and all sections combined; k = 1, ..., 6) are the weights for each of the six independent variables in the model. That is to say, they show the importance of each variable in determining passing rates. There is also a constant term in the model, β_0, which is the mathematical intercept of the equation.[5]

The dependent variable of the model is:

$HSPT_{ij}$ = HSPT passing rate for test i in school j, administered in October 1998, as reported in the New Jersey Department of Education October 1998 HSPT State Summary.

The six independent variables are:

1. $TrLS_j$ = Transformational leadership style of the principal in school j, coded as the leadership score of principals. The researchers compiled leadership scores from responses on the MLQ, which were based on the principals' self-reported leadership behaviors. The method of operationalizing leadership is consistent with Bass and Avolio (1997) and Leithwood, Jantzi, and

[5] In an algebraic equation, the intercept is the value of y when x=0. In the regression equation, it is the value of the dependent variable when all the independent variables have no effect.

Steinbach (1999). First, as stated by Bass and Avolio, the most effective leaders demonstrate both transformational and transactional behaviors. Second, as argued by Leithwood and his colleagues, contingent reward behaviors are also transformational. Thus, for each surveyed principal, the researchers calculated a ratio by dividing the average of the transformational score plus the scores of the four contingent reward responses by the average of the 12 transactional responses.

2. E_j = Enrollment in school j, as reported on the 1998-1999 New Jersey Report Card; coded as the number of students on roll as of October 1998;

3. ATT_j = Student Attendance Rate in school j, as reported on the 1998-1999 New Jersey Report Card; coded as a percentage from 0% to 100% as of October 1998;

4. MR_j = Student Mobility Rate in school j, as reported on the 1998-1999 New Jersey Report Card; coded as a percentage from 0% to 100% as of October 1998;

5. FRL_j = Free/Reduced Lunch in school j, as reported on the New Jersey Department of Education1998 Fall Survey; coded as a percentage eligible for free/reduced lunch from 0% to 100% as of October 1998.

6. $(TrLS)V_j$ = An interaction variable. It consists of the transformational leadership score (TrLS) multiplied by a dummy variable, coded as $V_j = 1$ if school j is a vocational school; $V_j = 0$ if school j is a comprehensive high school.

The reason for including this interaction variable was to examine the effect of transformational leadership style on passing rates in vocational schools compared to comprehensive schools. The researchers could not capture this effect by the other variables. For example, the nature of vocational high schools is that they require of the students less academic courses than comprehensive high schools. Consequently, it is fair to say that vocational schools emphasize vocational and career courses while placing less emphasis on the academic areas and the need to achieve high HSPT passing rates. In contrast, comprehensive high schools emphasize academic courses and high HSPT passing rates while placing less emphasis on career courses. The interaction variable enabled the researchers to determine the effect of transformational leadership by school type (vocational and comprehensive) on passing rates.

The researchers chose the set of six independent variables based on a review of the literature, which indicated that the variables are important to student achievement. Further, they limited the total number of independent variables to six because of small sample size (n=57) which, according to Hair, Anderson, Tatham, and Black (1998), implies low power for hypothesis testing. Hair and his colleagues stated that, as more variables are added to the model when the sample size is small, there is a reduction in the probability of detecting any significant relationship between the dependent variable (HSPT passing rates) and any of the independent variables (p. 11).

The hypotheses tested for each HSPT test i are:

H_{A1}: the transformational leadership style of the principal has a positive effect on scores such that a school that has a principal with a high transformational score achieves higher HSPT passing rates;

H_{A2}: enrollment has a negative effect on scores such that higher enrollment results in lower HSPT passing rates;

H_{A3}: student attendance rate has a positive effect on scores such that higher attendance results in higher HSPT passing rates;

H_{A4}: student mobility rate has a negative effect on scores such that higher mobility results in lower HSPT passing rates;

H_{A5}: eligibility for free/reduced lunch has a negative effect on scores such that a higher percentage of eligibility results in lower HSPT passing rates;

H_{A6}: The transformational leadership style of principals has less of an effect on HSPT passing rates in vocational schools compared to comprehensive high schools.

Principal and Teacher Interviews

To gain a deeper and richer understanding of the influence of principal leadership style on student HSPT scores in vocational and comprehensive high schools, the researchers conducted qualitative research, which consisted of principal and teacher interviews. They conducted the interviews in late spring 2000, after completing the survey portion of the study.

The researchers selected and interviewed two vocational high school principals and two comprehensive high school principals whose leadership styles were identified using the MLQ. It was important to select principals who had been in their positions in the same school since October 1993 when the HSPT was first administered. The researchers conjectured that HSPT scores would more likely reflect the principal's leadership style if the principalship had been consistent since the inception of the test.

Therefore, they selected principals of the following four high schools for the interview process. The principals had each been in their positions at least since October 1993. The researchers matched the two pairs of selected vocational and comprehensive schools to be in the same county as follows:

Vocational High School A, County A

Comprehensive High School A, County A

Vocational High School B, County B

Comprehensive High School B, County B

The researchers also selected and interviewed two teachers, one 11th grade English and one 11th grade mathematics, in each of the two vocational and comprehensive high schools. Since the HSPT assesses reading, mathematics, and writing skills at the beginning of the 11th grade, the researchers decided that 11th grade English and mathematics teachers were best qualified to comment on principals' leadership styles and how they affect student success on the HSPT. They also believed that it was important to select teachers who had been in the school with the principal since October 1993. If the researchers could not identify teachers who met the above criteria and were available for interviewing, they attempted to identify teachers who had been teaching for the longest period of time within the given content and grade areas. The researchers analyzed the answers to both the principals' and teachers' open-ended interview questions in a qualitative fashion. They coded the qualitative data, which was generated by the principal and teacher responses, as text units using Leithwood's model of school transformational leadership as a framework. The coding process led to the categorization of principals' leadership practices, as reported by both principals and teachers, according

to the three main categories of Leithwood's model: Setting Directions; Developing People; Redesigning the Organization. The coding process and subsequent analysis of the qualitative data supported the final analysis and discussion of the statistical findings, conclusions, and implications of this study.

Results

The regression model for reading was significant and explained 76% of the variation in passing rates. The model showed that transformational leadership is a significant predictor of passing rates ($p = .001$) and the effect of this leadership ($p = .016$) is significantly less in vocational schools than in comprehensive schools. The regression model for mathematics was significant and explained 72% of the variation of passing rates. The model showed that transformational leadership is a significant predictor of passing rates in mathematics ($p = .036$), with the effect of this leadership ($p = .029$) being significantly less in vocational than comprehensive high schools. The regression model for writing was significant and explained 73% of the variation of passing rates. The model showed that transformational leadership is a significant predictor of passing rates in writing ($p = .007$), with the effect of this leadership ($p = .012$) being significantly less in vocational than comprehensive high schools. The regression model for all sections of the HSPT was significant and explained 77% of the variation in passing rates. The model showed that transformational leadership is a significant predictor of passing rates in all sections ($p = .000$), with the effect of this leadership ($p = .006$) being significantly less in vocational schools than comprehensive schools. For all four related regression models, attendance and free/reduce lunch were shown to be significant predictors of passing rates, while enrollment and mobility were shown to be nonsignificant.

In sum, the regression analyses showed the transformational leadership of the principal to be a significant predictor of HSPT passing rates in reading, mathematics, writing, and all three sections, in the presence of other control factors. It is most predictive for all sections of the HSPT (p= .000), followed by reading (p= .001), writing (p= .007), and then mathematics (p= .036). In addition, the statistical analyses showed the effect of principal transformational leadership to be less in vocational high schools compared to comprehensive high schools. This diminished effect was most significant for all sections HSPT (p= .006), followed by writing (p= .012), reading (p= .016), and then mathematics (p= .029). A summary of the results is shown in Table 1.

Table 1

Summary of Regression Results for Related Regression Models for HSPT Reading, HSPT Mathematics, HSPT Writing, and HSPT All Sections Combined

MODEL	HSPT READING	HSPT MATHEMATICS	HSPT WRITING	HSPT ALL SECTIONS COMBINED
CONSTANT	*-233.552	*-260.775	*-189.130	*-307.567
	(0.000)	(0.000)	(0.000)	(0.000)
ATTENDANCE	*3.344	*3.708	*2.968	*4.028
	(0.000)	(0.000)	(0.000)	(0.000)
FREE/REDUCED LUNCH	*-26.025	*-15.540	*-12.369	*-33.467
	(0.000)	(0.020)	(0.022)	(0.000)
TRANSFORMATIONAL LEADERSHIP	*7.749	*4.603	*4.864	*10.431
	(0.001)	(0.036)	(0.007)	(0.000)
INTERACTION VARIABLE	*-3.726	*-3.28	*-3.056	*-5.21
	(0.016)	(0.029)	(0.012)	(0.006)
R SQUARE	0.776	0.744	0.749	0.785
R SQUARE (ADJUSTED)	0.759	0.724	0.729	0.768
F-RATIO	*45.115	*37.768	*38.730	*47.439
	(0.000)	(0.000)	(0.000)	(0.000)
NO. OBSERVATIONS	57	57	57	57
DEPENDENT VARIABLE	HSPT_R	HSPT_M	HSPT_W	HSPT_ALL

Notes:

*: Significance at the 5% level or better; p-values in parentheses.

The findings from the interviews provide evidence of transformational leadership behaviors of principals in comprehensive and vocational high schools. These behaviors exemplify principal behaviors that may in fact be responsible for producing the data that the study showed to statistically exist. The following three dimensions of Leithwood's (1994) Transformational School Leadership Model summarize the qualitative findings:

1. Setting Directions

The transformational leadership practices of the comprehensive and vocational principals in this study contribute to building a school vision, establishing school goals, and demonstrating high performance expectations in their schools. Regarding student achievement, the data show that the principals are confident in their judgments and that they provide an overall sense of purpose to the staff members. The principals are guides who coordinate what has to be done in their schools and make the staff members feel they are working together as a team. Student success is the overall goal of the principals. Further, the principals demonstrate an unflagging commitment to the success of their students. In regard to their staff members, the principals express confidence in their abilities to prepare students for the HSPT, regularly giving them positive reinforcement, and having faith and trust in their decisions and expertise as professionals.

Vocational principals devise innovative instructional programs to help their large populations of academically at-risk students succeed academically, specifically on the HSPT. Helping their students to find employment in the workplace after they graduate is the basic vision of the vocational principals. Their main goal is to meet the challenge of the vocational student by setting realistic academic and vocational goals so that their students will remain in school and graduate with a diploma. The principals also meet the challenge of the vocational student by providing emotional support and by bolstering their self-esteem to "bring out the best" in them. The vocational principals communicate their visions of student success by instilling pride in their students and teachers. Most importantly, they are proud when "low-achieving students" do well on the HSPT.

2. Developing People

The transformational practices of the comprehensive and vocational principals in this study contribute to offering individualized support, providing intellectual stimulation, and modeling best practices and important organizational values. The principals support the teachers by personally encouraging and caring for them and by providing instructional resources for their classrooms. Overall, the principals are instrumental in helping the teachers examine professional issues in a variety of ways, particularly those issues concerning classroom instruction and teaching styles. They help teachers examine student achievement and assessment issues that occur in the classroom by introducing new educational philosophies to the school. Most of all, the principals lead by example and are good role models. They are generally community minded and actively participate in community events and educational organizations. The principals model a high level of enthusiasm and a willingness to be involved in school activities and special events.

The vocational principals schedule teachers to have more time for preparation and professional development because of the academically at-risk nature of the population of students in the school. They are very supportive of the teachers regarding the preparation of the students for the HSPT. The vocational principals model exemplary behavior to the staff members by personally being involved in vocationally related competitions, trips, and activities. They obtain additional funding for instructional materials and supplies to help remedial students do better on the HSPT. Moreover, the vocational principals take a personal interest in the students in their schools and are sensitive to the personal problems many of the vocational students have. The vocational principals are generally adept at addressing the psychological and emotional problems of the students.

3. Redesigning the Organization: School Culture and Decision-Making Structures

The transformational practices of comprehensive and vocational principals in this study contribute to creating and strengthening a productive school culture and developing structures to foster participation in school decisions. The principals create a culture in the school that is grounded in parent and teacher involvement, and focuses on an overall pride in student achievement. The principals essentially and continually reshape the schools to cultivate student self-esteem within a student-focused culture. Their behavior continually strengthens the school's culture so that it is consistent with the fundamental values and beliefs of the school. In addition, the principals delegate responsibilities to teachers and other staff members by encouraging them to be active in the decision-making process. When formulating policies for the school, they gather input from a variety of stakeholders, such as parents, students, teachers, and community members. Overall, the principals share decision-making power with their staff members by being good listeners, being open to suggestions, and having faith and trust in the teachers' decisions and expertise.

The vocational principals continually attempt to integrate new teachers into the schools who share their commitment to student achievement in a vocational setting. They constantly reinforce the strong vocational culture of the schools by creating atmospheres that students need to succeed both vocationally and academically. The vocational principals regularly refocus their efforts of educating students for employment through academic achievement. The vocational principals create environments in their schools that are "student focused" so that students are treated with care and respect. Fostering a nurturing atmosphere of student self-esteem in which students feel valued and

good about themselves is critically important to the vocational principals. The vocational principals develop and maintain a productive vocational culture by their ongoing involvement in community activities and their personal participation in vocational events and awards ceremonies. As with comprehensive principals, vocational principals delegate responsibilities to teachers and staff members not as a way of avoiding responsibility, but as a way of promoting shared decision-making in the school.

Discussion and Significance of the Study

The results indicated that principal transformational leadership significantly affects passing rates in reading, mathematics, writing, and all sections of the HSPT. More specifically, the study showed that greater degrees of transformational leadership are needed in vocational schools compared to comprehensive high schools, to achieve higher passing rates on the HSPT. The results are not surprising given that vocational students typically are academically and economically at risk (National Center for Educational Statistics, 1996). A 1994 report to Congress by the U.S. Department of Education found the population of low-achieving and disabled students in vocational schools to be on the rise (Boesel & McFarland, 1994). Moreover, vocational schools continue to be a "dumping ground" (Grubb, 1994, p. 29) for students who cannot perform adequately in academic classes.

In this era of high stakes testing in the name of accountability, most educators view the principal as a key element in improving student achievement. The data from this research will assist schools in making decisions regarding how the transformational leadership of the principal can potentially improve HSPT passing rates in schools. The results of this study on principal transformational leadership and its effects on HSPT

passing rates can have an impact on school districts in several ways. First, knowing that a transformational leader is likely to have a positive effect on HSPT passing rates will result in better and more informed hiring decisions. School districts will have research-based knowledge to utilize as part of their efforts to raise student achievement. Second, knowledge of the characteristics of a transformational leader will also be useful for professional development or the retraining of veteran principals. Carr (1997) asserted that principals should be cognizant of their leadership style as leadership style influences the behavior of people with whom they work. Furthermore, Murphy and Beck (1994) stated, "... that principals themselves have not thoughtfully and proactively defined -- for themselves and others -- either educational purposes or their roles in helping achieve these ends" (p. 4). Thus, school districts can use such information to provide inservice training for principals in being effective leaders. The facts related to the benefits of transformational leadership to student achievement will also be useful to principals when they develop their personal improvement plans based on their yearly evaluations. Educational organizations, such as the Principals and Supervisors Association and the New Jersey School Development Council, can use this research to offer professional development opportunities to new and aspiring principals.

Although all school districts in New Jersey and elsewhere will benefit from learning more about how transformational leadership affects student achievement, vocational high schools, in particular, will benefit because they have traditionally struggled to have their students achieve passing HSPT scores. Contrary to what some people believe, students in vocational schools must pass the HSPT since it is a high school graduation requirement just as for the comprehensive high schools. However, in

addition to passing the HSPT, students in vocational schools must also pass state shop competency tests in their chosen career major. Thus, administrators of vocational schools have the double task of educating students to achieve success in both the academic and vocational areas. Additionally, as this research shows, vocational principals must also meet the challenge of improving the academic achievement and social and emotional well-being of their students. Thus, the knowledge that transformational leadership of principals has the potential to raise scores of students in vocational schools will be useful to school officials and community leaders in vocational districts. In addition, this research provides the knowledge that vocational principals need so they can meet the unique challenges they currently face by embracing the concept of and becoming transformational leaders.

Finally, the results of this study provide data on student attendance, eligibility for free/reduced lunch, enrollment size, and student mobility for educators to consider as they evaluate their programs to raise HSPT passing rates in their schools. Moreover, the findings of this study will assist educators in answering some important questions in regard to the above four areas and overall student achievement in schools: What steps can schools take to increase attendance rates so students will have continuity and consistency of instruction? What strategies can low-income schools implement to provide students with supplemental reading instruction? How can small schools enhance their effectiveness with the leadership of transformational principals? Although high mobility rates appear to be detrimental to overall student achievement, how can schools look beyond these perceptions to identify the true reasons behind mobility and their effect, or lack of effect, on student achievement?

Finally, the results of this study include the following implications for practice: 1. the creation, by boards of education, of transformational leadership profiles for principals to enable boards of education to identify principal candidates who have the most potential to act as transformation leaders; 2. the development of professional development programs in schools of education, professional organizations, and school districts to provide aspiring, and existing principals with training in transformational leadership; 3. the hiring of vocational principals who have more than standard credentials and who exhibit high degrees of transformational leadership qualities; 4. the establishment of courses in graduate schools of education for aspiring vocational principals, which specifically emphasize transformational leadership as it relates to meeting the special needs of vocational students; 5. the creation of school environments that encourage and motivate students to attend school on a regular and consistent basis; 6. the creation of comprehensive reading programs in low-income schools to enhance the academic achievement of students in these schools.

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