The relationships between teacher self-efficacy beliefs, teacher job satisfaction, socioeconomic status and student academic success

Dana Elizabeth Gresham
College of William & Mary - School of Education

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THE RELATIONSHIPS BETWEEN TEACHER SELF-EFFICACY BELIEFS, TEACHER JOB SATISFACTION, SOCIOECONOMIC STATUS AND STUDENT ACADEMIC SUCCESS

A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

by
Dana Elizabeth Gresham
August 2001
THE RELATIONSHIPS BETWEEN TEACHER SELF-EFFICACY BELIEFS, TEACHER JOB SATISFACTION, SOCIOECONOMIC STATUS AND STUDENT ACADEMIC SUCCESS

by Dana Elizabeth Gresham

Approved August 2001

James Stronge, Ph.D.
Chair of Dissertation Committee

Robert Hanny, Ph.D.

Lori Korinek, Ph. D.

Thomas Ward, Ph.D.

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DEDICATION

This dissertation is dedicated to the many special people who have provided me with focus and support throughout my life: my Mom and Dad who have constantly provided my siblings and me with an example of life-long learning and the value of hard work; to my brother, sister and their families who are always ready to lend an ear; to the many wonderful colleagues and friends (particularly the Virginia Beach “Crew”) who help remind me that life is not “all work and no play”; to my beautiful Becca who was always ready for a day out with Dad when I needed to work on my research; and, most of all, to the center of my universe, Kenny, for keeping me going and never waiving in his support of my educational pursuits.
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ABSTRACT

The major purpose of this study was to assess the relationships between the perceptions of self-efficacy of a school’s teachers, the job satisfaction of a school’s teachers, the academic achievement of a school’s students, and a school’s socioeconomic status.

The theoretical base for this study centers around the work of Bandura (1982, 1995) in the area of teacher self-efficacy. Additionally, Herzberg, Mausner, and Snyderman’s (1959) Motivation/Hygiene Theory and Maslow’s (1968) Motivation Theory provide the theoretical base for the area of teacher job satisfaction.

Teacher self-efficacy and job satisfaction data were collected through teacher completion of paper/pencil questionnaires. Student academic achievement was measured using schools’ scores on the May 2000 5th grade Virginia Standards of Learning assessments in the areas of math, science, social studies, and English (reading/literature/writing). A school’s socioeconomic status was measured by the number of students receiving free or reduced lunch. Data on student academic success on the 5th grade Standards of Learning tests and the schools’ socioeconomic status were gathered from the Director of Research and Planning of the targeted county and from the Virginia Department of Education’s website. Analysis was made by computing correlation coefficients using the Pearson r, computing several t-tests, and by comparing the means of the subscales on the Teacher Job Satisfaction.

The relationships between teacher efficacy and all other variables were found to be not significant, and there was not a significant difference between at-risk and non at-risk schools in
the area of teacher efficacy. Student achievement and socioeconomic status were significantly related. A curvilinear relationship was observed between teacher job satisfaction and socioeconomic status with the subscales of “supervision” and “pay” accounting for this relationship. Further, at-risk and non-at-risk schools differed significantly in the area of job satisfaction.

DANA ELIZABETH GRESHAM
PROGRAM IN EDUCATIONAL PLANNING, POLICY, AND LEADERSHIP
THE COLLEGE OF WILLIAM AND MARY IN VIRGINIA
Chapter I: The Problem

Introduction

Schools are a microcosm of society, and the problems that plague our communities find their way into our schools. Therefore, educators are charged with offering support to at-risk children who must confront those problems. Many methods have been offered to support these children, ranging from pull-out programs to specific strategies for use in general education classrooms (Legters & McDill, 1994; Manning & Baruth, 1995; Quinn, 1991; Russell, Grandgenett & Lickteig, 1994; Sanacore, 1994). These same researchers have difficulty, however, in determining which of these methods is truly effective with at-risk youth; a strategy that is effective in one classroom may be ineffective in another, even when identical training has been provided to the teachers and the characteristics of the students are similar. We must, therefore, probe deeper.

Why is it that at-risk students experience success in some classrooms but not in others, even when similar teaching strategies are utilized? On the surface one plausible answer appears to rest in teachers’ perceptions of at-risk students; some teachers appear to truly believe in the potential of these students while others appear content with letting them “get by” (Bay & Bryan, 1991; Jordan, Kircali-Itar & Kiamond, 1991; Legters & McDill, 1994; Manning & Baruth, 1995; Rogus & Wildenhaus, 1994; Weinstein, Madison & Kuklinski, 1995). Why this discrepancy? The answer may rest in teachers’ perceptions of their own teaching efficacy.

Two teachers teaching in the same school may receive identical strategy training yet
experience quite different outcomes during the implementation of that strategy. One teacher may implement the new strategy with observable improvement in student learning. The other teacher may implement the strategy with a similar group of children with no observable improvement in student learning. Similarly, that second teacher may fail to implement the new strategy at all or may implement it incompletely. Bay and Bryan (1991) suggested that in many instances, teachers of at-risk children are aware of available strategies, but fail to implement them because to do so would disrupt the established flow of the classroom. On the other hand, Raudenbush, Rowan, and Cheong (1992) argued that teachers with positive feelings of self-efficacy will be more likely to “construct” and, thus, to use new teaching strategies (p. 151). Further, Ashton and Webb (1986) asserted that a teacher’s sense of self-efficacy will actually vary with the activity; if a teacher perceives him or herself to be more effective at lecture format instruction, then he or she is unlikely to implement cooperative learning even after receiving instruction in this strategy.

Led by Bandura (1982, 1995), educators have begun to understand that a teacher’s perception of his or her own teaching efficacy and feelings of influence over events impacts success in the classroom. Teacher self-efficacy influences choice of activities and the amount of effort a teacher will expend on certain activities (Ashton & Webb, 1986). If a teacher doubts his or her own ability to successfully implement a strategy or doubts the ability of the strategy to positively influence the academic performance of children, that teacher will tend to behave ineffectually even though he or she knows what to do (Bandura, 1982).
Teacher self-efficacy is especially critical when working with at-risk children. As Miller (1991) stated:

Effective and equitable educational opportunities for all children may depend to a large extent on the beliefs teachers hold regarding students’ abilities to learn and excel, beliefs about their own abilities to teach difficult or challenging students, and the assumption of responsibility for the achievement of all their students. (p. 31)

Children at-risk for school failure will bring with them additional challenges both in and out of the classroom; teachers must believe that they are capable of overcoming these challenges. At-risk students will require additional explanation, more modeling, extensive scaffolding before independent performance of tasks, and direct instruction in metacognition and strategies (Brophy, 1990).

Teachers with high self-efficacy beliefs will be more likely to build these characteristics into their classrooms. Ashton and Webb (1986) found that teachers with high efficacy beliefs tended to believe that all students were capable of learning and developed the classroom characteristics to ensure that they did so. Their classrooms tended to be warm and encouraging, and the teachers tended to believe that students would behave appropriately if treated fairly and consistently. The importance of learning and instruction was emphasized, and all students were pushed to stay engaged and successful. On the other hand, teachers with low self-efficacy beliefs tended to distrust lower achieving students and were more likely to sort students based on ability and to even ignore the lower ability students. Low self-efficacy beliefs were found to be related
to "...the use of embarrassment and excommunication as behavior management techniques" (p. 86) and to a lack of emphasis on the importance of learning.

Effective teacher training is the first step toward academic success for these students. Teachers of at-risk children will need a large arsenal of instructional strategies. An adequate supply of tools, however, is only part of the picture. Teachers must also believe in their own abilities to utilize these tools and the ability of those tools to positively impact academic performance of students at-risk for school failure.

Statement of Purpose

The purpose of this study was to explore the relationship between teachers' perceptions of their own teaching efficacy, teacher job satisfaction, a school's socioeconomic status, and the academic success of students. From this problem statement, several hypotheses arose.

Hypotheses

Hypothesis #1: There is a significant relationship between teachers' perceptions of their self-efficacy and their job satisfaction.

Hypothesis #2: There is a significant relationship between the job satisfaction of a school's teachers and the academic success of a school's students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading/literature/writing), math, social studies, and science.

Hypothesis #3: There is a significant relationship between the self-efficacy perceptions of a school's teachers and the academic success of a school's students as measured by the 5th grade...
Virginia Standards of Learning assessments in the areas of English (reading/literature/writing), math, social studies, and science.

Hypothesis #4: There is a significant relationship between a school’s socioeconomic status and the academic success of a school’s students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading/literature/writing), math, social studies, and science.

Hypothesis #5: There is a significant relationship between the socioeconomic status of school’s students as measured by percentage of students receiving free or reduced lunch and the self-efficacy perceptions of a school’s teachers.

Hypothesis #6: There is a significant relationship between the socioeconomic status of a school’s students as measured by the percentage of students receiving free or reduced lunch and the job satisfaction of a school’s teachers.

Hypothesis #7: There is a difference in the job satisfaction and self-efficacy perceptions between teachers in schools identified as at-risk and those not identified as at-risk.

Operational Definitions

At-risk schools. At-risk is a term coined in the past decade (Manning & Baruth, 1995) to describe students who do not or potentially will not succeed in the school setting. Risk factors cited by researchers include poverty, broken homes, and disrupted families (Allington, 1990; Miller, 1991; Pianta & Walsh, 1996; Putman, Malia & Streagle, 1997; Quin, 1991). The school system being used for investigation has identified a number of its schools as at-risk for lack of
success of the Virginia Standards of Learning assessments. They determined an at-risk school to be one which has a large percentage of lower socioeconomic status, has a wide range of academic needs, and one which has not historically achieved to expectations (P.C. Kinlaw, personal communication, July 31, 2000). For the purposes of this investigation, the same characteristics used by the school system were used by the researcher.

**Teacher self-efficacy.** Teacher self-efficacy is a teacher’s belief that he or she has the skills to effectively teach students and that this effective instruction will positively impact the achievement of those students (Bandura, 1982). Teacher self-efficacy was measured using the Teacher Efficacy Scale developed by Gibson and Dembo (1984). This scale is included in Appendix D.

**Student academic success.** Student academic success was measured by the success of a school’s students (percentage passing) on the May, 2000 Virginia Standards of Learning assessments at the 5th grade level in the areas of English (reading/literature/writing), math, science, and social studies.

**Teacher job satisfaction.** Teacher job satisfaction was defined as a teacher’s satisfaction with a number of factors: supervision, relationships with colleagues, working conditions, pay, responsibility, daily tasks/creativity/autonomy, the opportunity for advancement, security, and recognition (Lester, 1987). The Teacher Job Satisfaction Questionnaire (Lester, 1987) was used as the measurement instrument (see Appendix E).
Socioeconomic status. A school's socioeconomic status was investigated by collecting data on the percentage of students in a given school entitled to free or reduced lunch. The targeted school division labeled this as the "economic deprivation level" for a school.

Theoretical Rationale: Teacher Efficacy

Researchers exploring the concept of teacher efficacy beliefs tend to base their research upon the pioneering work of Albert Bandura. Bandura (1982) argued that if self-efficacy is lacking, individuals may be unsuccessful even though they know what to do. These individuals may give up because they either doubt that they can carry out the required actions or because they believe that their successful actions would have no impact upon the situation (Bandura, 1982). In the first instance, the teacher would be lacking in personal teacher efficacy or the expectation that he or she can implement the actions that would lead to student learning. In the second instance, the teacher would be lacking in general teacher efficacy or the belief that teachers are able to bring about learning despite uncontrollable environmental factors (Ross, 1995). Both types of teacher efficacy would be especially important when teaching at-risk students who require exceptional teacher skill and who typically present less than optimal environmental factors.

Bandura (1982) asserted that self-efficacy is based upon four sources of information. The first, and strongest, is performance attainments. In this case self-efficacy is heightened if the individual actually successfully carries out the desired action. Vicarious experiences, such as observing others successfully carrying out the desired action, is yet another important source of information impacting self-efficacy. Verbal persuasion and one's physiological state are the third...
and fourth sources of information that impact one's self-efficacy beliefs.

The level of self-efficacy on the part of the teacher will impact things such as thoughts and feelings, choice of instructional activities, amount of effort expended on students (Bandura, 1982), and, "...the extent of persistence in the face of challenging circumstances" (Miller, 1991, p. 32). To operationalize this concept, teacher self-efficacy can be expected to impact a teacher's decision to use or not use specific practices effective in the instruction of at-risk students. In a review of literature, Ross (1995) found that teacher efficacy correlates with cognitive achievement, "student acquisition of school-approved values and attitudes" (p. 230), and overall student achievement. Therefore, teacher self-efficacy is a vital characteristic to consider in the education of at-risk students who will require teachers who believe all children can and will learn, and who are willing to expend the energy necessary to choose and use appropriate and effective instructional strategies.

Theoretical Rationale: Teacher Job Satisfaction

Job satisfaction has been researched over the last sixty years, mostly outside of the field of education. In particular, Herzberg, Mausner, and Snyderman (1959) investigated job satisfaction in a number of industrial settings in the Pittsburgh area. Based upon their research, they identified hygiene and motivation factors. Hygiene factors are those factors indirectly related to the job that can help prevent job dissatisfaction, but will not create job satisfaction. Examples of hygiene factors include supervision and wages. For true job satisfaction, motivation factors must also exist. Motivation factors are those characteristics directly related to the job such as creativity.
These factors lead to "positive job attitudes...because they satisfy the individual's need for self-actualization in his work" (p. 114).

Maslow (1968) also contributed to the study of job satisfaction through the development of his theory of motivation. Maslow identified seven sources of motivation. The first four-physiological, safety, belongingness and love, and esteem - were called deficiency needs. Deficiency needs are motivators because human beings act to fulfill them on the basis of deficits in those areas. The final three motivators in Maslow's hierarchy of needs - self-actualization, knowing and understanding, and aesthetics - are called being needs. According to Maslow, human beings are only motivated to work to fulfill being needs when their deficiency needs are met.

Educational researchers such as Lester (1985, 1987) have used the theories of Herzberg et al. (1959) and Maslow (1968) to investigate job satisfaction specifically in the field of education. Lester developed the Teacher Job Satisfaction Questionnaire (TJSQ) based on these two theories. The TJSQ has been frequently used to investigate teacher job satisfaction as it relates to a number of other factors such as peer coaching (Sanders, 1991), decision making (Rauch, 1990), and factors influencing teacher job satisfaction (Ruben, 1993).

Significance of the Study

Teachers are in an ideal situation to recognize students at-risk for school failure and to support them in their educational endeavors. Further, at this time it is highly unlikely that a teacher will NOT encounter a student who is at-risk, regardless of the characteristics of the school in which he or she teaches. Thus, it is imperative for educational administrators to recruit and hire
individuals who have the characteristics necessary for successfully instructing at-risk students. The results of this investigation may help guide educational administrators as to lines of inquiry for teacher interviews.

The results of this investigation may also potentially impact staff development training. If teachers are already in place who demonstrate less positive self-efficacy beliefs and who are not satisfied with their jobs, staff development activities can be developed to combat these problems. Based upon Bandura’s work (1982), possessing the skills alone is not enough to ensure teacher effectiveness. Therefore, providing teachers with the tools and strategies for instructing at-risk youth will not be adequate unless they are also provided with assistance in believing that they can successfully implement these tools and that these tools will have a positive impact on student performance.

Utilization of the Virginia Standards of Learning assessments as a method for measuring student success is particularly relevant as the Commonwealth of Virginia struggles to implement the new standards and principals struggle to bring their schools into compliance. Superintendents, teachers, and, particularly, principals must be concerned with the success of students at-risk, for their success could potentially make the difference between a school being accredited or unaccredited.

Limitations

The following limitations applied to this study.

1. The operational definition of at-risk schools used limited the boundaries of “at-riskness” to low performance of students on the Virginia Standards of Learning assessments, low socioeconomic
status as measured by number of students on free and reduced lunch, and a wide range of academic needs, and did not include all of the obstacles to school success.

2. Student success was defined only in terms of success on a standardized, criterion referenced tests, not in terms of other indicators of academic success or in terms of social or emotional success.

3. The criteria for student academic success was limited to a school's success rate on Virginia's Standards of Learning assessments.

4. The relationships between positive teacher self-efficacy beliefs, teacher job satisfaction, schools' levels of economic deprivation, and student academic success are not necessarily cause and effect relationships; many other intervening variables may have existed that have not been identified in this study such as student ability, parent support, a school's supervisory characteristics, and influence of previous teachers.
Chapter 2: Literature Review

At-Risk Learners

While educators have always worked diligently to ensure the success of all students, in today's era of accountability, it is increasingly imperative that the needs of at-risk students be taken into account. For a school to successfully educate only a portion of its students is not only unacceptable, but also impossible to hide. The public is aware as never before of schools' records on standardized testing. The expectation is that the vast majority of students in a school will preform in a proficient manner. Therefore, educators must make certain that the needs of the most vulnerable students are being met.

The variable most directly related to the success of at-risk students is the teacher. The teacher drives the instructional program as well as the manner in which it is presented. Therefore, a teacher's beliefs about his or her own efficacy in the classroom and the teacher's satisfaction with his or her job can potentially impact student academic success, student attitudes towards school, and even the teacher's own attitudes about teaching.

Definition of At-Risk Learners

Identifying a child as "at-risk" insinuates that obstacles will have to be overcome in order for that child to succeed and grow into a healthy, well-functioning adult. Pinpointing a precise definition of at-risk, though, has been problematic. Distinguishing between students with disabilities, students who are slow learners, and students who are at-risk is difficult. Rogus and Wildenhaus (1991) defined at-risk students as "...those who are unlikely to successfully complete high school or to acquire the skills to function effectively in higher
education or employment” (p. 1). Other authors also use a high likelihood to drop-out as a definition of at-risk (Kallaman, 1991; Miller, 1991; Russell, Lickteig, & Grandgenett, 1995).

This surface definition is insufficient, however. What are the characteristics that make a student likely to drop-out of school? Students likely to drop-out are frequently defined as those with below average academic ability and/or achievement (Basham, 1994; Horn & Chen, 1998; Kallaman, 1991; McMillan & Reed, 1993; Rutter & Margelofsky, 1997; Westfall & Pisapia, 1994), those who have low self-confidence (Bramlett, 1993; Kallaman, 1991), and those who display poor social skills and inappropriate behavior (Bramlett, 1993; Kallaman, 1991; Kauffman, Wong, Lloyd, Hung, & Pullen, 1991; McMillan & Reed, 1993; Westfall & Pisapia, 1994).

Alienation or a disconnectedness from school has also been identified by various researchers as a characteristic of at-risk students (Bramlett, 1993; Bruno, 1995; Kallaman, 1991). Bruno (1995) interpreted this alienation as a form of learned hopelessness in regards to the possibility of future success. According to this theory, at-risk students do not believe that the future is promising; therefore, they do not see the value of investing time in academic tasks.

Other authors define “at riskness” in a more contextual manner, focusing not only on academic failure but also on community risk factors such as crime and poverty (Horn & Chen, 1998; Kauffman et al., 1991; Rutter & Margelofsky, 1997; Walker & Sprague, 1999). In fact, poverty is one of the few concrete characteristics educators can use to define at-risk students; for this reason, free or reduced lunch participation is frequently used as a means for identification (Basham, 1994; Placier, 1991).
Other social or community factors that may place a child at risk include membership in a dysfunctional family or a single parent home (Horn & Chen, 1998; Rutter & Margelofsky, 1997; Walker & Sprague, 1999; Westfall & Pisapia, 1994), English as a second language, and a history of parental or sibling academic problems (Horn & Chen, 1998; Westfall & Pisapia, 1994). Substance abuse (Westfall & Pisapia, 1994), teenage pregnancy (Rutter & Margelofsky, 1997; Westfall & Pisapia, 1994), and other personal issues also negatively impact a student’s ability to succeed in school.

Manning and Baruth (1995) contend that educators must look at the overall situation of the student in order to determine whether or not that child is at risk; some children will be placed at-risk by a certain set of factors while others will be seemingly unaffected by the same set of factors. Rossi (1994) stated that children are not inherently at-risk; rather they are placed at-risk by factors external to the child such as domestic violence.

**Self-perceptions of at-risk students.** At-risk learners typically exhibit poor self-confidence. For example, Bramlett (1993) surveyed parents, teachers, and administrators in five counties in southern Ohio. From the results of this survey, he concluded that student low self-esteem was one of the greatest barriers to effectively educating at-risk students. Similarly, McLean (1997) stated that, “students’ attitudes toward schooling...and their own perceptions of personal academic achievement affect their educational outcomes” (p. 165).

At-risk students tend to have an external locus of control and have little confidence in their own abilities to positively control their educational outcomes. For example, in a sampling of 69
high achieving and 55 low achieving students in four Canadian high schools, McLean (1997) found that the lower achieving students "were less willing to view themselves as able to influence their own scholastic outcomes" (p. 166). Locus of control and academic self-concept were found to be the primary differences between the two groups of students.

Similarly, Bruno (1995) conducted a study in which 500 at-risk and normal attaining students at several urban high schools were sampled to investigate the perceptions and allocations of time among at-risk students. The at-risk students were found to prefer non-directed or "killing time" activities such as watching television. Bruno proposed that at-risk students do not see any value in "selling" their time to the school organization by engaging in activities such as doing homework or participating in learning activities. Rather, they engage in activities that will entertain them, but not those which will academically advance them or help them to form positive relationships with others. These children were found to be pessimistic about the future and to believe that they had little control over their futures.

Conversely, McMillan and Reed (1993) found that resilient at-risk children tend to have an internal locus of control and to be hopeful about the future. These children make productive use of their time and are able to articulate goals for the future. They take personal responsibility for their lives and do not feel that their environments were critical to their success.

In reality, the reasons for at-riskness are neither purely social nor purely academic; rather, risk characteristics in a variety of realms interact to place at student at-risk for school failure (Kallman, 1991; Rutter & Margelofsky, 1997). Regardless of the reasons for at-riskness, these
children are faced with obstacles that decrease the chances that they will "...possess the ability, willingness, or opportunities for academic engagement and intellectual development" (Montgomery & Rossi, 1994, p. 13).

**Instructional Environments for Student Learning**

**Effective Instructional Environments for All Students**

Effective instruction for at-risk students begins with effective instruction for all students. Effective instructional environments begin by maintaining high, positive expectations (Brophy, 1990; Manning & Baruth, 1995; Rogus & Wildenhaus, 1991; Wang, Haertel & Walbert, 1997a)). Teachers in such environments insist that all students achieve to their greatest potential regardless of their socioeconomic or cultural background (Manning & Baruth, 1995; McMillan & Reed, 1993). Further, student attainment of high expectations must be reinforced in such a manner that the student's sense of accomplishment and ability is developed (Brophy, 1990; Rogus & Wildenhaus, 1991).

Active student involvement in learning tasks is another characteristic of effective learning environments. Rather than students listening passively as teachers deliver instruction, effective educators have, instead, learned to actively engage students in activities (Legters & McDill, 1994; Wang et al., 1997a). Active engagement is one factor contributing to a high degree of on-task time which is yet another characteristic of an effective instructional environment for all learners (Rogus & Wildenhaus, 1991; Wang et al., 1997a).

Active student engagement and a high amount of on-task time both lead to and are an
effect of effectively managed classrooms. Classrooms in which students are well behaved are classrooms in which more learning takes place. Brophy (1990) stated:

As a fundamental principal, successful teachers approach classroom management as a process of establishing and maintaining student engagement in academic lessons and activities rather than as a process of enforcing discipline by punishing misbehavior.

(p. IX-3)

Effective teachers manage a complex set of tasks in such a way that order is established and maintained (Doyle, 1990).

Within an orderly and productive environment, interactions between students and adults play an integral role in instruction. Students do not learn best by working in isolation on independent tasks; rather, students require numerous and meaningful interactions with each other and with adults (Allington, 1990; Brophy, 1990; Rogus & Wildenhaus, 1991; Wang et al., 1997a). Indeed, for some students a personal connection between themselves and an adult will mean the difference between success and failure (Legters & McDill, 1994). In an environment with a high degree of interpersonal interactions, students will have an opportunity to safely learn and will feel cared for and respected (Rogus & Wildenhaus, 1991).

Effective Instructional Environments for At-Risk Learners

In addition to those characteristics required for the effective instruction of all students, at-risk students will require additional considerations. Certain organizational characteristics may have greater implications for at-risk students than for other students. For example, students who
are at-risk will benefit from an even greater degree of interpersonal communication with adults and other students (Henderson, 1997; Jordan, 2001); thus, school and class size may have an impact on the success of at-risk students (Cawelti, 1999; Wang, Haertel & Walberg, 1997b). Quinn (1991) indicated that low teacher-pupil ratios is one method for reducing drop-out rates; a large school may potentially lead to anonymity where a smaller school may foster critical one-to-one relationships. In order to be effective with at-risk students, teachers must be able to know and adapt to individual learning needs, goals, frustrations, and instructional needs (Manning & Baruth, 1995; Wang, Haertel & Walberg, 1998); this is extremely difficult in larger school settings. Brophy (1990) has gone so far as to assert that school size may be the most important factor in a school’s ability to work successfully with disadvantaged students.

In a qualitative research study of 28 students attending an alternative high school by Rutter and Margelofsky (1997), large group instruction was frequently viewed by at-risk students as a problem. Larger groups were viewed as typically entailing uniform rules, limiting personal interactions, limiting feedback and remediation opportunities, and limiting opportunities for individualization of instruction.

Proponents of smaller schools assert that such schools will enable students to form the positive relationships with teachers, counselors, and peers that are so critical to at-risk youth if they are to rebound from other less than ideal circumstances (McMillan & Reed, 1993). Smaller schools will also increase the likelihood that at-risk students will become involved with extra curricular and volunteer activities. This involvement was identified by McMillan and Reed (1993)
as a characteristic of resilient at-risk youth. Finally, smaller schools have been correlated with more positive teacher attitudes which translate into increased student achievement (Lee & Loeb, 2000).

Tracking or ability grouping is another organizational characteristic that must be considered when planning for at-risk learners. Research has begun to indicate that ability grouping is ineffective for disadvantaged students (Russell et al., 1995; Wang et al., 1998), and that heterogeneous grouping and inclusive practices may be more effective (Legters & McDill, 1994; Sanacore, 1994, Wang et al., 1997b). Interdisciplinary teaming in the first year of high school has also been found to be successful in high schools with large percentages of poor students (Jordan, 2001).

Legters and McDill (1994) have offered several alternatives to traditional ability grouping. One alternative is for ability grouping to only occur in one or two courses while keeping the others heterogeneous. Another is to exercise flexibility in tracking so that a low track assignment to one class and a high track assignment to another can occur for the same student. Schools may also limit the number of different tracks for a single course. Finally, Legters and McDill (1994) suggested assigning the most talented teachers and the greatest resources to those classes with the highest number of at-risk students.

Small schools, low pupil-teacher ratios, and heterogeneous grouping will only help at-risk students if appropriate instructional strategies are utilized (Russell et al., 1995). At-risk learners will benefit from instruction that focuses on broad concepts that stimulate higher order thinking.
ability rather than on isolated skills (Sanacore, 1994; Wang et al., 1998). Particularly in literacy instruction, comprehension and meaning should be at the center of instruction (Knapp & Needels, 1990).

At-risk learners will also benefit from strategy instruction (Kallaman, 1991; Wang et al. 1998) such as reading and study techniques (Sanacore, 1994) and social skills (Brophy, 1990; Henderson, 1997; Kamps, Tankersley, & Ellis, 2000). These learners require teacher modeling of processes and scaffolding, especially when a concept is first being introduced (Brophy, 1990; Garcia & Pearson, 1990). Additionally, at-risk students will benefit from increased explanation about the purposes behind lessons and a certain amount of involvement in the planning and evaluation of lessons (Brophy, 1990; Garcia & Pearson, 1990). Utilizing effective strategies within the regular classroom setting is especially important in light of the fact that research has begun to indicate that this approach is more effective than pull-out programs (Russell et al., 1995).

Maintaining an active learning environment will be even more critical for at-risk learners than for other learners (Richardson, 1997; Wang et al., 1998). At-risk learners typically find little meaning in learning. If students are actively involved, however, the subject matter may become more relevant and practical to students. This will, in turn, encourage at-risk learners to put more effort into academic tasks. Further, an active learning environment may better suit the diverse learning styles of at-risk learners (Basham, 1994).

Underlying all of these characteristics of effective instructional environments for at-risk
learners are the attitudes of the adults in those settings. Teachers must have positive attitudes about and high expectations of at-risk learners and must be committed to the students (Brophy, 1990; Henderson, 1997; Quinn, 1991; Richardson, 1997; Wang et al., 1997b; Wang et al., 1998). In fact, Pianta & Walsh (1996) asserted that massive restructuring of our schools is not the answer to better educating at-risk children. Rather, we must examine the way educators perceive the at-risk students in their classrooms and their roles in those children’s lives. Similarly, Quinn (1991) argued that a teacher culture in which teachers are accountable for the success of all students and believe that teaching is more than the sharing of facts, is an integral ingredient in a school’s recipe for responding effectively to at-risk students. McMillan and Reed (1993) stressed that resilient at-risk students believed that “good” teachers were those with positive and high expectations.

The Reality of Instructional Environments for At-Risk Students

The reality of instructional environments for at-risk students is often far from that recommended in the literature. Educators appear to be relying heavily upon strategies not supported by research (Russell et al., 1995). For example, for efficiency’s sake, schools today tend to be large in size. Researchers warn that large, comprehensive schools, particularly high schools, may be detrimental to the close interpersonal relationships needed by at-risk students (Legters & McDill, 1994; Quinn, 1991). Quinn warned that, “large, comprehensive high schools may simply be structurally unable to promote the necessary personal interaction with dropout-prone students” (p. 81). Additionally, ability grouping and tracking are widely used in today’s
Another discrepancy between theory and practice rests in the fact that pull-out programs are routinely used to provide services to at-risk students; this is in opposition to the fact that research has indicated this method is less effective than providing instruction for at-risk students within the regular classroom setting (Knapp & Needels, 1990; McCollum, 1990; Russell et al., 1995; Wang et al., 1997b; Wang et al., 1998). In their study of instructional practices targeted at helping at-risk children, Russell et al. (1995) found that principals and teachers supported the use of special classes and pull-out programs. Supplementary instruction outside of the regular classroom tends to add even greater complexity to the education of at-risk students by adding a variety of teachers and settings to the picture (Knapp & Needels, 1990).

Perhaps most disturbing, teachers frequently do not appear to be using instructional strategies with their at-risk students that research has indicated to be effective. For instance, instruction for these learners is, in many cases, disjointed; discrete skills are taught rather than broad, connected concepts (Doyle, 1990; Garcia & Pearson, 1990; Knapp & Needels, 1990). Disadvantaged children tend to be expected to master basic facts and information before moving on to higher order skills; Doyle (1990) has asserted that this leads to fragmentation and the teaching of discrete skills rather than a system of strategies and processes. When applied to literacy instruction, this means that students will sacrifice learning higher order comprehension skills for the sake of mastering rote drill activities that lack coherence (Garcia & Pearson, 1990; Knapp & Needels, 1990).

At-risk students tend to be exposed to a high degree of teacher directed instruction and do
not have as much control over their learning as typical students (Doyle, 1990; Jordan, Lindsay & Stanovich, 1997; Manning & Baruth, 1995; Moll, 1990). At-risk students spend a great deal of time working on rote and drill, redundant tasks (Moll, 1990). Lecture and other types of teacher controlled instruction are frequently observed (Manning & Baruth, 1995). Whereas their more advantaged counterparts are more likely to be asked to analyze and synthesize concepts and are more likely to be told "why", at-risk students are exposed to much teacher control (Moll, 1990). They are "typically relieved of the responsibility to structure their learning because tasks are simplified and instructional prompting is high" (Doyle, 1990, p. X-5).

Teacher expectations for at-risk students are frequently not as positive or as high as research has indicated they should be. Knapp and Needels (1990) noted low expectations for at-risk learners in literacy instruction. These low expectations have been observed in several research studies. For example, in Bay and Bryan's (1991) investigation of teacher perceptions about and behavior toward at-risk students, they found that lower achieving students received more negative comments about maintaining attention to task than average achieving peers. In a similar study by Babad (1990), students perceived the lower achievers in the class as receiving more learning support, but also more negative teacher attention. McCollum (1990) concluded that teachers vary in the attention they give to high and low achieving students. Where high achievers were praised more, low achievers were criticized more. Teachers persevered more with high achievers who indicated they did not know an answer whereas they gave up quicker with low achievers who appeared to not know an answer. Knapp and Needels (1990) noted that teachers interrupt more to correct mistakes and ask fewer comprehension questions of students who are at-risk.
Basham (1994) identified numerous impediments to the effective use of active learning strategies that are so critical to the success of at-risk learners. First, teachers tend to lack the prerequisite knowledge and skills to use such strategies. Second, they frequently do not have the supplies or equipment for such activities. Most notable, though, is that teachers frequently perceive active learning to be too time consuming and to not fit into the established curriculum. Teachers may also lack confidence in their ability to teach using active learning.

In summary, all students and, in particular at-risk students, require instructional environments characterized by active involvement and numerous, meaningful interactions with others. Additionally, at-risk students benefit from strong interpersonal relationships with their teachers, heterogeneous grouping, and instruction focusing on higher order thinking skills and learning strategies. Unfortunately, while research has provided clear guidance for the education of students at-risk for academic failure, this guidance is not always put into practice as illustrated in Table 1. While teachers may not always have direct control over organizational variables such as school size and tracking, they certainly have control over the strategies they choose to use in their classrooms and the manner in which they interact with students. Why, then, do teachers of at-risk students frequently not put theory into practice?
Table 1

<table>
<thead>
<tr>
<th>Use of Effective Instructional Strategies</th>
<th>Teacher Variables</th>
<th>Social/Behavioral Issues</th>
<th>Organizational Variables</th>
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<td>strategy instruction</td>
<td>increased exploration &amp; involvement in planning</td>
<td>high expectations</td>
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Teacher Self-Efficacy Beliefs

Self-Efficacy Theory

A plausible answer to this question may be found in Bandura’s work in the area of self-efficacy theory (1982, 1995). The construct of self-efficacy has its roots in social learning theory (Bandura, 1982). Bandura defined self-efficacy as, “beliefs in one’s capabilities to organize and execute the courses of action required to manage prospective situations. Efficacy beliefs influence how people think, feel, motivate themselves, and act” (p. 2). Self-efficacy beliefs have been postulated to be the mediator between knowledge and action (Raudenbush et al., 1992).

Further, efficacy beliefs involve two components. The first, outcome expectations, are the
beliefs that a certain action will lead to a certain outcome. The second, efficacy expectations, are the beliefs in one's own ability to successfully carry out a task. From this, a reasonable assumption is that a teacher's perception of self-efficacy will profoundly affect the way he or she responds to the challenges of teaching at-risk students, and that this response will be demonstrated in the instructional methods used in the classroom and the academic outcomes of the students in that classroom.

Sources of Efficacy Beliefs

Bandura (1982, 1995) identified four sources of efficacy beliefs. The most powerful of these are performance, or mastery, experiences. In these cases, self-efficacy can either be heightened or diminished based upon success or failure at the actual skill. For example, based upon this premise, if a teacher has successfully instructed at-risk children in the past, he or she may be more confident in attempting instructional innovations that specifically target at-risk students. On the other hand, if a teacher has experienced increased behavioral problems and decreased academic success in classes with a large proportion of at-risk students in the past, then he or she may be less confident about instructing these students in the future.

The second source of efficacy beliefs are vicarious experiences. These involve observing similar people succeeding at the identified task. If a teacher sees individuals similar to himself or herself succeeding at teaching at-risk children, then that teacher's self-efficacy in instructing at-risk children under similar circumstances may be heightened. Similarly, if that teacher sees similar individuals failing at this task, then self-efficacy may be lowered.

Verbal or social persuasion is the third source of efficacy beliefs according to Bandura.
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(1982, 1995). This involves verbally persuading an individual that he or she has what it takes to succeed at a given task. The fourth, and least powerful, source of efficacy beliefs has to do with the physiological and emotional states. Stress, tension, and fatigue can all be taken as signs of lack of ability or poor performance. Self-efficacy beliefs will impact how people interpret their physical and emotional reactions.

Self-Efficacy and Its Impact on Various Processes

Bandura (1995) asserted that self-efficacy affects numerous processes. The first processes affected are cognitive processes or analytic thinking skills. When individuals are faced with stressful, demoralizing, or exhausting circumstances, it is difficult to remain task directed. Bandura stated that those with low self-efficacy will “...become more and more erratic in their analytic thinking and lower their aspirations, and the quality of their performance deteriorates” (p.6). On the other hand, those with high self-efficacy will set more challenging goals for themselves, will continue to use good analytic thinking skills, and will accomplish their tasks. In light of the additional stress and pressure involved with teaching at-risk students, this link between self-efficacy and cognitive processes is vital.

Self-efficacy may also impact motivational processes in terms of the goals individuals set for themselves, the effort they expend to accomplish those goals, and how long they will continue to try to reach those goals in the face of adversity. The third set of processes impacted by self-efficacy are the affective processes which have to do with how much stress and other negative emotions are experienced in difficult situations. Self-efficacy also affects an individual’s ability to make accurate self appraisals.
Development of the Self-Efficacy Construct

Since Bandura initially introduced his concept of self-efficacy, numerous educational researchers have further developed the construct. Most notably, in 1984 Gibson and Dembo developed an instrument attempting to validate the construct of self-efficacy. They concluded that this construct actually consists of at least two dimensions that correspond with the two components originally identified by Bandura (1982; 1995). The first dimension is personal teaching efficacy (PE) which refers to a teacher’s beliefs that he or she is competent in bringing about student learning. The second dimension is teaching efficacy (TE) which refers to a teacher’s beliefs that teaching in general can bring about student learning in the face of environmental obstacles (Ashton & Webb, 1986; Ross, 1995). Guskey and Passaro (1993) differentiated between TE and PE by saying:

Individuals may believe that certain behaviors will produce particular outcomes, but if they do not believe they can perform the necessary actions, they will not initiate the relevant behaviors or, if they do, they will not persist in those behaviors. (P. 3-4)

This clearly has implications for teachers in general, and specifically for teachers of at-risk students who need to marshal every resource possible and who need to believe that they can impact academic achievement in spite of numerous environmental obstacles.

Measuring Self-Efficacy

Gibson and Dembo (1984) were first to attempt to develop a measurement instrument for the construct of self-efficacy. They used a three phase process in an attempt to validate a 30 item preliminary instrument for measuring self-efficacy. First, they used factor analysis to look at the
possible dimensions of teacher efficacy and how these dimensions related to Bandura’s self-efficacy theory. In this phase, they also looked at the internal consistency of the preliminary instrument.

In phase two, they completed an analysis looking at whether “...evidence of teacher efficacy gathered from different sources in different ways” (p. 570) converged and whether the construct of teacher self-efficacy could be distinguished from other constructs. Phase three consisted of classroom observations to determine whether teachers with high and low efficacy measures on the preliminary instrument demonstrated different behaviors in the classroom related to activities and perseverance in failure situations.

As a result of phase one, the dual dimensions of the self-efficacy construct previously identified by Bandura were validated. Further, because only 16 of the original 30 items on the preliminary instrument yielded acceptable reliability coefficients, the authors suggested further research with this modified instrument. The 16 item instrument is included in Appendix D.

Numerous researchers have utilized Gibson and Dembo’s instrument in their own research. Edwards, Green, and Lyons (1996) used the scale in an attempt to validate it for use with pre-service teachers. Based on their analysis, these authors concluded that Gibson and Dembo’s Teacher Efficacy Scale was supported. Further, they stated that they had found the same two subscales (PE and TE) that had been previously identified by Gibson and Dembo.

Anderson, Greene and Loewen (1988) used the Gibson and Dembo instrument to investigate the relationship between sense of efficacy, thinking skills, and student achievement. Prior to using the instrument in their research, these individuals conducted analyses to confirm the
two subscales identified by Gibson and Dembo. They concluded that the items in the measure "...loaded on the same low factors identified by Gibson and Dembo, clearly differentiating between the personal and teaching efficacy dimensions" (p. 153).

Soodak and Podell (1993) also used the sixteen item Gibson and Dembo scale and, based upon their sample, found an alpha coefficient of .75. Further supporting the reliability of the instrument, in their factor analysis of the sixteen items, Soodak and Podell found essentially the same results as did Gibson and Dembo in their factor analysis (1984) and identified the same two factors of personal efficacy and teaching efficacy.

Soodak and Podell (1993) defined personal efficacy as "teachers’ perceptions of their own ability to affect change in their students" (p. 71) and teaching efficacy as "teachers’ beliefs regarding limits in the effectiveness of teaching, particularly in overcoming effects of external factors such as home/environment and family background" (p. 71-72). The only discrepancy between Soodak and Podell’s (1993) and Gibson and Dembo’s (1984) analysis was that one of the items loaded on a different factor than it had in Gibson and Dembo’s analysis and another item did not meet Soodak and Podell’s requirements for loading on either of the factors.

Other researchers have used the Teacher Efficacy Scale with modifications. Kushner (1993), for instance, changed the wording of the questions because they were worded as if the respondent was already teaching. Since Kushner was administering the scale to 359 preservice teachers, the original wording was not appropriate. The results of this study again found the two factors of self-efficacy originally identified by Bandura (1982; 1995) and Gibson and Dembo (1984). The author concluded by asserting that the results indicated, "...that the construct is
stable to modifications and is generalizable to preservice teachers” (p. 4).

Furthering the examination of teacher efficacy begun in their 1993 study, Soodak and Podell (1996) wanted to look at whether there were additional dimensions to teacher self-efficacy beyond the two previously identified. They also wanted to expand the TE dimension to look at external factors other than the home, such as heredity and diet. Therefore, in addition to the 16 original items on the Teacher Efficacy Scale, they added ten having to do with the students’ behavior and emotionality, three having to do with the effects of heredity, two having to do with the impact of diet, and three having to do with the impact of viewing violence on television.

The results of administering this instrument to 310 teachers indicated three factors of teacher self-efficacy rather than the two previously identified. These three factors were personal efficacy (PE), outcome efficacy (OE), and teaching efficacy (TE). PE and OE were originally viewed as one factor by Gibson and Dembo (1984). Soodak and Podell, however, differentiated between these by saying that, “PE pertains to a teacher’s belief that he or she possesses teaching skills, while OE refers to the belief that, when he or she implements those skills, they lead to desirable student outcomes” (p. 408). TE was defined similarly to the work of Gibson and Dembo: “the belief that teaching can overcome the effects of outside influences” (p. 408).

Soodak and Podell (1996) contended that their constructs of PE and OE more closely reflected Bandura’s (1982) original concepts of outcome efficacy and personal efficacy than did Gibson and Dembo’s (1984) constructs of PE and TE. They asserted that the distinction between PE and OE, “implies that teachers hold two independent beliefs, the belief that they can teach, and the belief that student outcomes are due to their teaching” (p. 409).
Soodak and Podell (1996) went further to contend that TE is not a part of the construct of self-efficacy at all. They argued that Bandura’s theory had to do with beliefs about behaviors and outcomes. However, since TE has to do with a teacher’s beliefs about the teaching profession in general, it may have little to do with a teacher’s beliefs about himself or herself. “Thus, the factor we have been calling teaching efficacy may not be relevant in the decision-making of practicing teachers. Professionals may hold their profession in low esteem, but may feel that they are personally effective at what they do…” (p. 410).

Hoy and Woolfolk (1993) used a shortened form of the Teacher Efficacy Scale with ten items - five for personal efficacy and five for general teaching efficacy. Hoy and Woolfolk supported teacher efficacy as a two-dimensional concept. However, they argued that teaching efficacy as defined by Gibson and Dembo (1984) does not represent outcome expectations as originally defined by Bandura (1982, 1995). Rather:

... it appears to reflect a general belief about the power of teaching to reach difficult children and has more in common with teachers’ conservative/liberal attitudes toward education. (p. 357)

Hoy and Woolfolk (1993) supported the use of the concept of personal efficacy and asserted that if was actually the more accurate indicator of a teacher’s sense of personal teaching efficacy.

Brownell and Pajores (1996) developed their own scale when investigating teacher efficacy and effectiveness in teaching students with disabilities. They argued that Gibson and Dembo’s instrument was too broad and was, thus, in contradiction to Bandura’s original caution that teacher efficacy beliefs may be context specific. They administered their instrument to 200
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teachers and concluded by stating that, “efficacy beliefs had the strongest direct effect on reported success with higher efficacy beliefs resulting in increased reports of success” (p. 15). Brownell and Pajores’ instrument does not appear to have been used in other research.

The Link Between Self-Efficacy and Teacher Behavior

The importance of the self-efficacy construct becomes apparent when looking at the results of research in this area in the last two decades. While researchers have struggled with measuring the construct and controlling for many confounding variables, at the same time it has become clear that self-efficacy beliefs affect teacher behavior. As Soodak and Podell (1997) stated, teacher efficacy beliefs, “underlie many important instructional decisions which ultimately shape students’ educational experiences” (p. 214).

Bandura (1982; 1995) argued that self-efficacy affects an individual’s choice of activities, how much effort they will expend in carrying out the activities, and how long they will persevere in the face of obstacles. When discussing characteristics of people with high and low self-efficacy, Bandura (1995) characterized low efficacy individuals as those who dwell upon the obstacles and their own deficiencies and, therefore, lessen their efforts and give up quickly. High efficacy individuals, on the other hand, see obstacles as challenges that can be overcome and have a strong commitment to overcoming those obstacles.

Since at-risk students tend to bring many obstacles into the classroom with them, the belief that hard work will overcome challenges and the staying power to carry out that hard work are critical teacher characteristics. Raudenbush et al. (1992) have further argued that strong
feelings of self-efficacy, "...produce a 'generative capability' that enables teachers to construct new teaching strategies and increase their levels of effort in the face of difficult and uncertain teaching circumstances" (p. 151).

A teacher's feelings of self-efficacy may vary from task to task (Ashton & Webb, 1986). Therefore, if a teacher perceives him or herself to be ineffective at a certain strategy, he or she will be less willing to utilize it in the future, even though research clearly indicates it is a useful strategy. Similarly, researchers have indicated that teachers with low feelings of self-efficacy are less likely to implement instructional innovations (Ghaith & Yaghi, 1997).

Bandura (1995) indicated that teachers with low self-efficacy tended toward a more custodial orientation of teaching; such teachers tended to rely heavily upon extrinsic rewards and punishment to get students to study. On the other hand, teachers with high self-efficacy tended to rely more upon intrinsic rewards. Additionally, they believed strongly in students having control in setting their academic directions.

Along with instructional choices, self-efficacy has been shown to impact emotional reactions of teachers. Bandura (1982) stated that positive self-efficacy is related to both behavior change and successful completion of tasks. On the other hand, those with low self-efficacy tend to have poor coping skills which makes difficult tasks seem fearsome (Bandura 1982). Further, self-efficacy influences thought patterns and emotional reactions both before and during interactions with the environment; "such self-referent misgivings create stress and impair performance by diverting attention from how best to proceed with the undertaking to concerns over failings and mishaps" (Bandura, 1982, p. 123).
A teacher's coping skills may, in turn, impact their perceptions of students. Effective instruction for all children is dependent to a large degree on the teachers' beliefs about children's abilities, beliefs about their abilities to effectively teach even the more challenging students, and the assumption of responsibility for the success of all students (Miller, 1991). Several researchers (Ashton & Webb, 1986; Miller, 1991) have stated that teachers with high self-efficacy tended to see low achieving students as "reachable and teachable" (Miller, 1991, p. 32) and tended to take responsibility for the success of low as well as high achieving children.

Additionally, self-efficacy beliefs impact how teachers interact with children. This can best be observed through the behavior management approaches different teachers utilize. Based on their research, Ashton and Webb (1986) asserted that teachers with high self-efficacy beliefs tended to develop warm and encouraging instructional environments; they tended to believe that if treated fairly, students would behave appropriately. Additionally, high self-efficacy teachers tended to use more indirect, non-emotional behavior management techniques that did not embarrass students. On the other hand, Ashton and Webb (1986) stated that low self-efficacy beliefs were related to a more controlling form of behavior management and a higher tendency to embarrass students or "excommunicate" them as a form of classroom control. Bandura (1995) also commented upon the tendency of low self-efficacy teachers to develop negative classroom environments that potentially harm the students' own sense of efficacy and their academic progress.
Smith (1997) stated:

As we look at strategies which teachers can use to help improve self-esteem of their students we must address the topic of teacher self-esteem. This is a must, since children’s relationships with their teachers are intense, ongoing, and have emotional consequences. Teachers who don’t feel good about themselves and are not satisfied, are not prone to be helpful in developing high self-esteem in their students. Teachers who are comfortable with themselves and view what they are doing as worthwhile tend to be more accepting, warm, fair, and non-judgmental with their students. They create an environment of acceptance, listen empathetically, build trust, and promote warm relationships that lead to high student achievement. (p. 24-25)

The Link to Achievement

The bottom line for schools, of course, is student achievement. Therefore, teacher self-efficacy would not be an important construct for educators if there were not a link to achievement. The link between teacher self-efficacy and student achievement has not been clearly or irrefutably established in the literature. However, there have been indications in this direction. Ross (1992), for instance, investigated the relationship between coaching/mentoring to student achievement as teachers implemented a new history curriculum. Gibson and Dembo’s (1984) teacher efficacy scale was used in this study. Ross (1992) concluded that student achievement was higher in the classes of teachers with high personal teacher efficacy beliefs (PE). General teaching efficacy (TE) was not found to be a significant factor.
In another study by Ross (1995), a correlation was found between teacher self-efficacy and cognitive achievement. Specifically, PE was found to correlate with achievement in the language arts, and TE was found to correlate with achievement in math areas. Further, teacher self-efficacy overall (a combination of PE and TE) was found to correlate with, "...student acquisition of school-approved values and attitudes" (p. 230).

Anderson et al. (1988) investigated the relationship between teacher and student self-efficacy, student thinking skills, and student achievement. While their sample was limited (N=24 3rd and 6th grade teachers), a positive relationship was indicated between student thinking, efficacy, and achievement.

Ashton and Webb (1986) developed a model illustrating the link between teacher self-efficacy and student achievement. In this model, teacher self-efficacy was illustrated to have a direct link to teacher behaviors, student behaviors, and student achievement. Additionally, each of the components (teacher behaviors, student behaviors, student achievement) in the model was shown to impact one another; for example, student enthusiasm (a student behavior) impacts student achievement and teacher self-efficacy. This model, in essence, ties together many of the concepts investigated in the research discussed thus far and shows how each of the concepts may affect each other. The over-riding influence, however, is teacher self-efficacy.

Teacher Job Satisfaction

Teacher job satisfaction also may impact a teacher's choice of instructional activities and perseverance with those activities. Job satisfaction has been explored by researchers for at least
the past 60 years. However, these explorations have typically taken place in work settings other than schools.

**Exploration of Job Satisfaction Outside of Education**

In a pivotal study, Herzberg et al. (1959) conducted research on job satisfaction in numerous companies in the Pittsburgh area that mainly focused on steel and machinery production. As a result of this research, the authors developed their hypothesis of motivation versus hygiene factors based upon their finding that factors that made workers unhappy with their jobs were different from those that made them happy.

Factors that lead to feelings of unhappiness tended to be those surrounding the job rather than those having to do directly with the job. Herzberg et al. labeled these “hygiene” factors. For example, job benefits, job security, and interpersonal relations were all defined as hygiene factors. When these elements were viewed by the employee to be substandard, then the employee was dissatisfied with the job. However, hygiene factors only helped to prevent job dissatisfaction; they did not create job satisfaction.

For job satisfaction to exist, the researchers concluded that another set of factors called motivation factors had to exist. These factors have to do with the job itself. “The factors that lead to positive job attitudes do so because they satisfy the individual’s need for self-actualization in his work...It is only from the performance of a task that the individual can get the rewards that will reinforce his aspirations” (Herzberg et al., 1959, p. 114) and lead to true job satisfaction.

A worker may tolerate an unreasonable supervisor (a hygiene factor) if her job is
challenging and rewarding (motivation factors). However, while having a good supervisor and good wages (hygiene factors) may prevent job dissatisfaction, but they will not lead to true job satisfaction unless positive factors directly related to the job (motivation factors) also exist.

Maslow (1968) developed a theory of motivation with applications to job satisfaction. He defined seven basic levels of needs: physiological, safety, belongingness and love, esteem, self-actualization, knowing and understanding, and aesthetics. The first four of these needs were labeled as deficiency needs because individuals are motivated to fill them due to deficits in those areas. These deficiency needs are similar to Herzberg et al.’s (1959) hygiene factors. The last three of Maslow’s needs are labeled as being needs. Being needs cannot be met until deficiency needs are met. Being needs are those that individuals are motivated to work towards because of human desires for self-actualization, knowing and understanding, and aesthetics. They are similar to Herzberg et al.’s (1959) motivation factors.

The Theories of Herzberg et al. and Maslow Applied to Education

Motivation/hygiene theory (Herzberg et al., 1959) and Maslow’s (1968) theory of motivation have obvious applications in the educational realm. Teachers are typically paid less than those in the corporate world with similar levels of education. They often work in less than ideal conditions with crowded classrooms and inadequate supplies. A significant number of teachers instruct students at-risk for school failure. However, individuals continue to go into the field and many stay for their entire careers. Is it because they find an adequate number of motivational factors to help them persevere in the face of inadequate hygiene factors?

Because of the relevance of motivation/hygiene theory and Maslow’s theory of motivation
to education, educational researchers have used these as launching points for investigating teacher job satisfaction. In particular, Lester (1985, 1987) saw the need to develop an instrument for measuring job satisfaction specific to teaching. Therefore, she developed the Teacher Job Satisfaction Questionnaire (TJSQ) using Herzberg et al. (1959) and Maslow (1968) as a basis for identifying sources of teacher job satisfaction (see Appendix E). Lester (1987) indicated that these theories, "contain specific concepts that correspond to the job characteristics (factors) logically found in the educational setting and identified in the construction of this instrument" (p. 225). The development and use of the TJSQ is discussed in length in chapter 3.

Research in the area of teacher job satisfaction has identified a number of variables related to teacher job satisfaction. For example, the more teachers view their job as a "profession", the more satisfied they are (Bogler, 1999; Bogler, 2000). Other factors identified in research as related to teacher job satisfaction include degree of autonomy (Bogler, 1999), workplace conditions (Ma & Macmillan, 1999) and professional development (Bogler, 1999). Even gender has been found to be related to teacher job satisfaction, with females being more satisfied than males (Bogler, 2000; Ma & MacMillan, 1999).

The Importance of Teacher Self-Efficacy and Job Satisfaction When Teaching At-Risk Students

Students who are at-risk for academic failure bring additional stresses into the classroom. Issues of violence, poverty, and substance abuse compete with instruction on a regular basis. Further, at-risk students do not tend to have the home support that non at-risk children do. Therefore, the coping mechanisms of their teachers are regularly stretched to the limit.
Coping mechanisms impact the ability of teachers to persevere and make competent instructional decisions. If a teacher is overwhelmed by the classroom environment, that teacher is going to be less likely to attempt new or innovative strategies and will be more likely to develop an ineffective classroom environment. Since teachers of at-risk students are more likely to face stressful situations which may negatively impact their coping mechanisms, it is reasonable to assume that their instructional capabilities will suffer. Following this line of reasoning, at-risk students, who need the most competent teachers, may actually be receiving instruction from teachers who are suffering from low self-efficacy and low job satisfaction. This would explain the gap between the theory of how we should be instructing at-risk children and the reality of how instruction actually looks for these children. Therefore, more research is needed in terms of actually showing the link between teacher self-efficacy, teacher job satisfaction, and student achievement so that educators may begin using this research to develop effective interventions for teachers with poor self-efficacy and/or who are dissatisfied with their jobs.

**Summary**

At-risk learners present challenges to teachers that regularly compete with instruction for time and energy. These students come to school each day from broken homes, violent neighborhoods, and lacking in basic care. They have a history of school failure which has led to alienation, lowered expectations, and minimal self-confidence. Many at-risk students expect to fail and do not believe in the value of school.

All students benefit from certain instructional characteristics such as high expectations,
active involvement in learning activities, well managed classrooms, and positive relationships with adults. At-risk students require these same characteristics in their instructional environments, but to a greater degree than their non-at-risk peers. At-risk students will require increased interpersonal relationships with their teachers, more small group instruction, smaller schools, and heterogeneous grouping. An active learning environment is even more critical to at-risk students than to students without risk factors. Perhaps most critical to students prone to school failure, though, are the attitudes of their teachers. Unfortunately, the reality of instructional environments for at-risk learners is often quite different from what they need to succeed.

How teachers perceive their own abilities and the teaching profession may explain this discrepancy between what at-risk students need in their instructional environments and what they actually receive. Albert Bandura’s (1982, 1995) work in the area of teacher efficacy provides a basis for the theory that teachers’ perceptions of their self-efficacy and their attitudes toward teaching may impact their instructional choices for at-risk students. Therefore, examining teacher self-efficacy and attitudes and their link to student achievement is critical if we are to continue making advances in meeting the educational needs of our most needy learners.
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Chapter 3: Methodology

The purpose of this correlational study was to explore the relationship between teachers’ perceptions of their own teaching efficacy, teacher job satisfaction, student socioeconomic status, and the academic success of students. The sample for this study was the fifth grade teachers and students in a suburban Virginia school division. Within this school division, approximately one third of the elementary schools had been identified as at-risk for substandard performance on the Virginia Standards of Learning assessments. These schools were used along with schools not identified at-risk. Teaching efficacy and teacher job satisfaction were measured using pencil/paper scales. Student academic success was measured by success on the May, 2000 5th grade Virginia Standards of Learning assessments in the areas of English (reading/literature/writing), math, science, and social studies. Student socioeconomic status was measured by percentage of students in a school receiving free or reduced lunch. This characteristic was called the “economic deprivation level” by the targeted school division.

Research Questions

1. Does a significant relationship exist between teachers’ perceptions of their self-efficacy and teacher job satisfaction?

2. Does a significant relationship exist between the job satisfaction of a school’s teachers and the academic success of a school’s students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading/literature/writing), math, science, and social studies?
3. Does a significant relationship exist between the self-efficacy perceptions of a school’s teachers and the academic success of a school’s students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of science, math, social studies, and English (reading/literature/writing)?

4. Does a significant relationship exist between the socioeconomic status of a school’s students and the academic success of a school’s students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading/literature/writing), math, social studies, and science?

5. Does a significant relationship exist between the self-efficacy perceptions of a school’s teachers and the socioeconomic status of a school’s students?

6. Does a significant relationship exist between job satisfaction of a school’s teachers and socioeconomic status of a school’s students?

7. Is there a difference in the job satisfaction and self-efficacy perceptions between teachers in schools identified as at-risk and those not identified as at-risk?

Variables

The variable of teacher self-efficacy was defined as a teacher’s belief that he or she has the skills to teach students effectively and that this effective instruction will positively impact the achievement of those students (Bandura, 1982, 1995). Teacher job satisfaction was a teacher’s satisfaction with a number of factors: supervision, relationships with colleagues, working conditions, pay, responsibility, daily tasks/creativity/autonomy, the opportunity for advancement,
security, and recognition (Lester, 1987). For additional details regarding self-efficacy and job satisfaction, refer to chapter 2.

In this study, student academic success was defined as student success on the Virginia Standards of Learning assessments at the 5th grade level in the areas of math, science, and social science, and English (reading/literature/writing). Student socioeconomic status was measured by the percentage of students in a given school receiving free or reduced lunch.

Participants

The unit of analysis for this study were the elementary schools of a medium-sized suburban school division (n=39). The population of interest within those schools was 5th grade teachers. Information from the 5th grade teachers in these schools was collected concerning teacher job satisfaction and teacher perceptions of self-efficacy. Data was also collected about the academic achievement and socioeconomic status of the 5th grade students in those schools. The schools were the basis for comparison.

A number of these schools were identified by the school division as requiring additional support due to at-risk factors. The school system assigned schools to this category when the following conditions applied: “(1) the school has a wide range of lower socio-economic students, (2) the school has a wide range of academic needs, and (3) the student performance has historically not been commensurate with expectations” (P.C. Kinlaw, personal communication, July 31, 2000).
Teacher Participants

Once permission was secured from the school system, each elementary principal was mailed a packet containing a smaller packet for each 5th grade teacher in the building. A letter to the principal introduced both the researcher and the study (see Appendix A). This letter also documented for the principals that permission has been granted by the Director of Research and Planning for the county. The principal was asked to give each 5th grade teacher a packet containing a cover letter (see Appendix B), the two surveys (see Appendixes D and E), and a stamped, self-addressed envelope in which to return the completed surveys to the researcher. The initial mailing of packets to the principals occurred on June 10, 2000; a follow-up mailing occurred in November, 2000.

Standards of Learning Results

Results from the May 2000 administration of the Standards of Learning were released to the public during the Fall, 2000. Scores for the participating elementary schools were obtained via the Virginia Department of Education's website. The Director of Research and Planning in the participating school system agreed with this method of collecting test results.

Generalizability

The results of this study related to the independent variables of teacher efficacy and teacher job satisfaction may be generalizable to schools with similar characteristics. The results of this study related to the dependent variable of student outcomes may be generalizable to elementary schools in school divisions in the Commonwealth of Virginia with demographic
characteristics similar to the targeted school division. Although the Standards of Learning assessments have been correlated with the Stanford 9 (Virginia Department of Education, 1999), a nationally used test, they are relatively new and are specific to Virginia.

An area of weakness in terms of generalizability rests with the characteristics of the teachers. This study did not examine the educational and personal backgrounds of the teachers who participated. It is possible that the teachers in this metropolitan area differ from their colleagues in other areas of the state.

Further, the basis for comparison for this study was schools rather than individual teachers and students. Thus, there may be individual characteristics impacting the performance of the school which were not taken into consideration for this study.

Instrumentation

The following instruments were used to measure the variables.

Teacher Self-Efficacy

The independent variable in this study, teacher self-efficacy, was measured using the 16 item Teacher Efficacy Scale developed by Gibson and Dembo (1984). Gibson and Dembo originally developed a 30 item measure of teacher efficacy based upon teacher interviews and analysis of previous studies. This scale was validated using a three phase process to examine its internal consistency, to examine the distinctiveness of the teacher efficacy construct from other constructs, and to examine whether teachers with high and low scores on the scale could be differentiated. As a result of this process, the original self-efficacy construct identified by
Bandura (1982, 1995) was validated; both personal teaching efficacy (alpha = .75) and general teaching efficacy (alpha = .79) were confirmed.

Further analysis did yield some discrepancies. Several of the 30 items loaded on both the personal efficacy (PE) and teaching efficacy (TE) factors. Thus, the original 30 item scale was reduced to a sixteen item scale that included only those items that loaded uniquely to one factor (see Appendix D).

The Teacher Efficacy Scale has been used in numerous studies both in its original form (Edwards et al., 1996) and in modified forms (Soodak & Podell, 1996). Both Edwards et al. (1996) and Soodak and Podell (1993) found support in their research for the use of the instrument. Their analyses of the instrument found the same two subscales (PE and TE) as did Gibson and Dembo. Kushner (1993) adapted the wording of the questions, but also found the same two factors of self-efficacy. Anderson et al. (1988) conducted an analyses in their research that supported the two sub-components of teachers efficacy (PE and TE) as identified by Gibson and Dembo.

The Teacher Efficacy Scale is a quick pencil/paper exercise in which the teacher responds to the sixteen items using a Likert scale with six possible answer choices ranging from “strongly disagree” to “strongly agree”.

**Teacher Job Satisfaction**

The variable of teacher job satisfaction was measured by the Teacher Job Satisfaction Questionnaire (Lester, 1987). This questionnaire is included in Appendix E.
Development of instrument. Citing difficulties in previous studies in the “areas of conceptualization, selection of job characteristics, and instrumentation” (p. 224), Lester developed this instrument in response to the need for a job satisfaction measure specifically for the field of education. Drawing on previous theory development in the area of job satisfaction, Lester developed a preliminary pool of 120 items believed to be indicative of 12 factors related to teacher job satisfaction. These factors were: “advancement, autonomy, colleagues, creativity, pay, recognition, responsibility, school policies, security, supervision, work itself, and working conditions” (p. 225).

Statements about these factors were presented to a panel of experts for content validation. Any statements with less than 80% agreement were either eliminated or rewritten. Half of the statements were written in a positive form, and half were written in a negative form in an attempt to prevent response set bias. The form was then designed with a 5 point Likert scale ranging from strongly disagree to strongly agree.

Next, a factor analysis was conducted using a sample of 526 subjects. The results of this analysis identified nine factors consistent with the conceptual framework of the study: supervision, colleagues, working conditions, pay, responsibility, work itself, advancement, security, and recognition. The remaining nine factors were defined as follows:

- **supervision**
  “supervisory behavior and interpersonal relationships” (p. 227)

- **colleagues**
  “group outcomes and goal interdependence” (p. 227)
Self-Efficacy and Job Satisfaction

- working conditions  “environmental characteristics of the teaching situation” (p. 227)
- responsibility  “accountability for one’s own work, student-teacher relationship, and daily lessons” (p. 230)
- work itself  “daily tasks, creativity, and autonomy” (p. 230)
- advancement  “the opportunity for promotion” (p. 230)
- security  “the stability or instability within the school” (p. 230)
- recognition  “some act of notice, blame, praise, or criticism” (p. 231)

The reliability of the measure was estimated by calculating internal consistency of the individual items. The coefficient for the total scale was .93. The coefficients for the various factors ranged from .71 to .92.

Scoring. The result of these development activities is a 66 item instrument measuring teacher job satisfaction in each of the above-mentioned nine areas. When using the instrument, teachers indicate the extent to which they agree or disagree with the statements through the use of a five-point Likert scale: strongly disagree, disagree, neutral, agree, strongly agree.

The measure yields an overall score for job satisfaction. The score range is 66-330 with a low score representing low job satisfaction and a high score representing high job satisfaction. Scoring for the nine subscales entails reversing the scores for the unfavorable items and then adding the scores for each of the subscale’s items.
Use of the Teacher Job Satisfaction Questionnaire (TJSQ). A search of Dissertation Abstracts International revealed that the TJSQ has been used in a variety of research applications. For example, Sanders (1991) found a small but positive relationship between teacher job satisfaction and peer coaching. Rauch (1990) investigated the relationship between participatory decision making to teacher job satisfaction and found a significant correlation between decision making and each subscale of the Teacher Job Satisfaction Questionnaire with the exception of the responsibility subscale. Additionally, Ruben (1993) used the TJSQ in an investigation of the factors influencing teacher job satisfaction. In all instances, the TJSQ was found to be an appropriate and useful instrument.

Student Academic Achievement

The variable of student achievement was measured by student success on the May, 2000 5th grade Virginia Standards of Learning Assessments in the areas of English (reading/literature/writing), math, science, and social studies. Over the past decade, the public clamor for higher standards in public education in the Commonwealth of Virginia has led to the development of Standards of Learning (SOL’s) in each of the core content areas (English, math, social studies, science). Once these standards were developed, the next step was to develop assessments as a means for determining student mastery of the standards. Tests were developed by a Content Review Committee comprised of Virginia educators who worked in conjunction with the Virginia Department of Education and the test contractor (Cave, 1999).

Once developed, they were field tested in the spring and fall of 1997 and administered
statewide for the first time in the spring of 1998. Students in grades 3, 5, and 8 were administered an assessment in each of the four core content areas. Students in high school were administered end of course tests in English 11, algebra I, algebra II, geometry, biology, chemistry, earth science, world history to 1000 A.D., world history from 1000 A.D., and U.S. History. Beginning with the class of 2003, students will be required to pass at least five end of course assessments in high school in order to graduate. Students in the earlier grades may potentially be retained if they do not pass the SOL assessments for that particular grade level. Further, beginning in 2003, a school may lose its accreditation if at least 70% of its students do not pass the assessments.

While the SOL assessments were first administered in the spring of 1998, passing scores were not established by the state until October 1998. The passing scores were established as a result of work begun by eight Standard Setting Committees in June, 1998. These committees were comprised of a variety of educators from throughout the state. They worked throughout the summer of 1998 and concluded their work by making recommendations regarding passing scores to the State Board of Education. The Board took these recommendations and considered them during several work sessions. The recommendations were made public in early October, 1998. Four public hearings were conducted throughout October, concluding with the Board adopting passing scores in late October (Cave, 1998).

In January, 1999 the results of the first round of SOL assessments were released to the public. The results indicated that only 2.2% of schools statewide met the accreditation requirements that will come into effect in 2003. The President of the Virginia Board of Education, Kirk Schroder, explained this failure rate by saying that these low scores were expected because
the state had “raised the bar” for student achievement and it would take additional years to bring student achievement up to this bar (Harris, 1999).

Once the student passing scores were established and the first round of assessments reviewed, the next step was to determine accountability measures for schools based, in large measure, upon SOL assessment scores. In March, 1999, Kirk Schroder released a schedule of activities that would lead to these measures. These activities included a State School Board retreat, advice from outside experts, and a number of public hearings. The key issues to be decided center around “rewards and consequences for schools which achieve, or fail to achieve, accreditation under Virginia’s new Standards of Accreditation (SOA’s)” (Cave, 1999). The proposed accreditation requirements were released to the public in the fall of 1999 with opportunities for public comment provided shortly thereafter. They were then revised over the next year.

Reliability and validity of SOL assessments. Reliability and validity information about the SOL assessments was released by the Virginia Department of Education (VDOE) in February, 1999 (Virginia Department of Education, 1999). The report stated that it was “unequivocally the case” (p. 2) that processes were in place to insure that the test items on the assessments measured the intended content. As the SOL tests were developed by the contractor, a committee of state educators was assigned the task of reviewing each test item before it was field tested, and each item had to meet several criteria in order to be used as a field test item.

Once the items were field tested, the state committee again reviewed the items using...
several different methods. First, traditional statistical analysis information was examined such as frequency distributions and response distributions. Next, item difficulty was estimated using the “Rasch model of Item Response Theory” (P. 4). This model was also used to estimate item difficulty among various demographic groups. Additionally, a separate committee reviewed each item for potential bias that could have a negative impact on any particular group of students. If a test item passed the scrutiny of the review committees, then the item was placed in a bank of potential test items, and the test contractor then constructed drafts of actual test questions which the review committee again examined for validity.

The VDOE asked several test development experts to review the validity information compiled. The VDOE report indicated that, “their reviews consistently support the appropriateness of the procedures and statistical information used in the development of the SOL tests” (p. 8).

The SOL tests were also correlated with other tests in an attempt to further substantiate the validity of the assessments. In particular, the schools’ results on the SOL tests were compared with their results on the “Literacy Passport Tests” (LPT) and the “Stanford 9”. While the report acknowledged differences between the three tests, it stated that it would be reasonable to assume that a school that did well on the LPT or the Stanford 9 would also do well on the SOL assessments. The analysis conducted by the state indicated that while the results of the SOL assessment were considerably lower than the results of the LPT of Stanford 9, “the relative standing among schools is very similar...schools that scored well on the Stanford 9 or LPT...
generally scored well on related SOL tests, and vice versa” (p. 8-9). Specifically, the correlation coefficients for the 5th grade SOL assessments (Spring 1998) and the 5th grade Stanford 9 tests (Spring 1997) ranged between .67 to .78. The correlation coefficients for the 5th grade SOL assessments and the LPT ranged between .64 and .68.

The VDOE (1999) also indicated solid reliability for the SOL assessments. Reliability was calculated using the “Kuder-Richardson Formula #20” (p. 11) on all portions of the tests with the exception of the writing because this test incorporated both multiple choice items and a writing sample. The reliability estimates ranged from .80 to .92; the range for the 5th grade tests was from .80 to .89.

Data Collection

The initial step in this study was to gain permission to conduct the research in the identified school division. Once permission was secured from the school system, each elementary principal was mailed a packet containing smaller packets for each 5th grade teacher in the building. A letter to the principal introduced both the researcher and the study (see Appendix A). This letter also documented for the principals that permission has been granted by the Director of Research and Planning for the county. The principal was asked to give each 5th grade teacher a packet containing a cover letter (see Appendix B), the two surveys (see Appendixes D and E), and a stamped, self-addressed envelope in which to return the completed surveys to the researcher. The teachers were assured that the results for each school would be the basis of comparison for the study rather than individual teachers or students; the only individuals with access to the teachers’
or schools' identities were the researcher and her dissertation advisor, but even they were not able to match responses with specific teachers. Each packet also contained a postcard which the teachers were requested to mail back at the same time they mailed their surveys. The researcher was, thus, able to track which teachers returned their surveys. Using a separate postcard to allow tracking of non-respondents served to protect the anonymity of questionnaire responses.

The researcher secured results on the May, 2000 5th grade Standards of Learning assessments from the Virginia Department of Education website. Student results are provided by the state in numerical form which indicates the number of students in a given school who failed, passed at a proficient level, or passed at an advanced level. This study looked at the percentage of students who passed (advanced or proficient) and the percentage who failed.

The Director of Research and Planning provided data on the percentage of students at each school identified as "economically deprived".

Data Analysis

Correlation coefficients between the variables were obtained using the Pearson r. Comparisons between the following variables were calculated:

- teacher self-efficacy and teacher job satisfaction;
- teacher job satisfaction and percentage of students passing the 5th grade Standards of Learning in each of four areas: English (reading/literature/writing), math, science, and social studies;
- teacher self-efficacy and percentage of students passing the 5th grade Standards of
Learning in each of four areas: English (reading/literature/writing), math, science, and social studies;

- a school's socioeconomic level as measured by percentage of students receiving free or reduced lunch and percentage of students passing the 5th grade Standards of Learning in each of four areas: English (reading/literature/writing), math, science, and social studies;

- teacher self-efficacy and a school's socioeconomic level as measured by percentage of students receiving free or reduced lunch; and

- teacher job satisfaction and a school's socioeconomic level as measured by percentage of students receiving free or reduced lunch.

See table 2 for further explanation of the comparisons.
Table 2

Statistical Comparisons for Analysis

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</tr>
<tr>
<td>student teacher student satisfaction</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>student student student satisfaction</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Additionally, a t-test was performed to explore the differences in the job satisfaction and self-efficacy perceptions between teachers in schools identified as at-risk and those not identified as at-risk.

Ethical Safeguards

This study was conducted in a manner that protected the anonymity of the school division, the schools, the administrators, the teachers, and the students. Each survey was labeled with a letter to identify the school of origin, but not the teacher. The actual identities of the schools were...
available only the researcher and her dissertation advisor. Even they, however, could not match specific surveys with specific teachers. This commitment to confidentiality was included in all written correspondence with the schools and the homes. Additionally, the research proposal was submitted to the Human Subjects Committee of The College of William and Mary and to the Director of Research and Planning in the targeted school division.
Chapter 4: Analysis of Results

The current study investigated the relationships among the perceptions of self-efficacy of a school’s teachers, the job satisfaction of a school’s teachers, the academic achievement of a school’s students, and a school’s socioeconomic status.

Teacher self-efficacy and job satisfaction scores were collected through teacher completion of paper/pencil questionnaires. Student academic achievement was measured using schools’ scores on the May 2000 5th grade Virginia Standards of Learning assessments in the areas of math, science, social studies, and English (reading/literature/writing); this information was gathered through the Virginia Department of Education’s website. A school’s socioeconomic status was measured by the number of students receiving free or reduced lunch. Data on schools’ economic deprivation was gathered from the Director of Research and Planning of the targeted county.

Analysis was made by computing t values and by computing correlation coefficients.

Return Rate

The initial mailing of survey materials to the teachers occurred on June 10, 2000. Surveys were mailed to 131 5th grade teachers in 39 schools, 12 of which were identified by the county as at-risk. Forty-four teacher responses were returned for a teacher response rate of 34%. Responses were received from 27 of the schools for a school response rate of 69%. Responses were received from 66% of the at-risk schools.

The Director of Research and Planning expressed hesitancy about allowing a follow-up mailing due to the many instructional demands currently upon the schools. She sought the
permission of principals to allow a follow-up mailing. Four principals allowed this second mailing of surveys to 5th grade teachers who did not respond the previous June. Four principals did not allow this mailing, and the rest did not respond to the Director's request; therefore, permission for the re-mailing to the rest of the schools was denied by the Director. Eight teachers were mailed surveys in the four schools granting permission; none were returned. This mailing occurred between November 23, 2000 and December 4, 2000. See Table 3 for a summary of targeted teachers and surveys returned from each school.
Table 3

Summary of Targeted Teachers and Surveys Returned From Each School

<table>
<thead>
<tr>
<th>School</th>
<th>Total # of 5th Grade Teachers</th>
<th># Surveys Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
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<tr>
<td>5</td>
<td>4</td>
<td>1</td>
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<tr>
<td>6</td>
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<tr>
<td>7</td>
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<tr>
<td>9</td>
<td>4</td>
<td>1</td>
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<td>10</td>
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<td>1</td>
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<tr>
<td>11</td>
<td>4</td>
<td>0</td>
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<tr>
<td>12</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>1</td>
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<tr>
<td>14</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
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<td>0</td>
</tr>
<tr>
<td>16</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
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<td>19</td>
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<tr>
<td>26</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>27</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>
### Table 3 (continued)

Summary of Targeted Teachers and Surveys Returned From Each School

<table>
<thead>
<tr>
<th>School Identifier</th>
<th>Total # of 5th Grade Teachers</th>
<th># Surveys Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>28*</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>29*</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>30*</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>31*</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>32*</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>33*</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>34*</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>35*</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>36*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>37*</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>38*</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>39*</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

* indicates at-risk schools

**Sample Size**

Using the largest sample size possible is desirable in any type of quantitative research due to the fact that the mean of a larger sample is more likely to be closer to the mean of the population (Gall, Borg, & Gall, 1996; Kiess, 1996). More specifically, as a general rule researchers have specified that in correlational research a minimum of 30 subjects is desirable (Gall et al., 1996; Gay, 1987).

The sample of respondents from the target population of 5th grade teachers is less than desirable according to researchers. Therefore, the characteristics of the respondents and non-
respondents were compared for homogeneity of responses in an attempt to discern whether the respondents were similar to the target population. First, the total number of responses from at-risk and non at-risk schools were compared. This comparison indicated that 30.5% of the surveys were mailed to teachers in at-risk schools, and 69.5% of the surveys were mailed to teachers in non at-risk schools. The overall response rate was 34%. Out of the returned responses, 26.7% were returned from at-risk schools; 73.3% were returned from non at-risk schools. These findings are summarized in Table 4.

Table 4

**Homogeneity of Responses: Total Surveys Mailed and Returned, Comparison of Return Rates from At-Risk and Non At-Risk Schools**

<table>
<thead>
<tr>
<th>Total</th>
<th>At-Risk Schools</th>
<th>Non At-Risk Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys Mailed</td>
<td>n=131 100%</td>
<td>n=40 30.5%</td>
</tr>
<tr>
<td>Surveys Returned</td>
<td>n=45 34%</td>
<td>n=12 26.7%</td>
</tr>
</tbody>
</table>

Second, the response rates were compared based upon the socioeconomic status of the schools. Specifically, schools with 40% or more students identified by the targeted school division as economically deprived were compared with schools with 39% or less students identified. This
comparison indicated that 28.2% of the surveys were mailed to schools with more than 40% of its students identified as economically deprived, and 26.7% of the total responses were returned from those schools. Additionally, 71.8% of the surveys were mailed to schools with less than 39% of its students identified as economically deprived, and 73.3% of the total responses were returned from these schools. This information is summarized in Table 5.

Table 5

Homogeneity of Responses: Total Surveys Mailed and Returned, Comparison of Return Rates

Based Upon Percentage of Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Total</th>
<th>≥40% Economically Deprived</th>
<th>≤39% Economically Deprived</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys Mailed</td>
<td>n=131</td>
<td>100%</td>
</tr>
<tr>
<td>Surveys Returned</td>
<td>n=45</td>
<td>34%</td>
</tr>
</tbody>
</table>

The next comparison examined the characteristics of schools from which no surveys were returned and from which one or more surveys were returned. Out of 39 total schools, 12 were at-risk schools and 27 were non at-risk. No surveys were returned from 33.3% of at-risk schools and from 25.9% of non at-risk schools. One or more surveys were returned from 66.7% of at-risk schools and from 74.1% of non at-risk schools. Eleven of the 39 schools had 40% or more of their students identified as economically deprived by the targeted school division. No surveys were returned from 27.3% of these schools, while no surveys were returned from 28.6% of schools with
39% or less of its students identified as economically deprived. Conversely, one or more surveys were returned from 72.7% of the schools with 40% or more of its students identified as economically deprived and from 71.4% of the schools with 39% or less identified. A summary of this information may be found in Table 6.

Table 6

<table>
<thead>
<tr>
<th>Homogeneity of Responses: Comparison of Schools From Which No Surveys or One or More Surveys Were Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>At-Risk Schools</td>
</tr>
<tr>
<td>Non At-Risk Schools</td>
</tr>
<tr>
<td>≥40% Economically Deprived</td>
</tr>
<tr>
<td>≤39% Economically Deprived</td>
</tr>
</tbody>
</table>

To further examine the homogeneity of responses, analysis of each of the previously mentioned subgroups was conducted using the Pearson Chi-Square. In all cases, the findings were not significant indicating that the return rates were proportional between the subgroups. A summary of these findings is presented in Table 7.
Table 7

Homogeneity of Responses: Pearson Chi-Square Results

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return Rates from At-Risk vs.</td>
<td>1</td>
<td>.483</td>
<td>.487</td>
</tr>
<tr>
<td>Non At-Risk Schools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return Rates from Schools with</td>
<td>1</td>
<td>.084</td>
<td>.772</td>
</tr>
<tr>
<td>≥40% of Students Economically</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deprived vs. Schools with ≤40%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of Students Economically</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deprived</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inclusion Rule

Four of the seven hypotheses for this study require that survey responses for a specific school be compared with another variable specifically related to the school such as socioeconomic status. These four hypotheses are as follows:

Hypothesis #2: There is a significant relationship between the job satisfaction of a school's teachers and the academic success of a school's students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading/literature/writing), math, social studies, and science.

Hypothesis #3: There is a significant relationship between the self-efficacy perceptions of a
school's teachers and the academic success of a school's students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading/literature/writing), math, social studies, and science.

Hypothesis #5: There is a significant relationship between the socioeconomic status of a school's students as measured by the percentage of students receiving free or reduced lunch and the self-efficacy perceptions of a school's teachers.

Hypothesis #6: There is a significant relationship between the socioeconomic status of a school's students as measured by the percentage of students receiving free or reduced lunch and the job satisfaction of a school's teachers.

Several inclusion rules were considered to determine whether a school would be included in the analysis based upon the number of responses from that school. Ultimately, any school with at least one teacher response was included for analysis. While there is the chance that one teacher from a school may not be representative of the school as a whole, this inclusion rule was utilized based upon the previous discussion of homogeneity of responses.

Based upon these rules, the responses from nine of the twelve at-risk schools were included in the analysis of the four identified hypotheses. Responses from nineteen of the 27 non at-risk schools were included.

Survey Results

Gibson and Dembo's Teacher Efficacy Scale included sixteen items. Teachers responded to these items using a Likert scale. Nine of the items resulted in a measure of personal teaching
efficacy; the other seven resulted in a measure of teaching efficacy. The means and standard deviations for these responses are summarized in Table 8.

Table 8

Means and Standard Deviations for the Teacher Efficacy Scale: Personal Teaching Efficacy and Teaching Efficacy

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Teaching Efficacy</td>
<td>43</td>
<td>41.6</td>
<td>5.3</td>
<td>38-53(^1)</td>
</tr>
<tr>
<td>Teaching Efficacy</td>
<td>42</td>
<td>28.7</td>
<td>.6</td>
<td>18-36(^2)</td>
</tr>
</tbody>
</table>

\(^1\) minimum = 9; maximum = 54

\(^2\) minimum = 7; maximum = 42

The Teacher Job Satisfaction Questionnaire asked the teachers to respond to 66 items using a five point Likert scale. The mean and standard deviation for the responses to this scale are summarized in Table 9.
Table 9

Mean and Standard Deviation for the Teacher Job Satisfaction Questionnaire

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction</td>
<td>41.0</td>
<td>255.78</td>
<td>29.32</td>
<td>188-305¹</td>
</tr>
</tbody>
</table>

¹minimum = 66; maximum = 330

Results on Spring 2000 Standards of Learning Assessments

The researcher secured results of the May, 2000 5th grade Standards of Learning assessments from the Virginia Department of Education website. Student results are provided by the state in numerical form which indicates the number of students in a given school who failed, passed at the proficient level, and passed at the advanced level. For the purposes of this research, the percentage of students in the proficient and advanced categories was combined to give a percentage of students passing in a school. See Table 10 for a summary of results. Table 11 summarizes the means and standard deviations for the passing rates of each test.
<table>
<thead>
<tr>
<th>School Identifier</th>
<th>English R/UW</th>
<th>Science</th>
<th>History</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>65.4</td>
<td>68.6</td>
<td>58.8</td>
<td>56.9</td>
</tr>
<tr>
<td>AA</td>
<td>92</td>
<td>96</td>
<td>87.9</td>
<td>92.9</td>
</tr>
<tr>
<td>B</td>
<td>85.7</td>
<td>78.6</td>
<td>75.7</td>
<td>74.3</td>
</tr>
<tr>
<td><strong>BB</strong></td>
<td>44.6</td>
<td>29.3</td>
<td>22.8</td>
<td>20.7</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>56.3</td>
<td>48.5</td>
<td>44.7</td>
<td>35</td>
</tr>
<tr>
<td>CC</td>
<td>89</td>
<td>91</td>
<td>92</td>
<td>92.9</td>
</tr>
<tr>
<td>D</td>
<td>86.6</td>
<td>79.1</td>
<td>77.6</td>
<td>79.1</td>
</tr>
<tr>
<td>DD</td>
<td>91.1</td>
<td>91.8</td>
<td>93.8</td>
<td>95.9</td>
</tr>
<tr>
<td>E</td>
<td>83.1</td>
<td>76.2</td>
<td>69</td>
<td>78.6</td>
</tr>
<tr>
<td>EE</td>
<td>100</td>
<td>98.3</td>
<td>93.3</td>
<td>95</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>43</td>
<td>35.4</td>
<td>35.4</td>
<td>30.5</td>
</tr>
<tr>
<td>FF</td>
<td>96</td>
<td>91.8</td>
<td>91.8</td>
<td>92</td>
</tr>
<tr>
<td><strong>G</strong></td>
<td>60.3</td>
<td>65.5</td>
<td>65.5</td>
<td>51.7</td>
</tr>
<tr>
<td>GG</td>
<td>87</td>
<td>84.1</td>
<td>93.2</td>
<td>75.6</td>
</tr>
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<td>H</td>
<td>97.6</td>
<td>97.6</td>
<td>92.8</td>
<td>95.2</td>
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<tr>
<td>HH</td>
<td>95.9</td>
<td>96.9</td>
<td>91.8</td>
<td>95.9</td>
</tr>
<tr>
<td><strong>I</strong></td>
<td>67.3</td>
<td>60</td>
<td>63.8</td>
<td>62</td>
</tr>
<tr>
<td><strong>II</strong></td>
<td>40.3</td>
<td>41.1</td>
<td>25</td>
<td>38.6</td>
</tr>
<tr>
<td>J</td>
<td>81.1</td>
<td>83.5</td>
<td>80.8</td>
<td>75.5</td>
</tr>
<tr>
<td>JJ</td>
<td>69</td>
<td>67.6</td>
<td>70.4</td>
<td>69</td>
</tr>
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<td>K</td>
<td>95.3</td>
<td>95.3</td>
<td>91.3</td>
<td>95.3</td>
</tr>
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<td>KK</td>
<td>84.9</td>
<td>74.4</td>
<td>70.9</td>
<td>84.9</td>
</tr>
<tr>
<td>L</td>
<td>57.1</td>
<td>50.7</td>
<td>65.7</td>
<td>52.9</td>
</tr>
<tr>
<td>LL</td>
<td>80</td>
<td>84</td>
<td>80</td>
<td>72</td>
</tr>
<tr>
<td>M</td>
<td>91.5</td>
<td>96.8</td>
<td>92.6</td>
<td>98.8</td>
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<td>72.6</td>
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<td>78.7</td>
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<tr>
<td>N</td>
<td>73.8</td>
<td>70.5</td>
<td>62.3</td>
<td>67.2</td>
</tr>
<tr>
<td>O</td>
<td>70.4</td>
<td>71.4</td>
<td>72.4</td>
<td>67.3</td>
</tr>
<tr>
<td><strong>P</strong></td>
<td>73.7</td>
<td>69.5</td>
<td>75</td>
<td>66.7</td>
</tr>
<tr>
<td>Q</td>
<td>88.4</td>
<td>79.7</td>
<td>79.7</td>
<td>83.3</td>
</tr>
<tr>
<td>R</td>
<td>94.6</td>
<td>92.9</td>
<td>96.4</td>
<td>94.6</td>
</tr>
<tr>
<td><strong>S</strong></td>
<td>77.4</td>
<td>54.8</td>
<td>82.3</td>
<td>51.6</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td>52.2</td>
<td>38.6</td>
<td>35.2</td>
<td>28.6</td>
</tr>
<tr>
<td><strong>U</strong></td>
<td>84.8</td>
<td>75.8</td>
<td>93.9</td>
<td>97</td>
</tr>
<tr>
<td>V</td>
<td>65</td>
<td>73.8</td>
<td>67.2</td>
<td>68.9</td>
</tr>
<tr>
<td>W</td>
<td>98</td>
<td>98</td>
<td>94</td>
<td>90.2</td>
</tr>
<tr>
<td>X</td>
<td>85.7</td>
<td>83.3</td>
<td>79.8</td>
<td>85.7</td>
</tr>
<tr>
<td><strong>Y</strong></td>
<td>62.7</td>
<td>61.5</td>
<td>60</td>
<td>59</td>
</tr>
<tr>
<td><strong>Z</strong></td>
<td>52.7</td>
<td>33.8</td>
<td>40.5</td>
<td>54</td>
</tr>
</tbody>
</table>

** denotes at-risk schools.
Table 11

Mean Percentage Passing and Standard Deviations for 5th Grade Standards of Learning Assessments for Schools in the Targeted School Division

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mean School Division</th>
<th>Mean State</th>
<th>SD Division</th>
<th>Range Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>76.8%</td>
<td>63.4%</td>
<td>16.8</td>
<td>40.3-100%</td>
</tr>
<tr>
<td>Math</td>
<td>71.8%</td>
<td>63.6%</td>
<td>21.5</td>
<td>20.7-97.0%</td>
</tr>
<tr>
<td>Science</td>
<td>72.7%</td>
<td>64.1%</td>
<td>19.8</td>
<td>29.3-98.3%</td>
</tr>
<tr>
<td>Soc. Studies</td>
<td>72.0%</td>
<td>51.2%</td>
<td>21.1</td>
<td>22.8-96.4%</td>
</tr>
</tbody>
</table>

Socioeconomic Status

The Director of Research and Planning provided a report detailing "economic deprivation" in the division's schools. These statistics are based upon the free and reduced lunch rates in each of the schools. The mean and standard deviation for the schools' economic deprivation rates are summarized in Table 12.

Table 12

Mean and Standard Deviation for Economic Deprivation Rates

<table>
<thead>
<tr>
<th>Economic Deprivation Rate</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Deprivation Rate</td>
<td>39</td>
<td>25.7%</td>
<td>20.2</td>
<td>.9-69.7%</td>
</tr>
</tbody>
</table>
Findings for Research Questions

The results are presented by individually addressing each research question. As discussed in the preceding chapters, the broad concept of teaching efficacy is two dimensional. The first dimension is personal teaching efficacy (PE) which refers to a teacher's beliefs that he or she is competent in bringing about student learning. The second dimension is teaching efficacy (TE) which refers to a teacher's beliefs that teaching in general can bring about student learning in the face of environmental obstacles (Ashton & Webb, 1986; Ross, 1995). Teacher job satisfaction is defined as a teacher's satisfaction with a number of factors: supervision, relationships with colleagues, working conditions, pay, responsibility, daily tasks/creativity/autonomy (work itself), the opportunity for advancement, security, and recognition (Lester, 1987).

Research Question #1

Does a significant relationship exist between teachers' perceptions of their self-efficacy and teacher job satisfaction?

The correlations between teachers' perceptions of their self-efficacy, both personal teaching efficacy and teaching efficacy, and teacher job satisfaction were found to be not significant at the p=.05 alpha level. Thus, no relationship was observed between these variables. The results of this analysis are summarized in Table 13.
Table 13

Correlations and Significance Levels for Self-Efficacy and Job Satisfaction Comparison

<table>
<thead>
<tr>
<th></th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction and Personal Teaching Efficacy</td>
<td>.02</td>
<td>.88</td>
</tr>
<tr>
<td>Job Satisfaction and Teaching Efficacy</td>
<td>-.26</td>
<td>.11</td>
</tr>
</tbody>
</table>

Research Question #2

Does a significant relationship exist between the job satisfaction of a school's teachers and the academic success of a school's students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English, math, science, and social studies?

The correlations between teacher job satisfaction and academic success as measured by the various SOL assessments were found to be not significant at the p=.05 alpha level. Thus, no relationship was observed between these variables. The results of this analysis are summarized in Table 14.
Table 14

Correlations and Significance Levels for Job Satisfaction and Student Academic Success*

<table>
<thead>
<tr>
<th>Comparison</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction and English SOL</td>
<td>.22</td>
<td>.28</td>
</tr>
<tr>
<td>Job Satisfaction and Math SOL</td>
<td>.22</td>
<td>.29</td>
</tr>
<tr>
<td>Job Satisfaction and Science SOL</td>
<td>.21</td>
<td>.31</td>
</tr>
<tr>
<td>Job Satisfaction and Social Studies SOL</td>
<td>.26</td>
<td>.21</td>
</tr>
</tbody>
</table>

* Academic success as measured on the May 2000 5th grade Standards of Learning Assessments in the areas of English (reading/literature/writing), math, social studies, and science.

Research Question #3

Does a significant relationship exist between the self-efficacy perceptions of a school’s teachers and the academic success of a school’s students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English, math, science, and social studies?

The correlations between teacher self-efficacy perceptions, both personal teaching efficacy and teaching efficacy, and academic success as measured by the various SOL assessments were found to be not significant at the p=.05 alpha level. Thus, no relationship was observed between these variables. The results of this analysis are summarized in Table 15.
Table 15

Correlations and Significance Levels for Teacher Self-Efficacy Perceptions and Student Academic Success* Comparison

<table>
<thead>
<tr>
<th></th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Teaching Efficacy and English SOL</td>
<td>.03</td>
<td>.86</td>
</tr>
<tr>
<td>Personal Teaching Efficacy and Math SOL</td>
<td>.14</td>
<td>.49</td>
</tr>
<tr>
<td>Personal Teaching Efficacy and Science SOL</td>
<td>.02</td>
<td>.94</td>
</tr>
<tr>
<td>Personal Teaching Efficacy and Social Studies SOL</td>
<td>.10</td>
<td>.62</td>
</tr>
<tr>
<td>Teaching Efficacy and English SOL</td>
<td>-.29</td>
<td>.15</td>
</tr>
<tr>
<td>Teaching Efficacy and Math SOL</td>
<td>-.30</td>
<td>.14</td>
</tr>
<tr>
<td>Teaching Efficacy and Science SOL</td>
<td>-.17</td>
<td>.41</td>
</tr>
<tr>
<td>Teaching Efficacy and Social Studies SOL</td>
<td>-.39</td>
<td>.05</td>
</tr>
</tbody>
</table>

* Academic success as measured on the May 2000 5th grade Standards of Learning Assessments in the areas of English (reading/literature/writing), math, social studies, and science.

Research Question #4

Does a significant relationship exist between the socioeconomic status of a school’s students and the academic success of a school’s students as measured by the 5th grade Virginia
Standards of Learning assessments in the areas of English, math, science, and social studies?

The correlations between the socioeconomic status of a school's students and all four of the SOL tests were found to be significant at the p=.05 alpha level. The results of this analysis are summarized in Table 16.

Table 16

Correlations and Significance Levels for Socioeconomic Status\(^1\) and Student Academic Success\(^2\)

<table>
<thead>
<tr>
<th>Comparison</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socioeconomic Status and English SOL</td>
<td>-.83</td>
<td>.00</td>
</tr>
<tr>
<td>Socioeconomic Status and Math SOL</td>
<td>-.84</td>
<td>.00</td>
</tr>
<tr>
<td>Socioeconomic Status and Science SOL</td>
<td>-.88</td>
<td>.00</td>
</tr>
<tr>
<td>Socioeconomic Status and Social Studies SOL</td>
<td>-.81</td>
<td>.00</td>
</tr>
</tbody>
</table>

\(^1\)Percentage of students in a school receiving free or reduced lunch.

\(^2\)Academic success as measured on the May 2000 5th grade Standards of Learning Assessments in the areas of English (reading/literature/writing), math, social studies, and science.

Research Question #5

Does a significant relationship exist between the self-efficacy perceptions of a school's teachers and the socioeconomic status of a school's students?
The correlations between teacher self-efficacy perceptions, both personal teaching efficacy and teaching efficacy, and the socioeconomic status of a school's students were found to be not significant at the $p=.05$ alpha level. Thus, no relationship was observed between these variables. The results of this analysis are summarized in Table 17.

Table 17

Correlations and Significance Levels for Teacher Self-Efficacy Perceptions and Socioeconomic Status Comparison

<table>
<thead>
<tr>
<th></th>
<th>$r$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Teaching Efficacy and SES</td>
<td>.08</td>
<td>.69</td>
</tr>
<tr>
<td>Teaching Efficacy and SES</td>
<td>.12</td>
<td>.56</td>
</tr>
</tbody>
</table>

Research Question #6

Does a significant relationship exist between job satisfaction of a school's teachers and the socioeconomic status of a school's students?

The correlation between teacher job satisfaction and the economic deprivation level of a school's students was found to be not significant at the $p=.05$ alpha level. Thus, no relationship was observed between these variables. The results of this analysis are summarized in Table 18.
Table 18

Correlations and Significance Levels for Job Satisfaction and Socioeconomic Status Comparison

<table>
<thead>
<tr>
<th></th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction and Socioeconomic Status</td>
<td>-.20</td>
<td>.33</td>
</tr>
</tbody>
</table>

Research Question #7

Is there a significant difference in the job satisfaction and self-efficacy perceptions between teachers in schools identified as at-risk and those not identified as at-risk?

The t-test comparing the at-risk schools and non at-risk schools on job satisfaction indicated a significant difference between the groups (t(39) = 3.03, p = .004). The non at-risk schools had higher job satisfaction (M=262.97) than the at-risk schools (M=233.50). The difference of 29 points was approximately equal to the common standard deviation. Differences of this magnitude are considered to be large.

The t-test comparing the at-risk schools and non at-risk schools on self-efficacy perceptions, both personal teaching efficacy and teaching efficacy, indicated that the difference between the groups was not significant (PE, t(41)=-.02; p=.98; TE, t(40)=-1.30, p=.20).

The results of these comparisons are summarized in Table 19.
Table 19

Results of t-test for Comparison of Differences in Teachers' Job Satisfaction and Self-Efficacy

Perceptions in At-Risk and Non At-Risk Schools

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>p</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Teaching Efficacy</td>
<td>-02</td>
<td>.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At-risk schools</td>
<td></td>
<td></td>
<td>12</td>
<td>41.58</td>
<td>4.31</td>
</tr>
<tr>
<td>Non at-risk schools</td>
<td></td>
<td></td>
<td>31</td>
<td>41.55</td>
<td>5.64</td>
</tr>
<tr>
<td>Teaching Efficacy</td>
<td>-1.30</td>
<td>.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At-risk schools</td>
<td></td>
<td></td>
<td>12</td>
<td>30.00</td>
<td>4.79</td>
</tr>
<tr>
<td>Non at-risk schools</td>
<td></td>
<td></td>
<td>30</td>
<td>28.17</td>
<td>3.84</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>3.03</td>
<td>.004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At-risk schools</td>
<td></td>
<td></td>
<td>10</td>
<td>233.50</td>
<td>25.20</td>
</tr>
<tr>
<td>Non at-risk schools</td>
<td></td>
<td></td>
<td>31</td>
<td>262.97</td>
<td>27.14</td>
</tr>
</tbody>
</table>

Additional Analysis

The results of the analysis on research question #6 and on the job satisfaction section of research question #7 are in apparent contradiction. The results of research question #6 indicated that there was not a significant relationship between the job satisfaction of a school's teachers and the socioeconomic status of a school's students. However, in question #7 a significant difference
was observed between the job satisfaction of teachers in at-risk schools and the job satisfaction of teachers in non at-risk schools. Since socioeconomic status played a significant role in the targeted county determining a school to be “at-risk”, these findings appear to contradict one another. Therefore, additional analysis of data was conducted to investigate these findings.

First, additional t-tests were conducted to observe differences in job satisfaction between schools with various percentages of students identified as “economically deprived” by the targeted county. Schools with 30% or more and 29% or less of students identified as economically deprived were compared, and the difference was found to be not significant at the p=.05 alpha level. Students with 40% or more and 39% or less of students identified as economically deprived were compared, and the difference was found to be significant at the p=.05 alpha level. Students with 50% or more and 49% or less of students identified as economically deprived were compared, and the difference was found to be not significant at the p=.05 alpha level. The results of these tests are summarized in Table 20.

Based upon the results of these t-tests, the relationship between teacher job satisfaction and socioeconomic status is observed to be curvilinear rather than linear. However, the coefficient correlation computed for question #6 is based upon linear relationships. This finding indicates that the non-significant finding for the relationship between job satisfaction and socioeconomic status is not valid, and that this relationship must be explored using different means.
Table 20

**Results of t-tests for Comparison of Differences in Job Satisfaction in Schools Based Upon Percentage of Students in a School Identified as Economically Deprived**

<table>
<thead>
<tr>
<th>Percentage of Students</th>
<th>t</th>
<th>p</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>30% or more*</td>
<td>1.26</td>
<td>.22</td>
<td>18</td>
<td>246.22</td>
<td>32.68</td>
</tr>
<tr>
<td>29% or less*</td>
<td>2.37</td>
<td>.02</td>
<td>23</td>
<td>257.52</td>
<td>24.91</td>
</tr>
<tr>
<td>40% or more*</td>
<td>.62</td>
<td>.54</td>
<td>9</td>
<td>233.56</td>
<td>26.42</td>
</tr>
<tr>
<td>39% or less*</td>
<td></td>
<td></td>
<td>32</td>
<td>257.91</td>
<td>27.44</td>
</tr>
</tbody>
</table>

* Percentage of students in a school identified as economically deprived based upon receipt of free or reduced lunch.
Analyses involving teacher job satisfaction thus far had utilized the total score for each teacher on the Teacher Job Satisfaction Questionnaire. Given the unexpected finding of a curvilinear relationship between teacher job satisfaction and student socioeconomic status, however, an analysis of data using the subscales of this questionnaire was conducted. The subscales produce scores in each of the following areas: supervision, colleagues, working conditions, pay, responsibility, work itself, advancement, security, and recognition. These subscales were discussed in greater detail in chapter 3.

For the analysis of these subscales, schools were first placed into one of four categories based upon the percentage of students in those schools identified by the school division as economically deprived. These categories were schools with the following percentages of students identified: 19% and less, 20%-39%, 40%-49%, and 50% or more. The means of teacher responses for each subscale were then compared. These findings are summarized in Tables 21 through 29 and Figures 1 through 9.

Based upon these comparisons, the subscales of Supervision and Pay are the elements creating the curvilinear pattern in the analyses of the total job satisfaction score.
Table 21

Descriptive Statistics for Supervision Subscale with Schools Categorized Based Upon Percentage of Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Percentage of a School's Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 19%</td>
<td>19</td>
<td>56.32</td>
<td>6.60</td>
<td>38-65(^1)</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>60.23</td>
<td>8.79</td>
<td>36-68(^1)</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>42.67</td>
<td>9.07</td>
<td>31-53(^1)</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>53.83</td>
<td>10.00</td>
<td>44-70(^1)</td>
</tr>
</tbody>
</table>

\(^1\) minimum = 14; maximum = 70

Figure 1. Comparison of means on supervision subscale.
Table 22

Descriptive Statistics for Colleagues Subscale with Schools Categorized Based Upon Percentage of Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Percentage of a School’s Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 19%</td>
<td>19</td>
<td>41.89</td>
<td>4.64</td>
<td>33-50</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>45.85</td>
<td>2.64</td>
<td>41-50</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>42.00</td>
<td>2.45</td>
<td>38-44</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>43.33</td>
<td>4.18</td>
<td>37-48</td>
</tr>
</tbody>
</table>

'T minimum = 10; maximum = 50

Figure 2. Comparison of means on colleagues subscale.
Table 23

**Descriptive Statistics for Pay Subscale with Schools Categorized Based Upon Percentage of Students Identified as Economically Deprived**

<table>
<thead>
<tr>
<th>Percentage of a School's Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 19%</td>
<td>19</td>
<td>26.84</td>
<td>4.14</td>
<td>19-34</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>30.46</td>
<td>4.61</td>
<td>18-35</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>20.17</td>
<td>4.45</td>
<td>14-25</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>24.67</td>
<td>6.38</td>
<td>16-34</td>
</tr>
</tbody>
</table>

\(^1\text{minimum} = 7; \text{maximum} = 35\)

![Chart showing comparison of means on pay subscale.](chart.png)

**Figure 3. Comparison of means on pay subscale.**

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Table 24

Descriptive Statistics for Work Conditions Subscale with Schools Categorized Based Upon Percentage of Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Percentage of a School's Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 19%</td>
<td>19</td>
<td>18.84</td>
<td>5.80</td>
<td>9-30^1</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>22.15</td>
<td>5.63</td>
<td>15-30^1</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>18.67</td>
<td>2.16</td>
<td>16-22^1</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>18.17</td>
<td>3.31</td>
<td>14-24^1</td>
</tr>
</tbody>
</table>

^1minimum = 7; maximum = 35

Figure 4. Comparison of means on work conditions subscale.
Table 25

Descriptive Statistics for Responsibility Subscale with Schools Categorized Based Upon
Percentage of Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Percentage of a School's Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 19%</td>
<td>19</td>
<td>35.68</td>
<td>5.59</td>
<td>15-40(^1)</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>36.31</td>
<td>4.61</td>
<td>27-41(^1)</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>35.17</td>
<td>2.93</td>
<td>32-39(^1)</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>33.83</td>
<td>1.74</td>
<td>29-40(^1)</td>
</tr>
</tbody>
</table>

\(^1\)minimum = 8; maximum = 40

Figure 5. Comparison of means on responsibility subscale.
Table 26

Descriptive Statistics for Work Itself Subscale with Schools Categorized Based Upon Percentage of Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Percentage of Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 19%</td>
<td>19</td>
<td>36.89</td>
<td>4.75</td>
<td>22-43</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>37.77</td>
<td>5.97</td>
<td>22-44</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>34.50</td>
<td>4.93</td>
<td>30-42</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>28.40</td>
<td>11.46</td>
<td>12-41</td>
</tr>
</tbody>
</table>

1minimum = 9; maximum = 45

Figure 6. Comparison of means on work itself subscale.
Table 27

Descriptive Statistics for Advancement Subscale with Schools Categorized Based Upon Percentage of Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Percentage of a School's Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 19%</td>
<td>19</td>
<td>13.39</td>
<td>4.62</td>
<td>4-21</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>17.38</td>
<td>4.13</td>
<td>10-23</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>14.00</td>
<td>2.28</td>
<td>11-16</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>14.67</td>
<td>4.08</td>
<td>10-21</td>
</tr>
</tbody>
</table>

1minimum = 5; maximum = 25

Figure 7. Comparison of means on advancement subscale.
Table 28

Descriptive Statistics for Security Subscale with Schools Categorized Based Upon Percentage of
Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Percentage of a School's Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;19%</td>
<td>19</td>
<td>12.37</td>
<td>1.80</td>
<td>9-15¹</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>12.38</td>
<td>2.14</td>
<td>8-15¹</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>11.00</td>
<td>0.89</td>
<td>10-12¹</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>11.00</td>
<td>1.24</td>
<td>7-15¹</td>
</tr>
</tbody>
</table>

¹minimum = 3; maximum = 15

Figure 8. Comparison of means on security subscale.
Table 29

Descriptive Statistics for Recognition Subscale with Schools Categorized Based Upon Percentage of Students Identified as Economically Deprived

<table>
<thead>
<tr>
<th>Percentage of a School's Students Identified as Economically Deprived:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 19%</td>
<td>19</td>
<td>11.95</td>
<td>1.84</td>
<td>8-14(^1)</td>
</tr>
<tr>
<td>20-39%</td>
<td>13</td>
<td>11.31</td>
<td>3.15</td>
<td>3-14(^1)</td>
</tr>
<tr>
<td>40-49%</td>
<td>6</td>
<td>9.17</td>
<td>1.78</td>
<td>3-15(^1)</td>
</tr>
<tr>
<td>50% &gt;</td>
<td>6</td>
<td>10.00</td>
<td>1.10</td>
<td>7-15(^1)</td>
</tr>
</tbody>
</table>

\(^1\)minimum = 3; maximum = 15

Figure 9. Comparison of means on recognition subscale.

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Chapter 5: Summary, Discussions, and Recommendations

A summary of the research findings along with a discussion of the implications of these findings are presented in this chapter. Additionally, recommendations for future research in this area are offered.

Summary of Findings

To analyze the relationships between teacher job satisfaction, teacher self-efficacy perceptions, economic deprivation levels, and student achievement, information was collected from individual 5th grade teachers, from the Director of Research and Planning for the targeted school division, and from the Virginia Department of Education website.

The targeted school division contained 39 elementary schools with 12 identified as at-risk. Specifically, 5th grade teachers in these schools were asked to respond to the Teacher Job Satisfaction Survey and the Teacher Efficacy Scale. Based upon rules for inclusion of responses in the analysis, the responses from nine of the twelve at-risk schools were included in the analysis of the seven identified hypotheses. Nineteen of the 27 non at-risk schools were included. Correlation coefficients and a t-test were used to analyze data for the seven research questions. Additional analysis was conducted by comparing the means of the subscale responses on the Teacher Job Satisfaction Questionnaire.

The Director of Research and Planning provided information on the economic deprivation rates for the division’s elementary schools. Results of the May, 2000 5th grade SOL assessments were obtained from the Virginia Department of Education website.
The findings are summarized as follows:

1. A significant relationship does not exist between teachers' perceptions of their self-efficacy and teacher job satisfaction.

2. A significant relationship does not exist between the job satisfaction of a school's teachers and the academic success of a school's students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading, literature and writing), math, science, and social studies.

3. A significant relationship does not exist between the self-efficacy perceptions of a school's teachers and the academic success of a school's students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading, literature and writing), math, science, and social studies.

4. A significant relationship exists between the socioeconomic status of a school's students and the academic success of a school's students as measured by the 5th grade Virginia Standards of Learning assessments in the areas of English (reading, literature and writing), math, science, and social studies.

5. A significant relationship does not exist between the self-efficacy perceptions of a school's teachers and the socioeconomic status of a school's students.

6. A significant relationship does not exist between the job satisfaction of a school's teachers and the socioeconomic status of a school's students.

7. There is a significant difference in the job satisfaction rates between teachers in at-risk
self-efficacy perceptions between teachers in at-risk schools and teachers in non at-risk schools.

Due to the discrepancy between the findings for questions 6 and 7, additional analysis was conducted. First, a t-test indicated that there was a significant difference in the job satisfaction of teachers in schools with 40% or more students identified as economically deprived and schools with 39% or less. The differences were not significant when schools with 30% or more students identified as economically deprived were compared with schools with 29% or less and when schools with 50% or more identified were compared with schools with 49% or less. This finding illustrated a curvilinear relationship between economic deprivation levels and teacher job satisfaction which brought into questions the results of research question 6 which utilized linear statistics.

Based upon this result, the means of the subscales on the Teacher Job Satisfaction Questionnaire for schools with varying levels of students receiving free or reduced lunch were compared. Based upon these comparisons, the subscales of Supervision and Pay were the elements noted as creating the curvilinear pattern in the analyses of the total job satisfaction score.

Discussion of Findings

The findings of this study will first be discussed in terms of the implications of the sample size. Next, the findings will be compared and contrasted with findings of other research in the area of teacher perceptions of their self-efficacy, teacher job satisfaction, students' socioeconomic status and student achievement. Finally, recommendations for future research and professional
Sample Size

The rate of return of responses for this study was less than desirable. Initially, this fact may lead to questions as to the validity of the findings. Upon further investigation, however, the practical significance of the results appear valid even with the low response rate. As discussed in Chapter 4, the respondents were similar to the targeted population, with approximately proportional responses among the various subgroups. Additionally, while a larger sample would likely have yielded significant results on the research questions, the correlation coefficients would have remained small, thus yielding little practical significance.

Teacher Perceptions of Their Self-Efficacy and Student Achievement

As discussed in Chapter 2, the link between teacher self-efficacy and student achievement has not been clearly or irrefutably established in the literature. Certain researchers have documented evidence which may indicate that teacher self-efficacy perceptions have an impact on student achievement (Anderson et al., 1988; Ross, 1992; Ross, 1995). However, even one of these researchers indicated that empirical tests of this link, "have produced mixed results, suggesting that TE may not be an inviting entry point for school improvement efforts" (Ross, 1995, p. 243). The current research study does not produce definitive answers as to the relationship between teacher perceptions of their self-efficacy and student achievement. In fact, since no significant relationships between teacher self-efficacy perceptions and student achievement were observed, this study may in fact support Ross’ (1995) notion that self-efficacy
perceptions are not the appropriate starting point for efforts to improve student achievement. The information yielded from this study may, however, provide valuable information about future research efforts in this area.

Other researchers exploring the area of self-efficacy perceptions have examined variables not included in this study. For example, in Ross's (1992) study, groups of teachers were provided with varying types of training to help implement a new curriculum. Analysis of data indicated that personal teaching efficacy was a significant predictor of student achievement. The current study did not investigate the types of training provided to the participating teachers or the impact of training on teacher self-efficacy perceptions.

Further, Ashton and Webb (1986) developed a model to illustrate the relationship between teacher self-efficacy beliefs and student achievement. In this model, teacher behaviors such as responses to students, student behaviors such as enthusiasm, and a student's sense of efficacy were all theorized to be intermediary variables impacting not only student achievement, but also a teacher's self-efficacy beliefs. For example, according to this model negative student behaviors may have a negative effect on a teacher's perceptions of his or her self-efficacy. Based upon this model, it may be theorized that other variables, such as community and environmental factors, may also impact both student achievement and teacher self-efficacy beliefs. Intermediary variables such as student behavior were not investigated in this study.

The existing studies in this area have operationally defined and measured student achievement in different ways. For instance, Ross (1992) measured the students' achievement in
the new curriculum by pulling items from a public pool of test items maintained by the Ontario Provincial Ministry of Education. The current study utilized the Virginia Standards of Learning Assessments. Obviously, different assessment instruments may measure vastly different areas of student achievement. Thus, comparison of the results of the various research studies is difficult.

**Teacher Job Satisfaction**

In Herzberg et al. (1959) and Maslow's (1968) groundbreaking investigations into job satisfaction, the researchers concluded that various motivation factors or "being needs" must be fulfilled in order for a job to be satisfying to an individual. For example, a job must be rewarding in order for an individual to be satisfied with the job. Based upon this model, being needs for teachers may include seeing evidence of student achievement and growth. According to this line of reasoning, if teachers do not see evidence of student achievement, job satisfaction will be weak.

The current research produces evidence of this phenomenon. Teachers in at-risk schools indicated significantly lower job satisfaction than did teachers in non-at-risk schools. These at-risk schools were those that historically had not achieved commiserate with expectations, which had a large number of students qualifying for free or reduced lunch, and which had a wide range of academic needs (P.C. Kinlaw, personal communication, July 31, 2000). These criteria were set by the targeted school division without elaborating upon the definitions of "expectations" or "wide range of academic need."

While the job satisfaction of teachers in at-risk and non-at-risk schools was significantly different, the relationship between teacher job satisfaction and at-riskness, specifically economic
deprivation, was not observed to be linear in nature. Scrutiny of the subscales of the Teacher Job Satisfaction Questionnaire indicated that the areas of "supervision" and "pay" accounted for this non-linear relationship. Teachers in schools with 40-49% of students identified as economically deprived had scores on these subscales that were approximately a standard deviation below the scores of teachers in schools with less and schools with more students identified as economically disadvantaged. Therefore, teacher job satisfaction in the areas of supervision and pay did not consistently decrease as the number of economically deprived students in the school increased.

This observation leads to questions related to the supervisory characteristics of the schools with 40-49% of students identified as economically deprived. It is possible that characteristics of the building administrators were intervening variables impacting the relationship between socioeconomic status and teacher job satisfaction.

The impact of pay as an intervening variable is not clear. The pay scale in the targeted county is consistent among schools regardless of the economic deprivation rate of the school. Thus, teachers in schools with 40-49% of the students identified as economically deprived viewed the pay scale more negatively than teachers in schools with less and schools with more students identified.

Socioeconomic Status

As discussed previously, a significant relationship existed between the socioeconomic status of a school and the success of its students on the Virginia Standards of Learning; as the economic deprivation rate for a school increased, its students' success on the SOL assessments
went down. This finding is consistent with other research in this area.

Starting with the groundbreaking *Equality of Educational Opportunity Report* (EEOR) published in 1966, the link between socioeconomic status and academic achievement has been well established. The findings of the EEOR were based upon information obtained about 570,000 students, 60,000 teachers, and 4,000 schools nationwide. While the EEOR did not analyze educational achievement based upon socioeconomic status, "social class was implicit in the stated finding that family background, measured in social class terms...is apparently a major determinant of education achievement" (Mosteller & Moynihan, 1972, p. 22).

Since the EEOR was published, researchers have continued to document this link. For example, Bourke (1998) collected information on 1394 students in grades 3, 4, and 5 in 30 elementary schools in an urban school division in South Carolina. This author concluded that "students in schools in poorer areas, that is schools with higher proportions of their students receiving free or reduced-price lunch, had lower achievement than others, particularly in reading" (p. 5). Marcon (1999) and Harwell, D'Amico, Stien and Gotti (2000) also conducted studies illustrating the link between socioeconomic status and achievement. Both Bourke (1998) and Harwell et al. (2000) defined socioeconomic status as the percentage of a school's students qualifying for free or reduced lunch; this is consistent with the current study.

While the link between socioeconomic status and achievement has been established both previously and in the current study, the impact of teacher job satisfaction as an intervening variable between socioeconomic status and achievement is not well documented. The current
study has contributed to current research by illustrating that there is a significant difference in the job satisfaction rates between schools identified as at-risk and those not identified as at-risk. Further, since percentage of students receiving free and reduced lunch was a primary factor in determining a school to be at-risk in this study, this would indicate that at least, in part, teacher job satisfaction differs in schools depending upon the socioeconomic status of students in those schools.

Conclusions

This study yielded several striking results. First, teachers in at-risk schools indicated lower rates of job satisfaction than did their colleagues in non at-risk schools. This difference was equal to approximately one standard deviation, indicating a clearly significant result. Further, the areas of supervision and pay appeared to lead to the low level of job satisfaction in schools with a significant portion (40-49%) of their populations receiving free or reduced or lunch. Second, the data yielded a large inverse relationship between a school's economic deprivation level and students' success on the SOL assessments.

This first finding is especially significant in light of current teacher shortages. A report by the Virginia Department of Education - Division of Teacher Education and Licensure (2000) reported that the Commonwealth is suffering from an acute shortage of teachers, particularly in the areas of special education, mathematics, and science. Approximately one third of unfilled positions or positions filled by unendorsed personnel during the 1999-2000 school year were in the area of special education. Further, the number of candidates completing teacher education
programs in the state has declined in recent years, and these candidates will be facing an average salary less than the national average.

Research has suggested that teacher turnover and retention are impacted by organizational characteristics such as degree of administrative support and degree of teacher input into decision-making (Ingersoll, 1999). In light of this information, it is critical that school divisions attend to the job satisfaction issues of its teachers. Retaining and developing current instructors is more productive than continually replacing teachers. Additionally, if - as illustrated by the current study - teachers in at-risk schools demonstrate lower job satisfaction, then these likely are the teachers most at-risk for leaving the profession. This leaves the most needy of our students facing constantly changing faculties without the experience and expertise of seasoned teachers.

These findings are consistent with research conducted by Herzberg et al. (1959) and Maslow (1968) in the area of job satisfaction. Teachers in at-risk schools must grapple with numerous variables not as prevalent in non at-risk schools, such as poor communities and a history of academic failure. Therefore, the motivating factors in at-risk schools are fewer than in non at-risk schools as evidenced by lower levels of job satisfaction.

In comparison to these significant findings, teacher self-efficacy perceptions were found to be non-significant on all counts. At first glance, this appears to be inconsistent with the results of previous research which had begun to offer evidence of a relationship between teacher self-efficacy beliefs and student achievement. Upon deeper reflection, however, the inconsistencies may have more to do with the variables included in the various studies than with the actual
outcomes. Each study has included different intervening variables such as various teacher training methods and, in the case of this study, socioeconomic status. Further, each study has defined student achievement in a different way. It may be theorized that in order to more definitively investigate the relationship between teacher self-efficacy perceptions and student achievement, research studies in this area must include similar variables and measurement instruments.

**Recommendations for Future Research**

1. It has been theorized that the level of self-efficacy on the part of the teacher will impact factors such as choice of instructional activities (Bandura, 1982). Based upon this assumption, future research in the area of teacher self-efficacy perceptions should include collection of data about specific teacher behaviors as an important intervening variable. The relationship between these teacher behaviors and teacher self-efficacy beliefs should be examined along with student achievement.

2. In the period of time since data collection for this study was completed, several new instruments measuring self-efficacy have been reported in the literature (Roberts & Henson, 2000; Roberts & Henson, 2001). Additional validation of new instruments must be conducted to determine the most useful and sound method for measuring the construct of teacher self-efficacy perceptions.

3. The construct of “student achievement” should be operationally defined in a consistent manner by those researching teacher self-efficacy beliefs. In the existing literature, student achievement has been defined in such a variety of ways (i.e., academic, behavioral, attitudinal) that comparison
is difficult. A more consistent approach to the measurement of student achievement will enable researchers to better deduce the impact of teacher self-efficacy beliefs on students.

4. Additional research is needed concerning the job satisfaction of teachers in at-risk schools and the impact of job satisfaction on teacher retention.

5. All the findings of this study must be viewed in light of the potential weaknesses of the self-report/questionnaire method utilized. While questionnaires present obvious advantages in the areas of cost and time (Gall et al., 1996; Gay, 1987), they present disadvantages in that questions may be unclear to the respondents or respondents may not respond truthfully. Additionally, in the current study, the possibility exists that participants may not have accurately perceived their own level of effectiveness in the classroom. Future research in this area will be strengthened by the use of other research formats such as observations, interviews with the teachers, and interviews with the supervisors of those teachers.

Implications for Professional Practice

1. The relationship of socioeconomic status and student achievement is clearly illustrated by this study. The implication is that communities and their schools must work together to help families take care of basic needs before students will be able to fully take advantage of learning opportunities. Further, without feeling helpless about things over which they have no control, teachers must be cognizant of the environmental issues facing their students and the potential impact of those issues on academic achievement.

2. The impact of socioeconomic status upon student achievement and, specifically, upon SOL
success is the strongest finding of this study and has implications for the Commonwealth of Virginia. The state school board has developed Standards of Accreditation which require all schools to reach minimum pass rates on the SOL assessments, regardless of the characteristics of their communities. While all students and teachers should certainly be required to meet high expectations, the variable of socioeconomic status cannot be ignored. Educational decision-makers in the Commonwealth of Virginia should strive to make additional resources available to at-risk schools and school divisions and to take environmental characteristics into consideration when accrediting schools based upon standardized test scores.

3. Also clearly illustrated in this study was the difference in job satisfaction levels among teachers in at-risk schools and teachers in non-at-risk schools. Human nature would indicate that if an individual is in a situation that is not satisfying, he or she will tend to attempt to move into a situation that is satisfying. In the field of education, this may mean moving to a different school, a different school division, or even leaving teaching entirely. If teachers are less satisfied in at-risk schools than they are in less at-risk schools, teacher turnover may be greater in the more at-risk schools. With current teacher scarcity, this can have an obvious impact upon school divisions. School divisions have a vested interest in retaining and developing quality teachers for all students. However, students who are at-risk for academic failure will especially benefit from such a faculty. Educational leaders must retain teachers in at-risk schools and provide them with additional support and more opportunities for growth and renewal.
Appendix A

Correspondence to Principals in Sample
May 29, 2000

(Inside address)

Dear (Principal),

Congratulations! You have survived the latest round of Standards of Learning testing! Yet now the anxious waiting for results begins. As you are undoubtedly aware, Virginia's new Standards of Learning have presented a considerable challenge to administrators and teachers. Perhaps the biggest challenge of all is determining the best way to reach students at-risk for school failure and, thus, for failure on the SOL assessments.

As a Doctoral Candidate at the College of William and Mary, my research interest centers around several of the characteristics that may or may not make teachers effective in the instruction of at-risk students. Specifically, my dissertation research project is investigating the relationships between the perceptions of self-efficacy of a school's teachers, the job satisfaction of a school's teachers, a school's socioeconomic status as measured by percentage of students on free and reduced lunch, and a school's performance on the 5th grade SOL assessments in the areas of English, math, science, and social studies.

Mrs. Penny Blumenthal has been a considerable help in my research. She will be providing me with information on the performance of (the targeted county’s) elementary schools on the May 2000 5th grade SOL assessments as well as information about the economic deprivation levels of the elementary schools.

Additionally, however, I need your help. I am seeking the responses of 5th grade teachers in your building on two questionnaires. One looks at a teacher’s perceptions of his or her self-efficacy. The other looks at a teacher’s job satisfaction. I anticipate that each survey will take approximately 10 minutes to complete.
All responses will be anonymous. My dissertation advisor and I will only know from which school a survey was returned. I will not link any information to a specific teacher. All information will be presented in an anonymous manner in my final report. The names of the county and schools in my sample will not be divulged.

My final report will be made available to Mrs. Blumenthal. It is my hope that my findings will provide some guidance in helping teachers of our most challenged students to instruct those students successfully.

I will be contacting you in the next several days to arrange a brief meeting with you. It is my hope that in this meeting I can give you the questionnaires for each 5th grade teacher in your building. I know time is short in these last several weeks of school, so I will leave it up to you as to how to present these questionnaires to your teachers. I will include a cover letter similar to this one for each teacher as well as a stamped, addressed envelope in which to return the forms to me. I will also provide you with a larger envelope in which you may return all of the instruments to me at once should you desire. Each teacher will also be given a postcard to be mailed back to me that will indicate he/she has returned the questionnaires.

Please know in advance how much I appreciate both your participation and that of your teachers. I know it is a busy and exhausting time of the year!

Should you have questions prior to the time we speak, please feel free to contact either me or my dissertation advisor, Dr. James Stronge at (757) 221-2339.

Sincerely,

Dana E. Gresham
Doctoral Candidate
Appendix B

Correspondence to Teachers in Sample
Dear Teacher,

Congratulations! You have survived the latest round of Standards of Learning testing! Yet now the anxious waiting for results begins. As you are undoubtedly aware, Virginia's new Standards of Learning have presented a considerable challenge to administrators and teachers. Perhaps the biggest challenge of all is determining the best way to reach students at-risk for school failure and, thus, for failure on the SOL assessments.

As a Doctoral Candidate at the College of William and Mary, my research interest centers around several of the characteristics that may or may not make teachers effective in the instruction of at-risk students. Specifically, my dissertation research project is investigating the relationships between the perceptions of self-efficacy of a school's teachers, the job satisfaction of a school's teachers, a school's level of economic deprivation, and a school's performance on the 5th grade SOL assessments in the areas of English, math, science, and social studies.

Mrs. Penny Blumenthal has been a considerable help in my research. She will be providing me with information on the performance of (the targeted county's) elementary schools on the May 2000 5th grade SOL assessments as well as information about the economic deprivation levels of the elementary schools.

Additionally, however, I need your help. I am seeking your response on two questionnaires. One looks at a teacher's perceptions of his or her self-efficacy. The other looks at a teacher's job satisfaction. I anticipate that each survey will take approximately 10 minutes to complete. You will find the two questionnaires attached as well as a stamped, addressed envelope in which to return your responses to me. Your principal also has a large envelope in which he/she may return all of your school's responses at once if you desire.

Dana E. Gresham
Doctoral Candidate - The College of William and Mary
2206 Shallow Well Road
Manakin-Sabot, Virginia 23103
work (804) 730-3395
home (804) 749-3062

May 29, 2000

(Inside address)
Please return your responses by June 16, 2000.

All responses will be anonymous. My dissertation advisor and I will only know from which school a survey was returned. I will not link any information to a specific teacher. All information will be presented in an anonymous manner in my final report. The names of the county and schools in my sample will not be divulged.

My final report will be made available to Mrs. Blumenthal. It is my hope that my findings will provide some guidance in helping teachers of our most challenged students to instruct those students successfully.

Please know in advance how much I appreciate your participation. I know it is a busy and exhausting time of the year!

Should you have questions, please feel free to contact either me or my dissertation advisor, Dr. James Strong at (757) 221-2339.

Again - I would appreciate your responses by June 16, 2000.

Sincerely,

Dana E. Gresham
Doctoral Candidate
Appendix C

Permission to Use Data Collection Instruments
March 23, 2000

Dana E. Gresham
2206 Shallow Well Road
Manakin-Sabot, VA 23103

Dear Dana:

Thank you very much for your interest in the Teacher Job Satisfaction Questionnaire that I developed and validated. Your research sounds very interesting and I think that it will make a real contribution to the field.

You have my written permission to use the TJSQ in your study and to make as many copies of the TJSQ as needed for your study.

If I may be of any assistance to you, please feel free to contact me.

Sincerely,

Paula E. Lester, Ph.D.
Professor
Ms. Dana Gresham

RE: Teacher Efficacy Scale

Dear Ms. Gresham:

I am pleased to grant you permission to utilize the Teacher Efficacy Scale in your research. I ask that you forward me a copy of your results when available.

Good luck in your efforts.

Sincerely,

Sherri Gibson, Ph.D.

SG:gb
Appendix D
Gibson and Dembo's Teacher Self-Efficacy Measure
Teacher Efficacy Scale
Gibson and Dembo (1984)

*Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate numeral to the right of each statement.*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When a student does better than usual, many times it is because I exerted a little extra effort.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. The hours in my class have little influence on students compared to the influence of their home environment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. The amount that a student can learn is primarily related to family background.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. If students aren’t disciplined at home, they aren’t likely to accept any discipline.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6. When a student gets a better grade than he usually gets, it is usually because I found better ways of teaching that student.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7. When I really try, I can get through to most difficult students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8. A teacher is very limited in what he/she can achieve because a student’s home environment is a large influence on his/her achievement.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. When the grades of my students improve it is usually because I found more effective teaching approaches.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10. If a student masters a new math concept quickly, this might be because I found the necessary steps in teaching that concept.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11. If parents would do more with their children, I could do more.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>disagree slightly more than agree</td>
<td>agree slightly more than disagree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
<tr>
<td>---</td>
<td>------------------</td>
<td>---------------------</td>
<td>----------------------------------</td>
<td>----------------------------------</td>
<td>-----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>13.</td>
<td>If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>The influences of a student's home experiences can be overcome by good teaching.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>Even a teacher with good teaching abilities may not reach many students.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix E

The Teacher Job Satisfaction Questionnaire
Directions: The following statements refer to organizational factors that can influence the way a teacher feels about his/her job. These factors are related to teaching and to the individual's perception of the job situation. When answering the following statements, circle the numeral which represents the degree to which you agree or disagree with the statement. Please do not identify yourself on this instrument.

Key: 1 2 3 4 5

1. Teaching provides me with an opportunity to advance professionally. 1 2 3 4 5

2. Teacher income is adequate for normal expenses. 1 2 3 4 5

3. Teaching provides an opportunity to use a variety of skills. 1 2 3 4 5

4. Insufficient income keeps me from living the way I want to live. 1 2 3 4 5

5. My immediate supervisor turns one teacher against another. 1 2 3 4 5

6. No one tells me that I am a good teacher. 1 2 3 4 5

7. The work of a teacher consists of routine activities. 1 2 3 4 5

8. I am not getting ahead in my present teaching position. 1 2 3 4 5

9. Working conditions in my school can be improved. 1 2 3 4 5

10. I receive recognition from my immediate supervisor. 1 2 3 4 5

11. I do not have the freedom to make my own decisions. 1 2 3 4 5

12. My immediate supervisor offers suggestions to improve my teaching. 1 2 3 4 5

13. Teaching provides for a secure future. 1 2 3 4 5
14. I receive full recognition for my successful teaching. 1 2 3 4 5
15. I get along well with my colleagues. 1 2 3 4 5
16. The administration in my school does not clearly define its policies. 1 2 3 4 5
17. My immediate supervisor gives assistance when I need help. 1 2 3 4 5
18. Working conditions in my school are comfortable. 1 2 3 4 5
19. Teaching provides me the opportunity to help my students learn. 1 2 3 4 5
20. I like the people with whom I work. 1 2 3 4 5
21. Teaching provides limited opportunities for advancement. 1 2 3 4 5
22. My students respect me as a teacher. 1 2 3 4 5
23. I am afraid of losing my teaching job. 1 2 3 4 5
24. My immediate supervisor does not back me up. 1 2 3 4 5
25. Teaching is very interesting work. 1 2 3 4 5
26. Working conditions in my school could not be worse. 1 2 3 4 5
27. Teaching discourages originality. 1 2 3 4 5
28. The administration in my school communicates its policies well. 1 2 3 4 5
29. I never feel secure in my teaching job. 1 2 3 4 5
30. Teaching does not provide me the chance to develop new methods. 1 2 3 4 5
31. My immediate supervisor treats everyone equitably. 1 2 3 4 5
32. My colleagues stimulate me to do better work. 1 2 3 4 5
<table>
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<th>Key:</th>
<th>1</th>
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<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly agree</td>
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<tr>
<td>33.</td>
<td>Teaching provides an opportunity for promotion.</td>
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<td>34.</td>
<td>I am responsible for planning my daily lessons.</td>
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<td>35.</td>
<td>Physical surroundings in my school are unpleasant.</td>
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<td>36.</td>
<td>I am well paid in proportion to my ability.</td>
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<td>37.</td>
<td>My colleagues are highly critical of one another.</td>
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<td>38.</td>
<td>I do have responsibility for my teaching.</td>
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<td>39.</td>
<td>My colleagues provide me with suggestions or feedback about my teaching.</td>
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<td>40.</td>
<td>My immediate supervisor provides assistance for improving instruction.</td>
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<td>41.</td>
<td>I do not get cooperation from the people I work with.</td>
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<td>42.</td>
<td>Teaching encourages me to be creative.</td>
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<td>43.</td>
<td>My immediate supervisor is not willing to listen to suggestions.</td>
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<td>44.</td>
<td>Teacher income is barely enough to live on.</td>
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<td>45.</td>
<td>I am indifferent toward teaching.</td>
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<td>46.</td>
<td>The work of a teacher is very pleasant.</td>
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<td>47.</td>
<td>I receive too many meaningless instructions from my immediate supervisor.</td>
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<td>48.</td>
<td>I dislike the people with whom I work.</td>
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<td>49.</td>
<td>I receive too little recognition.</td>
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<td>50.</td>
<td>Teaching provides a good opportunity for advancement.</td>
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<tr>
<td>51.</td>
<td>My interests are similar to those of my colleagues.</td>
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<td>disagree</td>
<td></td>
<td>(neither</td>
<td>nor agree)</td>
<td>agree</td>
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<tr>
<td>52.</td>
<td>I am not responsible for my actions.</td>
<td>1 2 3 4 5</td>
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<td>53.</td>
<td>My immediate supervisor makes available the material I need to do my best.</td>
<td>1 2 3 4 5</td>
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<td>54.</td>
<td>I have made lasting friendships among my colleagues.</td>
<td>1 2 3 4 5</td>
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<td>55.</td>
<td>Working conditions in my school are good.</td>
<td>1 2 3 4 5</td>
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<td>56.</td>
<td>My immediate supervisor makes me feel uncomfortable.</td>
<td>1 2 3 4 5</td>
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<td>57.</td>
<td>Teacher income is less than I deserve.</td>
<td>1 2 3 4 5</td>
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<td>58.</td>
<td>I try to be aware of the policies of my school.</td>
<td>1 2 3 4 5</td>
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<td>59.</td>
<td>When I teach a good lesson, my immediate supervisor notices.</td>
<td>1 2 3 4 5</td>
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<td>60.</td>
<td>My immediate supervisor explains what is expected of me.</td>
<td>1 2 3 4 5</td>
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<td>61.</td>
<td>Teaching provides me with financial security.</td>
<td>1 2 3 4 5</td>
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<td>62.</td>
<td>My immediate supervisor praises good teaching.</td>
<td>1 2 3 4 5</td>
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<tr>
<td>63.</td>
<td>I am not interested in the policies of my school.</td>
<td>1 2 3 4 5</td>
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<td>64.</td>
<td>I get along well with my students.</td>
<td>1 2 3 4 5</td>
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<tr>
<td>65.</td>
<td>Pay compares with similar jobs in other school districts.</td>
<td>1 2 3 4 5</td>
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<tr>
<td>66.</td>
<td>My colleagues seem unreasonable to me.</td>
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