

**STRESS AND SELF-EFFICACY OF SPECIAL EDUCATION AND GENERAL
EDUCATION STUDENT TEACHERS DURING AND AFTER
THE STUDENT TEACHING INTERNSHIP**

A Dissertation

by

KIMBERLY LYNN DICKERSON

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2008

Major Subject: Educational Administration

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Approved by:

Chair of Committee,
Committee Members,

Christine A. Stanley
Bryan R. Cole
Chanda Elbert
Homer Tolson
Jim Scheurich

Head of Department,

May 2008

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ABSTRACT

Stress and Self-Efficacy of Special Education and General Education
Student Teachers During and After the Student Teaching Internship. (May 2008)

Kimberly Lynn Dickerson, B.S., University of Houston, Clear Lake;

M.S., University of Houston, Clear Lake

Chair of Advisory Committee: Dr. Christine A. Stanley

The purpose of this study was to determine if special education and general education student teachers differed significantly in stress and self-efficacy during and following the student teaching semester. The institutional population was special education and general education student teachers at the top ten teacher producing universities in Texas and the sample was drawn from the four institutions which agreed to participate. Student teachers in these institutions were emailed a link to the survey site. The pretest resulted in a response rate of 16.5%, with 59 analyzable responses from participants. The posttest resulted in a response rate of 10%, with 36 analyzable responses from participants. Data from 23 student teachers completed the stress pretest and posttest survey, and 22 student teachers completed the self-efficacy pretest and posttest survey. Data were analyzed using Friedman's ANOVA and Wilcoxon Signed Ranks Test.

The survey contained two instruments, the Teacher Stress Inventory, and the Teacher Self-Efficacy Scale; and a researcher-developed demographic information sheet. Student teachers were asked to respond to questions pertaining to stress, as well as to how much influence student teachers have with certain aspects of the learning environment. Data analysis utilized descriptive and nonparametric inferential statistics to draw conclusions.

Among the major research findings were:

1. General and special education student teachers were significantly more stressed and demonstrated higher levels of self-efficacy from pretest to posttest.
2. Stress was most often caused by poorly motivated students and by students not trying to the best of their abilities.
3. Self-efficacy was highest for the Disciplinary Self-Efficacy Subscale.
4. Special education student teachers did not differ significantly in either stress or self-efficacy from pretest to posttest.
5. General education student teachers differed significantly in both stress and self-efficacy from pretest to posttest.

The results of this study may provide a catalyst for further research examining the interplay between stress and self-efficacy, specifically for special education student teachers, and ultimately produce additional findings that may inform student teacher curricula. Additionally, the results may help inform

teacher preparation programs about methods to help mediate stress in the early stages of stress onset.

DEDICATION

This dissertation is dedicated to my parents Mr. Herman and Dr. Alice S. Hill, without whom I would have never been able to complete this project. I am not sure where to begin or what I can say that you do not already know. I can say that with you, I have been truly, *truly* blessed.

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To any family and friends who I may have forgotten to mention, please, please charge it to my head and not my heart. My heart has not forgotten.

“For everyone to whom much is given, from him much will be required.”

- Luke 12:48, KJV

TABLE OF CONTENTS

	Page
ABSTRACT	iii
DEDICATION	vi
ACKNOWLEDGEMENTS	vii
TABLE OF CONTENTS	x
LIST OF TABLES	xiii
LIST OF FIGURES	xv
CHAPTER	
I INTRODUCTION	1
Statement of the Problem	4
Purpose of the Study and Research Hypotheses	6
Operational Definitions	8
Limitations	10
Significance	10
Contents of the Dissertation	11
II REVIEW OF THE LITERATURE	12
Stress	15
Burnout	19
Stress in the teaching profession	20
Stress in preservice and student teachers...	22
Comparison of stress in general and special educators	26
Self-efficacy	27
Self-efficacy in the teaching profession	31
Self-efficacy of preservice educators and student teachers	34
Special Education	37
Special education history	38
What is special education anyway?	39
Discussions in special education	41

CHAPTER		Page
	Special education student teaching and the preparation program	43
	Relationships between Variables	46
III	METHODOLOGY	48
	Population	49
	Initial sampling plan	50
	Sample	51
	Instrumentation	57
	Procedure	65
	Data Analysis	67
IV	RESULTS OF THE STUDY	73
	Preliminary Analysis	75
	Findings for Research Hypothesis 1	79
	Findings for Research Hypothesis 2	92
	Findings for Research Hypothesis 3	92
	Findings for Research Hypothesis 4	103
	Findings for Research Hypothesis 5	103
	Findings for Research Hypothesis 6	105
	Findings for Research Hypothesis 7	107
	Findings for Research Hypothesis 8	109
V	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	112
	Methodology	114
	Summary and Discussion of Findings	115
	Conclusions	136
	Recommendations for Teacher Education Program Personnel	138
	Recommendations for Further Research	141
	Closing Remarks	145
	REFERENCES	146

	Page
APPENDIX A: PERMISSION LETTERS TO USE AND INCLUDE INSTRUMENTS IN DISSERTATION	160
APPENDIX B: TEACHER STRESS INVENTORY	166
APPENDIX C: TEACHER SELF-EFFICACY SCALE	172
APPENDIX D: DEMOGRAPHIC DATA FORM	178
VITA	181

LIST OF TABLES

TABLE		Page
1	Frequency of Gender, Race, and Degree Attainment for Pretest and Posttest Samples	53
2	Frequency of Grade Level and Subject Areas Assignment, and Specialization and Specialization Areas for the Pretest and Posttest Samples	54
3	Frequency of Gender, Race and Degree Attainment for the Pretest-Posttest Group	55
4	Frequency of Grade Level and Subject Areas Assignment, and Specialization and Specialization Areas for the Pretest-Posttest Samples	56
5	Pearson's Correlation between Stress and Self-Efficacy for Pretest Data	75
6	Ranks for Variables of Stress and Self-Efficacy for Pretest Only and Pretest-Posttest Group	77
7	Mann-Whitney U Test Statistics	77
8	Ranks for Variables of Stress and Self-Efficacy for Posttest Only and Pretest-Posttest Group	78
9	Mann-Whitney U Test Statistics	78
10	Descriptive Statistics: Stress	80
11	Friedman's ANOVA: Stress	80
12	Subscale Means for Stress Pretest and Posttest	82
13	Individual Stress Item Averages	85
14	Descriptive Statistics: Self-Efficacy	93
15	Friedman's ANOVA: Self-Efficacy	93

TABLE		Page
16	Subscale Means for Self-Efficacy Pretest and Posttest	95
17	Individual Self-Efficacy Item Averages	97
18	Descriptive Statistics: Special Education Student Teachers, Stress Pretest and Posttest	104
19	Wilcoxon Signed Ranks Test: Special Education Student Teachers, Stress	104
20	Test Statistic: Special Education Student Teachers, Stress	105
21	Descriptive Statistics: Self-Efficacy of Special Education Student Teachers Pretest and Posttest	106
22	Wilcoxon Signed Ranks Test, Special Education Student Teachers Self-Efficacy	106
23	Test Statistics: Special Education Student Teachers, Self-Efficacy	107
24	Descriptive Statistics: Stress General Education Student Teachers	107
25	Wilcoxon Signed Ranks Test: General Education Student Teachers, Stress	108
26	Test Statistics: General Education Student Teachers, Stress	109
27	Descriptive Statistics for Self-Efficacy	109
28	Wilcoxon Signed Ranks Test: General Education Student Teachers, Self-Efficacy	110
29	Test Statistics: General Education Student Teachers Self-Efficacy	110

LIST OF FIGURES

FIGURE		Page
1	Scatterplot of Mean Pretest and Posttest Stress Response Scores	91
2	Scatterplot of Mean Pretest and Posttest Self-Efficacy Response Scores	102

CHAPTER I

INTRODUCTION

Recently, teacher education programs have been challenged as to their relevancy in preparing classroom teachers (Brownell, Ross, Colón, & McCallum, 2005). However, most teacher education programs in the United States continue to require a student teacher internship. During the internship, students participate actively in most all aspects of the teaching profession and as such, become immersed in the daily activities of teaching. Student teachers gain experience in classroom management, lesson plan development, interaction with students, other faculty, administrators and parents, class preparation, classroom instruction, student evaluation, grading, resource management, faculty meetings, counseling of students, and overall professionalism. These activities are common and standard in most teacher education programs.

Intrinsic in these student teacher internship experiences is an expectation that the student teacher will be able to grasp the fundamentals of the student teaching internship activities, as well as apply the theory acquired in didactic classes. Students, when challenged with these experiences, often report feelings of stress (Gold, 1985; MacDonald, 1992). While student teachers have reported that stress is caused by not knowing the expectations of the

This dissertation follows the style and format of the *Journal of Educational Research*.

cooperative teacher, not understanding evaluation procedures, unclear role expectations, and limited time to talk with the cooperative teacher about classroom issues (MacDonald, 1992), speculations are that stress also may be related to limited social cognitive behaviors (i.e. self-efficacy), which may have the propensity to affect the student teacher's classroom effectiveness (Fives, Hamman, & Olivarez, 2005; Murray-Harvey, Slee, Lawson, Silins, Banfield, & Russell, 2000).

Juxtaposed to self-efficacy and stress is the type of education program (general education vs. special education) in which the student is enrolled. While research has been conducted to address the stress level of student teachers, little work has been conducted to determine whether the stress level differs based on the type of education program (general education vs. special education) and the self-efficacy of the student. The type of program is especially important since researchers suggest that special education teachers exhibit higher levels of stress than general education teachers (Lazarus, 2000). Thus, although a certain level of stress is expected during the internship, it is important for faculty in higher education, as well as administrators and policy-makers, to understand the interplay between stress and self-efficacy from the perspective of the student teachers as well as the objectives of the educational program so that these issues may be addressed as part of the preservice program.

Stress is "the nonspecific (that is, common) result of *any* demand upon the body" be it a mental or somatic demand for survival and the accomplishment

of our aims” (Selye, 1932, p. vii). This description of stress was expanded upon by Levi (1972) as being “... one of the mechanisms suspected of leading under certain circumstances to disease” (p. 11). Although MacDonald (1992) has examined stress as it relates to student teachers engaged in their internship from the perspective of the educational program, it is equally important to know the mental demands that are placed on student teachers. The research in this area has been equivocal as it relates to stress and the student teacher with some researchers demonstrating that classroom teaching and teaching experience can reduce anxiety when the student is engaged in the teaching activity over time (Morton, Vesco, Williams & Awender, 1997). In contrast, other researchers have shown no difference in anxiety as it relates to the length of the internship (Silvernail & Costello, 1983). These results suggest there is still a need to examine stress as it relates to the student teacher and to determine whether the stress differs between general education and special education students.

Self-efficacy, as depicted by Bandura (1997a), is the belief in oneself that he or she has the ability to affect outcomes that pertain to him or her. In a study in which the self-perceptions of special education student teachers were examined, Brown (2003) found that those who completed their internships in elementary schools felt much better prepared than special education student teachers who interned in middle or high schools. However, one strategy the

elementary teachers used to help themselves feel better prepared was to integrate their students' lives into their own.

Beliefs are that the self-efficacy of preservice special education teachers differs significantly from that of general education teachers, and that some of the previously discussed approaches might be used to inform special education teacher curricula. Therefore, a student teacher with a stronger sense of self-efficacy believes that she or he has the capacity to positively influence the learning of his or her students.

Researchers seem to suggest that stress is higher in special education teachers than in general education teachers (Eichinger, 2000; Lazarus, 2006) and that self-efficacy is an attribute of high quality special education teachers. Given these findings associated with teachers who are in service, and the aforementioned research associated with student teachers, a framework and a rationale are provided in which to study the experiences of stress and self-efficacy in special education and general education student teachers during and immediately following the student teaching internship.

Statement of the Problem

While considerable research has been conducted on the self-efficacy and stress of general education *student* teachers (Fimian, 1987; Fives, Hamman, & Olivarez, 2005; Gold, 1985; Hoy & Spero, 2005; Hughes, 2006; Paese & Zinkgraff, 1991), much less work has been conducted on the self-efficacy and stress associated with *special education student* teachers. MacDonald (1992)

has shown that many student teachers consider the teaching internship as the most stressful part of their teacher education program. Stress caused by the program has been the focus of much of the previous research (Fives, Hamman, & Olivarez, 2005; Gold, 1985), with a large portion of the research regarding student teacher internship programs centered on the cooperating teacher and college supervisor (Fives, Hamman, & Olivarez, 2005). Other research has shown that student teachers who feel ill-prepared exhibit higher levels of stress during their teaching internship than those who believe they were prepared adequately (Fimian, 1987b).

It has been made clear within the literature that the activities of the teacher internship program are a major source of stress experienced by the student teachers. Even with this knowledge, student teachers maintain that the internship experience is stressful. Given that student teachers have been examined as a group when stress is studied and discussed in the literature, and given that special education teachers have higher stress levels than general education teachers, as is implied within the literature, it seems prudent to examine the stress levels of each of these student teacher groups individually. Further, since the internship program and associated learning activities have been shown to be stressful, it seems important to examine the social cognitive behavior (e.g. self-efficacy) of the student, which may also influence the stress level of the experience.

Stress scholars and other researchers have shown that stress can affect individuals' wellbeing (Fives, Hamman, & Olivarez, 2005; Gold, 1985; Lazarus, 2006; Maslach & Jackson, 1981; Selye, 1932) and may also be related to their self-efficacy (Fives, Hamman, & Olivarez, 2005). Understanding stress and self-efficacy as they relate to special education student teachers may provide knowledge to refine special education curricula and ultimately inform policy that influences special education as it relates to higher education.

Purpose of the Study and Research Hypotheses

The purpose of this study was to determine if special education and general education student teachers differed significantly in stress and self-efficacy during and following the student teaching semester. Specifically, the student teacher populations at four of the top ten teacher producing higher education institutions in Texas were examined in this study within the context of the following research hypotheses:

- H1: The *stress* levels of special education student teachers will be significantly higher than that of general education student teachers during and immediately following the completion of the student teaching internship.
- H2: There will be a significant interaction between the type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the stress measures are administered.

- H3: There will be a significant difference in the *self-efficacy* of special education student teachers and general education student teachers during and immediately following the completion of the student teaching internship.
- H4: There will be a significant interaction between type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the self-efficacy measures are administered.
- H5: The *stress* levels of special education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.
- H6: The *self-efficacy* of special education student teachers will significantly improve following the completion of the student teaching internship.
- H7: The *stress* levels of general education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.
- H8: The *self-efficacy* of general education student teachers will significantly improve following the completion of the student teaching internship.

Operational Definitions

For the purposes of this study, the following definitions were used:

General Educator— A student teacher who is capable of instructing students who do not have disabilities. These educators often have contact and experience instructing students with disabilities, but usually are not specifically trained and certified to do so. For the purposes of this study, general educators were defined as those students who were enrolled in a general education teacher preparation program and were engaged in the student teaching internship.

Preservice Teacher—A student in a teacher education program who may or may not be currently student teaching or partaking in the teaching field experience. For the purposes of this study, preservice teachers were those student teachers who were in the teacher preparation program.

Self-efficacy—“Belief in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997a, p.3). For the purpose of this study, self-efficacy was operationally defined in terms of the Teacher Self-Efficacy Scale developed by Albert Bandura. See the operational definition of the *Teacher Self-Efficacy Scale* below, and a copy in Appendix C.

Special Educator—A student teacher who is capable of instructing students with disabilities, and is familiar with the needs of students with disabilities, including the use of assistive technology (State Board for Educator Certification, 2001). For the purposes of this study, special educators were defined as those

students who were enrolled in a special education teacher preparation program and were engaged in an internship.

Specialization—For the purposes of this study, specialization is the student teacher’s educational program leading to certification as either a general educator or special educator.

Specialization Area—The subset of courses taken by a student teacher who is certifying as a special educator.

Stress—“The nonspecific (that is, common) result of *any* demand upon the body” (Selye, 1932, p. vii). For this study, stress was operationally defined in terms of the Teacher Stress Inventory. See the operational definition of the *Teacher Stress Inventory* below, and a copy in Appendix B.

Student Teachers—Those who were preparing to become teachers and were participating in a teaching field experience, or internship, under the supervision and tutelage of an experienced classroom teacher. For the purposes of this study, all students were currently enrolled and participating in student teaching.

Student Teaching Internship—The field experience portion of the teacher education program which requires student teachers to complete a practice teaching semester under the supervision of an experienced classroom teacher. In this study, internship was defined as one semester of field experience for students in their teacher education program.

Teacher Self-Efficacy Scale— A self-report instrument designed to assess teachers' own beliefs of how they can influence what happens in their classrooms.

Teacher Stress Inventory— A self-report instrument designed to assess teachers' origins and manifestations of stress. Also known as the *Teacher Concerns Inventory* (Fimian, 1987a).

Limitations

1. The results of this study may be generalizable only to the four Texas teacher education programs which provided student teachers for the study.
2. The Teacher Stress Inventory was normed on teachers rather than student teachers and was utilized in a student teacher capacity.
3. The demographic data rely on self-reporting, and participants may not always respond truthfully or completely.

Significance

If the outcomes of this study reveal differences between special education and general education student teachers' stress and self-efficacy on the levels of stress and self-efficacy, then researchers can conduct studies to determine strategies to reduce stress and enhance self-efficacy during preservice education. Ultimately these strategies can be used to inform special education and general education teacher curricula. Thus, while the outcomes of this study

might inform both special and general education preservice curricula, emphasis in this research study was on special education student teachers.

Contents of the Dissertation

The dissertation is divided into five major chapters. The introduction, statement of the problem, purpose and research hypotheses, operational definitions, limitations, and the significance for the study are presented in Chapter I. In Chapter II is presented a review of the literature covering stress, self-efficacy, stress and self-efficacy in all student teachers, and stress and self-efficacy in general and special educators. Presented in Chapter III are an overview of the research design, and methodology and procedures utilized in identifying the study population and sample, data collection, and data analysis. The results of the data analysis are presented in Chapter IV, and the findings, summary, implications, and recommendations for further research are presented in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

Literature involving teacher education often examined, with varying degrees of depth, teacher education programs (Gold, 1985; Keener & Bargerhuff, 2006; Silvernail & Costello, 1983; Wadlington, Slaton, & Partridge, 1998). Additionally, there might have been the intermittent intense focus on stress or teacher efficacy. Often, researchers studying stress or teacher efficacy examine these constructs from the perspective of the student teaching classroom or the college classroom. More often, however, researchers, examine these constructs from the perspective of the practicing *teacher*. Accordingly, more research exists that concentrates on examining the amount of stress *teachers* regularly encounter, as well as whether teachers believe they have the necessary resources to sufficiently cope with stress, yet still maintain a belief that they have the ability to affect the learning of their students (teacher efficacy). However, researchers less frequently examine the link between the stress student teachers encounter and the self-efficacy of the student teachers. Therefore, even less often is the link between stress and self-efficacy of *special education* student teachers analyzed.

A search of the literature relating to associations *between* stress and self-efficacy of student teachers uncovered studies focused on burnout and self-efficacy (Evers, Brouwers, & Tomic, 2002), stress and teacher efficacy (Hughes, 2006), burnout and teacher efficacy (Hoy & Spero, 2005), stress, self-efficacy or

teacher efficacy, and other constructs (Chan, 2002; Fives, Hamman, & Olivarez, 2005), such as one study about how teacher efficacy and stress during student teaching affects physical education student teachers (Paese & Zinkgraff 1991), and even two studying locus of control and perceived stress (Sadowski, Blackwell, & Willard, 1986; Woolfolk & Hoy, 1990). Of course, there was a plethora of literature examining teacher efficacy *or* teacher stress (Abidin & Robinson, 2006; Dussault, Deaudelin, Royer, & Loiselle, 1997; Eichinger, 2000; Evers, Brouwers, & Tomic, 2002; Fimian, 1985; Goddard, Hoy, & Hoy, 2000; Gugliemi & Tatrow, 1998; Kyriacou, 2001; Ngidi & Sibaya, 2002; Pithers & Soden, 1999; Ravichandran & Rajendran, 2007; Wu, Li, Wang, Wang, & Huangyuan, 2006), as well as literature exploring student teacher stress, student teacher efficacy, and first year teacher stress and first year teacher efficacy. Consequently, the relative lack of literature studying any potential link between special education student teacher stress and self-efficacy was surprising.

Other areas widely studied and akin to, but not focused on in this study, were locus of control, teacher efficacy, and burn out. Relationships have been shown to exist between locus of control and perceived stress, as well as between stress and teacher efficacy, and burnout and teacher efficacy. Researchers have found that there is a negative correlation between locus of control, or an individual's beliefs that outcomes are based on the individual's behaviors, and perceived stress (Sadowski, Blackwell, & Willard, 1986). Other researchers have shown that there is a positive relationship between stress or

anxiety and teacher efficacy (Paese & Zinkgraff, 1991) while still others have shown that there is a significant correlation between burnout (extended periods of unreconciled stress) and teacher efficacy (Fives, Hamman, & Olivarez, 2005). While these areas will not be discussed in depth in this study, they provide a foundation on which to further build the current study.

Chapter II focuses on stress and self-efficacy of special education and general education student teachers, and is divided into four major sections. The first section provides a review and synthesis of the literature on the meaning of stress, stress in the teaching profession, stress in student teachers, and a comparison of stress in special education and general education student teachers is presented. Section two reviews the self-efficacy literature, again providing a general overview of efficacy, followed by self-efficacy in the teaching profession, and ending with a discussion of self-efficacy in preservice educators and student teachers. The third section presents a brief history of special education, followed by a clarification of what special education is, discussions currently happening in education, and concluding with special education teaching and the preparation program. Finally, section four provides an explanation of the relationships among the variables and why this study is important.

Of special note however, is that previous student teacher studies rarely, if ever, disaggregated data, which would allow for categorizing and reporting of student teachers by specialization area (e. g., general education, special

education, bilingual education). More often, the results of studies undertaken to examine student teachers have been reported in aggregate. That is, any effects of stress or teacher efficacy on student teachers have been reported for student teachers as an entire group. Therefore, it is possible that special education or bilingual student teachers may have been represented in previous research examining student teachers; however, based on information provided in the literature, it is not possible to determine if this is the case. As a result, it is this void in the literature, the relationship between stress and self-efficacy in special education student teachers, which this research seeks to fill.

Stress

This section is organized chronologically around the definitions of stress in the context of stress in student teachers. This section also briefly explores important constructs related to the concept of stress, such as burnout, as burnout may prevent a student teacher from ever beginning a teaching career. Finally, this section on stress seeks to compare the levels of stress in general and special educators, in order to lay a foundation for further exploration of the variables of interest for this study.

Various researchers define stress differently, especially when those researchers are from different disciplines. Hinkle (1973) explained that the term “stress” has been around since the 1600’s and has a very different meaning than that of today. During the 17th century, stress referred to adversity or hardship, whereas in the 18th and 19th centuries stress referred to the force or pressure

applied to an object or an individual's brain (p. 32). Science adopted the latter definition and brought the term into common usage. The term began to show up in Science Disciplines such as physics and engineering where the meaning pertained to elasticity, which incorporated the concepts of "strain" a somewhat mathematical concept relating to the change in size as compared to the original size of an object, and "load" a concept referring to the amount of force required to produce strain. At about the same time, medicine was also using the term "stress" to mean that which caused an illness. The term "stress" as it was being used in physics and engineering was coming into alignment with that of the definition of stress as it was being used in medicine and biology, suggesting that individuals have a physiological response to external stimuli, or those things which cause stress (p.33).

During the course of his research, Selye (1980) defined stress as "the nonspecific (that is, common) result of *any* demand upon the body,' be it a mental or somatic demand for survival and the accomplishment of our aims" (p. vii). Thus, anything that elicited a physiological response caused stress. In 1972, however, Levi expanded upon Selye's definition of stress, stating that it "is one of the mechanisms suspected of leading under certain circumstances to disease" (p. 11). Hence, stress was *scientifically* defined, at least by prominent stress researchers.

Kyriacou (2001) further expanded upon the definitions of Selye and Levi, incorporating these definitions of stress and adding as context the stress

teachers feel while in the course of performing their duties, or teacher stress. Teacher stress, he explained, is that which causes teachers to feel unhappy, anxious, or otherwise depressed, and threatens their security or confidence (p. 28). Obviously, this definition leaves room for interpretation, as what may elicit a stress response in some individuals may fail to do so in other individuals. Therefore, while perceptions of stress, or even what may be considered stressors, vary from individual to individual among those in the teaching profession, particular activities result in a certain amount of stress for most teachers (Kyriacou, 2001).

Importantly, however, definitions of stress continued to evolve and those that began to emerge appeared somewhat unlike previous definitions. Definitions of stress began to incorporate an element of time and pressure, and the scientific definition of stress differed notably from that of the *popular* definition of stress. The popular definition described stress as the pressure to perform tasks within a given time frame, thus resulting in a physiological response (Lupien, Maheu, Tu, Fiocco, and Schramek, 2007). When placed in this context, the definition of teacher stress presented by Kyriacou (2001) more closely resembled the popular definition of stress.

Researchers have found that significant amounts of stress affect learning (Lupien, Maheu, Tu, Fiocco, and Schramek, 2007) and may lead to adverse health effects (Bruno & Frey, 2006; Guglielmi & Tatrow, 1998; Hinkle, 1973). Interestingly, the physiological responses of the body to stress (e.g., mucous

and sweat production, increase in blood pressure, stomach acid secretion, distressed motor skills) are similar to those the body exhibits in response to exposure to pathogens and other diseases assaulting the body (Hinkle, 1973). Moreover, many of the results of repeated or extended exposure to stress may have long term effects.

The long term consequences of stress can be exceptionally adverse, leading to both physical and mental illnesses, burnout, and in some cases, may be a mitigating factor in an early or untimely death. Excessive amounts of stress have been shown to result in or lead to high blood pressure, coronary heart disease, weight gain or loss, heart attack, and other diseases (Bruno & Frey, 2006; Wu, Li, Wang, Wang, & Huangyuan, 2006); headaches, chest pain, and other muscle aches (Bruno & Frey, 2006); and personal and relationship problems (Hughes, 2006) as well as affect the immune system, and in severe cases, may lead to mental illness, depression, and suicide (Baca-Garcia, Parra, Perez-Rodriguez, Sastre, Torres, Saiz-Ruiz, de Leon, 2007; Friedman & Farber, 1992; Bruno & Frey, 2006; Prymachuk & Richards, 2007). Interestingly, while the damaging physical effects of stress are just recently being studied and understood in significant depth, the effects of stress upon the body were obvious in results of research undertaken by Hinkle (1973). More often, however, excess stress leads to burnout.

Consequently, it is imperative to the efficacy of student teachers that stress be managed; otherwise, this stress may lead to burnout prior to

commencing a career in teaching (Fives, Hamman, & Olivarez, 2005; Gold, 1985). Therefore, a brief discussion of burnout will be included as burnout is very closely related to stress.

Burnout

Burnout, according to Maslach, Schaufeli, and Leiter (2001) is the protracted response to prolonged exposure to unremitting stress in those who work with people (Maslach & Jackson, 1982). There are three components to burnout: exhaustion, inefficacy, and depersonalization. Exhaustion simply refers to a state of tremendous fatigue and is the component most often cited by those who are experiencing burnout. Inefficacy refers to the lack of ability to perform a task with accuracy or efficiency, and is thought to develop concomitantly with exhaustion and depersonalization. Depersonalization is seeing people as less than human or dehumanizing them because of an inability to cope due to insufficient personal resources.

Although burnout is not a variable of interest for this study, it is important to acknowledge, as it is a significant outcome of prolonged, unrelenting exposure to stress. Burnout has been linked to job dissatisfaction, substance abuse and neuroticism though it has been, thus far, difficult to ascertain whether job dissatisfaction is an antecedent or byproduct of burnout (Maslach, Schaufeli, & Leiter, 2001). Nonetheless, burnout leads to ineffectual leadership and ultimately, a strong desire to leave the profession (Guglielmi & Tatrow, 1998; Lazuras, 2006; Mirvis, Graney, Ingram, Tang, 2006).

Stress in the teaching profession

Practicing teachers experience stress related to their daily work activities. This section examines reports of stress by teachers and the effects stress has on their health and teaching performance. Numerous studies have been undertaken examining differing aspects of teacher stress over the course of more than 20 years (Abidin & Robinson, 2002; Borg, 1990; Chan, 1998; Dussault, 1997; Eichinger, 2000; Fimian, 1985; Guglielmi and Tatrow, 1998; Hughes, 2006; Hutchinson, 1998; Kyriacou, 2001; Lazuras, 2006; McKinney-Toodle, 2001; Montgomery & Rupp, 2005; Ndigi & Sibaya, 2002; Ravichandran & Rajendran, 2007; Wu, Li, Wang, Wang, & Huangyuan, 2006; Zurlo, Pes, & Cooper, 2007). Rarely has any distinction been made between *eustress*, or stress that is positive and motivating, and *distress*, or stress that is negative and inhibiting. Thus, the vast majority of studies, as does this study, focus on stress that is negative, or distress, and either the consequences of exposure to negative stress; those things that cause stress; or how to cope with stress. Teacher stress, as stated previously, is that which makes a teacher anxious or otherwise uneasy during the course of performing daily duties and activities (Kyriacou, 2001, p.28). Copious amounts of research, as well as significant anecdotal evidence, continue to indicate that teaching is an exceptionally stressful profession and often leads to illness and high turnover (Borg, 1990; Lazuras, 2006; Montgomery & Rupp, 2005).

Stress is usually caused by constraints within the workplace, interpersonal conflict, paperwork, professional isolation, student misbehavior, time management, and work overload, to name but a few (Dussault, Deaudelin, Royer, & Loiselle, 1997; Kyriacou, 2001; Lazuras, 2006; Zurlo, Pes, & Cooper, 2007), but also by trying to stay on track with the curriculum, address the needs of all students, and make sure students are prepared for high stakes standardized exams (Hughes, 2006). Dussault, Deaudelin, Royer, and Loiselle (1997) found that in a study of 1124 teachers, professional isolation and stress were positively correlated, meaning that as isolation increased, so did stress. Additionally, while these teachers had a moderate amount of stress, they felt that many of the causes of their stress were beyond their control.

A review of the literature indicated that teachers with excessive amounts of stress tended to have more physical ailments than did teachers who had not been subjected to excessive stress. These ailments tended to be similar to those found in the general stress literature, such as headaches, overeating, irritability, smoking, sleep disturbances, job absenteeism, and depression (Borg, 1990; Chan, 1998; Guglielmi & Tatrow, 1998; Lazuras, 2006; Hughes, 2006).

Overall, these findings tend to suggest that practicing teachers experience physical and mental ailments when exposed to, and or experience negative stress caused, in part, by job related activities. Thus, it is imperative that student teachers, who suffer not only from the same ailments related to stress from teaching as do some practicing teachers, but also from the stress of

student teaching, be presented with opportunities to gain confidence during the process of student teaching.

Stress in preservice and student teachers

Interestingly, the topic of stress in student teachers has been studied for several decades, and the issues that cause stress in student teachers such as not understanding roles expectations; addressing differences in student learning; little time to discuss classroom matters with the cooperating teacher; maintaining discipline; pupil misbehavior and classroom disruptions; and unclear evaluation procedures (Admiraal, Korthagen, & Wubbels, 2000; MacDonald, 1992; Morton, Vesco, Williams, & Awender, 1997; Wadlington, Slaton, & Partridge, 1998) remain the same. In this section, the literature is organized around research findings related to the cause of and methods for reducing stress in student teachers. Numerous researchers have examined stress in student teachers as a group (Campbell & Uusimaki, 2006; Chan, 2002; Fives, Hamman, & Olivarez, 2005; Gold, 1985; Hoy & Spero, 2005; MacDonald 1992; Silvernail & Costello, 1983; Sadowski, Blackwell, & Willard, 1986), by either examining stress specifically or as a component or consequence of other constructs being studied.

In a study of 83 student teachers, Chan (2002) found that stress was significantly correlated with psychological distress, and psychological distress was significantly correlated with social support, meaning that social support could act as a nominal moderator of stress, and that social support could

moderate the amount of psychological distress associated with stress. Similarly, Fives, Hamman, and Olivarez (2005) also found in a study using 49 student teachers that students receiving plenty of guidance exhibited lower levels of unreconciled stress.

Other studies have also been conducted investigating stress in discipline specific student teachers. Included among these studies are physical education student teachers (Paese & Zinkgraff, 1991), geography student teachers (Comey, 2006), mathematics student teachers (Uusimaki & Nason, 2004), and music teachers (Bechen, 2000).

In a study examining 35 physical education student teachers (Paese & Zinkgraff, 1991) the student teachers were shown to have decreased stress during the course of student teaching, indicating that they more clearly understood their roles as classroom teachers, were not overcome by teaching responsibilities, and felt positively about the student teaching experience. Researchers examining geography teachers, however, found that much of the student teachers' stress was related to content specific concerns and subject matter complexity (Comey, 2006). Similarly, Uusimaki and Nason (2004) found in a study of 18 preservice mathematics teachers that stress was most often caused by having to teach mathematics, the actual process of relaying mathematical concepts to the students. For most of the student teachers, the mathematical concept which caused the most anxiety was algebra.

Certainly each of the above mentioned studies yields invaluable data which contribute to the student teacher educational literature. However, comparatively few studies are available for special education preservice teachers, a group that is entering one of the most stressful, and therefore more challenging, areas of teaching. What sparse literature is available regarding stress and preservice special education student teachers was associated with preparing inclusion teachers (teachers who will teach special education students in the general education classroom) (Chong Suk Ching, Forlin, & Mei Lan, 2007) or with examining student teachers' perceptions and attitudes about including special education students in the general education classroom (Hastings & Oakford, 2003; Romi & Leyser, 2006).

Gold (1985) suggested that stress, and subsequently burnout may begin in student teaching, and Fives, Hamman, and Olivarez (2005), in an answer to Gold's work from 20 years prior, found a similar result. Stress in student teachers tended to have a variety of causes. Often it was associated with misbehaviors or lack of motivation in the students being taught, inadequate training, lack of clearly defined expectations, professional isolation, communication issues, methods of evaluation, perceived lack of support, and grade level to which the student teachers had been assigned to teach (Fimian, 1987b; Fives, Hamman, & Olivarez, 2005; Gold, 1985; Kyriacou, 2001; MacDonald 1992). Hughes (2006) explained that stress was frequently cited as one of the myriad reasons for a shortage of teachers. This is not only because it

is difficult to recruit people into the teaching profession, but because 30% of certified teachers (student teachers who successfully complete student teaching and pass the certification exam) never go into teaching. Moreover, researchers indicate that student teachers are extremely stressed prior to commencing student teaching, and that often little is done to combat that anxiety prior to student teachers entering the classroom (MacDonald, 1992; Wadlington, Slaton, & Partridge, 1998). However, several researchers (Montgomery, 2003; Wadlington, Slaton, & Partridge, 1998; Kyriacou, 2001) suggested methods by which student teachers may attempt to reduce stress. Examples included engaging in problem solving strategies, keeping journals, discussions, and effective time or self management. By learning methods by which to control stress, student teachers may help minimize the negative effects of stress. Otherwise, the stress that student teachers feel may ultimately manifest in the classroom.

Doyal and Forsyth (1973) and Hart (1987) as cited in Morton, Vesco, Williams, and Awender (1997) reported that positive correlations existed between student teacher anxiety and student anxiety; and student teacher anxiety and classroom misbehavior. It is this anxiety, this stress, which tended to leave many student teachers frustrated and feeling negatively about ever starting the teaching profession. Ultimately, student teachers who do not effectively manage stress often experience burnout prior to commencing teaching, and in the end, may leave the teaching field permanently (Gold, 1985).

Comparison of stress in general and special educators

Researchers have shown that teachers who are stressed eventually “burnout,” or reach a period of prolonged unremediated stress (Maslach & Jackson, 1981). Additionally, researchers (Embich, 2001; Lazuras, 2006) continue to show there is considerable difference between the amounts of stress general and special educators feel and that it is this stress, combined with other factors, such as inadequate preparation that influence special educators to either leave the special education classroom or the teaching field entirely.

Lazuras (2006) and Embich (2001) found that special education teachers experienced more stress and higher levels of burnout than general education teachers. Embich (2001), in a study of 300 special education teachers, found that special education teachers experienced high levels of emotional exhaustion and low levels of depersonalization, on two of the three subscales on the Maslach Burnout Inventory, regardless of the type of special educator. These high scores were due to three primary reasons: role ambiguity, perceived lack of administrative support, and workload (p. 65). Role ambiguity pertained to the autonomy and accountability of the special educator and how tasks should be accomplished within the confines of those often conflicted structures. Lack of perceived administrative support concerned how much confidence special educators felt their principal had in their abilities. Workload related to course preparation, parent meetings, grading papers, and other activities in which teachers engaged in on a daily or weekly basis.

In a study of 70 general and special educators, 36 of whom were general educators, and 34 of whom were special education teachers, special education teachers consistently scored higher on all stress measures with the exception of negative affectivity (Lazuras, 2006). Negative affectivity was the inclination of teachers to have negative emotions while at work. One measure, organizational constraints, showed that the difference in the scores was significantly different, and was not due to chance. Higher scores in this area indicated special education teachers experienced more stress than their general education counterparts. Organizational constraints, according to Lazuras (2006), pertained to rules and procedures in an organization, as well as support from both colleagues and administrators. However, very little research existed to indicate whether any of the stress special education teachers encounter has to do with student teaching or personal self-efficacy.

Self-efficacy

Studied for over 25 years, efficacy is a topic of significance to researchers who study educators or prospective educators, as it is to those who study people in other professions. There are different types of efficacy, such as personal efficacy, proxy efficacy, and collective efficacy (Bandura, 2000). Personal efficacy pertains to the degree to which individuals' actions affect their own lives. Proxy efficacy is a process by which individuals deliberately allow others to make decisions that are expected to positively affect the group, whereas collective efficacy relates to a type of group mentality, where each group

member has something to contribute in helping to achieve the ultimate, common goal (Roberts, 2000).

Three important components are inherent in efficacy. The first is that individuals possess the pertinent information to make rational, appropriate decisions; the second is that individuals possess the abilities to perform the required actions; and the third is that individuals are capable of acquiring additional information and abilities in different situations, or that individuals are capable of being adaptable (Roberts, 2000). Therefore, those who view themselves as efficacious are generally able to set difficult goals and achieve them, as well as recover from setbacks or failures that arise in the face of attempting to achieve their goals. Additionally, failures are housed internally, rather than externally, meaning that the individual takes responsibility for the failure, rather than placing blame on circumstances beyond individual control (Bandura, 1977).

There are also what may be considered subcategories of efficacy such as self-efficacy or teacher efficacy, as well as combinations of these, for example, teacher self-efficacy. While other researchers have studied self-efficacy within varying contexts (Bong & Clark, 1990; Bong & Skaalvik, 2003; Caprara & Steca, 2005; Fasko & Fasko, 1998; Pajares & Schunk, 2001; Romi & Leyser, 2006), the explanation of self-efficacy most often referenced is that of Albert Bandura and is the one used for the purposes of this study. Self-efficacy is one of many concepts within social cognitive theory that specifically examines the belief that

individuals have the ability to make decisions that produce desired outcomes (Bandura, 1997a). This belief influences individuals' behaviors, thoughts, and self-perceptions. Therefore, those with high self-efficacy beliefs view tasks or assignments as challenges rather than obstacles. By contrast, those with low self-efficacy beliefs have difficulty recovering from failure, and thus view tasks as obstacles or hindrances, rather than opportunities (Bandura, 1977). Additionally, there is an underlying assumption that individuals *use* the talents available to them, rather than being concerned with talents they may or may not possess (Bong & Skaalvik, 2003). Subsequently, the emphasis is on the tasks the individuals believe they have the ability to accomplish, not whether they can actually accomplish the tasks. Moreover, certain additional factors play into individual self-efficacy, such as performance accomplishments or enactive mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal or physiological reactions (Bandura, 1977; Bong & Skaalvik, 2003).

Performance accomplishments or enactive mastery experiences are experiences that lead an individual to believe that particular assignments are within the realm of accomplishment. If previous attempts at accomplishing these types of assignments have led to success, then an individual is likely to believe that he or she has the ability to accomplish similar tasks. Vicarious experience occurs when an individual looks at others who appear to be similar to him or her, and sees that they were able to accomplish similar tasks. Thus, the individual believes he or she also has the ability to accomplish the tasks. Verbal

persuasion is another means by which efficacy judgments are made. If an individual views those who are attempting to persuade him as knowledgeable, then he or she is more likely to believe himself or herself as able to accomplish the task. Finally, emotional arousal or physiological reactions affect individuals' perceptions of belief in accomplishment. Certain physiological responses may negatively impact self-efficacy beliefs (Bandura, 1977; Bong & Skaalvik, 2003).

Additionally, studies have shown that people who believe they have the ability to influence their own outcomes are generally better able to handle adverse situations, their own emotions, and relationships, and ultimately other aspects of their lives. Individual efficacy beliefs determine behavior and subsequent results, as data have shown that efficacy beliefs and change are related (Caprara & Steca, 2005). Self-efficacy is considered a core belief, thus if individuals feel they cannot influence the events that affect them, then they have no inducement to take action (Bandura, 2000).

Often, however, researchers who study educators, both in K12 and higher education, are interested in self-efficacy as it relates to the classroom. Therefore, they often study teacher efficacy or teacher self-efficacy. Teacher efficacy or teacher self-efficacy is the teacher's belief that he or she can affect student learning (Fives, Hamman, & Olivarez, 2005; Tschannen-Moran & Hoy, 2001). This topic is discussed more thoroughly in the section on self-efficacy in the teaching profession.

Self-efficacy in the teaching profession

Several studies have been conducted examining efficacy in the contexts of self-efficacy, teacher efficacy, or teacher self-efficacy (Bandura, 1997a; Chan, 2002; Evers, Brouwers, & Tomic, 2002; Fives, Hamman, & Olivarez, 2005; Goddard, Hoy, & Hoy, House & Jones, 2003; Hoy & Spero, 2005; Hughes, 2006; MacCarty, 2004; Paese & Zinkgraff, 1991; Skaalvik & Skaalvik, 2007; Woolfolk & Hoy, 1990), and teacher efficacy and teacher self-efficacy appear to be used interchangeably.

Additionally, these studies also examined the efficacy beliefs of prospective or beginning (novice) teachers, as well. Teacher self-efficacy is somewhat similar to general self-efficacy but investigated the beliefs that the teacher has the personal ability to produce the desired results in relation to the student and the classroom environment, even with particularly difficult students (Fives, Hamman, & Olivarez, 2005; Tschannen-Moran & Hoy, 2001). There are three areas of teacher efficacy in which teachers may demonstrate levels of efficacy: student engagement, instructional strategies, and classroom management (Tschannen-Moran & Hoy, 2001). Moreover, teacher efficacy is separated into two main factors, general teaching efficacy and personal teaching efficacy (Romi & Leyser, 2006). General teaching efficacy is the teacher's belief that he or she has the ability to produce particular outcomes, understanding that there are constraints such as the student's background. Personal teaching efficacy is the teacher's belief that he or she has the capacity to have an effect

on students' learning. Teachers who are more efficacious are more likely to try new ideas, make modifications to meet the needs of the student, have a more positive classroom environment, and less likely to seek special education services for students (Henson, 2001; Hoy & Spero, 2005; Romi & Leyser, 2006).

Research into educator efficacy initially focused on locus of control (Goddard, Hoy, & Hoy, 2000), which pertains to an individual's beliefs that the results of circumstances are contingent upon personal actions. The locus of control may be either internal, meaning the individual believes he or she affects outcomes; or external, meaning she or he believes others affect what happens to the individual. Following locus of control research was research on efficacy; the two theories were different, but very closely related. However, according to Bandura (1997a), and reiterated by Goddard, Hoy, and Hoy (2000), efficacy pertains to the belief that the individual has the ability to cause particular actions, whereas locus of control pertains to actions affecting outcomes. Thus, they are often perceived to be equal and are related in theory. Empirical research has shown that having information about one will not necessarily yield information about the other (Goddard, Hoy & Hoy, 2000).

The importance of studying efficacy in teachers has been well-documented. Research has shown that teacher efficacy is related to student achievement and that efficacious teachers have a stronger sense of resiliency (Goddard, Hoy & Hoy, 2000; Hoy & Spero, 2005; Skaalvik & Skaalvik, 2007). However, teacher efficacy beliefs appear to be rigid and fairly difficult to modify

once they have been established (Hoy & Spero, 2005). One school of thought is that during teacher preparation programs, efficacy increases and peaks immediately after student teaching.

Several concepts are thought to figure into the efficacy beliefs of educators. Included among these are grade level to which one is assigned, amount of support received, and length of time interning, among other concepts (Brown, 2003; Fives, Hamman, & Olivarez, 2005; Hoy & Spero, 2005; Jung, 2007). The grade level in which student teachers were socialized to the teaching profession made a difference in their feelings of self-efficacy. Student teachers who interned in the elementary schools felt much better prepared than special education student teachers who interned in middle or high schools (Brown, 2003). Similarly, students who felt they received sufficient support during student teaching were more confident during their initial teaching year (Fives, Hamman, & Olivarez, 2005; Hoy & Spero, 2005). Not surprisingly, students who have higher levels of self-efficacy tended to have had longer student teaching experiences, as length of time interning has shown to be a factor in determining levels of self-efficacy (Jung, 2007). Finally, and interestingly, Chan (2002) found that self-efficacy may not necessarily help protect against the negative effects of stress. Although his study found no indication of a significant relationship between the two constructs (his study found the two to be “relatively independent”), he chose not to dismiss the fact that previous studies found evidence to the contrary.

Just as stress in teachers and student teachers may cause adverse health conditions, levels of self-efficacy may also positively or negatively impact the health of both teachers and student teachers. Studying the self-efficacy of teachers, particularly student teachers, is important because understanding the role of the internship on self-efficacy may ultimately be used to inform higher education curriculum, as well as enhance the professional development of student teachers.

Self-efficacy of preservice educators and student teachers

Researchers who examine the teacher self-efficacy of preservice teachers and student teachers often examine other constructs in conjunction with teacher efficacy. Frequently, efficacy, including self-efficacy, is examined with burnout, levels of support, attitudes towards inclusion, self-concept, and control (Bong & Clark, 1990; Fives, Hamman, & Olivarez, 2005; House & Jones, 2003; Hoy & Spero, 2005; Romi & Leyser, 2007; Woolfolk & Hoy, 1990). Often, self-efficacy is seen as being a moderator for stress and burnout, and is frequently discussed with self-concept or self-perception. Thus, it is important to examine the self-efficacy beliefs of prospective teachers, as research has indicated that once those beliefs are established, they are exceptionally difficult to alter (Hoy & Spero, 2005).

Romi and Leyser (2007) conducted a study examining special education inclusion attitudes and self-efficacy beliefs. This study utilized 1,155 Israeli preservice teachers in 11 different teacher education programs. Inclusion is

when special education students are educated with not students who are not disabled. Preservice teacher self-efficacy beliefs differed with regard to gender and ethnicity. Females, as a group, had higher self-efficacy beliefs, and were more receptive to the idea of inclusion. This is believed to be because females are more tolerant, in general, than males; the question then was raised as to whether such self-efficacy findings would hold in careers which typically attract more males. Jewish student teachers demonstrated higher general teaching efficacy scores, whereas Arab student teachers had demonstrated greater personal teaching efficacy scores. The higher score in personal teaching efficacy for Arab women was believed to be a function of female Arab student teachers choosing to work outside of the home. Not surprisingly, special education student teachers were more supportive of inclusion for students with disabilities, and also demonstrated “significantly higher” self-efficacy scores in three areas on the self-efficacy subscale: efficacy pertaining to low achievers, personal efficacy, and efficacy pertaining to social interactions (p. 98). Interestingly, this study lends support to the belief that many of the issues in other countries around special education in general, and inclusion in particular, are similar to student teachers in the United States.

Moreover, Hoy and Spero (2005) found that teacher efficacy increased during the teacher preparation program, and continued to increase during student teaching. However, once student teachers became teachers, efficacy began to decrease. The decrease in efficacy was believed to be attributable to

the amount of support received during the first year of teaching. Of particular note for this study however, was that the study was longitudinal and followed 53 students from the beginning of the teacher preparation program through the end of the first year of teaching. Participants were assessed at the beginning of the program, after student teaching, and at the end of the first year of teaching. Although, the sample was small, the reliability of the instruments was retained (Hoy & Spero, 2005), suggesting that repeated administrations of the instrument in similar contexts should yield consistent results.

Fives, Hamman, and Olivarez (2005) administered four instruments and a background information form to 49 student teachers. The study sought to determine if there were relationships between efficacy beliefs, amount of support and levels of burnout; if these variables change during student teaching; and whether differences existed among these variables depending on levels of support. Efficacy and burnout were found to be negatively correlated and the relationship intensified over time. Thus, as student teachers felt more efficacious, they were less likely to experience burnout. Moreover, measures which might increase the efficacy of student teachers may need to be written into teacher education curriculum by means of varying experiences.

It is important to note that while each of the above studies, as well as several others, may have assessed special education student teachers, only one study (Romi & Leyser; 2007), in the literature available, explicitly stated that special education students are being studied. Thus, other studies that may

include special education student teachers' self-efficacy may be commingled with data which include all student teachers.

The literature seemed to suggest that stress is higher in special education teachers than in general education *teachers* and that self-efficacy is an attribute of high quality special education *teachers* (Carson, Lee, and Schroll, 2004; Lazuras, 2006), whereas other data seemed to suggest that special education teachers experience excessive stress, without respect to other groups (Eichinger, 2000; Goetzinger, 2006; Plash & Piotrowski, 2006).

It is somewhat perplexing that the self-efficacy or teacher efficacy in special education student teachers is rarely examined. Given the paucity of literature on self-efficacy in special education students, and given the findings associated with special education teachers who are in service, a framework or context is provided in which to examine the special education student teachers' experiences and use data gleaned from the results of the research to inform special education teacher curricula.

Special Education

Special education is a particularly stressful area for K12 teacher educators, K12 teachers, and special education student teachers. This stress frequently begins in the student teaching program, and often continues throughout the special educator's career. Additionally, based on the literature, there is reason to believe that stress differs significantly from that of general education teachers. Several researchers have studied special educators, but

little research has been uncovered that examined special education student teachers in depth. There is scant research examining special education teacher preparation, and therefore a concrete literature base does not exist (Brownell, Ross, Colón, & McCallum, 2005; Prater & Sileo, 2002). Information that was available often examined attitudes of general educators towards special education students; special education student rights; preparing rural special educators or delivering services to special education students in rural areas; or methods by which to make inclusion (the practice of educating disabled students almost exclusively with nondisabled students) more successful (Chong Suk Ching, Forlin, & Mei Lan, 2007; Jung, 2007; Mintz, 2007). However, beyond the scope of these broad issues were those that focused on the special education teacher preparation programs, as well as special education student teaching.

Therefore, while this section seeks to provide a brief history of special education and clarify what special education is, it also seeks to explain why such a study of special educators in general, and special education *student teachers* in particular, is of utmost importance.

Special education history

In 1975, Congress enacted the *Education for All Handicapped Children Act*, also known as Public Law 94-142 (PL 94-142). This law forever transformed education for children with disabilities. Disabled students were now able to attend school with nondisabled students; prior to PL 94-142, disabled students were required to either stay home or be placed in an institution. While the 1954

decision in *Brown v. Board of Education* (1954) effectively ended segregation in public schools based on race, and the Civil Rights movement ended segregation, each helped pave the way for advocates of disabled students to successfully lobby for equal access to public education (Smith, Polloway, Patton, & Dowdy, 1995; United States Department of Education, 2007). However, other court cases were instrumental in helping prepare the public school system for children with disabilities, such as *The Pennsylvania Association for Retarded Children v. Pennsylvania* (1972), *Mills v. District of Columbia* (1972), and *Honig v. Doe* (1988) (Smith, Polloway, Patton, & Dowdy, 1995).

The *Education for All Handicapped Children Act* was revised numerous times from the original authorization. In 1997, PL 94-142 was reauthorized as Individuals with Disabilities Education Act (IDEA), with the most recent revisions and amendments in 2006 (National Dissemination Center for Children with Disabilities, n.d.). IDEA provides, more specifically, for identification and education of children as young as three years of age; highly qualified teachers; and alignment with the *No Child Left Behind Act* (NCLB), among other provisions. These laws and reauthorizations together provided for what should create an adequate, suitable education in an appropriate environment for students with disabilities.

What is special education anyway?

Special education is explained differently by various entities, but is generally defined as an educational program which is devised specifically for

students who have been identified as having exceptionalities (The National Center for Education Statistics, n. d.). These exceptionalities can be mental/cognitive or physical and usually prevent students from achieving at the level at which it is believed they have the capability to achieve. In the interest of being thorough, it is important to note, however that in certain states, students who are gifted and talented, as well as those who receive compensatory education, also fall under the auspices of special education. Thus, although it is important to mention that gifted and talented, and compensatory education fall under special education, they will not be examined in this particularly study.

There are several critical components, or tenets, of special education. The first and most important is that of a free and appropriate public education. A free and appropriate public education is that which is free to the parents (as it would be for any other student), and provides an education that would be considered appropriate as would be defined by the state education agency. Moreover, the education must be unique or individualized to the student.

The individualized education plan (IEP), the second component, is an individualized curriculum designed for the disabled student which utilizes and incorporates the results of specific assessments that test for certain disabilities. Parent involvement is crucial to this component, and is essential to ensuring that the student receives an appropriate and individualized education. Both the first and second components must be provided in the least restrictive environment for the student, or third component of special education.

The least restrictive environment component or LRE is based on the underlying premise that disabled students should be educated with non disabled students to the extent such an education is possible. As such, for many students, there should be some part of the day spent in the regular education classroom.

While these are the major tenets of special education, there are other tenets that are important, as well, such as due process rights (the right parents and children have to be involved in the educational decision making process), due process hearings (the right of the student to have a fair hearing prior to making decisions which affect educational placement and services), and related services (services which provide additional education, such as occupational therapy or counseling). It is these tenets which, in combination with the definition provided by the NCES that, in effect, provide a brief general overview of the meaning of special education. (Smith, Polloway, Patton, & Dowdy, 1995; United States Department of Education, 2007).

Discussions in special education

There tended to be significant discussion around special education in at least two areas. The first was whether inclusion, or the practice of educating disabled students almost exclusively with nondisabled students, is a good idea; the second concerned the “location” of the disability, that is, does the student have a disability or do social and cultural construction suggest, or more accurately dictate, that the student has a disability (Mintz, 2007; Rogers, 2003).

Chong Suk Ching, Forlin, and Mei Lan (2007) found that student teachers who participated in a 10-week session on inclusion still felt only minimally prepared to have special education students in the regular classroom. Jung (2007) stated that the level of comfort student teachers felt with special education students was a function of confidence. As inclusion advocates teaching special education students in the general education classroom, more student teachers obviously should become deeply familiar with special education curriculum and practicum.

Mintz (2007), who discussed the issue of disability being either internal or external to the student, explained that student teachers who see the student as having a disability see the disability as a medical condition, or internal to the child; whereas those who saw the disability as external to the child believed the problem was environmental. However, there were those who did not advocate inclusion, and those who questioned the necessity for special education completely.

Special education processes are seen by some to be part of the discourses in inequity, social and cultural constructions, and argue that there is little evidence that special education actually works (Rogers, 2003). Moreover, the process of referring students to special education diverts pecuniary resources that may be better allocated to direct instruction (Rogers, 2003).

Each of these discussions serves to highlight two of the competing schools of thought surrounding special education, and further serves to explain

why there is no solid, coherent base of literature in special education student teacher preparation. Additionally, each also serves to help draw attention to why the need for this research is important.

Special education student teaching and the preparation program

Because state and federal laws regulate special education and the IEP is a legal document, there is a perception that many special educators feel stressed beyond that of the general educators. Special education is a very stressful part of teaching in public K12 education. However, previous studies have yet to determine whether teaching in the special education setting is truly more stressful than teaching in the general education setting (Lazuras, 2006). Yet, there is both anecdotal evidence as well as empirical and qualitative research indicating that teaching in special education can be more stressful than teaching in the general education classroom (Fimian, 1985). When these concepts are extrapolated and applied to the special education student teachers, the relative dearth of literature on the topic for these students in higher education highlights the urgency to address the concern prior to entry into the field.

Evidence shows that the number of students requiring special education services has increased significantly in the past 20 years by over 30%, while the number of students desiring to become special education teachers has increased by just over 10% (Bargerhuff, Dunne, & Renick, 2007). What this implies is that there are significantly more students in the classroom than there are teachers available to teach them, which leads to stress for the classroom

teacher. Therefore, this section seeks to examine research surrounding special education teacher preparation and student teaching, and explain why researching special education student teachers, and the preparation they receive prior to student teaching, is critical.

One topic that often appears in discussions about special education teachers is whether they are as adequately prepared (and are therefore of similar “quality”) as general education teachers. Carlson, Lee, and Schroll (2004) found that high quality special education *teachers* frequently shared the same beliefs and characteristics as general education *teachers*, such as self-efficacy. However, student teachers are often only as effective as the cooperating teachers with whom they are learning, and often only as strong as the program from which they graduate. Interestingly, Prater and Sileo (2002) found that many higher education institutions had some sort of formal partnership with the local school districts for special education student teaching and other field experiences. Jung (2007) also found that the type of program preparation student participated in made a difference in willingness to teach special education students.

Brownell, Ross, Colón, and McCallum (2005) undertook a substantial project in that they chose to examine literature about several special education teacher preparation programs to determine what mutual and exemplary attributes might be illuminated among the various programs. The goal of their research was to determine a method to enhance special education teacher

preparation and research. Thus, while the majority (68.75%) of the 64 programs examined were in research institutions, 20 were not. The researchers found that certain characteristics that were standard in general teacher education programs were nominally mentioned in the special education teaching programs, and vice versa. They also found that special education teacher preparation programs focused heavily on nonspecific pedagogy, such as delivery and assessment, whereas general education teacher preparation attended to content specific pedagogy. Interestingly, the special education teacher preparation program included discussions of relationships between the teachers and families of students but, as the authors stated, provided no guidance as to how this might be accomplished. Thus, while most programs addressed content and pedagogy, they tended to disregard or perhaps overlook the characteristics of the special education student teachers. What must be noted here is that while there were numerous articles discussing inclusion or the process of preparing special educators for rural settings, again, as stated by Brownell, et al. (2005), there is a relative dearth of information about special education student teaching. Additionally, what must be extrapolated is that based on what literature is available, stress continues to be a large part of student teaching for prospective special educators, as it continues to be a large part of teaching for practicing special educators. What also may be construed here, is that the lack of qualified *current* information pertaining to special education, particularly information within the last three to five years, indicates that research examining

special education student teachers, excluding the research pertaining to inclusion, is very well overdue.

Relationships between Variables

Previous researchers have indicated that there is a relationship between stress and self-efficacy, in general, and that significant relationships exist between teacher stress and self-efficacy (Paese & Zinkgraf, 1991), and teacher stress and teacher efficacy (Fives, Hamman, & Olivarez, 2005; Hughes, 2006), in particular. Results of these studies lead researchers to suggest that there is an inverse relationship between efficacy and stress (Fives, Hamman, & Olivarez, 2005; Hughes, 2006; Paese & Zinkgraf, 1991), meaning that as stress decreases, efficacy, either self-efficacy or teacher efficacy, increases. Additionally, through empirical and anecdotal evidence, researchers strongly suggest that teaching special education is significantly more stressful than teaching general education. Further, these same studies have suggested that student teachers find the student teaching internship to be a very stressful transition. Further still, accrediting agencies, as well as the Higher Education Act, are increasingly holding colleges and universities accountable to demonstrate that they are producing graduates who are proficient teachers (Brownell, Ross, Colón, & McCallum, 2005).

It is for these reasons that the stress and self-efficacy of special education student teachers, those students who are in college and are completing the student teaching internship, are being examined together. This is

a very small, but very important gap in the literature which has yet to be examined, but will possibly help encourage further conversation among researchers in these areas, as well as inform or enhance special education student teacher curricula and the professional development of the special education student teachers.

The research hypotheses, study sample, reliability and validity information about the study instruments, as well as the methods by which the research hypotheses were analyzed will be presented in Chapter III.

CHAPTER III

METHODOLOGY

The purpose of this study was to determine if special education and general education student teachers differed significantly in stress and self-efficacy during and following the student teaching semester. Specifically, the student teacher populations of the top ten teacher producing higher education institutions in Texas were examined in this study within the context of the following research hypotheses:

- H1: The *stress* levels of special education student teachers will be significantly higher than that of general education student teachers during and immediately following the completion of the student teaching internship.
- H2: There will be a significant interaction between the type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the stress measures are administered.
- H3: There will be a significant difference in the *self-efficacy* of special education student teachers and general education student teachers during and immediately following the completion of the student teaching internship.
- H4: There will be a significant interaction between type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the self-efficacy measures are administered.

- H5: The *stress* levels of special education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.
- H6: The *self-efficacy* of special education student teachers will significantly improve following the completion of the student teaching internship.
- H7: The *stress* levels of general education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.
- H8: The *self-efficacy* of general education student teachers will significantly improve following the completion of the student teaching internship.

The remainder of this chapter is used to discuss the methodology utilized in addressing the purpose of the study and research hypotheses. The population and sample, instrumentation, and methods of data analyses are also included in this chapter. Chapter IV presents a detailed discussion of the results of the analysis.

Population

The proposed population for this study was student teachers who were enrolled in the fall 2007 student teaching internship semester at the top ten

teacher producing universities in Texas. The determination of which universities were included in the study was ascertained by examining Texas Education Agency (TEA) data and establishing which universities produced the most teachers during the 2006-2007 academic year.

The invitation to participate in the study was extended through phone calls to the directors of the student teaching programs at the top ten teacher producing universities in Texas. Five universities accepted the invitation; however, four ultimately granted access to their student teachers.

Initial sampling plan

During the study design phase, the sample was estimated to be 2,037 general education and special education student teachers. This number was calculated by conducting a power analysis, then allowing for the response rate to the email surveys, and the attrition of respondents between the test administrations. Each step used in this calculation is explained below.

A power analysis is a method by which a sample size may be calculated while in the study design phase by setting certain statistical properties (i.e., alpha, power, and effect size) at specific levels so that an effect, if there is one, may be detected (Field, 2005). Therefore, for the purposes of this study, alpha was set at .05, power was set at .80, and effect size was set at .20. An effect size of .20 is considered a small effect size and would allow for detection of minimal change from pretest to posttest. Entering this information into G*Power 3, a statistical program that estimates sample size (Faul, Erdfelder, Lang, &

Buchner, 2007), the sample size was estimated to be approximately 788 general and special education student teachers combined. However, this number was also adjusted by the expected response rate for an online survey, as well as by the expected attrition between the pretest and posttest.

Researchers indicate that online and email surveys response rates range from 6% to 76% (Moss & Hendry, 2002), with the most frequently cited responses in the 40% range (Glover & Bush, 2005; Moss & Hendry, 2002). For the purposes of this study, the online survey response rate was expected to be approximately 43%. According to Glover and Bush (2005) this figure is the percentage that was quoted most often.

The sample size indicated above was also adjusted by an expected attrition rate of 10% between the pretest and posttest administrations of the instruments. Therefore, the adjusted sample size, based on response and attrition rates, was estimated to be 2,037 general and special education student teachers.

Sample

For the pretest, of the population of 436 student teachers who received the survey, 72 responded, with 59 completing the entire survey. These returns yielded a total response rate of 16.5%, and an analyzable response rate of 13.5%. For the posttest sample, of the population of 406 student teachers who received the survey invitation, 41 responded, with 36 completing the entire survey. This yielded a response rate of 10%, with an analyzable response rate

of 8.9%. Because the number of responses was smaller than anticipated, student teacher program directors and coordinators were asked to remind the students to please finish the survey. Additionally, because the responses were anonymous, and some universities were uncomfortable with direct correspondence with the student teachers, it was necessary to go through the directors and coordinators for assistance. Therefore, although this was not the anticipated response rate, it falls within the range of expected response rates as reported by other researchers (Moss & Hendry, 2002). The posttest sample, as was the pretest sample, was students who were student teaching during the fall 2007 semester. The number of student teachers who completed the entire survey both times was 23 for stress and 22 for self-efficacy.

The demographic data of the pretest sample is summarized in Table 1 below. Participant gender and race characteristics, and degree attainment for both the pretest and posttest study samples are described in Table 1. Degree attainment pertained to whether the student teacher held a bachelor's or master's degree prior to student teaching. As indicated the majority of the students in the pretest and posttest were obtaining a bachelor's degree along with certification.

TABLE 1. Frequency of Gender, Race, and Degree Attainment for Pretest and Posttest Samples

	Pretest		Posttest	
	Frequency	Percent	Frequency	Percent
Gender				
Male	3	5.1	2	5.6
Female	56	94.9	34	94.5
Total	59	100.0	36	100.1
Race/Ethnicity				
Black/African American	1	1.7	1	2.8
Latino/ Hispanic	2	3.4	0	0.0
White	56	94.9	35	97.2
Total	59	100.0	36	100.0
Degree Status/Attainment				
Obtaining Bachelor's Degree	56	94.9	35	97.2
Have Bachelor's Degree	1	1.7	0	0.0
Obtaining Master's	2	3.4	1	2.8
Total	59	100.0	36	100.0

The pretest and posttest samples according to grade level assigned, subject level, specialization, and specialization area are described in Table 2. The specialization pertained to whether students were seeking general or special education certification. The specialization area was designed for students who were seeking special education certification to state in which area they were student teaching or seeking certification. Therefore, those indicating no specialization were students seeking general education certification.

TABLE 2. Frequency of Grade Level and Subject Areas Assignment, and Specialization and Specialization Areas for the Pretest and Posttest Samples

	Pretest		Posttest	
	Frequency	Percent	Frequency	Percent
Grade Level				
Elementary	37	62.7	22	61.2
Middle School	15	26.6	11	30.6
High School	7	11.9	3	8.3
Total	59	100.2*	36	100.1*
Subject Area				
Math	8	13.6	6	16.7
English	8	13.6	3	8.3
Science	2	3.4	0	0.0
Social Studies	7	11.9	6	11.1
Reading	5	8.5	5	13.9
Health/Physical Education	1	1.7	0	0.0
Elective	1	1.7	1	2.8
Self Contained	27	45.8	17	47.2
Total	59	100.0	36	100.0
Specialization				
General Education	50	84.7	31	86.1
Special Education	9	15.3	5	13.9
Total	59	100.0	36	100.0
Specialization Area				
Generic Special Education	1	1.7	0	0.0
Content Mastery	1	1.7	2	5.6
Resource	2	3.4	2	5.6
PPCD	1	1.7	0	0.0
AA/MR/Life Skills	2	3.4	0	0.0
ED/SED	0	0.0	1	2.8
Other	2	3.4	0	0.0
No Specialization	50	84.7	31	86.1
Total	59	100.0	36	100.0

* Totals may not sum to 100% due to rounding

Tables 3 and 4 present the demographic data of the groups that completed the pretests and posttests. Table 3 displays the gender, race, and degree status frequencies for the pretest-posttest group. Table 4 presents the grade level and subject area assignments, and specialization and specialization areas for the pretest-posttest group.

TABLE 3. Frequency of Gender, Race, and Degree Attainment for the Pretest-Posttest Group

	Stress	Percent	Self-Efficacy	Percent
	Pretest-Posttest Frequency		Pretest-Posttest Frequency	
Gender				
Male	1	4.3	1	4.5
Female	22	95.7	21	95.5
Total	23	100.0	22	100.0
Race/Ethnicity				
Black/African American	0	0.0	0	0.0
Latino/Hispanic	0	0.0	0	0.0
White	23	100.0	22	0.0
Total	23	100.0	22	100.0
Degree Status/Attainment				
Obtaining Bachelor's Degree	22	95.7	21	95.5
Have Bachelor's Degree	0	0.0	0	0.0
Obtaining Master's Degree	1	4.3	1	4.5
Total	23	100.0	22	100.0

TABLE 4. Frequency of Grade Level and Subject Areas Assignment, and Specialization and Specialization Areas for the Pretest-Posttest Group

	Stress Pretest-Posttest Frequency	Percent	Self-Efficacy Pretest-Posttest Frequency	Percent
Grade Level				
Elementary	15	65.2	14	63.6
Middle School	6	26.1	6	27.2
High School	2	8.7	2	9.1
Total	23	100.0	22	99.9*
Subject Areas				
Math	4	17.4	4	18.2
English	1	4.3	1	4.5
Social Studies	3	13.0	3	13.6
Reading	2	8.7	2	9.1
Self Contained	13	56.5	12	54.5
Total	23	99.9*	22	99.9*
Specialization				
General Education	19	82.6	19	86.4
Special Education	4	17.4	3	13.6
Total	23	100.0	22	100.0
Specialization Area				
Content Mastery	1	4.3	1	4.5
Resource	2	8.7	2	9.1
AA/MR/Life Skills	1	4.3	0	0.0
No Specialization	19	82.6	19	86.4
Total	23	100.0	22	100.0

*Totals may not sum to 100% due to rounding.

Although the response rate yielded a sample much smaller than anticipated, the pretest and posttest data were adequate to describe the sample and conduct analyses, specifically nonparametric analyses. This is because data are not required to meet certain assumptions inherent and necessary for parametric analyses. Therefore, if the sample is exceptionally small, then the assumption that the variable is normally distributed in the population cannot be tested parametrically (Statsoft, 2008). The data, as it relates to the hypotheses, will be discussed in the Data Analysis section.

Instrumentation

Data for this study were collected using the Teacher Stress Inventory (TSI) (see Appendix B), the Teacher Self-Efficacy Scale, and a researcher-developed demographic information form, which was used for classification and descriptive purposes. The instruments are described in the following paragraphs.

Teacher Stress Inventory. The Teacher Stress Inventory (TSI), developed by Dr. Michael Fimian, is a 49-item inventory created to assess variables of teacher stress that other stress instruments have not been able to assess. The TSI is loosely comprised of two overall categories labeled “Sources of Stress” and “Manifestations of Stress.” Sources of Stress pertains to those factors that cause stress, whereas Manifestations of Stress pertains to those manners in which stress is exhibited. Within each category there are five subscales. The first five subscales, which are categorized as Sources of Stress, contain questions

relating to discipline, work-related stressors, time management, professional stressors, and professional investment. Sample questions from these subscales include “There isn’t enough time to get things done” and “I lack advancement and/or advancement opportunities” (Fimian, 1987a, p. 1-2).

The five remaining subscales, categorized as Manifestations of Stress, contain questions that ask in what manner stress expresses itself. In other words, does the stress present as stomach ailments, cardiovascular disease, excessive exhaustion, or through emotional or behavioral materialization. Examples of questions from these subscales are “I respond to stress by feeling anxious” and “I respond to stress with stomach cramps” (Fimian, 1987a, p. 2-3).

Subscales on the TSI are arranged from strongest to weakest evokers of teacher stress, and thus questions are designed to allow respondents to answer using a Likert-type scale within in each subscale. Student teachers are asked to rate each question response on a scale of one to five, with one indicating “no strength; not noticeable” and five indicating “major strength; extremely noticeable” (Fimian, 1987a, p. 1).

Fimian designed the inventory to be administered in either a group situation or to individuals independently. The instrument was normed on 3,401 male and female special education and general education teachers at the elementary, middle, and high school levels. This cross-section allows for comparisons of stress level scores for individuals, special or general educators, male or female educators, or schools as a whole (Fimian, 1987b).

The reliability of the TSI subscale and scale scores have been established by means of Cronbach's alpha. These calculations resulted in subscale coefficients which ranged from a low of .75 on the Professional Investment subscale to a high of .88 for the Gastronomic Manifestations subscale. Eight of the ten subscales had reliability coefficients of .80 or higher. Reliability coefficients for the subgroups of regular educators and special educators were established for each subscale, as well as for the total stress instrument. The TSI total test reliability coefficient for the regular educator subgroup was .92, and for special educators was established as .93. The reliability coefficient for the total TSI of the combined group of special and general educators was determined to be .93 (Fimian, 1987b). Coefficients of .80 or greater are considered acceptable and is indicative of a reliable instrument (Spatz, 2005).

Fimian (1987b) also established test-retest reliability for the TSI subscales and total instrument using paired samples t-tests to estimate a reliability coefficient. The paired samples t-tests established correlations between the initial administration and the retest. Participants were divided into four groups and the instrument was initially administered to all participants at the same time. The retest was administered within hours for Group 1 to several weeks for Group 4. The test-retest reliability coefficients ranged from .49 to .84 for the subscales. The reliability coefficient for the entire instrument was

indicated to be .76. All test-retest reliability coefficients were significant at $p=.001$.

Content and convergent validity were each established for the TSI. Content validity was obtained through several experts knowledgeable in the areas of teacher stress and burnout. Experts were each administered a modified version of the TSI and asked to rate each of the 49 test items on a Likert-type scale from 1 to 4, with 1 being “not relevant” to 4 being “very relevant” (Fimian, 1987b). Each expert would decide the degree to which each test item agreed with his or her theory of stress (Fimian, 1987b). The experts’ scores established means ranging from 2.9 to 3.4 on the subscales and a standard deviation range of 0.6 to 0.9. Experts established a scale score of 3.1, with a standard deviation of 0.5 (Fimian, 1987b). To determine whether the experts’ scores were congruent, an interrater reliability coefficient was also established. The r values for the interrater reliabilities for the experts’ scores ranged from .42 to .72 for the subscales, and .82 for the total test. All interrater reliability scores were significant at $p=.001$.

Convergent validity of the TSI was established through correlation of the inventory with other instruments also known to measure constructs similar to those the TSI measures (e.g., Maslach Burnout Inventory, 1981; Central Life Interest Questionnaire, 1984; and Role Questionnaire, 1980) (Fimian, 1987b). Of specific interest are the correlations between the TSI and the Maslach Burnout Inventory (MBI), which measures teacher burnout; and the TSI and anxiety

inventories. Correlation of the TSI total stress score to the MBI burnout score was $r=.74$ at $p=.001$, with $n=266$. Correlation of the TSI total stress score to the State-Trait Anxiety Inventory yielded a range of correlation coefficients. State anxiety levels with n s of 39, 39, and 10, and $r = .49$ were significant at $p=.001$, as was $r=.87$ significant at $p=.05$. Similarly, trait anxiety levels with $n=10$ and $r=.93$ were significant at $p=.05$ (Fimian, 1987b).

TSI scores may be calculated for either individual subscales or the total inventory. Scoring of TSI subscales involves totaling the item ratings within each subscale and dividing by the number of items within each subscale. Calculation of the total scale score requires summing the scores of each of the 10 subscales, then dividing the total by 10.

For this study, the online administration of the TSI was designed so that respondents were not able to progress to the next question without answering the previous one. Therefore, if a question was left unanswered, all subsequent questions were unanswered, as well. Missing data was replaced with null values, and participants with fewer than three-fourths of the questions answered on the second survey administration were removed from the final analyses, as the TSI total scale score was the variable of interest for this study.

Bandura's Teacher Self-Efficacy Scale. The Bandura Teacher Self-Efficacy Scale (found in Appendix C) was developed by Albert Bandura (1997b) to assess teachers' own beliefs that they can influence what happens in their classrooms. The Teacher Self-Efficacy Scale includes 30 items that together

form seven subscales. These subscales address the areas of (1) decision making; (2) resources; (3) discipline; (4) instruction; (5) parental involvement; (6) community involvement; and (7) school climate. Examples of questions contained in the scale include “How much can you do to get through to the most difficult students?” “How much can you do to keep students on task on difficult assignments?” and “How much can you do to get children to follow classroom rules?” (Bandura, 1997b, pp. 1-2).

Respondents are asked to rate their beliefs concerning how much they feel they are capable of influencing certain aspects of school culture using a Likert-like scale ranging from one to nine. One indicates that respondents feel they have “nothing” to do with influencing particular aspects, and nine indicates respondents feel they have “a great deal” of influence with particular aspects of school culture, thus the higher the score, the greater the perception of self-efficacy.

Reliability and validity were assessed for the Teacher Self-Efficacy Scale. Reliability coefficients were estimated using Cronbach’s alpha, and ranged from .92 to .95, indicating high internal consistency (Hoy, as cited in Jenkins, 2003; Hoy, 2005). Reliability coefficients of .80 or higher are considered indicative of a reliable instrument (Spatz, 2005).

Concurrent validity was assessed by comparing the Teacher Self-Efficacy Scale to two other self-efficacy instruments: a researcher created questionnaire called the OSU Teaching Confidence Scale, and the Gibson and Dembo

Teacher Efficacy Scale. The OSU Teaching Confidence Scale is a questionnaire which asks student teachers to rate their levels of confidence in successfully accomplishing a task. Student teachers rate their ability on a six point scale, with higher scores indicating higher confidence. The Gibson and Dembo Teacher Efficacy Scale is divided into subscales of General Teaching Efficacy (GTE) and Personal Teaching Efficacy (PTE) (Hoy & Spero, 2005). Validity was established for both the subscales and the entire instrument by using indicators of mastery, amount of support, perceived difficulty of teaching assignment, and SES levels. Validity in the mastery subscale was estimated by comparing the Teacher Self-Efficacy Scale to the subscale GTE, and produced an r of .43 which was significant at $p < .05$ and an r of .48, significant at $p < .01$, respectively. The support subscale, which compared the Teacher Self-Efficacy Subscale to the GTE and PTE subscales of the Gibson and Dembo instrument produced coefficient estimates of $r = .38$, $.37$, and $.37$, respectively, all of which were significant at $p < .05$. Additionally, the greater the amount of support the student teacher, the less difficult the class was perceived, producing $r = -.56$, which was significant at $p < .01$ (Hoy & Spero, 2005). Validity was also estimated for the SES subscale, but since SES is not a variable of interest for this study those findings will not be discussed in this study. The Teacher Self-Efficacy Scale subscale of instructional self-efficacy correlated with the entire Gibson and Dembo instrument and with the OSU Teaching Confidence Scale, however, no validity coefficient was given (Hoy & Spero, 2005).

As all three instruments were administered over time, means and standard deviations were reported for (1) the beginning of teacher preparation; (2) the end of student teaching; and (3) after the first year of teaching. Because global change in student teachers' self-efficacy over the student teaching internship was examined during the course of the study, the mean and standard deviation were most relevant to this study, specifically those pertaining to the end of student teaching. The mean and standard deviation for the end of student teaching were 6.60 and .95, respectively, each significant at $p < .05$ (Hoy & Spero, 2005). Therefore, Hoy and Spero (2005) found the Teacher Self-Efficacy Scale to be a valid measure by which to measure the constructs of teacher efficacy.

As with the online administration of the TSI, the online administration of the Teacher Self-Efficacy Scale was designed for this study so that respondents were not able to progress to the next question without answering the previous one. Therefore, as with the TSI, if any question was left unanswered, all subsequent questions were unanswered, as well. As a result, missing data were replaced with null values, and participants with incomplete responses were removed from the final analyses. Scoring for the instrument requires summing the scores for the entire scale and dividing by 30 (Hoy & Spero, 2005). Thus, although scoring for subscales was possible (Jenkins, 2003), there was very little interest in the subscale scores; therefore, Teacher Self-Efficacy total scale score was the variable of interest for this study.

Demographic data form. Demographic information was collected then reported in aggregate from the participants in order to describe the sample. The questions that were asked pertained to gender; race; subject area (math, science, etc); general or special education; specialization within special education; degree obtainment (bachelors or masters); and grade group level (elementary, middle school, high school). The demographic information form may be found in Appendix D.

Procedure

Prior to beginning data collection, Institutional Review Board (IRB) approval was obtained from Texas A&M University to collect data from student teachers. Once the ten universities had been identified, permission was sought from the appropriate directors, coordinators, and supervisors (the contact people for this study) at each university to access the student teachers and email the participants the online survey link. These ten institutions were chosen because each has a teacher education program that prepared between 300 and 800 student teachers and between 17 and 53 special education student teachers during the 2006-2007 academic year.

Prior to sending out the survey, the online survey was pilot tested to receive feedback regarding usability. Pilot testing was undertaken to detect and correct any problems that surfaced during this testing phase. Once the survey and survey procedure were deemed accurate, and the appropriate directors, coordinators, and supervisors (the contact people) agreed to assist with the

study, the researcher provided each contact person with information to send to the students. Approximately one month into the student teaching internship, the researcher emailed each contact person the link to the secure website embedded in the email that he or she forwarded to the students. One month was selected to allow the students time to acclimate to student teaching. However, the contact people at two of the institutions ultimately requested that the researcher directly email the students because the number of students being emailed was very large.

During both survey administrations, student teachers who accessed the secure survey website were greeted with the information sheet indicating the purpose of the study. Student teachers choosing to participate clicked the link found at the bottom of the information sheet provided in the email to access the two surveys (Teacher Stress Inventory and Teacher Self-Efficacy Scale), as well as the demographic information sheet. Student teachers were asked to complete the surveys within two weeks of receiving them. Completion of the instruments by the student teachers indicated their agreement to participate in the study. Student teachers who chose to take the survey were first asked to complete the demographic data information. After answering the seven demographic data questions, student teachers were then taken to the *Teacher Stress Inventory*, followed by the *Teacher Self-Efficacy Scale*. Those who chose not to participate had the option of either closing the information sheet window and not answering

questions, or if they had already started answering survey questions, of refusing to answer additional questions.

Approximately two weeks after the survey was administered, the survey site was closed and the researcher retrieved all survey data from the website so data cleaning and entry could begin on data which had been received during the stated two-week administration period.

Prior to the last two weeks of the student teaching internship, each contact person was called or emailed again to remind him or her of the second administration of the survey. The steps for second administration of the survey were exactly the same as those of the first administration. The time from the initial survey administration (the pretest) to the second administration of the survey (the posttest) was approximately ten weeks.

Immediately upon retrieval of the survey data for the second administration, a thank you card was sent to each contact person to thank him or her for his or her help in determining the best dates to access the students and for his or her permission to access the student teachers.

Data Analysis

Prior to analyzing the data to test Hypotheses 1 through 8, a preliminary analysis was conducted to determine the appropriate method of analysis for each of the eight hypotheses. The method of data analysis was dependent upon a relationship between the two dependent variables of stress and self-efficacy from the initial survey administration. If there was a significant relationship

between the variables of stress and self-efficacy, the method of analysis would be a multivariate analysis of variance (MANOVA). If the relationship was not significant, the method of analysis would be a univariate analysis of variance (ANOVA). If however, any of the assumptions of parametric data analysis were violated, the methods of analyses would be nonparametric. Therefore, prior to determining which method would be used, a Pearson's Product-Moment Correlation Coefficient (an "r" value) was calculated to determine if a linear relationship (a correlation) existed between the two dependent variables of stress and self-efficacy.

A correlation describes a linear relationship between two variables and is used to determine the magnitude of the relationship between these variables by a correlation coefficient. Correlation coefficients range between 0 and 1, with 0 indicating no linear relationship, and 1 indicating a perfect linear relationship. A *no relationship* suggests no systematic linear relationship exists between the two variables that will be measured.

A factorial ANOVA is used to examine the effects of two or more independent variables or factors. This process looks at both the combined effects, as well as the separate effects, of the independent variables upon the dependent variable (Diekhoff, 1996). Each independent variable in a factorial ANOVA is called a factor, and each factor has levels. In this study, there were two factors (group and time). Each factor had two levels, [i.e., group (special education and general education) and time (pretest and posttest)]. Therefore,

in a 2 x 2 factorial ANOVA, the researcher asks questions about either of the factors (in this case group or time) or the interaction between the two factors. In this study, baseline data on stress and self-efficacy of student teachers were collected within the first month of the students beginning their student teaching internship and again *immediately after* their completion of one semester of the student teaching internship.

Advantages of using a two-way ANOVA include having more than one independent variable (group and time) in an ANOVA, the ability to test more than one hypothesis, and the ability to test for interactions.

A one-way ANOVA examines the differences between the means of the variables under study on the basis of one independent variable (Diekhoff, 1996). The main advantage of using one-way ANOVA is to prevent multiple t-tests, thereby inflating the error rate.

Nonparametric analyses are used when data are shown to violate any of the four assumptions required to conduct parametric analyses. The assumptions that are required to be met are that (1) data be normally distributed; (2) data be at least interval level; (3) the variances between the groups be homogeneous; and (4) the data be raw, having not been transformed into standardized scores (there is however, another school of thought which suggests that the fourth assumption is that data from participants in different groups be independent, or free from the influence of members of other groups). Finally, there are also beliefs that nonparametric tests are less powerful than parametric tests.

However, according to Field (2005), this only holds true if the data being analyzed meet the assumptions of the parametric tests. Otherwise, nonparametric tests may be as powerful as parametric tests.

A mixed model factorial ANOVA was expected to be the method of analysis for Hypothesis 1, which would have been used to determine whether the two groups (general education and special education student teachers) differed significantly on their *stress* levels, and whether there was a difference between the pretest and posttest levels. However, Friedman's ANOVA was used, as the number of participants was insufficient for parametric analyses.

Hypothesis 2, which would examine significant interactions between the groups (special and general education student teachers) and the time of the survey administration (pretest or posttest) on the dependent variable of stress, was also expected to be analyzed by a mixed model factorial ANOVA. However, because the number of responses was insufficient for parametric analyses, and there is no nonparametric equivalent by which to examine interactions, Hypothesis 2 was not analyzed.

The method of analysis for Hypothesis 3, which was established to examine if the two groups differed significantly in their *self-efficacy* pretest and posttest, was expected to be a mixed model factorial ANOVA, as well. However, because the number of responses was insufficient for parametric analyses, a Friedman's ANOVA was used for analysis.

Significant interactions between the groups and the time of survey administration on the variable of self-efficacy would have been examined in Hypothesis 4. However, because the number of responses was insufficient for parametric analyses, and there is no nonparametric equivalent by which to examine interactions, Hypothesis 4 was not analyzed.

The method of analysis for Hypothesis 5, which would examine whether the stress levels of *special* education student teachers would be significantly higher posttest than pretest, was expected to be one-way repeated measures ANOVA. However, due to not having enough responses for parametric analyses, a Wilcoxon Signed Ranks Tests was used for analysis.

A one-way repeated measures ANOVA was the expected method of analysis for Hypothesis 6, which would be used to determine whether the *self-efficacy* levels of *special* education student teachers were significantly higher posttest than pretest. However, because there were an inadequate number of responses for parametric analyses, the method of analysis was Wilcoxon Signed Ranks Tests.

The method of analysis for Hypothesis 7, which would determine whether *stress* levels of *general* education student teachers were significantly higher posttest than pretest, was expected to be one-way repeated measures ANOVA. However, there were not enough responses for parametric analyses, and thus the Wilcoxon Signed Ranks Tests was used for analysis.

Finally, analysis of Hypothesis 8, which sought to determine whether *self-efficacy* levels of *general* education student teachers had significantly increased on the posttest from the pretest, was expected to use the one-way repeated measures ANOVA. However, because there were just not enough responses, the Wilcoxon Signed Ranks Tests was used for analysis.

The results of the data analyses of the above eight Hypotheses will be presented and explained in Chapter IV.

CHAPTER IV

RESULTS OF THE STUDY

The purpose of this study was to determine if special education and general education student teachers differed significantly in stress and self-efficacy during and following the student teaching semester. An explanation of the preliminary analysis used in determining the primary methods of analyses to best answer the research hypotheses associated with the purpose of the study will be presented in this chapter. The analyses, findings, and interpretation of the findings are presented after the preliminary analyses.

Specifically, the student teacher populations of the top ten teacher producing universities in Texas were to be examined in this study within the context of the following research hypotheses:

- H1: The *stress* levels of special education student teachers will be significantly higher than that of general education student teachers during and immediately following the completion of the student teaching internship.
- H2: There will be a significant interaction between the type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the stress measures are administered.
- H3: There will be a significant difference in the *self-efficacy* of special education student teachers and general education student teachers

during and immediately following the completion of the student teaching internship.

- H4: There will be a significant interaction between type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the self-efficacy measures are administered.
- H5: The *stress* levels of special education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.
- H6: The *self-efficacy* of special education student teachers will significantly improve following the completion of the student teaching internship.
- H7: The *stress* levels of general education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.
- H8: The *self-efficacy* of general education student teachers will significantly improve following the completion of the student teaching internship.

To address the research hypotheses, a sample of student teachers from each of the four universities granting access to their students was surveyed and their responses analyzed. These four institutions ultimately provided 76 student

teachers who responded to either the pre or posttests, and provided complete demographic data. Of these 76 participants, 23 respondents completed the pretest and posttest for stress, and 22 respondents completed both the pretest and posttest instruments for self-efficacy and provided useable data. Only surveys in which participants completed more than three-fourths of the second instrument (the Teacher Self Efficacy Scale) were included for the purposes of analysis.

Preliminary Analysis

Prior to conducting analyses for Hypotheses 1 through 8, a preliminary analysis was conducted to determine the best method by which to proceed with primary data analysis. The originally planned methods of analysis for Hypotheses 1 through 8 were established after calculating a Pearson's "r" for the pretest data, and determining the extent of the linear relationship between the two dependent variables of stress and self-efficacy. These results are shown in Table 5.

TABLE 5. Pearson's Correlation between Stress and Self-Efficacy for Pretest Data

		Total Stress Scale Score	Total Self Efficacy Score
Total Stress Scale Score	Pearson Correlation	1	-.082
	Sig. (2-tailed)		.539
	N	59	59
Total Self Efficacy Score	Pearson Correlation	-.082	1
	Sig. (2-tailed)	.539	
	N	59	59

Therefore, analysis of each dependent variable was undertaken separately. As shown in Table 5, there was no significant relationship between stress and self-efficacy.

The method of data analysis for Hypotheses 1 through 4 was to be mixed model Factorial ANOVAs, and one way repeated measures ANOVAs for Hypotheses 5 through 8, based on the projected number of participants and the relationship between stress and self-efficacy. However, because the expected numbers of participants was not achieved (statistical guidelines suggest a minimum of 30 participants per individual group), the anticipated methods of analysis could not be used. Therefore, methods of analysis were amended to fit the amount of data that were received, and nonparametric methods were used for those hypotheses for which analyses could be undertaken.

A Mann-Whitney U was conducted to determine if any significant differences existed between the group that completed the pretest only (the Pretest Only group) and the group that completed both the pretest and the posttest (the Pretest-Posttest group) for both the stress and self-efficacy variables. These results are provided in Tables 6 and 7.

TABLE 6. Ranks for variables of Stress and Self-Efficacy for Pretest Only and Pretest-Posttest Group

	Group	N	Mean Rank	Sum of Ranks
Total Stress Scale Score	PrePost	19	36.79	699.00
	PreOnly	40	26.78	1071.00
	Total	59		
Total Self Efficacy Score	PrePost	19	28.63	544.00
	PreOnly	40	30.65	1226.00
	Total	59		

TABLE 7. Mann-Whitney U Test Statistics^a

	Total Stress Scale Score	Total Self Efficacy Score
Mann-Whitney U	251.00	354.00
Wilcoxon W	1071.00	544.00
Z	-2.093	-.422
Asymp. Sig. (2-tailed)	.036	.673

a. Grouping Variable: Group

The Stress mean rank is shown in Table 6, and is higher for the Pretest-Posttest group than for the Pretest Only group, whereas the mean rank is higher for the Pretest Only group than the Pretest-Posttest group for Self-Efficacy. Further, there were no significant differences between the Pretest Only group and the Pretest-Posttest group for the variable of self-efficacy. These results are seen in Table 7. There was, however, a significant difference between the groups for the variable of stress.

A similar Mann-Whitney U was conducted to determine if there were any significant differences between the group that only completed the posttest (the Posttest Only group) and the Pretest-Posttest group for the variables of stress and self-efficacy. The results of this analysis are exhibited in Tables 8 and 9.

TABLE 8. Ranks for Variables of Stress and Self-Efficacy for Posttest Only and Pretest-Posttest Group

	Group	N	Mean Rank	Sum of Ranks
Total Stress Scale Score	PrePost	19	19.42	369.00
	PostOnly	17	17.47	297.00
	Total	36		
Total Self Efficacy Score	PrePost	19	16.71	317.50
	PostOnly	17	20.50	348.50
	Total	36		

TABLE 9: Mann-Whitney U Test Statistics^b

	Total Stress Scale Score	Total Self Efficacy Score
Mann-Whitney U	144.00	127.500
Wilcoxon W	297.00	317.50
Z	-.555	-1.078
Asymp. Sig. (2-tailed)	.579	.281
Exact Sig. [2*(1-tailed Sig.)]	.594 ^a	.285 ^a

a. Not corrected for ties

b. Grouping Variable: Group

The Stress mean rank, shown in Table 8, is higher for the Pretest-Posttest group than for the Posttest Only group, whereas the mean rank is higher for the Posttest Only group than the Pretest-Posttest group for Self-Efficacy. There were no significant differences between the Posttest Only and the Pretest-Posttest group for either variable, and these results are seen in Table 9.

Therefore, because there was no difference between the Posttest Only group and the Pretest-Posttest group for either variable, the posttest aggregate

group may be discussed as one group. Additionally, because there were no differences in the Pretest Only group and the Pretest-Posttest group, for the variable of self-efficacy, the pretest aggregate may be discussed as one group. However, because there was a significant difference between the Pretest Only group and the Pretest-Posttest group for the variable of stress, findings from analyses for the stress variable cannot be inferred to the combined Pretest Only and Pretest-Posttest group.

Findings for Research Hypothesis 1

The stress levels of special education student teachers will be significantly higher than that of general education student teachers during and immediately following the completion of the student teaching internship.

The method of analysis for Hypothesis 1 was anticipated to be a mixed model Factorial ANOVA. However, due to the insufficient number of respondents, especially special education student teachers, that completed both the pretest and posttest, the method of analysis was changed to a nonparametric method of analysis, the Friedman's ANOVA (analysis of variance). The Friedman's ANOVA is the nonparametric counterpart to the two-way repeated measure (Jacquard & Becker, 1990) and may be used to test for differences between related groups (Field, 2005) by ranking data. Lower scores are given lower ranks and higher scores are given higher ranks, such that the lowest score is given the rank of "1," and so forth.

For Hypothesis 1, which sought to determine the degree of difference in stress levels between special education and general education student teachers during and immediately following the student teaching internship, the resulting analytical procedure necessitated that all the student teachers be grouped together in order to determine whether any differences existed between the pretest and posttest stress scores for all respondents.

Therefore, prior to inputting data into SPSS to conduct the Friedman's ANOVA, interval level data were converted to ordinal level data so that the scores could be ranked. This task was easily accomplished in SPSS. Once the data was converted to ordinal (rank) level data, the Friedman's ANOVA was run. The results of the analysis for the variable of stress may be seen in Tables 10 and 11.

TABLE 10. Descriptive Statistics: Stress

	N	Mean	Standard Deviation	Minimum	Maximum
Rank of Total Stress Scale Score (Pretest)	23	35.22	17.65	1.00	59.00
Rank of Total Stress Scale Score (Posttest)	23	21.57	11.83	1.00	39.00

TABLE 11. Friedman's ANOVA^a: Stress

N	23
Chi-Square	7.348
df	1
Asymp. Sig.	.007

a. Friedman Test

The mean ranks of the pretest and posttest Total Stress Scale Scores for the variable of stress are described in Table 10. In Table 10, pretest means are higher than posttest means. This suggests that student teachers were significantly more stressed during student teaching than immediately following student teaching. Moreover, there was a significant difference in the mean rank scores for the group at time one (the pretest), approximately one month after beginning student teaching, and at time two (the posttest), immediately following student teaching ($\chi^2 (1) = 7.348, p < .05$). These data are shown in Table 11.

Because the planned analysis was changed due to the fewer than expected number of participants, and because the special education and general education student teacher groups were combined into one group, additional descriptive statistics were included in an attempt to extrapolate more information about which of the subscales presented the most stress and how it tended to manifest. The pretest and posttest mean stress scores by subscale area are presented in Table 12. However, due to the low numbers, the results must be interpreted cautiously.

TABLE 12. Subscale Means for Stress Pretest and Posttest

Stress, N=23				
	Pretest Mean	SD	Posttest Mean	SD
Subscales				
Time Management Subscale	3.10	0.69	3.07	0.50
Work-Related Stressors	2.87	0.73	2.96	0.73
Professional Distress	2.39	0.76	2.35	1.01
Discipline and Motivation	3.14	0.88	3.12	1.03
Professional Investment	1.93	0.76	2.12	1.10
Emotional Investment	2.77	0.95	2.75	0.99
Fatigue Manifestations	2.97	0.98	2.86	1.24
Cardiovascular Manifestations	1.97	1.13	1.84	0.97
Gastronomical Manifestations	1.81	1.10	1.64	1.04
Behavioral Manifestations	1.40	0.62	1.36	0.67

Scale

- 1 = no strength; not noticeable
 2 = mild strength; barely noticeable
 3 = medium strength; moderately noticeable
 4 = great strength; very noticeable
 5 = major strength; extremely noticeable

Based on the information presented in Table 12, student teachers were most stressed by particular requirements within the subscales of Discipline and Motivation, and Time Management during both the pretesting and posttesting phase. Moreover, student teachers tended to manifest this stress most strongly in the subscale area of Fatigue Manifestations.

In order to determine what particular types of behaviors caused the most stress within the subscales with the highest means, the means of each item within each subscale were examined individually, and a mean and standard deviation were calculated for each item. For the pretest phase, the subscale in which student teachers were most stressed was the Discipline and Motivation Subscale. Behaviors that caused them to feel most stressed were those captured by questions 23 and 22, with means of 3.52 (SD= 1.08) and 3.48, (SD= 1.12) respectively. This suggests that student teachers felt most stressed when they were trying to teach students who were poorly motivated (question 23), and when students were not trying as hard as they could (question 22). Additionally, they also exhibited higher levels of stress when they felt they were wasting time (\bar{x} =3.56, SD= 1.20) and/or when there was not enough time to take care of all their tasks (\bar{x} =3.34; SD=1.07) (questions 6 and 7, respectively, Time Management Subscale). This stress tended to manifest by the student teachers feeling as if they were becoming fatigued in very little time (\bar{x} =3.30, SD= 1.18) (question 37, Fatigue Manifestations Subscale).

During the posttest phase, student teachers were still most stressed by students who were poorly motivated (\bar{x} =3.52, SD=1.20; question 23) and students who did not try as hard as they could (\bar{x} =3.56, SD= 1.20; question 22). However, during the posttest phase, student teachers were most stressed when they felt they had overcommitted themselves (\bar{x} =3.35, SD= 0.93; question 1, Time Management Subscale). Again, this stress manifested as them tiring very easily (\bar{x} = 3.09, SD= 1.47; question 37).

Student teachers were least stressed by behaviors in the Professional Investment Subscale, during both administrations of the survey, which asked about such things as opportunities for advancement. Moreover, the student teachers were least likely to relieve stress by any of the methods suggested by the Behavioral Manifestations Subscale, which asked whether alcohol or prescription medications were utilized to relieve stress.

However, it was also important to look at which items in the remaining eight subscales were the most and least stressful. Therefore, to gain an even deeper understanding of what was going on in each test administration, the averages of the individual pretest and posttest responses are presented in Table 13 below.

TABLE 13. Individual Stress Item Averages

	Stress, N=23			
	Pretest Mean	SD	Posttest Mean	SD
Time Management				
I easily over-commit myself.	3.30	1.02	3.35	0.93
I become impatient if others do things too slowly.	2.82	1.03	2.91	1.08
I have to try doing more than one thing at a time.	3.17	1.19	3.27	0.96
I have little time to relax/enjoy the time of day.	3.13	1.10	3.09	0.90
I think about unrelated matters during conversations.	2.65	1.19	2.87	1.06
I feel uncomfortable wasting time.	3.57	1.20	3.26	0.96
There isn't enough time to get things done.	3.34	1.07	3.32	1.13
I rush in my speech.	2.78	0.80	2.61	1.03
Work-Related Stressors				
There is little time to prepare for my lessons/responsibilities.	2.78	1.09	2.83	0.98
There is too much work to do.	3.09	0.85	3.09	0.95
The pace of the school day is too fast.	2.82	1.19	2.91	1.31
My caseload/class is too big.	2.39	1.16	2.70	0.82
My personal priorities are being shortchanged due to time demands.	3.35	1.23	3.00	1.00
There is too much administrative paperwork in my job.	2.78	1.13	3.21	1.35
Professional Distress				
I lack promotion and/or advancement opportunities.	2.00	0.95	2.04	1.19
I am not progressing my job as rapidly as I would like.	1.96	0.88	1.96	1.11
I need more status and respect on my job.	2.26	1.05	2.08	1.04
I receive an inadequate salary for the work I do.	3.35	1.47	3.26	1.63

TABLE 13. Continued	Stress, N=23			
	Pretest Mean	SD	Posttest Mean	SD
I lack recognition for the extra work and/or good teaching I do.	2.39	1.08	2.39	1.34
Discipline and Motivation				
I feel frustrated...				
...because of discipline problems in my classroom.	3.13	1.36	3.30	1.15
...having to monitor pupil behavior.	2.74	1.39	2.61	1.31
...because some students would better if they tried.	3.47	1.12	3.56	1.20
...attempting to teach students who are poorly motivated.	3.52	1.08	3.52	1.20
...because of inadequate/poorly defined discipline problems.	2.74	1.18	2.83	1.23
...when my authority is rejected by pupils/administration.	3.22	1.24	2.87	1.42
Professional Investment				
My personal opinions are not sufficiently aired.	2.04	0.93	2.17	1.15
I lack control over decisions made about classroom/school matters.	2.30	0.93	2.43	1.41
I am not emotionally/intellectually stimulated on the job.	1.74	1.21	2.09	1.24
I lack opportunities for professional improvement.	1.65	0.71	1.78	1.31
Emotional Manifestations				
I respond to stress...				
...by feeling insecure.	3.08	1.35	2.78	1.31
...by feeling vulnerable.	2.74	1.25	2.52	1.20
...by feeling unable to cope.	2.21	1.09	2.57	1.16
...by feeling depressed.	2.65	1.23	2.52	1.50
...by feeling anxious.	3.17	1.23	3.35	1.11

TABLE 13. Continued	Stress, N=23			
	Pretest Mean	SD	Posttest Mean	SD
Fatigue Manifestations				
I respond to stress...				
...by sleeping more than usual.	2.78	1.38	2.78	1.51
...by procrastinating.	3.17	1.19	3.13	1.39
...by becoming fatigued in a very short time.	3.30	1.18	3.09	1.47
...with physical exhaustion.	3.04	1.40	3	1.38
...with physical weakness.	2.52	1.20	2.30	1.40
Cardiovascular Manifestations				
I respond to stress...				
...with feelings of increased blood pressure.	2.04	1.26	1.87	1.06
...with feeling of heart pounding or racing.	2.04	1.40	2.00	1.13
...with rapid and/or shallow breath.	1.83	1.11	1.65	1.02
Gastronomical Manifestations				
I respond to stress...				
...with stomach pain of extended duration.	1.87	1.25	1.65	1.03
...with stomach cramps.	1.70	0.97	1.61	1.12
...with stomach acid.	1.87	1.29	1.65	1.15
Behavioral Manifestations				
I respond to stress...				
...by using over-the-counter drugs.	1.61	0.99	1.52	1.08
...by using prescription drugs.	1.57	1.20	1.35	0.98
...by using alcohol.	1.35	0.65	1.43	0.84
...by calling in sick.	1.09	0.42	1.12	0.63
Scale				

1 = no strength; not noticeable

2 = mild strength; barely noticeable

3 = medium strength; moderately noticeable

4 = great strength; very noticeable

5 = major strength; extremely noticeable

Looking at the Work-Related Stressors Subscale, most student teachers were most stressed, during the time of the pretest, by feeling as if they were not taking care of personal priorities (\bar{x} =3.35, SD= 1.23), and least stressed by the size of class (\bar{x} =2.39, SD=1.16). However, at the end of student teaching, student teachers were most stressed my feeling as if there was too much administrative paperwork (\bar{x} =3.21, SD=1.35) to do, but were still least stressed by the size of the class (\bar{x} =2.70, SD=0.82).

In the Professional Distress Subscale, student teachers were most stressed during both administrations of the survey by feeling as if they were being paid too little for the amount of work they were doing (\bar{x} = 3.35, SD= 1.47 for the pretest,; \bar{x} =3.26, SD= 1.63 for the posttest), and were least stressed by opportunities for professional advancement (pretest \bar{x} = 1.96, SD= 0.88; and \bar{x} =1.96, SD= 1.11 for the posttest).

Student teachers had somewhat lower stress scores for the Professional Investment Subscale than previous subscale scores. Here, student teachers were most stressed during the pretest and posttest by feeling as if they lacked decision-making control (\bar{x} =2.30, SD= 0.93 and \bar{x} =2.43, SD= 1.41, respectively) and were least stressed during both survey administrations by feeling as if they had few opportunities to develop professionally (\bar{x} =1.65, SD= 0.71, pretest; and \bar{x} = 1.78, SD=1.31, posttest).

As mentioned previously, student teachers who were stressed tended to tire easily, however, stress manifested in other ways, as well. Emotionally,

student teachers were most likely to feel anxious (pretest \bar{x} =3.17, SD= 1.23; Emotional Manifestations Subscale) and least likely to feel as if they were not able to cope (pretest \bar{x} =2.21, SD= 1.09). During the posttest, they were still most likely to manifest stress by feeling anxious, but were now least likely to show signs of stress by feeling depressed or feeling vulnerable.

Cardiovascular problems were also means in which stress manifested in student teachers. They were most likely to have increased blood pressure or feelings of rapid heartbeat, when surveyed during the pretest (\bar{x} =2.04, SD=1.26, \bar{x} = 2.04, SD= 1.40, respectively for each item, Cardiovascular Manifestations Subscale), and were least likely to show stress by shortness of breath (\bar{x} =1.83, SD= 1.11). During the time of the posttest, student teachers who were stressed were most likely to have a rapid heartbeat (\bar{x} =, 2.00, SD=1.13) and least likely to have shortness of breath (\bar{x} =1.65, SD=1.03).

Student teachers were also likely to exhibit stress gastronomically (Gastronomical Manifestations Subscale). Most often, stress presented as stomach pain or increased stomach acid (\bar{x} =1.87, SD=1.25 and \bar{x} =1.87, SD= 1.29, respectively for each item, pretest) and least often as stomach cramps (\bar{x} =1.70, SD= 0.97). For the posttest, stomach pain or increased stomach acid were still most likely to be means by which stress manifested (\bar{x} = 1.65, SD= 1.03 and \bar{x} = 1.65, SD= 1.15 for both items) and stomach cramps were still the least likely manifestation of stress (\bar{x} =1.61, SD= 1.12).

Finally, stress also manifested in certain behaviors in the student teachers engaged, as well. During the pretest and posttest, student teachers were most likely to cope with stress by using over the counter medications ($\bar{x} = 1.61$, $SD=0.99$ and $\bar{x} = 1.52$, $SD= 1.08$, respectively) and least likely to respond to stress by calling in sick ($\bar{x} = 1.09$, $SD= 0.42$ and $\bar{x} = 1.13$, $SD= 0.62$).

However, because none of the individual item averages presents any averages that suggest student teacher stressors or stress manifestations are “very noticeable” or “extremely noticeable” (Fimian, 1987), the findings of “most” and “least” stressful must be interpreted within the context of the instrument. A scatterplot of the individual item response averages for both the pretest and posttest responses may be seen in Figure 1.

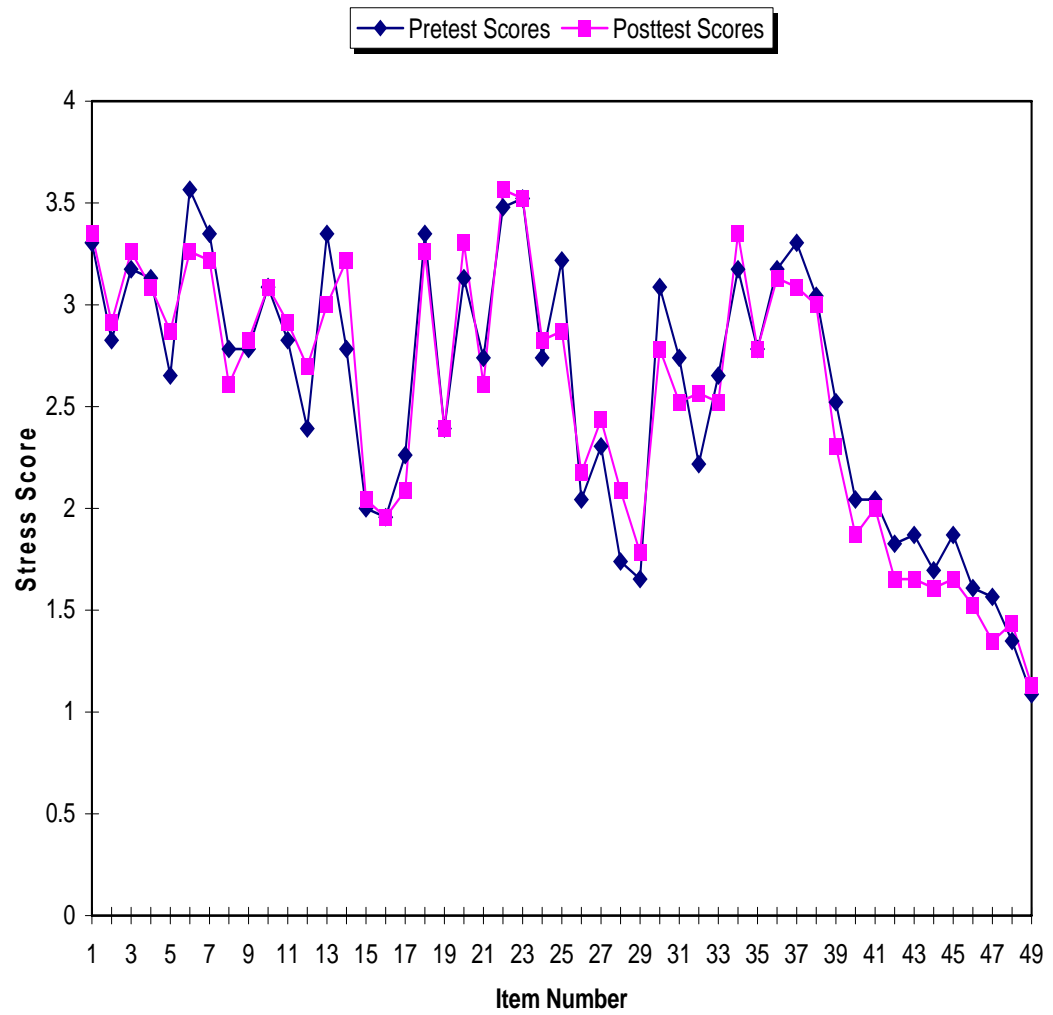


Figure 1. Scatterplot of Mean Pretest and Posttest Stress Response Scores

Because the planned analyses for Hypothesis 1 were amended due to small sample size, the stated alternative research hypothesis was not tested. However, the hypothesis that there would be *no difference* in the stress of the student teachers from pretest to posttest, based on the analysis performed, was rejected.

Findings for Research Hypothesis 2

There will be a significant interaction between the type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the stress measures are administered.

The method of analysis was expected to be a mixed model Factorial ANOVA. However, as previously stated, the anticipated number of participants was not achieved and the special and general education student teacher groups were combined into one group to conduct analyses for Hypotheses 1 and 3. Therefore, conducting an analysis which examined the interactions between the groups and the testing period was not possible.

Findings for Research Hypothesis 3

There will be a significant difference in the self-efficacy of special education student teachers and general education student teachers during and immediately following the completion of the student teaching internship.

Hypothesis 3 originally sought to determine the degree of difference in levels of self-efficacy between general and special education student teachers during and immediately following the student teaching internship, and the

analysis method was expected to be a mixed model Factorial ANOVA. However, because there were fewer participants than anticipated, the method of analysis was revised and the Friedman's ANOVA was used. Utilizing the Friedman's ANOVA necessitated combining the general and special education student teacher groups and looking at differences in the self-efficacy of the combined group at time one (pretest) and time two (posttest). As with the stress data, the interval level self-efficacy data was converted to ranks prior to running the Friedman's ANOVA. The results of the analysis for the self-efficacy variable can be seen in Tables 14 and 15.

TABLE 14. Descriptive Statistics: Self-Efficacy

	N	Mean	Standard Deviation	Minimum	Maximum
Rank of Total Self Efficacy Score (Pretest)	22	27.14	15.73	1.00	59.00
Rank of Total Self Efficacy Score (Posttest)	22	17.30	11.48	1.50	36.00

TABLE 15. Friedman's ANOVA^a: Self-Efficacy

N	22
Chi-Square	3.857
df	1
Asymp. Sig.	0.050

a. Friedman Test

Table 14 indicated that 22 student teachers provided enough pretest and posttest data to be analyzed for the self-efficacy variable. It also indicated that the means for self-efficacy were higher prior to student teaching than immediately following the completion of student teaching, suggesting the student teachers had higher levels of self-efficacy during the beginning of student teaching. Table 15 suggests that the difference between the means at pretest and posttest is significant ($\chi^2(1) = 3.857$, $p = .05$), thereby suggesting that student teachers felt more efficacious during student teaching.

Because the method of analysis was changed due to the number of participants, and because the special education and general education student teacher groups were collapsed into one group, additional descriptive statistics were employed here as well in an attempt to extract more information. The pretest and posttest means for the Self-Efficacy subscales are shown in Table 16 below.

TABLE 16. Subscale Means for Self-Efficacy Pretest and Posttest

	Self-Efficacy, N=22			
	Pretest Mean	SD	Posttest Mean	SD
Subscales				
Efficacy to Influence Decision Making	4.05	0.77	4.57	0.74
Efficacy to Influence School Resources	6.59	_*	5.67	_*
Instructional Self-Efficacy	5.86	1.42	5.14	0.98
Disciplinary Self-Efficacy	6.74	0.49	5.98	0.45
Efficacy to Enlist Parental Involvement	5.68	0.95	5.43	0.48
Efficacy to Enlist Community Involvement	4.67	0.49	4.73	0.47
Efficacy to Create a Positive School Climate	6.15	1.24	5.64	0.89

* Subscale is comprised of one question; therefore there will be no standard deviation

Scale

- 1 Nothing
- 2
- 3 Very Little
- 4
- 5 Some Influence
- 6
- 7 Quite a Bit
- 8
- 9 A Great Deal

The information in Table 16 suggests that, during both testing phases, student teachers felt most efficacious in the areas of Disciplinary Self-Efficacy and Efficacy to Influence School Resources. For the pretest, the Disciplinary Self-Efficacy Subscale scores suggest that student teachers felt they were able to do “quite a bit” to get students to follow the rules in the classroom (\bar{x} = 7.09, SD = 1.11). Interestingly, student teachers also felt they had the ability to

influence how they obtained classroom materials and other needed equipment ($\bar{x} = 6.59$; no SD, Efficacy to Influence School Resources).

During the posttesting phase, student teachers still scored highest in the Disciplinary Self-Efficacy and Efficacy to Influence School Resources subscales. Additionally, the same items scored highest in the same two subscales as in the pretest. However, student teachers felt that they had a little more than “some influence” in getting students to follow the rules set forth in the classroom, ($\bar{x} = 6.33$; SD = 2.58; Disciplinary Self-Efficacy) and in getting the needed supplies and equipment for class ($\bar{x} = 5.67$; no SD, Efficacy to Influence School Resources) during the posttesting phase than the pretesting phase.

Student teachers appeared to be least efficacious during both testing phases in the Efficacy to Influence Decision Making subscale. Additionally, their responses were similar during the pretest and the posttest for items within the Efficacy to Influence Decision Making subscale. During the pretest administration of the survey, student teachers felt there was “very little” they could do to influence the school decisions (question 1, $\bar{x} = 3.50$, SD= 1.85). During the posttest, student teachers felt they had more than “very little” influence, but less than “some influence” in the school decision-making process ($\bar{x} = 4.05$, SD= 1.60).

As with Hypothesis 1, a look at the individual items, this time on the self-efficacy instrument, revealed much more information. The averages for each individual item response are displayed in Table 17 below.

TABLE 17. Individual Self-Efficacy Items Averages

Self-Efficacy, N=22				
	Pretest Mean	SD	Posttest Mean	SD
Efficacy to Influence Decision Making				
How much can you influence the decisions that are made in the school?	3.50	1.85	4.05	1.60
How much can you express your views freely on important school matters?	4.59	1.65	5.10	1.92
Efficacy to Influence School Resources				
How much can you do to get the instructional materials and equipment you need?	6.59	—	5.67	—
Instructional Self-Efficacy				
How much can you do to influence the class sizes in your school?	2.18	1.33	2.67	1.68
How much can you do to get through to the most difficult students?	5.82	1.14	5.33	2.22
How much can you do to promote learning when there is a lack of support from the home?	5.55	1.87	5.14	2.39
How much can you do to keep students on task on difficult assignments?	6.09	1.02	5.71	2.26
How much can you do to increase students' memory of what they have been taught in previous lessons?	6.45	1.30	5.71	2.19
How much can you do to motivate students who show low interest in schoolwork?	6.32	1.09	5.38	2.04
How much can you do to get students to work together?	7.23	1.07	6.00	2.43
How much can you do to overcome the influence of adverse community conditions on students' learning?	6.09	1.41	5.29	2.15
How much can you do to get children to do their homework?	5.55	1.34	5.05	2.13
Disciplinary Self-Efficacy				
How much can you do to get children to follow classroom rules?	7.09	1.11	6.33	2.58

Self-Efficacy, N=22

TABLE 17. Continued

	Pretest Mean	SD	Posttest Mean	SD
How much can you do to control disruptive behavior in the classroom?	6.95	1.33	6.14	2.35
How much can you do to prevent problem behavior on the school grounds?	6.18	1.26	5.48	2.06
Efficacy to Enlist Parental Involvement				
How much can you do to get parents to become involved in school activities?	4.59	1.65	4.95	1.99
How much can you assist parents in helping their children do well in school?	6.27	1.78	5.43	2.04
How much can you do to make parents feel comfortable coming to school?	6.18	1.84	5.90	2.32
Efficacy to Enlist Community Involvement				
How much can you do to get community groups involved in working with the schools?	4.91	1.90	5.00	2.19
How much can you do to get churches involved in working with the school?	4.05	2.38	4.05	1.99
How much can you do to get businesses involved in working with the school?	4.55	1.99	4.76	1.92
How much can you do to get local colleges and universities involved in working with the school?	5.18	2.22	5.10	2.29
Efficacy to Create a Positive School Climate				
How much can you do to make the school a safe place?	6.50	2.13	6.38	2.54
How much can you do to make student enjoy coming to school?	7.50	1.37	6.33	2.39
How much can you do to get students to trust teachers?	7.64	1.21	6.48	2.64
How much can you help other teachers with their teaching skills?	5.50	1.44	5.48	2.27

TABLE 17. Continued	Self-Efficacy, N=22			
	Pretest Mean	SD	Posttest Mean	SD
How much can you do to enhance collaboration between teachers and the administration to make the school run effectively?	5.55	1.84	4.95	2.18
How much can you do to reduce school dropout?	4.95	1.81	4.90	2.07
How much can you do to reduce absenteeism?	4.36	1.73	4.19	1.91
How much can you do to get student to believe they can do well in schoolwork?	7.23	1.34	6.43	2.56

* Subscale is comprised of one question; therefore there will be no standard deviation

Scale

- 1 Nothing
- 2
- 3 Very Little
- 4
- 5 Some Influence
- 6
- 7 Quite a Bit
- 8
- 9 A Great Deal

The Teacher Self-Efficacy Scale is comprised of 30 questions which make up seven subscales. Two subscales were discussed previously as being the two subscales in which the scores of the students were highest. Those subscales were Disciplinary Self-Efficacy and Efficacy to Influence School Resources. However, a deeper look at the remaining subscales and items within those subscales is warranted.

The subscale Efficacy to Influence Decision Making showed that student teachers, during both the pretest and posttest, felt most efficacious in expressing their views about school matters which were important ($\bar{x} = 4.59$, $SD = 1.65$ and $\bar{x} = 5.10$, $SD = 1.92$ respectively) and, as stated previously, least efficacious about their ability to influence decisions made in the school ($\bar{x} = 3.50$, $SD = 1.85$ and $\bar{x} = 4.05$, $SD = 1.60$ respectively).

Instructional Efficacy was a subscale in which student teachers' scores represented a broader range of scores than on other subscales. They seemed to feel most efficacious during both survey administrations in their ability to get students to work together ($\bar{x} = 7.23$, $SD = 1.07$ pretest; $\bar{x} = 6.00$, $SD = 2.43$ posttest). They seemed to feel as if they had the least efficacy in their ability to affect the size of their classes. This item ranked lowest for this subscale in both administrations of the survey ($\bar{x} = 2.18$, $SD = 1.33$, pretest; $\bar{x} = 2.67$, $SD = 1.68$ posttest).

In the subscale which looked at Efficacy to Enlist Parental Involvement, at the time of the pretest, student teachers felt most able to get parents to help their children do well in school ($\bar{x} = 6.27$, $SD = 1.78$) and least able to get parents to be more involved in activities at school ($\bar{x} = 4.59$, $SD = 1.65$). However, during the posttest, while student teachers still apparently felt least able to get parents to be more involved with school activities ($\bar{x} = 4.95$, $SD = 1.99$), they now felt they had the ability to make parents comfortable coming to the school ($\bar{x} = 5.90$, $SD = 2.32$).

Efficacy to Enlist Community Involvement, the sixth subscale, showed that student teachers appeared to feel, during both survey administrations, that they most had the ability to get higher education institutions involved with the school ($\bar{x} = 5.18$, $SD = 2.22$, pretest; $\bar{x} = 5.10$, $SD = 2.29$ posttest), and least able to get churches involved with the schools ($\bar{x} = 4.05$, $SD = 2.38$ for the pretest and $\bar{x} = 4.05$, $SD = 1.99$ for the posttest).

Finally, in the Efficacy to Create a Positive Environment Subscale, student teachers felt most able to get students to trust them ($\bar{x} = 7.64$, $SD = 1.21$ for the pretest; $\bar{x} = 6.48$, $SD = 2.64$ for the posttest), and least able to do anything about absenteeism ($\bar{x} = 4.36$, $SD = 1.73$ pretest; $\bar{x} = 4.19$, $SD = 1.91$ posttest).

As with stress, there were no extreme self-efficacy score means (score means above 8 or below 2), although the means encompassed a greater range than did the stress scores. Therefore, as with the stress scores, these findings must be interpreted within the context of the instrument. A graphical representation of the average item response for each question may be seen in the Figure 2.

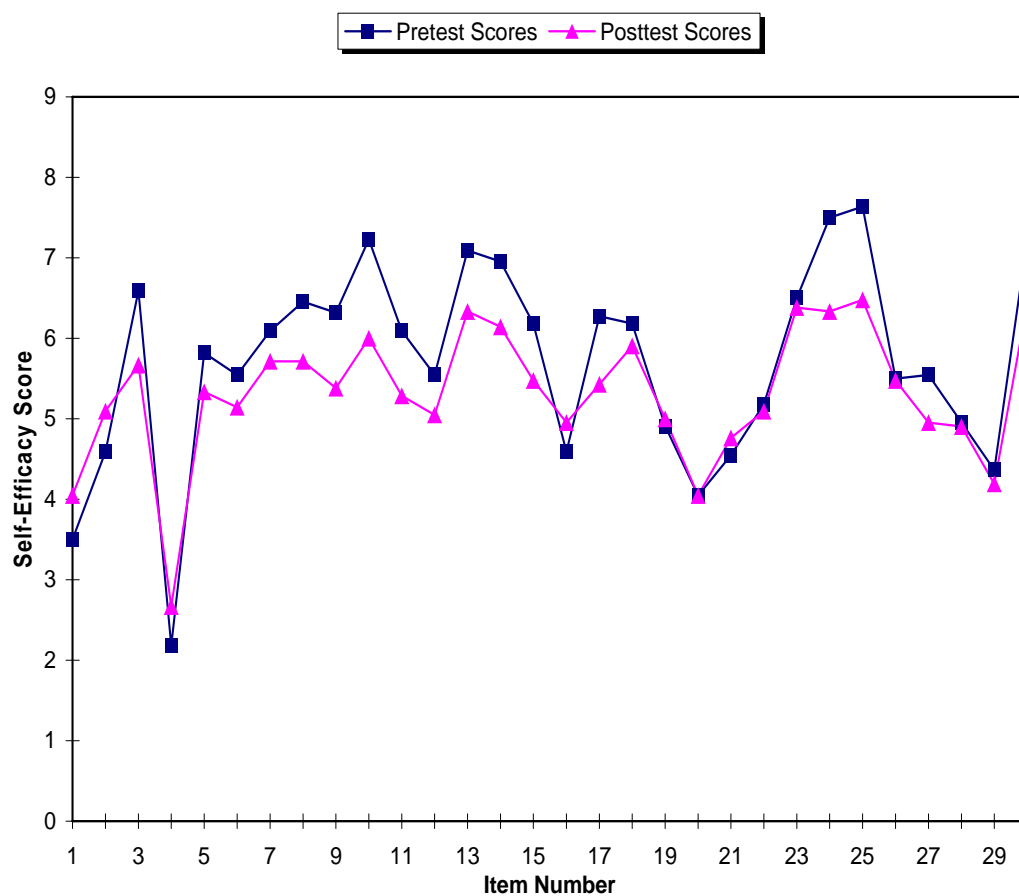


Figure 2. Scatterplot of Mean Pretest and Posttest Self-Efficacy Response Scores

Therefore, because the original method of analysis for Hypothesis 3 was changed due to the smaller number of participants, the hypothesis that there would be *no difference* in the self-efficacy of the student teachers, based on the analysis performed, was rejected, and the stated alternative research hypothesis was not tested.

Findings for Research Hypothesis 4

There will be a significant interaction between type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the self-efficacy measures are administered.

The method of analysis for Hypothesis 4 was expected to be a mixed model Factorial ANOVA. As noted previously, the expected number of participants was not attained, and the special and general education student teacher groups were combined into one group to conduct analyses for Hypotheses 1 and 3. Therefore, conducting an analysis which would examine the interactions between the groups and the testing period for self-efficacy was not possible.

Findings for Research Hypothesis 5

The stress levels of special education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.

The stress levels of special education student teachers at the end of the student teaching internship were examined in Hypothesis 5. The original method

of analysis was to be the one-way within subjects ANOVA. However, because the numbers were insufficient to conduct an ANOVA, a Wilcoxon Signed Ranks Tests was performed instead. The Wilcoxon Signed Ranks Tests is the nonparametric equivalent of the dependent t-test, and looks at differences between scores on repeated measures of one sample group. The results of the analysis may be seen in Tables 18, 19, and 20.

TABLE 18. Descriptive Statistics: Special Education Student Teachers, Stress Pretest and Posttest

	N	Mean	Standard Deviation	Minimum	Maximum
Total Stress Scale Score (Pretest)	9	2.17	.46	1.64	2.99
Total Stress Scale Score (Posttest)	6	2.81	.56	1.95	3.51

TABLE 19. Wilcoxon Signed Ranks Test: Special Education Student Teachers, Stress

		N	Mean Rank	Sum of Ranks
Total Stress Scale Score (Posttest) —	Negative Ranks	2 ^a	2.00	4.00
Total Stress Scale Score (Pretest)	Positive Ranks	2 ^b	3.00	6.00
	Ties	0 ^c		
	Total	4		

a. Total Stress Scale Score (Posttest) < Total Stress Scale Score (Pretest)

b. Total Stress Scale Score (Posttest) > Total Stress Scale Score (Pretest)

c. Total Stress Scale Score (Posttest) = Total Stress Scale Score (Pretest)

The data in Tables 18 and 19 describe the means and mean ranks for the stress pretest and posttest scores for the special education student teachers.

TABLE 20. Test Statistic^b: Special Education Student Teachers, Stress

	Total Stress Scale Score (Pretest) – Total Stress Scale Score
Z	-.365 ^a
Asymp. Sig.	.715

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Tests

In Table 20 is the suggestion that there existed no significant difference in the stress levels of special education student teachers from pretest to posttest ($Z = -.365$, $p = .715$). Thus, the hypothesis stating that the stress levels of special education student teachers would be significantly higher following the completion of the student teaching internship was rejected, and the null hypothesis was embraced.

Findings for Research Hypothesis 6

The self-efficacy of special education student teachers will significantly improve following the completion of the student teaching internship.

The self-efficacy of special education student teachers was expected to improve following the student teaching internship. To make this determination, a one-way within subjects ANOVA was expected to be utilized. However, due to insufficient numbers of respondents, a nonparametric method of analysis, the Wilcoxon Signed Ranks Tests, was used. The results of this analysis can be seen in Table 21, Table 22, and Table 23.

TABLE 21. Descriptive Statistics: Self-Efficacy of Special Education Student Teachers Pretest and Posttest

	N	Mean	Standard Deviation	Minimum	Maximum
Total Self-Efficacy Score (Pretest)	9	5.69	1.11	3.80	7.20
Total Self-Efficacy Score (Posttest)	5	5.93	.80	5.00	6.80

TABLE 22. Wilcoxon Signed Ranks Test, Special Education Student Teachers Self-Efficacy

		N	Mean Rank	Sum of Ranks
Total Self-Efficacy Score (Posttest) – Total Self-Efficacy Score (Pretest)	Negative Ranks	2 ^a	2.00	4.00
	Positive Ranks	1 ^b	2.00	2.00
	Ties	0 ^c		
	Total	3		

a. Total Self-Efficacy Score (Posttest) < Total Self-Efficacy Score (Pretest)

b. Total Self-Efficacy Score (Posttest) < Total Self-Efficacy Score (Pretest)

c. Total Self-Efficacy Score (Posttest) = Total Self-Efficacy Score (Pretest)

The mean ranks and calculated rank sums of the pretest and posttest scores for the self-efficacy variable are described in Tables 21 and 22. Displayed in Table 23 are the Wilcoxon Signed Ranks Test results. There was no difference in the self-efficacy of special education student teachers from time 1 (pretest) to time 2 (posttest) ($Z = -.535$, $p = .593$). Therefore, the hypothesis that special education student teachers would improve in self-efficacy between the pretest and posttest was rejected, and the null hypothesis, stating that there was no difference in self-efficacy from pretest to posttest, was embraced.

TABLE 23. Test Statistics^b: Special Education Student Teachers, Self-Efficacy

	Total Self-Efficacy Score (Posttest) – Total Self-Efficacy Score (Pretest)
Z	-.535
Asymp. Sig. (2-tailed)	.593

- a. Based on positive ranks.
- b. Wilcoxon Signed Ranks Test

Findings for Research Hypothesis 7

The stress levels of general education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.

Hypothesis 7 examined the stress levels of general education student teachers immediately following the completion of the student teaching semester. The method of analysis for this hypothesis was expected to be one-way within subjects ANOVA, however, due to lower than expected numbers of participants, the method of analysis was changed to Wilcoxon Signed Ranks Test. The analysis results can be seen in Tables 24 and 25.

TABLE 24. Descriptive Statistics: Stress, General Education Student Teachers

	N	Mean	Standard Deviation	Minimum	Maximum
Rank of Total Stress Scale Score (Pretest)	50	30.74	17.09	1.00	59.00
Rank of Total Stress Scale Score (Posttest)	34	19.26	11.50	1.00	40.00

TABLE 25. Wilcoxon Signed Ranks Test: General Education Student Teachers, Stress

		N	Mean Rank	Sum of Ranks
Rank of Total Stress Scale Score (Posttest)—Rank of Total Stress Scale Score	Negative Ranks	16 ^a	10.97	175.50
	Positive Ranks	3 ^b	4.83	14.50
	Ties	0 ^c		
	Total	19		

a. Rank of Total Stress Scale Score (Posttest) < Rank of Total Stress Scale Score (Pretest)

b. Rank of Total Stress Scale Score (Posttest) > Rank of Total Stress Scale Score (Pretest)

c. Rank of Total Stress Scale Score (Posttest) = Rank of Total Stress Scale Score (Pretest)

The mean and mean ranks associated with the stress variable for the general education student teachers are described in Tables 24 and 25. The results of the test statistic are shown in Table 26. There was a significant difference in the general education student teachers' feelings of stress between the pretest and the posttest ($Z = -3.241$, $p = .001$). A review of the means from Table 24 suggests that the higher stress levels were during the initial month of the student teaching internship, rather than immediately following the completion of the student teaching internship. Thus, the hypothesis stating that there was *no difference* in stress levels for the general education student teachers from pretest to posttest was rejected, and the stated research alternative hypothesis, indicating that they would be more stressed following the completion of the student teaching internship was rejected, as well.

TABLE 26. Test Statistics^b: General Education Student Teachers, Stress

	Rank of Total Stress Scale Score (Posttest) – Rank of Total Stress Scale Score (Pretest)
Z	-3.241 ^a
Asymp. Sig. (2-tailed)	.001

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Findings for Research Hypothesis 8

The self-efficacy of general education student teachers will significantly improve following the completion of the student teaching internship.

Hypothesis 8 examined the self-efficacy levels of the general education student teachers following the completion of the student teaching internship. The method of analysis for Hypothesis 8 was expected to be one-way within subjects ANOVA; however, there were inadequate numbers of participants to perform an ANOVA. Therefore, the method of analysis became Wilcoxon Signed Ranks Test. Tables 27, 28, and 29 display the results of this analysis.

TABLE 27. Descriptive Statistics for Self-Efficacy

	N	Mean	Std. Deviation	Minimum	Maximum
Rank of Total Self-Efficacy Score (Pretest)	50	30.13	16.79	1.00	59.00
Rank of Total Self-Efficacy Score (Posttest)	34	20.00	11.46	1.50	39.00

TABLE 28. Wilcoxon Signed Ranks Test: General Education Student Teachers, Self-Efficacy

		N	Mean Rank	Sum of Ranks
Rank of Total Self-Efficacy Score (Posttest) – Rank of Total Self-Efficacy Score (Pretest)	Negative Ranks	12 ^a	11.67	140.00
	Positive Ranks	6 ^b	5.17	31.00
	Ties	1 ^c		
	Total	19		

a. Rank of Total Self-Efficacy Score (Posttest) < Rank of Total Self-Efficacy Score (Pretest)

b. Rank of Total Self-Efficacy Score (Posttest) < Rank of Total Self-Efficacy Score (Pretest)

c. Rank of Total Self-Efficacy Score (Posttest) < Rank of Total Self-Efficacy Score (Pretest)

TABLE 29. Test Statistic: General Education Student Teachers Self-Efficacy

	Rank of Total Self-Efficacy Score (Posttest) – Rank of Total Self-Efficacy Score (Pretest)
Z	-2.374 ^a
Asymp. Sig.	.018

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Descriptions of the general education student teacher data, including the mean ranks and rank sums are provided in Tables 27 and 28. The Wilcoxon test statistic is displayed in Table 29. There was a significant difference ($Z = -2.374$, $p = .018$) in the levels of self-efficacy the student teachers felt between time 1 (pretest) and time 2 (posttest). The data suggested that the student teachers felt more self-efficacious during the time of the first administration of the survey (the pretest) rather than immediately following the completion of the student teaching semester. A review of the means from Table 27 also appears to suggest that the

student teachers were more efficacious during the first month of student teaching. Therefore, the hypothesis that there would be *no difference* in self-efficacy levels from pretest to posttest was rejected, as well as was the stated research alternative hypothesis that the general education student teachers would have higher levels of self-efficacy following the completion of student teaching.

Chapter V will be used to elaborate upon these findings, as well as discuss implications of these findings and present recommendations for future research.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The impetus for this study was the desire to determine if special education student teachers experienced more stress and had higher levels of self-efficacy during student teaching than did general education student teachers. Because teaching in the special education classroom is extremely stressful, it seemed reasonable to study this group with the goal of determining if special education student teachers were more stressed than general education student teachers upon entering and exiting the student teaching internship. It also seemed reasonable to study the self-efficacy of student teachers, as efficacious student teachers feel they have the ability to have an effect on those events that affect them personally. Therefore, it may be reasonable to assume that student teachers with higher levels of self-efficacy may experience less stress, and a relationship between the two might exist.

In Chapter II, a review of the literature underscored the urgency of examining the stress/self-efficacy connection in special education student teachers. Previous researchers explored connections among similar variables and different groups, but never explicitly studied special education student teachers. Additionally, many of the researchers examined stress and self-efficacy from the standpoint of the first year and/or veteran teacher.

The purpose of this study was to determine if special education and general education student teachers differed significantly in stress and self-

efficacy during and following the student teaching semester. This study was conducted within the context of the following research hypotheses:

- H1: The *stress* levels of special education student teachers will be significantly higher than that of general education student teachers during and immediately following the completion of the student teaching internship.
- H2: There will be a significant interaction between the type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the stress measures are administered.
- H3: There will be a significant difference in the *self-efficacy* of special education student teachers and general education student teachers during and immediately following the completion of the student teaching internship.
- H4: There will be a significant interaction between type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the self-efficacy measures are administered.
- H5: The *stress* levels of special education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.

H6: The *self-efficacy* of special education student teachers will significantly improve following the completion of the student teaching internship.

H7: The *stress* levels of general education student teachers will be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship.

H8: The *self-efficacy* of general education student teachers will significantly improve following the completion of the student teaching internship.

In this final Chapter, a summary of the methodology and a discussion of the major findings are presented, as are conclusions based on these findings. Recommendations for implementation and future research are provided, as well.

Methodology

This study was designed to examine the stress and self-efficacy of special and general education student teachers. The top ten teacher producing universities in Texas were contacted to request permission to email the student teachers twice during the fall student teaching semester of 2007. Four institutions granted permission. Student teachers were emailed the link to the secure survey site, where the student teacher filled out the demographic data form, created by the researcher, and two instruments, one measuring stress, the other measuring self-efficacy. Student teachers completed the surveys, initially

one month into student teaching, and again immediately following the completion of student teaching.

Data was collected immediately upon completion of the survey each time it was administered, cleaned, and entered into SPSS 14.0. A Pearson's correlation coefficient (an "r" value) was calculated using the data from the first survey administration, or the pretest. Based on the calculated "r," the determination was made to analyze the data using univariate procedures. Based on the number of responses per survey administration per group, the decision was made to use nonparametric analyses. However, since not every student who completed the pretest chose to complete the posttest, and because not every student who completed the posttest had completed the pretest, additional analyses were run to determine whether there was any survey bias among the Pretest Only, the Posttest Only, and the Pretest-Posttest Only groups for the variables of stress and self-efficacy. Although no differences were seen in the groups related to self-efficacy, a significant difference was evident for the pretest only group for stress. No similar effect was noted for the posttest group and stress.

Summary and Discussion of Findings

Hypothesis 1 was studied to in order to explore whether the *stress* levels of special education student teachers would be significantly higher than that of general education student teachers during and immediately following the completion of the student teaching internship. This hypothesis, in the form

above, was not addressable because there were too few participants to conduct parametric analyses. Therefore, because the number of participants was less than expected, the special education and general education pretest-posttest groups were analyzed together and stress was examined from the perspective of the entire student teacher group, rather than as special education student teachers compared to general education student teachers. Also, because of the small sample size, a nonparametric analysis, Friedman's ANOVA, was conducted to determine whether the stress of student teachers differed following a teaching internship. The analysis results indicated that there was a significant difference in the levels of stress exhibited by the student teachers from the pretest to the posttest. The analysis from Friedman's ANOVA suggested that the student teachers were more stressed going into student teaching (significant at the .05 level), rather than upon completing it.

These findings are in keeping with those researchers who suggest that student teacher stress decreases during the student teaching internship (Paese & Zinkgraf, 1991) and it is similar to those of researchers who have demonstrated that student teachers are stressed prior to entering student teaching (MacDonald, 1992; Wadlington, Slaton, & Partridge, 1998). The findings are different, however, from researchers who found that student teachers may be stressed upon exiting their student teaching (Fives, Hamman, & Olivarez, 2005; Gold, 1985). The fact that the student teachers' stress levels in this study were measured one month into student teaching and the student

teachers' stress levels were higher at this point than after completion of the internship may suggest that the student teachers needed time to adapt to the setting and the expectations of others. Student teachers are responsible not only to their cooperating teacher and university supervisor, but also to the school administrators, parents, and students. Therefore, learning how to meet the expectations of so many others may be overwhelming and lead to excess anxiety. Researchers have shown that student teachers have reported feeling anxious prior to beginning the student teaching internship because they were unsure of the expectations of the cooperating teacher, had little time to talk with the cooperating teacher, or were concerned about how they would be evaluated (MacDonald, 1992; Morton, Vesco, Williams, & Awender, 1997).

It would be interesting to know whether the stress levels of the student teachers were higher before they began the internship than one month after beginning the internship. It also would also be interesting to determine if they would have had higher stress levels within the last week of student teaching, rather than immediately following it, as at the very end, the student teachers may have felt completely unstressed, having completed student teaching, and most likely certification exams. In essence, it would be of importance to know, for the purpose of higher education curriculum development, at what point the stress level begins to decrease and whether this decrease would be considered low stress. These were not examined as by the time the student teachers were initially assessed, they were one month into student teaching.

However, it is also important to determine the extent to which the student teachers' stress affects the students in the classroom. Additionally, because stress has negative physical manifestations (for example, obesity, high blood pressure, and chest pain), it would be important to determine, if at all possible, what may be considered "stressful" for each individual student teacher in an attempt to prevent some of the negative aspects of stress. Finally, it is also important to try to determine, from the perspective of organizational development, whether or not this stress negatively impacts the health of the school.

Understanding the point at which there is a decrease in stress would provide teacher education program personnel with the knowledge of a timeframe where significant internship experiences could be introduced, a concept which fits into the thinking of researchers who have found that significant amounts of stress affect learning (Lupien, Maheu, Tu, Fiocco, & Schramek, 2007).

It seems reasonable to conclude that, in some ways, student teachers might be significantly more stressed prior to entering the student teaching internship rather than at the completion of student teaching. Not having a strong grasp of what may be ahead can cause considerable stress and anxiety. Additionally, once they are student teaching, their fears may have been quelled by either the cooperating teacher or by the complete lack of time to be anxious. There also may have been the realization that there was no need to be stressed because they could handle most situations. Often, student teachers still have

one or two final courses to complete while they are student teaching; therefore, they lack time to stress about student teaching because of other tasks still needing to be completed.

Because of the small sample size, it was not possible to examine differences between the special education and general education student teachers on stress as proposed. Instead differences in the stress of all student teachers during and following the internship were examined. The findings that all student teachers show more stress at the beginning or one month into student teaching, than at the end of the student teaching internship, supports and is supported in part by the existing literature (Fives, Hamman, & Olivarez, 2005; Gold, 1985; Paese & Zinkgraf, 1991).

Although subscales were not of interest in this study, they ultimately provided invaluable information about what areas caused student teachers to be more stressed about student teaching, and that information was available for the pretest and the posttest. The overall stress scores suggest that student teachers were neither overly stressed during the initial month of student teaching nor upon exiting, and it is critical that the scores be placed in such context. It provides a frame within which to examine the remaining stress subscale scores and individual item score averages.

Student teachers were most stressed during both the pretest and posttest testing phases by the types of items suggested in the Discipline and Motivation Subscale. This is an interesting finding because preservice teachers (those that

are in the teacher preparation program, not those in the field) have discipline management techniques inculcated in them from the beginning of the program. Therefore, logically, it would seem that discipline should be the least of the concerns of the new student teacher. However, there is also the possibility that because classroom discipline had been a huge topic since the beginning of the program that many student teachers feel they would be evaluated on how well they “controlled the class” and therefore focused disproportionately on discipline.

Also, it is fascinating to note the two particular items in the subscale which student teachers felt were the most stressful, and those were questions 22 and 23, which focused on teacher frustration because they felt the students were either not trying or were not motivated. What makes these two items interesting is that they address areas in which self-efficacy or teacher efficacy may play a significant role. Teachers take particular efforts in motivating students, and are often deeply frustrated and discouraged when those efforts yield less than desirable returns. Therefore, to have student teachers feel such frustration so early on may not bode well for the profession.

Student teachers were somewhat less stressed by the types of items suggested by the Time Management Subscale. Findings were worthy of note here because the items which caused student teachers to feel stressed during the pretest were different from those leading to stress during the posttest. During the pretesting phase, student teachers felt that they were wasting time. This may very well be a function of their learning what to do as student teachers, and

therefore they may have spent plenty of time still observing what to do, rather than doing it. This may also suggest that they may have been doing many more tasks they felt were trivial or administrative, such as taking roll or changing bulletin boards, when they would have rather been more directly involved with the students. However, what was truly fascinating was which item in the Time Management Subscale that was most stressful for the student teachers. During the posttesting phase, student teachers felt most stressed about overcommitting themselves (question 1). This was interesting, as exiting student teachers may have been beginning to get a glimpse of what teaching and balancing a classroom were truly like. They may have also been seeing that not only were they committing themselves to their chosen career, but to the many extracurricular and cocurricular activities in which many teachers routinely engage on a regular basis, and felt completely overwhelmed. Any of these activities, in addition to any unfinished coursework may have led the student teachers to feel overcommitted. Therefore, more information about just what caused the change in stress would be enlightening.

Examining the findings of the eight remaining subscales in aggregate, it is interesting (and surprising) to find that student teachers were least stressed by the size of the class (\bar{x} =2.39, SD= 1.16 pretest; \bar{x} =2.70, SD=0.82 posttest), as that is usually a stressor for veteran teachers. However, it may have been because the class belonged to the supervising teacher, rather than the student teacher that the student teacher felt least stressed by the size of the class. It is

also interesting to note that the overall level of stress increased from pretest to posttest for this particular item, and this may very well have to do with class size as well as the time the survey was administered, at least for the posttest. A class which may have initially appeared to be small while under the control of the supervising teacher (at the beginning of the semester) may have very well seemed quite large to the student teacher who was attempting to control the class (towards the end of the semester).

Additionally, during the initial month of student teaching, student teachers were still concerned about taking care of personal priorities ($\bar{x} = 3.35$, $SD = 1.23$). As student teachers gained more experience, however, it was interesting to note that the item which caused the most stress at work was paperwork ($\bar{x} = 3.21$, $SD = 1.35$), a complaint often voiced by veteran teachers, as well. It may be that the excessive paperwork appeared to cause student teachers to indicate they were most stressed about feeling they were underpaid ($\bar{x} = 3.35$, $SD = 1.47$).

Not surprisingly, student teachers scored in the “not noticeable” range to “barely noticeable” range for opportunities to develop professionally. This is likely because most student teachers have not yet truly considered professional development as they have not been employed professionally.

Of concern is how stress tended to manifest. While the highest manifestations scores were in the Fatigue Manifestations Subscale ($\bar{x} = 2.97$, $SD = 0.98$, pretest, $\bar{x} = 2.86$, $SD = 1.24$, posttest), student teachers also tended to exhibit stress emotionally, as anxiety, gastronomically, and cardiovascularly. As

discussed in Chapter II, high levels of stress and anxiety can lead to cardiovascular problems, as stomach ulcers, thus leading to other coronary diseases. Interestingly, student teachers did not score very high in their usage of over the counter medications to treat stress. However, if the medication were to treat increased stomach acid, for example, then the usage ($\bar{x} = 1.61$, $SD = 0.99$, pretest and $\bar{x} = 1.52$, $SD = 1.08$ posttest) would be in line with perceived stomach acid production ($\bar{x} = 1.87$, $SD = 1.29$ pretest and $\bar{x} = 1.65$, $SD = 1.15$ posttest). Nevertheless, exactly what may have caused any significant differences in levels of stress would be informational.

Significant interactions between the type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the stress measures were to be administered were investigated with Hypothesis 2. Because of the limited sample size, there were no nonparametric tests that used for testing interactions. Therefore, this hypothesis was not tested.

Whether there would be a significant difference in the *self-efficacy* of special education student teachers and general education student teachers *during and immediately following* the completion of the student teaching internship was tested in Hypothesis 3. As with Hypothesis 1, the original hypothesis could not be tested because there were not enough responses to perform parametric analyses. Therefore, the special education and general education student teachers groups were combined into one group for analyses. Similar adjustments were made for Hypothesis 3 as were made for Hypothesis

1, and Friedman's ANOVA was conducted. The analysis suggested that the student teachers had higher levels of self-efficacy during beginning the internship than upon completion of the internship.

These findings appear to refute findings of previous researchers. Previous researchers have shown that self-efficacy continues to rise during the student teaching internship, peaks immediately after student teaching, and then decreases dramatically during the initial year of teaching (Hoy & Spero, 2005). Moreover, efficacy beliefs are shaped by the amount of time student teachers intern, the amount of support received from the cooperating teacher, and the grade level to which student teachers are assigned, as well as other concepts (Brown, 2003; Fives, Hamman, & Olivarez, 2005; Hoy & Spero, 2005; Jung, 2007). However, although researchers have shown that student teachers become more efficacious over time, previous researchers measured efficacy levels at the beginning of student teaching, the end of student teaching, and beginning of teaching.

Although subscale scores were not the scores of interest for this study, they once more imparted important information as to when the student teachers demonstrated the highest levels of self-efficacy, and when they demonstrated the lowest levels. Student teachers appeared to express the highest levels of self-efficacy in the Disciplinary Self-Efficacy Subscale (\bar{x} =6.74, SD= 0.49). Scores within this subscale appear to suggest that student teachers felt they were able to influence the behavior of the students "quite a bit." This finding is

particularly interesting because student teachers were also most stressed about working with unmotivated students. Therefore, the two findings almost appear contradictory. Thus, the finding that the student teachers felt they were able to influence the behavior of their students, including the unmotivated ones, is, in this context, somewhat perplexing.

Puzzling as well was the second subscale in which student teachers exhibited higher levels of self-efficacy, and that was the Efficacy to Influence School Resources subscale (\bar{x} =6.59, no SD pretest, \bar{x} =5.67, no SD posttest). It is not always common for teachers to feel that they have much ability to influence how school resources are allocated; therefore it was a somewhat surprising find that student teachers felt they had this ability. Of course, this may have been a function of with whom the student teacher had been assigned to work. If student teachers had been assigned to work with very strong cooperating teachers, they may not have been aware that certain resources are difficult to acquire, and some are nearly impossible to obtain.

Not surprising at all was the item in which student teachers felt they had the least influence, and that was in the Efficacy to Influence Decision Making (\bar{x} =4.05, SD= 0.77 pretest, \bar{x} =4.57, SD= 0.74 posttest). Many veteran teachers do not feel that they have much influence in the school decision-making process; therefore, it would have been surprising to see student teachers indicate that they felt they had influence on decisions made in the school.

During the posttesting phase, the same participants exhibited the highest and lowest scores for the self-efficacy measures, although the scores were somewhat lower. Therefore, while the student teachers still felt most strongly about their ability to influence students' behaviors and their own abilities to secure classroom resources, they felt this ability to a lesser degree. Moreover, during the posttesting phase, while they still felt they had little sway over the school decision-making process, they showed an increase in scores from the pretest to the posttest for the Efficacy to Influence Decision Making Subscale, suggesting that they were feeling as if they were learning to become more involved in the school, and the school milieu. This was also intriguing because this is the only area in which student teachers exhibited an increase in the subscale score from pretest to posttest for the self-efficacy variable.

An examination of the remaining five subscales also reveals interesting information. Of greatest surprise was the finding that student teachers did not score higher on the Instructional Self-Efficacy subscale (\bar{x} =5.86, SD= 1.42 pretest, \bar{x} =5.14, SD =0.98 posttest), although they did score in the "quite a bit" range (\bar{x} =7.23, SD= 1.07 pretest, \bar{x} =6.00, SD=2.43 posttest) in believing they were able to get students to work together. Moreover, student teacher scores decreased from pretest to posttest for this particular item. This may be because of the proverbial belief that student teachers often enter the classroom with the idea that they will "save the world." However, what tends to happen is that student teachers become somewhat disillusioned after student teaching and

often even more so after the initial year of teaching. Of all individual items in this instrument, student teachers showed the greatest decline in average score with this particular item, although other items also demonstrated decreases of more than one point from pretest to posttest. Two of these items were in the Efficacy to Create a Positive school Climate, and asked about the ability to make students enjoy coming to school ($\bar{x} = 7.50$, $SD = 1.37$ pretest, $\bar{x} = 6.33$, $SD = 2.39$ posttest) with a change of -1.17 and ability to get students to trust the teacher ($\bar{x} = 7.64$, $SD = 1.21$ pretest, $\bar{x} = 6.48$, $SD = 2.64$ posttest), with a change of -1.16 . The decrease in the average score from pretest to posttest is disheartening because although it is important for student teachers to have a sense of realism about the K12 classroom, it is also important to not diminish their beliefs before they have had a chance to have their own classrooms.

Not surprising was the increase in the overall subscale average for Decision Making as well as the increase in the individual averages for the items in this particular subscale. This may be attributable to student teachers being more aware of exactly how the school functions and learning what they have the ability to control and/or influence. Similarly, noting the responses of student teachers for individual items asking about ability to enlist community or parental involvement, student teachers seemed to believe they would be able to encourage higher education institutions and businesses to become involved with the school, but were less sure about their ability to get parents to feel

comfortable coming to the school. There seem to be several things that may be contributing to these feelings.

First, it is possible student teachers may feel they have strong enough connections remaining at the university to get them to commit to the certain mutually beneficial projects in the schools. Particularly at the high school level, student teachers may provide an “entrée” for recruiting students to a particular higher education institution.

Similarly, neighborhood businesses often desire relationships with the local schools and are often supportive of the local schools. Therefore, it is not a stretch to believe that student teachers, especially those that may have held jobs during college, would think they may be able to influence relationships between businesses and schools.

Second, student teachers seemed to feel as if they had less ability to get parents to feel comfortable coming to the school after student teaching (\bar{x} =5.90, SD= 2.32) than during the initial month of student teaching (\bar{x} =6.18, SD= 1.84). This may also be a function of the type of school in which student teachers taught. If student teachers taught in a high-poverty school or a school with large numbers of limited-English speaking parents, then it is very possible that there would be little student teachers could do to make the parents comfortable coming to the school, as the parents may feel that the school personnel may judge them because of their limited income or limited English. Additionally, if student teachers taught in such an environment, then it could easily account for

the dip in efficacy to assisting parents to help students with school work (\bar{x} =6.27, SD= 1.78 pretest; \bar{x} =5.43, SD= 2.04 posttest).

Even though there appeared to be increases in efficacy from pretest to posttest for particular items, and even particular subscales, the overall self-efficacy average decreased from pretest to posttest. This may be because the amount of work that is necessary to be a teacher may have been realized and initial efficacy levels may have dropped after this realization.

Also, given that efficacy levels were measured, for this study, one month into the student teaching internship, student teachers may have been just beginning to feel more (or possibly less) efficacious; that is, there may have been a slight dip in efficacy, then a recovery period. Consequently, if student teachers' efficacy beliefs had been measured at regular intervals, such as every week or every two weeks, a pattern may have emerged demonstrating either a steady increase in efficacy beliefs, such as the literatures suggested, or a slight dip in efficacy beliefs, then a steady increase. Therefore, the time at which the instrument was administered and the number of times the survey was administered in this study may have impacted the results, and may have prevented the findings of this study from supporting findings of previous research undertaken examining teacher efficacy.

Finally, one very plausible reason these findings may appear to contradict previous research findings is because efficacy pertains to the belief that the individual has the ability to make things happen (Bandura, 1997a; Goddard, Hoy

& Hoy, 2000) and student teachers have little control over day-to-day activities in a classroom that has been structured since the beginning of the year. In other words, while teacher research has evolved from locus of control to self-efficacy (and the two concepts are related but are not the same), perhaps it would be useful to measure the construct of locus of control in student teachers. Locus of control pertains to the belief that outcomes are related to actions, and the locus of control may be internal or external (Goddard, Hoy, & Hoy, 2000). For student teachers, the locus of control is often external. Therefore, students may have interpreted the questions as being about locus of control, rather than about efficacy, and from the pretest to the posttest, may have felt they had less control over classroom and school matters than previously believed.

Because the sample size was small, it was not possible to determine if there were any differences between the special education student teachers and general education student teachers for the variable of self-efficacy. Therefore, the differences from pretest to posttest for the entire group were examined. The findings that all student teachers exhibited higher levels of self-efficacy one month into student teaching rather than at the completion of student teaching differ from the findings in the existing literature.

Whether there would be a significant interaction between the type of student teacher (special education vs. general education) and the time (pretest vs. posttest) the self-efficacy measures were administered was to be

investigated in Hypothesis 4 . Because there were no nonparametric tests that are used for testing interactions, this hypothesis was not tested.

The stress and self-efficacy levels of *special education* student teachers would be significantly higher immediately following the completion of the student teaching internship than during the student teaching internship was to be tested in Hypotheses 5 and 6. These hypotheses were tested as written, but not analyzed as expected. The expected analysis was to be one-way within subjects ANOVA but Wilcoxon Signed Ranks Tests was used instead. The results of the analysis suggested that there was no significant difference in stress or self-efficacy levels pretest and posttest for special education student teachers. The rationale for Hypothesis 5 was two-fold. The first part was based in literature which suggested that special education teachers experienced high levels of stress and burnout (Embich, 2001; Lazuras, 2006). The second part was based on literature which suggested that burnout (extended exposure to constant stress) may begin during student teaching and student teachers may be stressed at the completion of student teaching (Fives, Hamman, & Olivarez, 2005; Gold, 1985). These pieces of literature led to a hypothesis that special education student teachers would be more stressed at the end of student teaching than at the beginning. The rationale for Hypothesis 6 was that previous researchers have indicated that student teachers demonstrate an increase in self-efficacy during the student teaching internship, followed by a decline in self-efficacy once in the classroom (Hoy & Spero, 2005). The findings for Hypotheses

5 and 6, however, are neither in line with the above stated researchers' findings, nor with research which found that student teachers may be more stressed going into student teaching rather than at completion.

Kyriacou (2001) indicated that teacher stress made teachers feel unhappy, or otherwise depressed or anxious. However, those things which may elicit a stress response differ from person to person (Kyriacou, 2001; Selye, 1932). Given the findings, it may be fair to assume that those who completed the survey both times (especially for the posttest) may have felt less stressed and therefore may have had time to complete the survey. However, it may also be fair to suggest that the student teachers who demonstrated no difference in stress levels from the pretest to the posttest may have been stressed during the entire student teaching internship, and therefore no difference would show between the two administrations of the survey for those student teachers, either.

Additionally, there tended to be characteristics that may be inherent in special education student teachers that differ from those of general education student teachers, as Brownell, Ross, Colón, and McCallum (2005) found that preparation programs for student teachers tended to overlook the characteristics of special education student teachers. By extension, then, there may be self-efficacy beliefs that special education student teachers possess that other student teachers may not.

Further, there may be a relationship between stress and self-efficacy that did not manifest during this study which may account for the fact that there were

no differences in scores from pretest to posttest for special education student teachers. Although Chan (2002) found evidence to the contrary concerning a relationship between stress and self-efficacy, other researchers have suggested that there is a relationship between the two constructs, and that significant relationships exist between teacher stress and teacher efficacy as well as between teacher stress and teacher self-efficacy (Fives, Hamman, & Olivarez, 2005; Hughes, 2006; Paese & Zinkgraf, 1991). Researchers indicated that as stress decreased, efficacy increased, possibly suggesting that the student teachers in these studies initially may have had somewhat higher levels of self-efficacy than other student teachers.

Finally, of note is the fact that student teachers' stress and self-efficacy levels were measured one month into the student teaching program and again at the end, and there was no significant difference. The results may be, in this case, more an effect based on the lack of the number of special education student teachers whose responses were analyzable for the pretest and posttest. Because the number of student teachers who completed both survey administrations was small, any additional responses could feasibly affect the significance of the findings.

Hypotheses 7 and 8 were designed to determine whether the stress and self efficacy levels of *general education* student teachers would significantly improve following the completion of the student teaching internship. This hypothesis was also tested as written, but not analyzed as expected. The

method of analysis was the Wilcoxon Ranked Signs Tests, and the results indicated that there were significant differences in both the stress and self-efficacy of general education student teachers from the pretest to the posttest. For Hypothesis 7, which had as a focus stress, the general education student teachers were significantly more stressed in the beginning of student teaching, whereas for Hypothesis 8, the general education student teachers demonstrated significantly higher levels of self-efficacy during the pretest phase, as well.

The underlying principles for Hypotheses 7 and 8 were that previous research literature suggested that student teachers exit the internship significantly stressed and burned out (Fives, Hamman, & Olivarez, 2005; Gold, 1985), but they generally tended to show increases in self-efficacy towards the end of the internship. However, the findings from this study suggested that general education student teachers were more stressed during the initial month of student teaching than at the completion, and their self-efficacy significantly decreased from pretest to posttest. Literature suggests that student teachers are very stressed going into student teaching (MacDonald, 1992; Wadlington, Slaton, & Partridge, 1998), as well as exiting student teaching (Fives, Hamman, & Olivarez, 2005; Gold, 1985). Moreover, much of the stress for general education student teachers involves content knowledge and content delivery (Comey, 2006; Uusimaki and Nason, 2004). This is interesting, because Brownell, Ross, Colón, and McCallum (2005) found that there were certain characteristics which were fundamental in general education student teacher

preparation programs which were not found, or were found in small quantities, in the special education teacher program, such as content specific pedagogy.

As stated previously, student teachers' efficacy beliefs are shaped during student teaching and by the amount of time spent in the student teaching classroom, as well as cooperating teacher support and grade level to which assigned to teach (Brown, 2003; Fives, Hamman, & Olivarez, 2005; Hoy & Spero, 2005; Jung, 2007). Interestingly, efficacy in teaching is related to student achievement and stronger teacher resiliency (Goddard, Hoy & Hoy, 2000; Hoy & Spero, 2005; Skaalvik & Skaalvik, 2007), meaning that the teacher believes he or she has the ability to make a difference with students in the classroom, and if any of the students fail to achieve, the teacher does not take those failures personally, or house them internally.

Based on the literature, there are several explanations as to what may have attributed to the stress and self-efficacy findings. As with Hypothesis 1, the time at which the survey was administered may have significantly impacted the number of participants and the types of responses. Student teachers who were just beginning to feel comfortable in student teaching may also have felt that they had very little time to complete a survey for the purposes of research. Also, because stress, as was self-efficacy, was measured only twice during the semester, it may make sense to measure students several times during the semester to determine when stress peaks. Additionally, as was mentioned previously with self-efficacy, there may be a dip in the self-efficacy scores of

general education student teachers prior to an increase in scores, so the increase may not be quite as steady as initially believed. If it happens that there may be a dip in efficacy prior to the rise, then preparation program administrators may want to use that information to inform the curriculum, specifically when the student teacher is working closely with the cooperating teacher so that the cooperating teacher may be of greater assistance.

Finally, the findings for Hypotheses 7 and 8 tended to follow the findings for Hypotheses 1 and 3. Because the majority of respondents were general education student teachers, the results for Hypotheses 1 and 3 may have been swayed by the large number of general education student teachers, in comparison to the numbers of special education student teachers.

Conclusions

No conclusions can be drawn about the differences between Special Education and General Education student teachers on stress and self-efficacy following a student teacher internship. It appears that, overall, student teachers are less stressed and somewhat less efficacious following the student teaching internship. However, it may be concluded that neither the stress nor self-efficacy of the Special Education student teacher changes after the internship.

General Education student teachers, however, appear less stressed and, unexpectedly, less efficacious after the experience. Time management and behavioral issues appear to be the dominating stressors for student teachers. Specifically, it would appear that wasting time and not having enough time to

complete tasks also extensively contribute to the stress levels of the student teachers during the first month of the student teaching internship, although the overall initial and subsequent levels of stress are only in the medium or moderate range. Additionally, during the posttest phase, students who are not motivated and students who do not try are still the main contributing factors to the stress after the experience. However, after the internship, student teachers appear most stressed when they feel they have overcommitted themselves. Importantly, although student teachers appear to be most stressed by student discipline, it appears that overall the student teachers were no more than moderately stressed during the initial month of student teaching and upon completion student teaching.

A decrease in several of the efficacy behaviors within individual subscales may be linked to the overall decrease in self-efficacy after the internship. What can be concluded is that student teachers appear as if they are more able to influence community involvement and decision making after the internship than during the first month of student teaching. As with stress, student teachers' levels of self-efficacy, although somewhat diminished upon completion of student teaching, were within the midrange of efficacy levels both prior to student teaching as well as upon completion.

Finally, based on the numbers of student teachers of color in the sample, no conclusions can be drawn concerning student teachers' stress and self-efficacy. Similarly, no conclusions can be drawn regarding stress and self-

efficacy in males. Although this study did not provide evidence of a relationship between stress and self-efficacy, particularly because of the relatively small sample size, these conclusions must be viewed with caution and further testing is warranted.

Recommendations for Teacher Education Program Personnel

There are practical applications to the findings and the literature, and the following recommendations can be made:

1. It is recommended that curriculum writers examine the special education student teacher preparation program for areas where tested stress management techniques may be incorporated. Although the findings of this study do not confirm this, literature suggests that special education teachers need to reduce their levels of stress (Lazuras, 2006).
2. This study also illuminated a need for methods by which student teachers may reduce stress. It is therefore recommended that stress instruments be administered such that student teachers with higher levels of stress be taught appropriate stress reduction techniques. For example, teacher education program administrators may wish to introduce into coursework one or two classes, or possibly even one or two courses, which focus explicitly on holistic and specific methods of stress relief.

3. Because examination of the stress subscales revealed that student teachers showed an increase in stressors caused by work (Work-Related Stressors), it is recommended that student teachers be taught during the student teaching internship how to best address these work-related stressors.
4. Based on findings from the subscale scores, it is recommended that student teachers be assessed regularly for abnormal levels of stress, based on the student teacher's own baseline stress level, and that interventions be put into place based on exactly the levels of stress and the types of stressors.
5. It is recommended that cooperating teachers be more directly involved in the distressing process for student teachers. Cooperating teachers might want to set aside a specified amount of time for discussing the cooperating teachers' expectations. Student teachers may also want to keep a journal of stressors to discuss with their cooperating teachers.
6. Based on the findings of this study, it would be recommended that self-efficacy instruments be administered in the beginning of the program to assess levels of efficacy, and the results used to inform curricular changes such that efficacy is strengthened in those with weak efficacy.

7. Because the researcher believes that student teachers do not completely understand the difference between locus of control and self-efficacy, it is also recommended that student teachers be taught the difference between the two constructs so that they may understand exactly what and how they effect changes in the classroom. This course would likely have the most the impact during the semester immediately prior to student teaching, and reiterated during debriefing sessions scheduled at the beginning of the student teaching internship.
8. It is also recommended, based on the results of the subscale measures for each instrument, that teacher education programs help relieve the anxiety, and remove the focus off of discipline, as this area seemed to cause the highest level of stress, yet also simultaneously resulted in the highest levels of self-efficacy.
9. It is recommended that program personnel provide a method by which student teachers may learn to manage excessive administrative paperwork, as that is one are in which student teachers showed an increase in stress.
10. it is also recommended that student teachers be provided opportunities for professional development (e.g., teacher conferences, or content specific conferences) prior to becoming a teacher, as

student teachers also indicated this as an area in which they became more stressed at the end of student teaching.

11. Because student teachers often enter the classroom believing they can “change the world,” it is imperative that student teachers be prepared for the reality of students who do not like school so that they do not reach burnout early in their teaching careers.

12. It is recommended that student teachers be measured at regular intervals throughout the teacher preparation program to determine if they need any assistance in either of the affective areas. Every two weeks would be appropriate for assessing self-efficacy. University supervisors may want to consider weekly assessment of student teachers for stress.

Recommendations for Further Research

Based on the previous literature and results of this study, additional research may be required with different groups of student teachers and possibly different time intervals. Specifically, the following recommendations are being made:

1. Although the anticipated numbers of participants was quite large, the actual number of participants was quite small. Therefore, it is recommended that the study be repeated with a larger number of student teachers.

2. As demographics continue to change, and students are increasingly more bilingual or multilingual, it is recommended that a similar study be conducted examining the stress and self-efficacy levels of student teachers in bilingual programs. Finding colleges which certify large numbers of bilingual teachers, especially or specifically in Texas, could be addressed through the Texas Education Agency.
3. Although literature was not examined specifically for the purposes of determining stress and self-efficacy levels by race or gender, this study should also replicated comparing stress and self-efficacy in student teachers by race and/or ethnicity, as well as by gender.
4. It is also recommended that a similar study be repeated comparing student teachers in rural, suburban, or urban settings. Because there is literature which suggests that the three settings are very different, it is imperative to examine the levels of stress around student teachers teaching in these settings so that education curriculum may more directly impact and appropriately address the needs and concerns of the student teachers.
5. Researchers (Chung, 2002; Lent, Sheu, Schmidt, Brenner, Wilkins, Brown, et al., 2005) have suggested that students of color, particularly Black students, have higher levels of self-efficacy and self-esteem after having attended Historically Black Colleges and Universities (HBCUs) because HBCUs focus on the entire student, rather than just

the curriculum. Therefore, it is recommended that this study be repeated comparing stress and self-efficacy in student teachers who have completed student teaching programs in HBCUs and Hispanic Serving Institutions (HSIs) to and among student teachers who completed student teaching programs at Predominantly White Institutions.

6. Because there were too few male student teachers, this study should be repeated with a deliberate oversampling of males so that these variables may be studied.
7. Compare and contrast stress and self-efficacy of student teachers who are completing certification requirements by traditional methods of certification to those who are certifying through alternative certification routes.
8. An additional recommendation would be that student teachers be administered the self-efficacy survey several times at regular intervals during the course of the semester to determine if there is actually a steady increase in self-efficacy levels from the beginning of student teaching to completion, or whether there is a decline in efficacy, followed by an increase.
9. Researchers have indicated that self-efficacy and locus of control are closely related. Even though locus of control has been studied in the

past, it is recommended that locus of control and stress be examined together in special education student teachers.

10. Because this study used the top ten teacher producing schools in Texas, different types of universities were asked to participate, such as Research Extensive, Teaching Universities and Regional State Universities. It is therefore recommended that the study be repeated using universities of similar size and mission to determine if any differences in stress and/or self-efficacy can be attributed to institutional type.
11. A qualitative component is recommended if this study is repeated. Student teachers should be interviewed at random during each testing administration to provide more information that could not be obtained from a quantitative study.
12. A similar study should be conducted using a mixed methods approach.
13. As there were increases and decreases in specific subscale scores in directions opposite of the desired direction (i.e., more stress, less self-efficacy), areas within those specific subscales should be targeted for curricular restructuring.
14. It is also recommended that a study be conducted examining the perceptions of stress and efficacy from the perception of the supervising teacher.

15. It is also recommended that this study be repeated and that all instruments be administered, in person using a paper and pencil method, rather than electronically, as the number of participants would likely increase.

Closing Remarks

The results of this study supported much of the stress literature that is available about student teachers, but also contradicted literature that suggested that self-efficacy increases steadily from the beginning to the end of student teaching. While the sample size was small, and therefore the generalizability of this study is therefore limited, the results are somewhat intriguing and certainly present a case for further discussion and research. Perhaps the constructs of locus of control and self-efficacy should be measured together to determine exactly what the student teachers understand. Although the results of this study must be reviewed cautiously because of the small sample size, it is the hope that these preliminary results will lead to a further need to examine stress and self-efficacy of student teachers for the purpose of ultimately producing stronger, more effective curriculum for student teachers in general, and special education student teachers in particular.

REFERENCES

- Abidin, R. R. & Robinson, L. L. (2002). Stress, biases, or professionalism: What drives teachers' referral judgments of students with challenging behaviors? *Journal of Emotional and Behavioral Disorders*, 10(4), 204-212.
- Admiraal, W.F., Korthagen, F.A.J., Wubbels, T. (2000). Effects of student teachers' coping behavior. *British Journal of Educational Psychology*, 70, 33-52.
- Baca-Garcia, E., Para, C. P., Perez-Rodriguez, M. M., Sastre, C. D., Torres, R. R., Saiz-Ruiz, J., de Leon, J. (2007). Psychosocial stressors may be strongly associated with suicide attempts. *Stress and Health*, 23, 191-198.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1997a). *Self-efficacy: The exercise of control*. New York: W. H. Freeman and Company.
- Bandura, A. (1997b). *Teacher self-efficacy scale*. Unpublished. Retrieved April 16, 2007 from www.coe.ohio-state.edu/ahoy/researchinstruments.htm.
- Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science*, 9, 75-78.

- Bargerhuff, M.E., Dunne, J. D., Renick, P.R. (2007). Giving teachers a chance: Taking special education teacher preparation programs to communities. *Rural Special Education Quarterly*, 26(1), 3-12.
- Bechen, E.F. (2000). Sources of stress as perceived by preservice and inservice Iowa educators. *Dissertation Abstracts International*, 61(11), 4318. (UMI No. 9996069).
- Bong, M, & Clark, R. E. (1990). Comparison between self-concept and self-efficacy in academic motivation research. *Educational Psychologist*, 34(3), 139-153.
- Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Review*, 15(1), 1-40.
- Borg, M. (1990). Occupational stress in British educational settings: A review. *Educational Psychology*, 10(2), 103-126.
- Brown v. Board of Education, 347 U.S. 483 (1954).
- Brown, M. (2003). *Self-perceptions of rural college special education preservice teachers: Assessing the application of curriculum content knowledge to the actual classroom*. Paper presented at the Annual Conference of the American Council of Rural Special Education, Salt Lake City, UT.
- Brownell, M. T., Ross, D. D., Colón, E. P., & McCallum, C. L. (2005). Critical features of special education teacher education: A comparison with

general teacher education. *The Journal of Special Education* 38(4), 242-252.

Bruno, L. C., & Frey, R.J. (2006). Stress reduction. (stress management methods) (Medical condition overview). *Gale Encyclopedia of Medicine*. Retrieved December 4, 2007, from <http://find.galegroup.com.ezproxy.tamu.edu:2048/itx/infomark.do?prodId=HRCA&userGroupName=txshracd2566&version=1.0&type=retrieve&docId=A149850026&searchType=AdvancedSearchForm>

Campbell, M., & Uusimaki, L. (2006). Teaching with confidence: A pilot study of an intervention challenging pre-service education students' field experience anxieties. *International Journal of Practical Experiences in Professional Education*, 9(1), 20-32.

Caprara, G. V., & Steca, P. (2005). Self-efficacy beliefs as determinants of prosocial behavior conducive to life satisfaction across ages. *Journal of Social and Clinical Psychology*, 24(2), 191-217.

Carlson, E., Lee, H., & Schroll, K. (2004). Identifying attributes of high quality special education teachers. *Teacher Education and Special Education*, 27(4), 350-359.

Chan, D. W. (1998). Stress, coping strategies, and psychological distress among secondary school teachers in Hong Kong. *American Educational Research Journal*, 35(1), 145-163.

- Chan, D. W. (2002). Stress, self-efficacy, social support, and psychological distress among prospective Chinese teachers in Hong Kong. *Educational Psychology, 22*(5), 557-569.
- Chong Suk Ching, S., Forlin, C., & Mei Lan, A. (2007). The influence of an inclusive education course on attitude change of pre-service secondary teachers in Hong Kong. *Asia-Pacific Journal of Teacher Education, 35*(2), 161-179.
- Chung, Y. B. (2002). Career decision-making self-efficacy and career commitment: Gender and ethnic differences among college students. *Journal of Career Development, 28*(4), 277-284.
- Comey, G. (2006). Education for sustainable development: An empirical study of the tensions and challenges faced by geography student teachers. *International Research in Geographical and Environmental Education, 15*(3), 224-240.
- Diekhoff, G. (1996). *Basic statistics for the social and behavioral sciences*. Upper Saddle River, NJ: Prentice-Hall.
- Dussault, M., Deaudelin, C., Royer, N., & Loiselle, J. (1997). *Professional isolation and stress in teachers*. Paper presented at the Annual Meeting of the American Educational Research Association 1997, Chicago, IL.
- Eichinger, J. (2000). Job stress and satisfaction among special education teachers: Effects of gender and social role orientation. *International Journal of Disability, Development and Education, 47*(4), 397-412.

- Embich, J. L. (2001). The relationship of secondary special education teachers' roles and factors that lead to professional burnout. *Teacher Education and Special Education, 24*(1), 58-69.
- Evers, W. J. G., Brouwers, A., & Tomic, W. (2002). Burnout and self-efficacy: A study on teachers' beliefs when implementing an innovative educational system in the Netherlands. *British Journal of Educational Psychology, 72*, 227-243.
- Fasko, S. N., & Fasko, D. (1998). A systems approach to self-efficacy and achievement in rural schools. *Education, 119*(2), 292-299, 204.
- Faul, F., Erdfelder, E., Lang, A-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.
- Field, A. (2005). *Discovering statistics using spss* (2nd ed.). London: Sage Publications.
- Fimian, M. J. (1985). The development of an instrument to measure occupational stress in teachers of exceptional students. *Techniques: A Journal for Remedial Education and Counseling, 1*, 270-285.
- Fimian, M. J. (1987a). *Teacher stress inventory*. Retrieved July 17, 2007, from <http://www.instructionaltech.net/tsi/>.
- Fimian, M. J. (1987b). *Teacher stress inventory manual*. Retrieved July 17, 2007, from <http://www.instructionaltech.net/tsi/>.

- Fives, H., Hamman, D., & Olivarez, A. (2005). *Does burnout begin without student teaching? Analyzing efficacy, burnout, and support during the student-teaching semester*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, CA.
- Friedman, I. A., & Farber, B. A. (1992). Professional self-concept as a predictor of teacher burnout. *Journal of Educational Research*, 86(1), 28-35.
- Glover, D., & Bush, T. (2005). The online or e-survey: A research approach for the ICT age. *International Journal of Research & Method in Education*, 28(2), 135-146.
- Gold, Y. (1985). Does teacher burnout begin with student teaching? *Education* 105(3), 254-257.
- Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, 37(2), 479-507.
- Goetzinger, E. K. (2006) Burnout among special educators: Do experience, certification, caseload, and school size make a difference? *Dissertation Abstracts International*, 67(10), (UMI No. 3237516)
- Gugliemi, R. S., & Tatrow, K. (1998). Occupational stress, burnout, and health in teachers: A methodological and theoretical analysis. *Review of Educational Research*, 68(1), 61-99.

- Hastings, R. P., & Oakford, S. (2003). Student teachers' attitudes towards the inclusion of children with special needs. *Educational Psychology*, 23(1), 87-94.
- Henson, R. K. (2001, January). *Teacher self-efficacy: Substantive implications and measurement dilemmas*. Paper presented at the Annual Meeting of the Educational Research Exchange, College Station, TX, (ERIC Document Reproduction Service No. ED452208).
- Hinkle, L. E. (1973). The concept of "stress" in the biological and social sciences. *Science, Medicine, and Man*, 1(1), 31-48.
- Honig v. Doe, 484 U.S. 305 (1988)
- House, L. J., & Jones, R. (2003). Self-efficacy, student teaching, and the teacher education program. In R. Jones (Organizer), *Assessing performance and self efficacy of student teachers*. Symposium conducted at the meeting of the MidSouth Educational Research Association, Biloxi, MS.
- Hoy, A. W. & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education*, 21(6), 343-356.
- Hughes, J. C. (2006). Teacher stress, teacher efficacy, and standardized testing: A study of New York City public school teachers. *Dissertation Abstracts International*, 67(03), (UMI No. 3210270)

- Hutchinson, W. (1998). *An investigation of teacher stress and efficacy*. Stanley, Hong Kong: The Hong Kong Sea School. (ERIC Document Reproduction Service No. ED460105).
- Jaccard, J., & Becker, M. A. (1990). *Statistics for the behavioral sciences* (2nd ed.). Belmont, CA: Wadsworth Publishing Company.
- Jenkins, K. (2003, November). Assessment of elementary and secondary student teachers. In R. Jones (Organizer), *Assessing performance and self efficacy of student teachers*. Symposium conducted at the meeting of the MidSouth Educational Research Association, Biloxi, MS.
- Jung, W. S. (2007). Preservice teacher training for successful inclusion. *Education*, 128(1), 106-113.
- Keener, C. D., & Bargerhuff, M. E. (2006). Graduate intervention specialists' responses to an introductory practicum: Implications for teacher educators. *Education*, 127(2), 216-230.
- Kyriacou, C. (2001). Teacher stress: Directions for future research. *Educational Research*, 53(1), 27-35.
- Lazuras, L. (2006). Occupational stress, negative affectivity and physical health in special and general education teachers in Greece. *British Journal of Special Education*, 33(4), 204-209.
- Lent, R.W., Sheu, H-B., Schmidt, J., Brenner, B.R., Wilkins, G., Brown, S.D., Gloster, C.S., Schmidt, L.C., Lyons, H., Treistman, D. (2005). Social cognitive predictors of academic interests and goals in engineering: Utility

- for women and students at historically Black universities. *Journal of Counseling Psychology*, 52(1), 84-92.
- Levi, L. (1972). Introduction: Psychosocial stimuli, psychophysiological reactions, and disease. In L. Levi (Ed.) *Stress and distress in response to psychosocial stimuli: Laboratory and real-life studies on sympatho-adrenomedullary and related reactions*. New York: Pergamon Press.
- Lupien, S. J., Maheu, F., Tu, M., Fiocco, A., & Schramek, T.E. (2007). The effects of stress and stress hormones on human cognition: Implications for the field of brain and cognition. *Brain and Cognition*, 65, 209-237.
- MacCarty, T. K. (2004). Teacher self-efficacy and state-mandated testing. *Dissertation Abstracts International*, 65(12), 6697, (UMI No. 3159469)
- MacDonald, C. J. (1992). The multiplicity of factors creating stress during the teaching practicum: The student teachers' perspective. *Education*, 113(1), 48-58.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, 2, 99-113.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job Burnout. *Annual Review of Psychology*, 53, 397-422.
- McKinney-Toodle, C. (2001). A study of perceived stress and the constructs of burnout among special education middle school teachers. *Dissertation Abstracts International*, 62(9), 2946, (UMI No. 3027383)
- Mills v. District of Columbia, 348 F. Supp. 866 (1972).

- Mintz, J. (2007). Attitudes of primary initial teacher training students to special educational needs and inclusion. *Support for Learning*, 22(1), 3-8.
- Mirvis, D., M., Graney, M., J., Ingram, L., & Tang, J. (2006). Burnout and psychological stress among deans of colleges of medicine: A national study. *Journal of Health and Human Services Administration*, 29(1), 4-25.
- Montgomery, C. (2004). Student teachers' stress and social problem-solving skills. *Journal of Cognitive Education and Psychology*, 3(3), 342-350.
- Montgomery, C., & Rupp, A. A. (2005). A meta-analysis for exploring the diverse causes and effects of stress in teachers. *Canadian Journal of Education*, 28(3), 458-486.
- Morton, L. L., Vesco, R., Williams, N.H., & Awender, M. A. (1997). Student teacher anxieties related to class management, pedagogy, evaluation, and staff relations. *British Journal of Educational Psychology*, 67, 69-89.
- Moss, J., & Hendry, G. (2002). Use of electronic surveys in course evaluation. *British Journal of Educational Technology*, 33(5), 583-592.
- Murray-Harvey, R., Slee, P. T., Lawson, M. J., Silins, H., Banfield, G., & Russell, A. (2000). Under stress: The concerns and coping strategies of teacher education students. *European Journal of Teacher Education*, 23(1), 19-35.
- National Center for Education Statistics. (n.d.). *Glossary*. Retrieved December 4, 2007, from <http://nces.ed.gov/pubs/eiip/eiipgls.asp>

National Dissemination Center for Children with Disabilities (n.d.). *IDEA*.

Retrieved December 3, 2007, from <http://www.nichcy.org/idea.htm>

Ndigi, D. P., & Sibaya, P. T. (2002). Black teachers' personality dimensions and work related stress factors. *South African Journal of Psychology*, 32(3), 7-15.

Paese, P., & Zinkgraf, S. (1991). The effect of student teaching on teacher efficacy and teacher stress. *Journal of Teaching in Physical Education*, 10, 307-315.

Patten, M. (1997). *Understanding research methods: An overview of the essentials*. Los Angeles: Pyrczak Publishing.

Pennsylvania Association for Retarded Children v. Pennsylvania, 343 F. Supp. 279 (1972).

Pithers, R. T., & Soden, R. (1999). Person-environment fit and teacher stress. *Educational Research* 41(1), 51-61.

Plash, S., & Piotrowski, C. (2006). Retention Issues: A study of Alabama special education teachers, *Education*, 127(1), 125-8.

Prater, M. A., & Sileo, T. W. (2002). School-university partnerships in special education field experiences. *Remedial and Special Education*, 23(6), 325-334, 338.

Prymachuk, S., & Richards, D. A. (2007). Predicting stress in pre-registration students. *British Journal of Health Psychology*, 12, 125-144.

- Ravichandran, R., & Rajendran, R. (2007). Perceived sources of stress among the teachers. *Journal of the Indian Academy of Applied Psychology*, 33(1), 133-136.
- Roberts, B. (2000.) Personal efficacy and collective efficacy. Retrieved December 8, 2007, from <http://www.stolaf.edu/people/roberts/psych-121/Efficacy.html>.
- Rogers, R. (2003). A critical discourse analysis of the special education referral process: A case study. *Discourse: Studies in the Cultural Politics of Education*, 24(2), 139-158
- Romi, S., & Leyser, Y. (2006). Exploring inclusion preservice training needs: A study of variables associated with attitudes and self-efficacy beliefs. *European Journal of Special Needs Education*, 21(1), 85-105.
- Sadowski, C. J., Blackwell, M. W., & Willard, J. L. (1986). Assessing locus of control, perceived stress, and performance of student teachers. *Education*, 106(3), 352-353.
- Selye, H. (1980). *Selye's guide to stress research*. New York: Van Nostrand Reinhold Company.
- Silvernail, D.L. & Costello, M.H. (1983). Student teaching and internship programs on preservice teachers' pupil control perspectives, anxiety levels, and teaching concerns. *Journal of Teacher Education*, 34(4), 32-36.

Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, 99(3), 611-625.

Smith, T. E.C., Polloway, E. A., Patton, J. R., & Dowdy, J. (1995). *Teaching students with special needs in inclusive settings*. Boston: Allyn and Bacon.

Spatz, C. (2005). *Basic statistics: Tales of distributions* (8th ed.). Belmont, CA: Wadsworth Thomson Learning.

State Board for Educator Certification. (2001). Special Education Standards.

Retrieved July 28, 2007, from

<http://www.sbec.state.tx.us/SBECOnline/standtest/standards/allspeced.pdf>.

Statsoft. (2008). Electronic Statistics Textbook. Retrieved February 18, 2008, from <http://www.statsoft.com/textbook/stathome.html?stnonpar.html&1>.

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17, 783-805.

United States Department of Education. (2007). Thirty years of progress in educating children with disabilities through IDEA. Retrieved November 28, 2007, from <http://www.ed.gov/policy/speced/leg/idea/history30.html>.

Uusimaki, L., & Nason, R. (2004). Causes underlying pre-services teachers' negative beliefs and anxieties about mathematics. *Proceedings of the 28th*

Conference of the International Group for the Psychology of Mathematics Education, 4, 369-376.


- Wadlington, E. M., Slaton, E., & Partridge, M. E. (1998). Alleviating stress in preservice teachers during field experiences. *Education, 119*(2), 335-348.
- Woolfolk, A. E., & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs amount control. *Journal of Educational Psychology, 82*(1), 81-91.
- Wu, S., Li, J., Wang, M., Wang, Z., Huangyuan, L. (2006). Short communication: Intervention on occupational stress among teachers in the middle schools in China. *Stress and Health, 22*, 329-336.
- Zurlo, M. C., Pes, D., & Cooper, C. L. (2007). Stress in teaching: A study of occupational stress and its determinants among Italian schoolteachers. *Stress and Health, 23*, 231-241.

APPENDIX A
PERMISSION LETTERS TO USE AND INCLUDE INSTRUMENTS
IN DISSERTATION

Folder: INBOX

Attachments: Part 1 [noname](#) (TEXT/PLAIN 7bit 1585 bytes) [Hide](#)
 Part 2 [noname](#) (TEXT/HTML quoted-printable 9206 bytes) [View](#)

Date: Wednesday, July 25 2007 07:35 am

From: Michael Fimian <Fimian@instructionaltech.net> 

To: kdickersn3@neo.tamu.edu

CC: fimian@instructionaltech.net

Reply-To: Michael Fimian <Fimian@instructionaltech.net>

Subject: RE: Permission to administer the Teacher Stress Inventory online

Hi Kimberly,

How are you today??

-----Original Message-----

From: Dickerson, Kimberly Lynn [mailto:kdickersn3@neo.tamu.edu]

Sent: Tuesday, July 24, 2007 3:42 PM

To: Fimian@InstructionalTech.Net

Subject: Permission to administer the Teacher Stress Inventory online

Hello Dr. Fimian,

My name is Kimberly Dickerson and I am a doctoral student in the Educational

Administration program at Texas A&M University . Thank you very much for

making your instrument available to those of us who would love to use it. I

understand through your website that we may use the Teacher Stress Inventory

for research purposes and that the first page provides the memo indicating

that we have such permission.

Sure. As does this email, in case you need it for your committee.

However, I wanted to also make sure that it would be an acceptable

adaptation to administer the Teacher Stress Inventory online. I will not

need to use the demographic information section; I will collect certain

pieces of demographic using a different form.

https://neoweb.tamu.edu/index.php3?ts=1185642253&twigsi=2&twig_context=a%3A2%3A%7Bs... 7/28/2007

May I have your permission to administer the Teacher Stress Inventory online?

Sure, as long as you take it down when completed and don't use it for commercial purposes; send me a link; I'd like to see what it looks like in that format.

Thank you, again, and I look forward to hearing from you soon.

Kimberly Dickerson

kdickersn3@neo.tamu.edu

979-845-4978

Good luck with your project, Kimberly,

Michael

Re: Permission to include Teacher Self-Efficacy Scale in dissertation

From: "Michael Fimian" <fimian@mail.instructionaltech.net>
 Subject: Re: Permission to include Teacher Self-Efficacy Scale in dissertation
 Date: Tue, January 29, 2008 7:43 pm
 To: kdickersn3@neo.tamu.edu
 Cc: fimian@instructionaltech.net

Hi Kimberly,

Sure, no problem; if you would, include a face page for the inventory, and place on it the website URL so folks can backtrack to the user's manual.

I give it out freely, so this isn't a problem...

Michael

-----Original Message-----

From:
 Sent 1/29/2008 4:47:01 PM
 To: "Michael Fimian"
 Subject: Permission to include Teacher Self-Efficacy Scale in dissertation

Hello Dr. Fimian,

I have not defended just yet, but the date has been set.


Thank you again for allowing me to use the Teacher Stress Inventory to collect data for my dissertation.

We are asked to append any instruments to our text, if at all possible, and are therefore required to receive permission to include the instrument. However, the dissertations are housed online with ProQuest, and are sold on demand. Thus, there is the possibility your instrument would be sold to someone as part of my dissertation if purchased.

May I include the Teacher Stress Inventory as an appendix to my dissertation?

Thank you for your time and consideration, and I look forward to hearing from you soon.

Kimberly L. Dickerson
 Doctoral Candidate
 Texas A&M University

Folder: INBOX
Date: Thursday, July 26 2007 02:09 pm
From: Albert Bandura <bandura@psych.stanford.edu> 
To: kdickersn3@neo.tamu.edu
Reply-To: Albert Bandura <bandura@psych.stanford.edu>
Subject: Re: Teacher Self-Efficacy Scale

Permission granted to use the Teacher Self-Efficacy Scale.

AB

Dickerson, Kimberly Lynn wrote:

> Hello Dr. Bandura,
 >
 > My name is Kimberly Dickerson and I am a doctoral student at Texas A&M
 > University. I am currently in the process of writing my dissertation
 > proposal and would like to use your Teacher Self-Efficacy Scale as one of
 > two instruments to collect data. My proposed study will look at self-
 > efficacy along with stress in student teachers, and I would like to
 > administer the instrument to student teachers online.
 >
 > May I have permission to use your instrument and administer it to student
 > teachers online?
 >
 > Thank you for your time, and I look forward to hearing from you soon.
 >
 > Kimberly Dickerson
 > kdickersn3@neo.tamu.edu
 > 979-845-4978
 >
 >
 >
 >
 >

Re: Permission to include Teacher Self-Efficacy Scale in dissertation

Page 1 of 1

From: "Albert Bandura" <bandura@psych.stanford.edu>
Subject: Re: Permission to include Teacher Self-Efficacy Scale in dissertation
Date: Tue, January 29, 2008 2:35 pm
To: kdickersn3@neo.tamu.edu

Permission granted.

Albert Bandura

kdickersn3@neo.tamu.edu wrote:

> Hello Dr. Bandura,
>
> Again, I would like to thank you for allowing me to use your Teacher
> Self-Efficacy Scale to collect data for my dissertation.
>
> We are asked to append the instrument to our text, if at all possible, and
> are therefore required to receive permission to include the instrument.
> However, the dissertations are housed online with ProQuest, and are sold
> on demand. Thus, there is the chance your instrument would be sold to
> someone as part of my dissertation when purchased.
>
> May I include the Teacher Self-Efficacy Scale as an appendix to my
> dissertation?
>
> Thank you for your time and consideration, and I look forward to hearing
> from you soon.
>
> Kimberly L. Dickerson
> Doctoral Candidate
> Texas A&M University
>
>

APPENDIX B
TEACHER STRESS INVENTORY

TEACHER STRESS INVENTORY**BY DR. MICHAEL FIMIAN****WWW.INSTRUCTIONALTECH.NET**

TEACHER CONCERNS INVENTORY

The following are a number teacher concerns. Please identify those factors which cause you stress in your present position. Read each statement carefully and decide if you ever feel this way about your job. Then, indicate how strong the feeling is when you experience it by circling the appropriate rating on the 5-point scale. If you have not experienced this feeling, or if the item is inappropriate for your position, circle number 1 (no strength; not noticeable). The rating scale is shown at the top of each page.

Examples:

I feel insufficiently prepared for my job. 1 2 3 4 5

If you feel very strongly that you are insufficiently prepared for your job, you would circle number 5.

I feel that if I step back in either effort or commitment,
I may be seen as less competent. 1 2 3 4 5

If you never feel this way, and the feeling does not have noticeable strength, you would circle number 1.

	1	2	3	4	5
HOW	no	mild	medium	great	major
STRONG?	strength;	strength;	strength;	strength;	strength;
	not	barely	moderately	very	extremely
	noticeable	noticeable	noticeable	noticeable	
noticeable					

TIME MANAGEMENT

1. I easily over-commit myself.	1	2	3	4	5
2. I become impatient if others do things too slowly.	1	2	3	4	5
3. I have to try doing more than one thing at a time.	1	2	3	4	5
4. I have little time to relax/enjoy the time of day.	1	2	3	4	5
5. I think about unrelated matters during conversations.	1	2	3	4	5
6. I feel uncomfortable wasting time.	1	2	3	4	5
7. There isn't enough time to get things done.	1	2	3	4	5
8. I rush in my speech.	1	2	3	4	5

Add items 1 through 8; divide by 8; place your score here:

WORK-RELATED STRESSORS

9. There is little time to prepare for my lessons/responsibilities.	1	2	3	4	5
10. There is too much work to do.	1	2	3	4	5
11. The pace of the school day is too fast.	1	2	3	4	5
12. My caseload/class is too big.	1	2	3	4	5
13. My personal priorities are being shortchanged due to time demands.	1	2	3	4	5
14. There is too much administrative paperwork in my job.	1	2	3	4	5

Add items 9 through 14; divide by 6; place your score here:

PROFESSIONAL DISTRESS

15. I lack promotion and/or advancement opportunities.	1	2	3	4	5
16. I am not progressing my job as rapidly as I would like.	1	2	3	4	5
17. I need more status and respect on my job.	1	2	3	4	5
18. I receive an inadequate salary for the work I do.	1	2	3	4	5
19. I lack recognition for the extra work and/or good teaching I do.	1	2	3	4	5

Add items 15 through 19; divide by 5; place your score here:

DISCIPLINE AND MOTIVATION

I feel frustrated...

20. ...because of discipline problems in my classroom.	1	2	3	4	5
21. ...having to monitor pupil behavior.	1	2	3	4	5
22. ...because some students would better if they tried.	1	2	3	4	5
23. ...attempting to teach students who are poorly motivated.	1	2	3	4	5
24. ...because of inadequate/poorly defined discipline problems.	1	2	3	4	5
25. ...when my authority is rejected by pupils/administration.	1	2	3	4	5

Add items 20 through 25; divide by 6; place your score here:

PROFESSIONAL INVESTMENT

26. My personal opinions are not sufficiently aired.	1	2	3	4	5
27. I lack control over decisions made about classroom/school matters.	1	2	3	4	5
28. I am not emotionally/intellectually stimulated on the job.	1	2	3	4	5
29. I lack opportunities for professional improvement.	1	2	3	4	5

Add items 26 through 29; divide by 4; place your score here:

EMOTIONAL MANIFESTATIONS

I respond to stress...

30. ...by feeling insecure.	1	2	3	4	5
31. ...by feeling vulnerable.	1	2	3	4	5
32. ...by feeling unable to cope.	1	2	3	4	5
33. ...by feeling depressed.	1	2	3	4	5
34. ...by feeling anxious.	1	2	3	4	5

Add items 30 through 34; divide by 5; place your score here:

FATIGUE MANIFESTATIONS

I respond to stress...

35. ...by sleeping more than usual.	1	2	3	4	5
36. ...by procrastinating.	1	2	3	4	5
37. ...by becoming fatigued in a very short time.	1	2	3	4	5
38. ...with physical exhaustion.	1	2	3	4	5
39. ...with physical weakness.	1	2	3	4	5

Add items 35 through 39; divide by 5; place your score here:

CARDIOVASCULAR MANIFESTATIONS

I respond to stress...

40. ...with feelings of increased blood pressure.	1	2	3	4	5
41. ...with feeling of heart pounding or racing.	1	2	3	4	5
42. ...with rapid and/or shallow breath.	1	2	3	4	5

Add items 40 through 42; divide by 3; place your score here:

GASTRONOMICAL MANIFESTATIONS

I respond to stress...

43. ...with stomach pain of extended duration.	1	2	3	4	5
44. ...with stomach cramps.	1	2	3	4	5
45. ...with stomach acid.	1	2	3	4	5

Add items 43 through 45; divide by 3; place your score here:

BEHAVIORAL MANIFESTATIONS

I respond to stress...

46. ...by using over-the-counter drugs.	1	2	3	4	5
47. ...by using prescription drugs.	1	2	3	4	5
48. ...by using alcohol.	1	2	3	4	5
49. ...by calling in sick.	1	2	3	4	5

Add items 46 through 49; divide by 4; place your score here:

TOTAL SCORE

Add all calculated scores; enter the value here _____.

Then, divide by 10; enter the Total Score here _____.

APPENDIX C
TEACHER SELF-EFFICACY SCALE

BANDURA'S INSTRUMENT

TEACHER SELF-EFFICACY SCALE

This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinions about each of the statements below by circling the appropriate number. Your answers will be kept strictly confidential and will not be identified by name.

Efficacy to Influence Decision making

How much can you influence the decisions that are made in the school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you express your views freely on important school matters?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

Efficacy to Influence School Resources

How much can you do to get the instructional materials and equipment you need?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

Instructional Self-Efficacy

How much can you do to influence the class sizes in your school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to get through to the most difficult students?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to promote learning when there is lack of support from the home?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to keep students on task on difficult assignments?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to increase students' memory of what they have been taught in previous lessons?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to motivate students who show low interest in schoolwork?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to get students to work together?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to overcome the influence of adverse community conditions on students' learning?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to get children to do their homework?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

Disciplinary Self-Efficacy

How much can you do to get children to follow classroom rules?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to control disruptive behavior in the classroom?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to prevent problem behavior on the school grounds?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

Efficacy to Enlist Parental Involvement

How much can you do to get parents to become involved in school activities?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you assist parents in helping their children do well in school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to make parents feel comfortable coming to school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

Efficacy to Enlist Community Involvement

How much can you do to get community groups involved in working with the schools?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to get churches involved in working with the school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to get businesses involved in working with the school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to get local colleges and universities involved in working with the school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

Efficacy to Create a Positive School Climate

How much can you do to make the school a safe place?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to make students enjoy coming to school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to get students to trust teachers?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you help other teachers with their teaching skills?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to enhance collaboration between teachers and the administration to make the school run effectively?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to reduce school dropout?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to reduce school absenteeism?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

How much can you do to get students to believe they can do well in schoolwork?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great
Deal								

APPENDIX D
DEMOGRAPHIC DATA FORM

Please respond to the following questions. This information is for classification purposes and will not be used to identify you in any way.

Gender

- ☐ Male
- ☐ Female

Subject area

- ☐ Math
- ☐ Science
- ☐ Reading
- ☐ English
- ☐ Social Studies
- ☐ Elective
- ☐ Health/Physical Education
- ☐ Self-contained

Grade level

- ☐ Elementary (1-5)
- ☐ Elementary (1-6)
- ☐ Middle School (6-8)
- ☐ Jr. High (7-8)
- ☐ High School (9-12)

Degree Status

- ☐ Obtaining Bachelors
- ☐ Have Bachelors
- ☐ Obtaining Masters
- ☐ Have Masters

Specialization

- ☐ General Education
- ☐ Special Education
 - If Special Education, please indicate area of student teaching assignment (if split assignment, please indicate that):
 - ☐ Generic Special Education
 - ☐ Content Mastery
 - ☐ Resource
 - ☐ PPCD
 - ☐ AA/MR/Life Skills
 - ☐ ED/SED
 - ☐ Other (Please specify)_____

Race

- ☐ Black/African American
- ☐ Asian American
- ☐ Latino/Hispanic
- ☐ Native American/American Indian/Alaskan Native
- ☐ Native Hawaiian/Pacific Islander
- ☐ White
- ☐ Other race

VITA

Kimberly Lynn Dickerson
801G Harrington Tower
College Station, Texas 77843

(979) 845-4978
kdickersn3@aol.com

EDUCATION

2008	Doctor of Philosophy, Educational Administration Texas A&M University, College Station, Texas
2001	Master of Science, Educational Management University of Houston—Clear Lake, Houston, Texas
1996	Bachelor of Science, Interdisciplinary Studies University of Houston—Clear Lake, Houston, Texas

CERTIFICATION

Professional Principal
Generic Special Education
Elementary Mathematics
Elementary Self-Contained

EXPERIENCE

Texas A&M University, College Station, Texas Graduate Research Assistant, Office of the Dean, College of Education and Human Development	2006- Present
Texas A&M University, College Station, Texas Graduate Research Assistant, Educational Administration And Human Resource Development	2004-2006
Seabrook Intermediate, Seabrook, Texas Administrative Internship	2001, Fall
Seabrook Intermediate, Seabrook, Texas Special Education Teacher	1996-2004